

(No Model.)

2 Sheets—Sheet 1.

O. M. WHITMAN.
REFRIGERATOR OR BUTTER COOLER.

No. 529,148.

Patented Nov. 13, 1894.

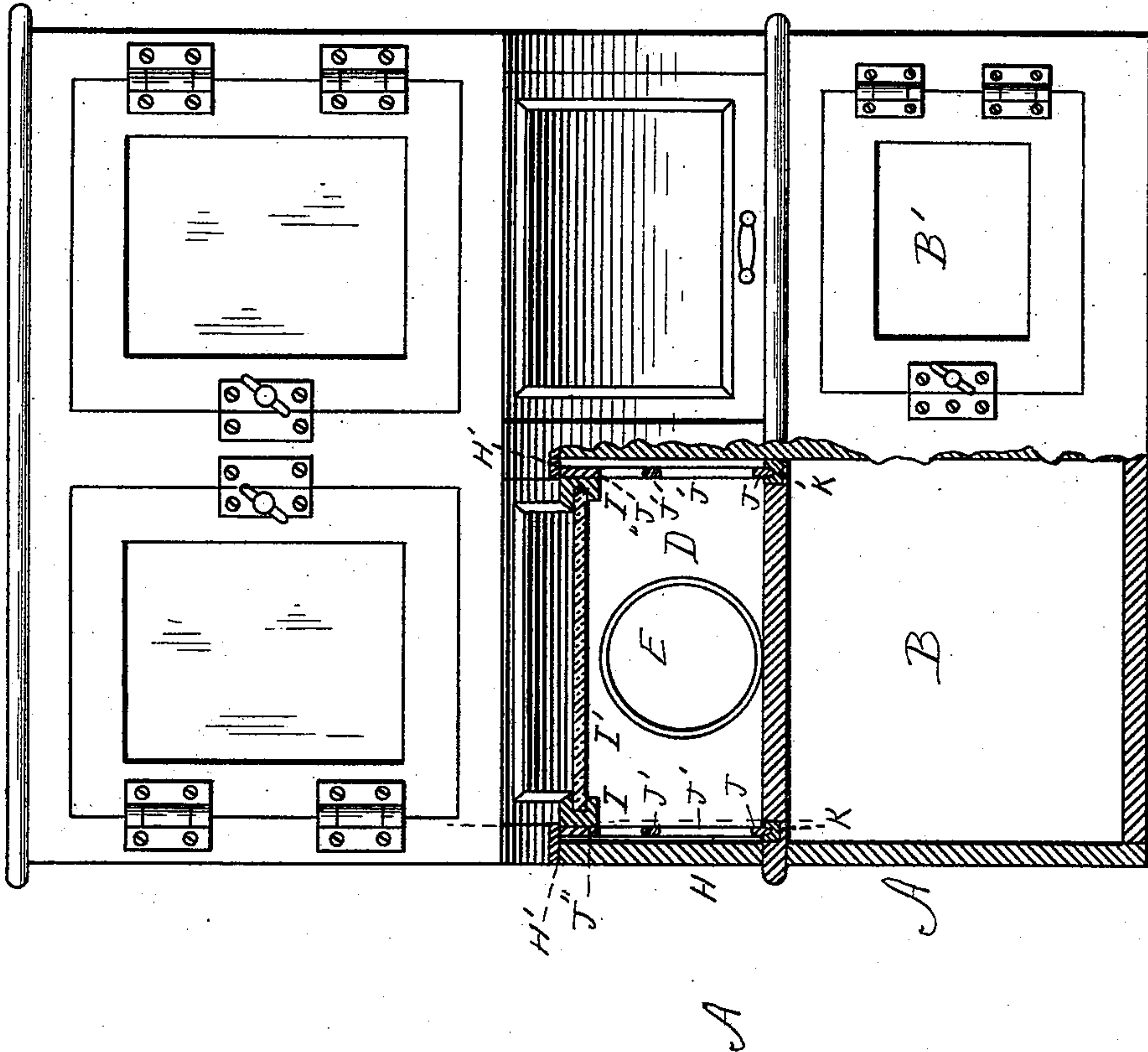


Fig. 2-

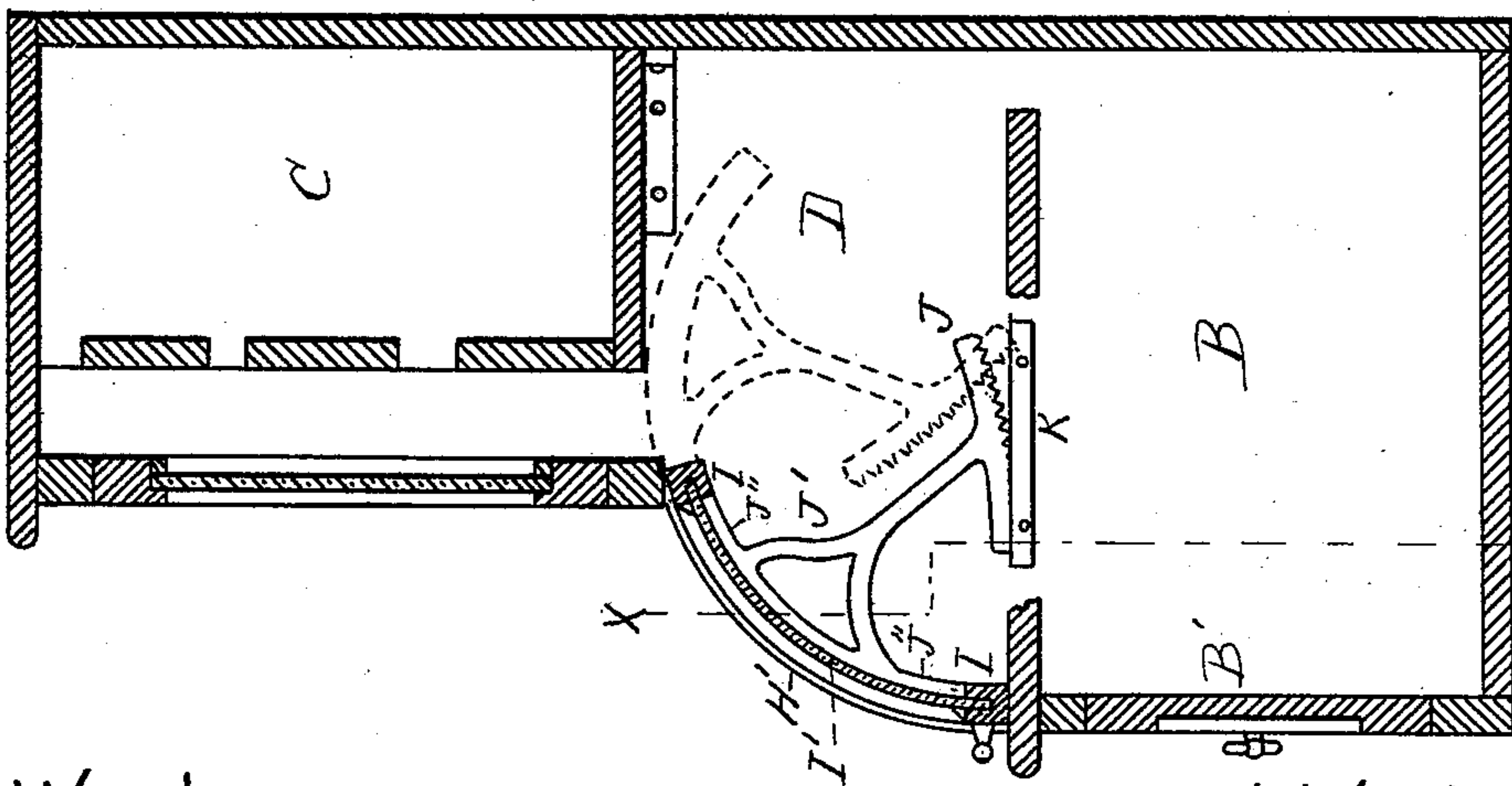


Fig. 1-

WITNESSES

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B. M. Williams.

INVENTOR

Orrin M. Whitman,
By his Atty.
Henry Williams.

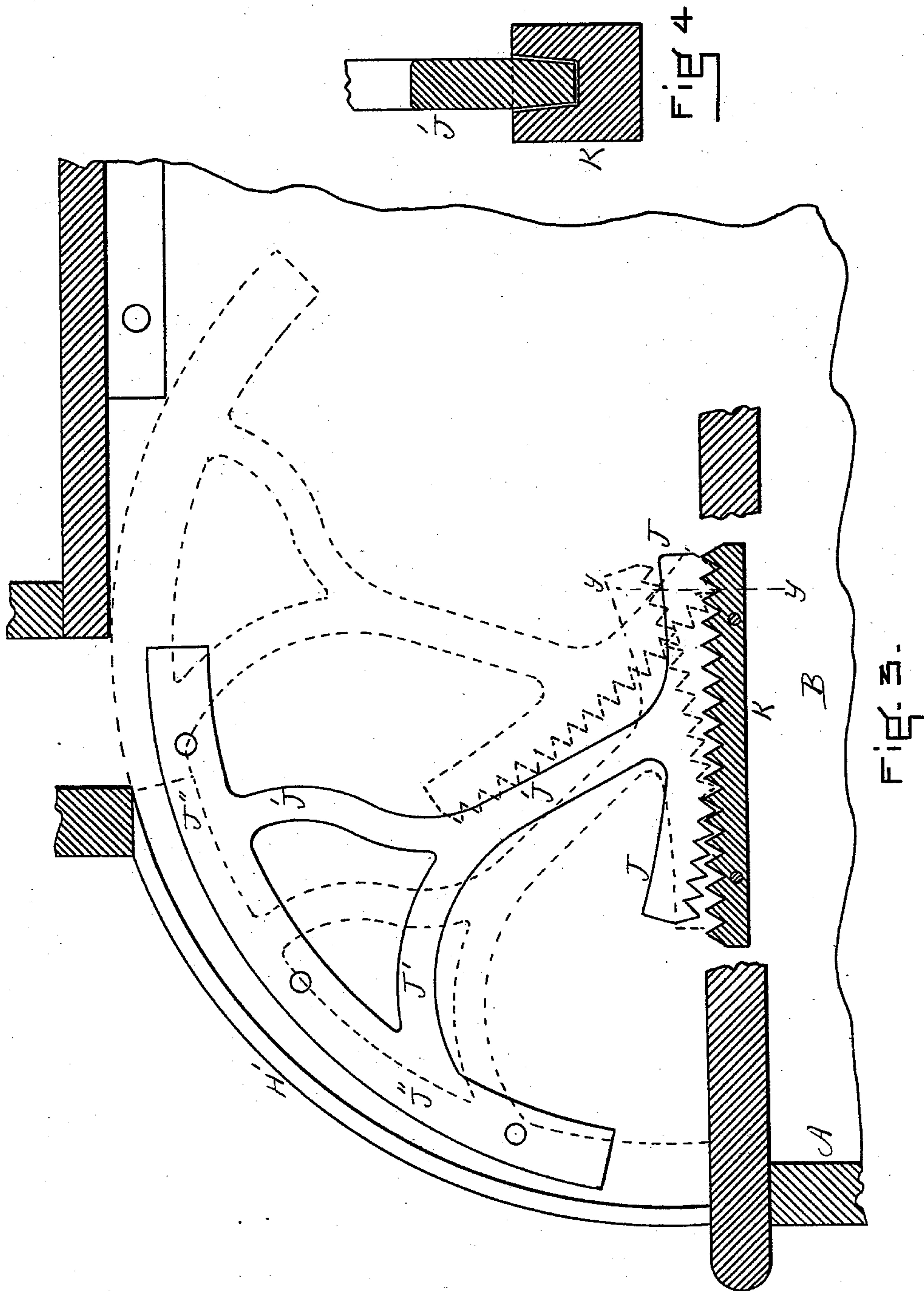
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UNITED STATES PATENT OFFICE.

ORRIN M. WHITMAN, OF BOSTON, MASSACHUSETTS.

REFRIGERATOR OR BUTTER-COOLER.

SPECIFICATION forming part of Letters Patent No. 529,148, dated November 13, 1894.

Application filed July 20, 1894. Serial No. 518,126. (No model.)

To all whom it may concern:

Be it known that I, ORRIN M. WHITMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Refrigerators or Butter-Coolers, of which the following is a specification.

This improvement relates particularly to the construction and operation of the swinging windows or doors which afford access to the commodity, whereby the interior of the refrigerator is protected from admission of warm air or escape of cold air whether the windows or doors are raised and open or lowered and closed, said windows or doors being tight in both said positions but being free and without danger of binding during the process of opening or closing.

The nature of this invention is fully described below, and illustrated in the accompanying drawings, in which—

Figure 1 is a cross vertical section of a butter-cooler embodying my improvement. Fig. 2 is a front elevation of the same, a part being shown in section on line *x*, Fig. 1. Fig. 3 is an enlarged vertical section taken through one of the openings with the door or window removed therefrom, and showing one of the supports of said door in different positions in full and broken lines. Fig. 4 is an enlarged section in detail on line *y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

A represents the chest containing the lower or store-room chamber B provided with the usual doors B', and ice-chamber C, constructed as usual. The ordinary intermediate chambers D are provided in each of which usually lies on its side a tub E of butter. Each of these chambers is commonly provided at its front with some sort of a glazed door or window through which the butter can be seen from the outside, and which can be opened in order to obtain access to it. From the fact that there is much moisture in and about the refrigerator these doors and windows are apt to bind or stick if they are made sufficiently tight to prevent the escape of cold air or the admission of warm air.

It is the principal object of this improvement to provide doors or windows which will

move easily and without binding and which will be tight when they are wide open or closed, but comparatively loose or free during the process of opening or closing; it being a fact in practice that owing to the size of the butter keg the doors are never left partly open.

H represents the side walls of the openings (of which there are usually two or three) leading to the chamber D. The outer edges of these walls are each formed on an arc of a circle and are provided with inwardly projecting beads or flanges H', formed on the same arc.

The glazed doors or windows each consists of the frame I sustaining the glass window I' which is formed on an arc of a circle corresponding with the flanges H'. This frame I has secured to each of its opposite edges a segment J'' integral with a rocking support J' having an integral foot J which consists of a piece of segmental gear. This foot J lies in and engages with a rack K which is rigidly secured to or near the wall or side H, one segment, rocking support, segmental gear and rack being provided for each end of the window or door I I'. It will be noticed that the support J' is not radial with the curvature of the segmental gear J but leans forward, as shown in Figs. 1 and 3. The effect is that when the window is down or closed, as shown in Fig. 1, its frame presses tightly against the flange H' so that cold air cannot escape from the refrigerator. As this window is raised it recedes from the flange, as shown in full lines in Fig. 3, until it reaches its highest point, when it again binds or presses against the frame, as shown in broken lines in Figs. 1 and 3. This is, of course, because when the window is down the forward portion of the segmental foot J is in engagement with the rack K, and when it is raised to its fullest extent the rear portion of the foot is in such engagement; in other words the window does not revolve around a fixed center inasmuch as its pivotal point moves from front to rear while the window is being raised, and from rear to front while it is being lowered. Thus in practice the window is tight, for in order to obtain access to a keg of butter it must be fully raised.

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

1. The rocking or rolling window or door, comprising a frame formed on an arc of a circle, the racks K, the segmental gears J engaging in and rolling on said racks, and the supporting standards J' rigid with said gears and extending to and secured to said window or door, substantially as set forth.

2. The chest provided with the flange or bead H' formed on an arc of a circle, the window frame I formed on a similar arc, the rack K, and the standards J' supporting said window frame and provided with segmental gears J at their lower ends engaging with said racks, substantially as described.

3. The chest provided with the flange or bead H' formed on an arc of a circle, the win-

dow frame I formed on a similar arc, the rack K, and the standards J' supporting said window frame and provided with segmental gears J at their lower ends engaging with said racks, said standards inclining forward on a non-radial line from the gears, substantially as set forth.

4. The chest provided with the flange or bead H' formed on an arc of a circle, the window frame I formed on a similar arc, the segments J'' secured to said frame, the racks, K, segmental gears J engaging with said racks, and the standards J' connecting said gears and segments, substantially as described.

ORRIN M. WHITMAN.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.