F. Borchard.

Refrigerator.

Nº 71844 Patented Dec. 10, 1867.

Fig. 1

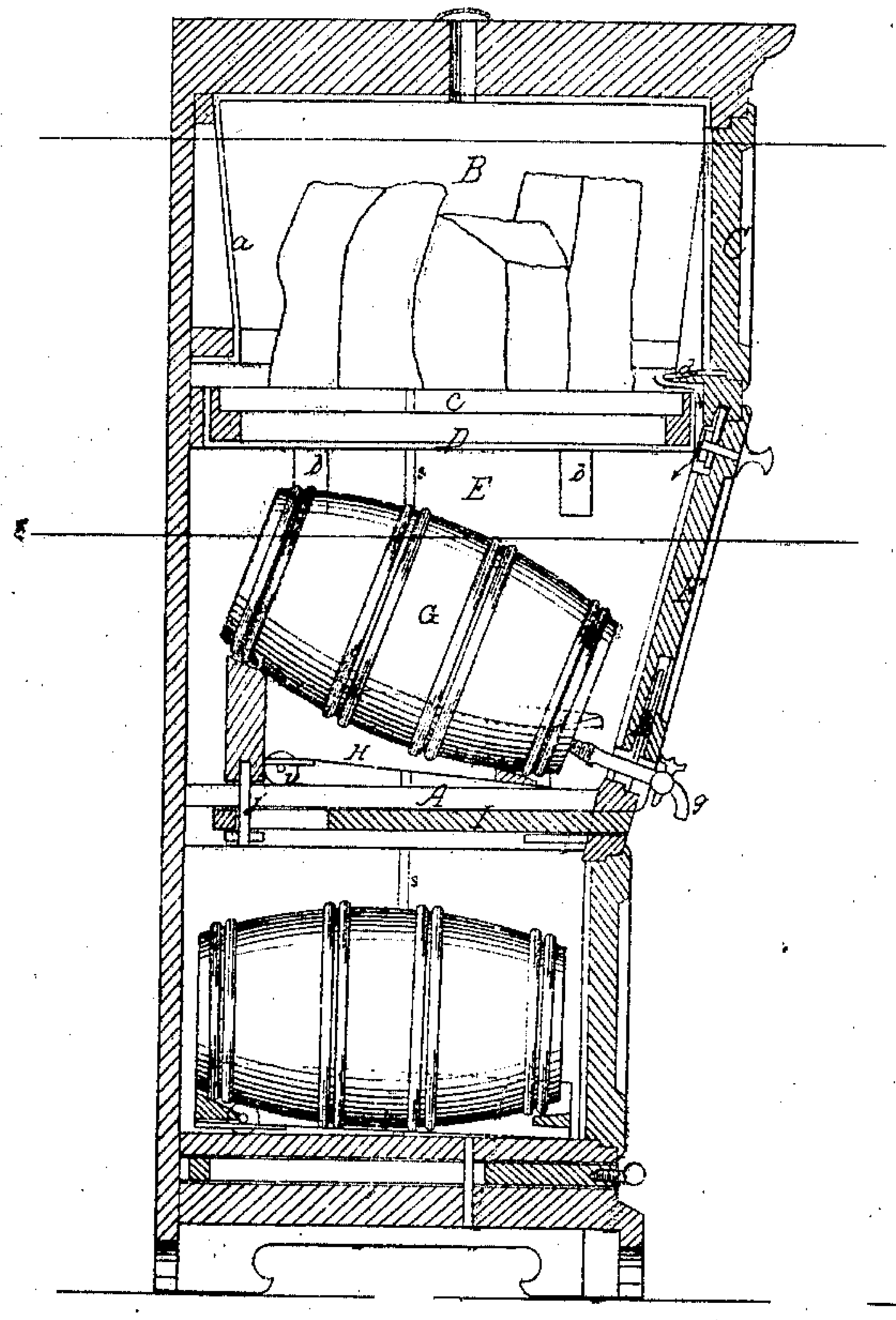


Fig. 2

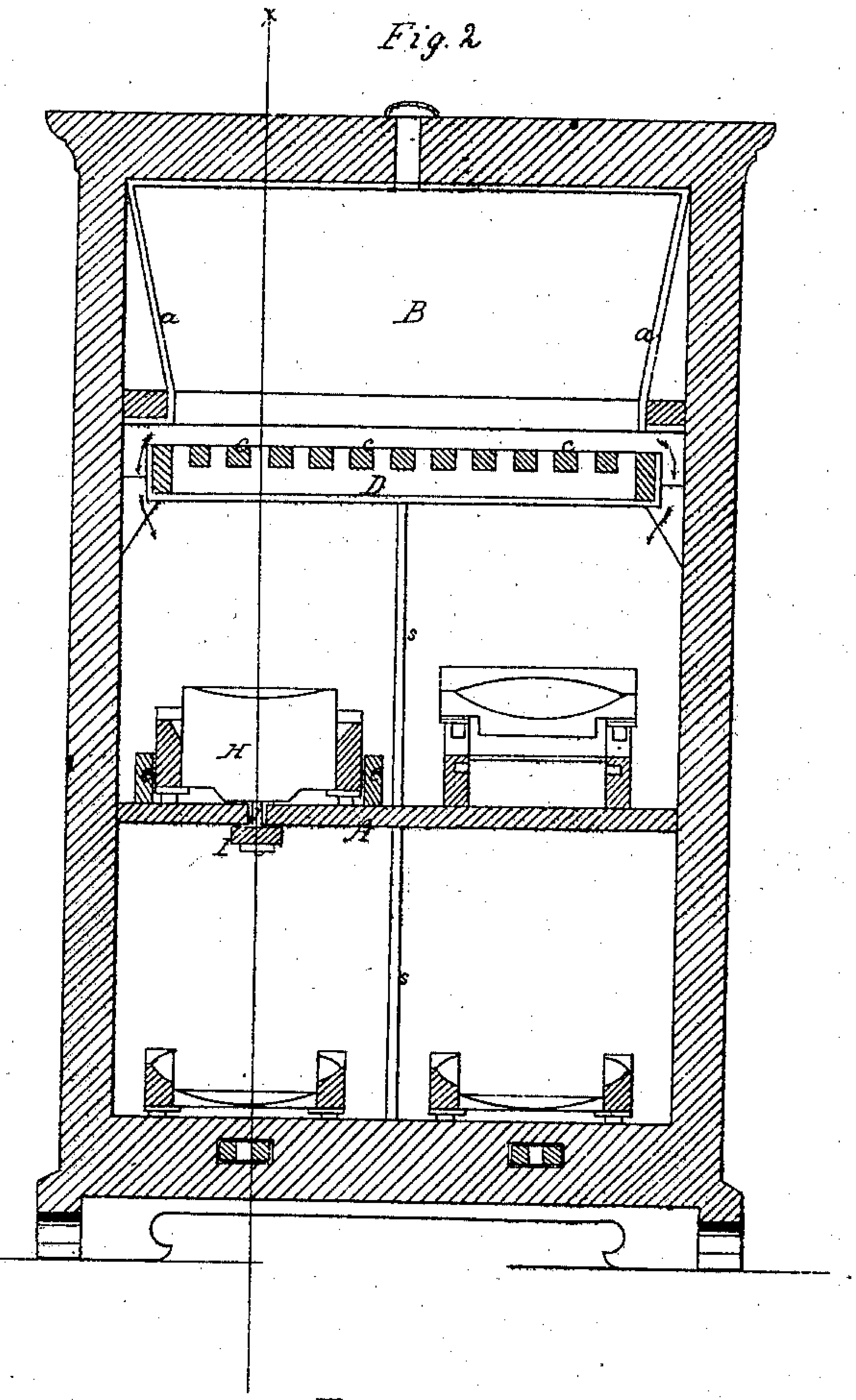


Fig. 3.

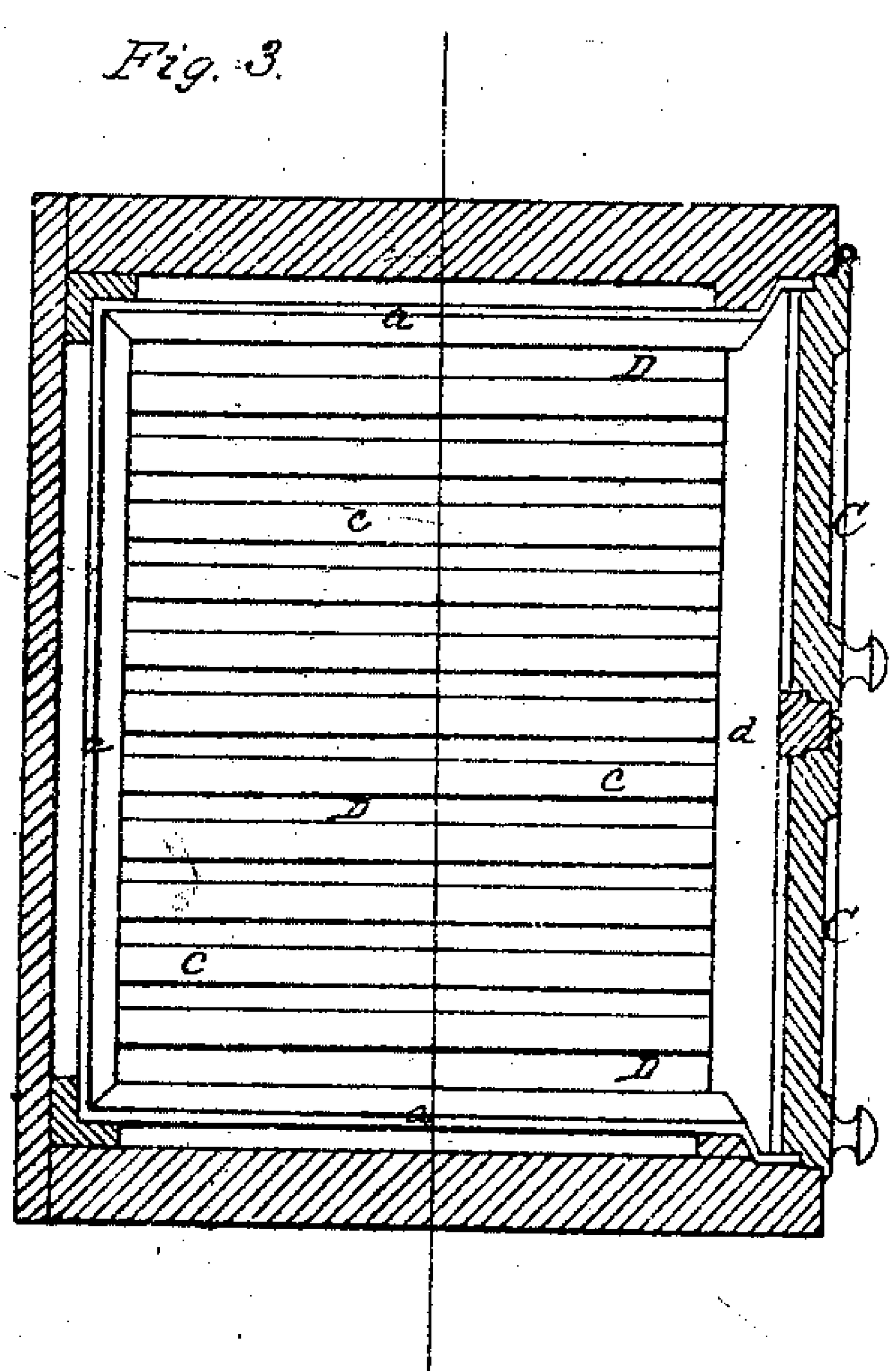
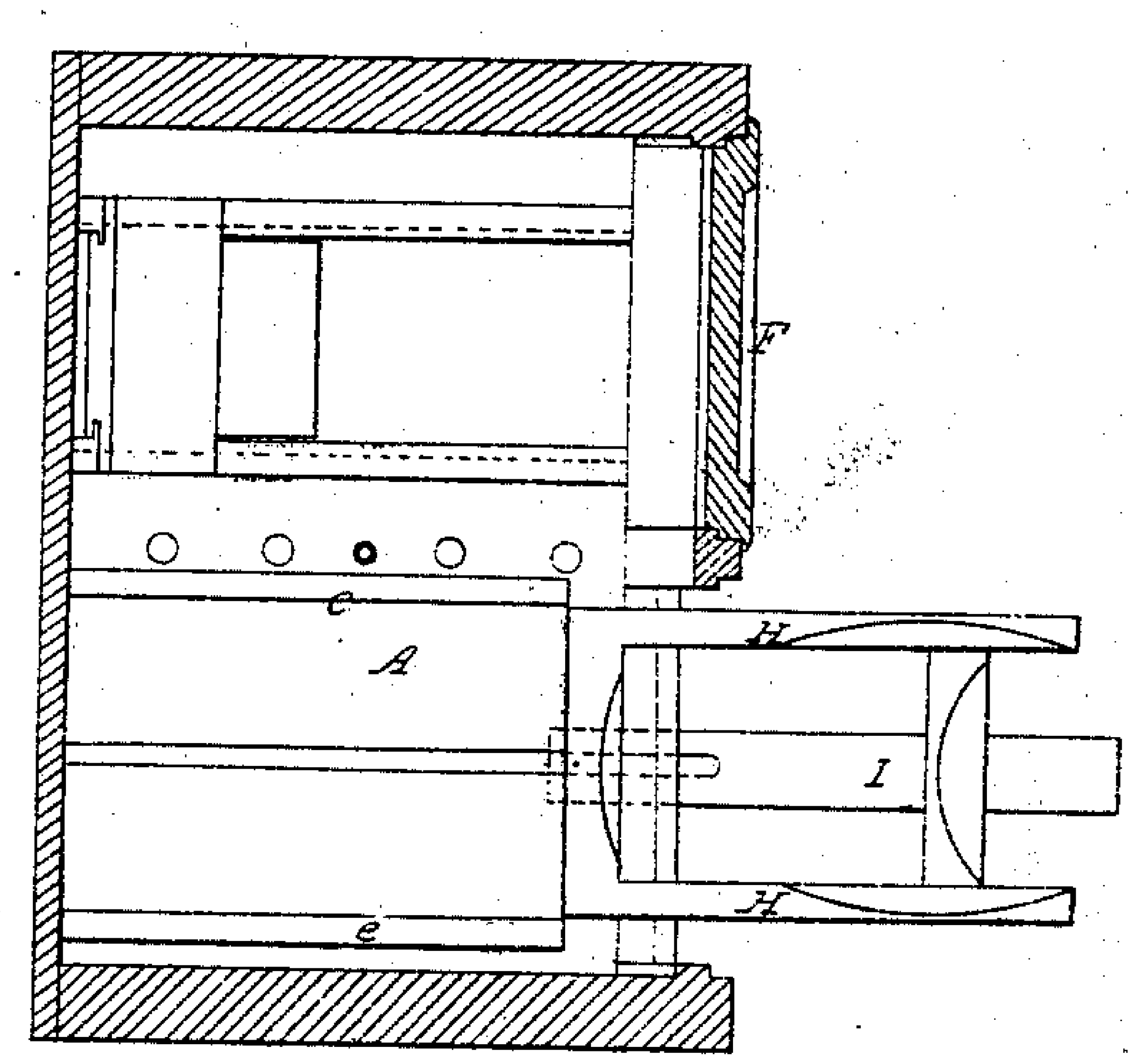


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

FERDINAND BORCHARD, OF DETROIT, MICHIGAN.

IMPROVED REFRIGERATOR.

Specification forming part of Letters Patent No. **71,844**, dated December 10, 1867.

To all whom it may concern:

Be it known that I, FERDINAND BORCHARD, of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Refrigerator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section through the refrigerator, taken in the plane indicated by red line *x* in Fig. 2. Fig. 2 is a transverse section through the refrigerator, taken in a vertical central plane through it. Fig. 3 is a horizontal section through the ice-box, taken in a plane indicated by red line *y* in Fig. 1. Fig. 4 is a horizontal section, taken in the plane *z* below the ice-box.

This invention relates to certain novel improvements on refrigerators, which are particularly designed for receiving casks containing beer and other liquors, for keeping the same cool. It consists, mainly, in an ice-box which is arranged above the refrigerating-apartments, and so constructed that there will be no moisture carried down from the former into the latter, said ice-apartment being lined with metal, and provided with an ice-pan, in which is a removable grate for supporting the ice placed therein, in combination with movable racks, as will be hereinafter described. It also consists in providing a refrigerator with movable racks for supporting the casks and holding them in proper position, which racks are so constructed that when they are partially drawn out of their respective apartments they will be firmly supported by a sliding bracket, arranged and applied as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, I have represented a refrigerator having two apartments for receiving casks, divided by a horizontal partition, A, through which suitable openings are made for the circulation of cool air, and above the upper apartment I have arranged the ice-receptacle B. This ice-receptacle occupies the highest portion of the refrigerator, and access is had to it by means of the two doors C C, the inner surfaces of which are lined with sheet metal. These doors form one side of the ice-chamber, the other three sides being formed by means of metallic plates *a a a*, inclined as shown, so that the water of condensation which gathers upon them will run down into a pan, D, which forms the bottom of the ice-chamber. This pan D is supported beneath the overhanging sides *a a a* by means of brackets *b b*, which are secured to the walls of the refrigerator, so as to leave a space between this pan and said walls for the descent of cold air into the preserving-apartments. This ice-pan D is constructed with recesses, properly spaced for receiving bars *c c*, which collectively form a grate for supporting the ice above the bottom of the pan, and thus keeping the ice out of the water which will accumulate in this pan. The grate is removable for allowing the pan D to be emptied and cleaned at pleasure. To prevent the water which will gather upon the doors C C from running down into the preserving-apartments, I employ a ledge, *d*, which overhangs the front edge of the pan, which ledge will conduct the water into the pan. This ledge is shown in Figs. 1 and 3. The front part of the highest preserving-chamber E is closed by two doors, F, which incline as shown in Fig. 1, and which are lined with sheet metal. These doors F are constructed with projections on their lower edges, which are received by the inner edges of the door-frames, thus forming a fastening for the bottoms of these doors. The upper ends of these doors are secured by turn-buttons, as shown in Fig. 1. Within the apartment which is closed by the two doors F are two racks, which are adapted for receiving and supporting barrels or casks G, containing beer or other liquor which it is desired to keep cool. The racks are all mounted upon rollers, and made so that they can be drawn partially out, as shown in Fig. 4, for receiving a cask or allowing of the removal of one. Those racks which are arranged in the chamber E are constructed so as to incline the casks forward, and thus allow of their contents being drawn out to a better advantage than if they were arranged horizontally. The faucets *g*, by which the liquor is drawn from the casks G without opening the doors F, pass through holes which are made through said doors, which holes will be tightly closed by gravitating slides *h*, when the faucets are not in immediate use, thereby

preventing the entrance of warm air into the refrigerating and preserving apartment E.

The cask-racks may consist of a simple rectangular frame, H, mounted upon rollers *i* at one end, and carved out so as to conform somewhat to the casks, as shown in Fig. 4. Beneath such frame will be arranged a sliding bar, I, which, when it is partially drawn out, as shown in Fig. 4, will form a bracket for sustaining the outer end of the rack.

If desirable, the bars or brackets I may be connected to the frames H by means of a pin, *j*, as shown in Fig. 1, so that when the racks are moved out or in the bars will move with them.

The racks, which are arranged upon the floor or partition A, move between stationary guides *e e*, which keep said racks in place. By thus constructing the racks and applying them to the refrigerator, the filled casks can be introduced into their appropriate places, and the empty casks removed with great facility.

The doors of the refrigerating-apartments, and also of the ice-apartment, are made so as to fit snugly in their places, and prevent the entrance and escape of air.

Ice being put into the chamber B, and the doors of the refrigerator all closed, the air surrounding the ice will first become cool, and will then descend through the space surrounding the pan D into the chambers containing the casks. During the operation of the refrigerator there will be considerable moisture condensed upon the interior walls of the ice-chamber, which moisture will run down into the pan D, and, with the water which drips from the ice, may be drawn off through a pipe, S. Thus it will be seen that there will be no water carried down from the ice-chamber; consequently the refrigerating-chambers will be kept dry and sweet.

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

1. A refrigerator which is provided with movable racks H, within cooling-chambers which are arranged beneath an ice-chamber, B, constructed with inclined walls *a a*, a drip-pan, D, and an ice-supporting rack, *c*, substantially as and for the purposes described.

2. Providing the movable racks with sliding brackets I, which are so applied as to serve as supports for the outer ends of the racks when drawn partially out of their respective apartments, substantially as described.

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Witnesses:
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