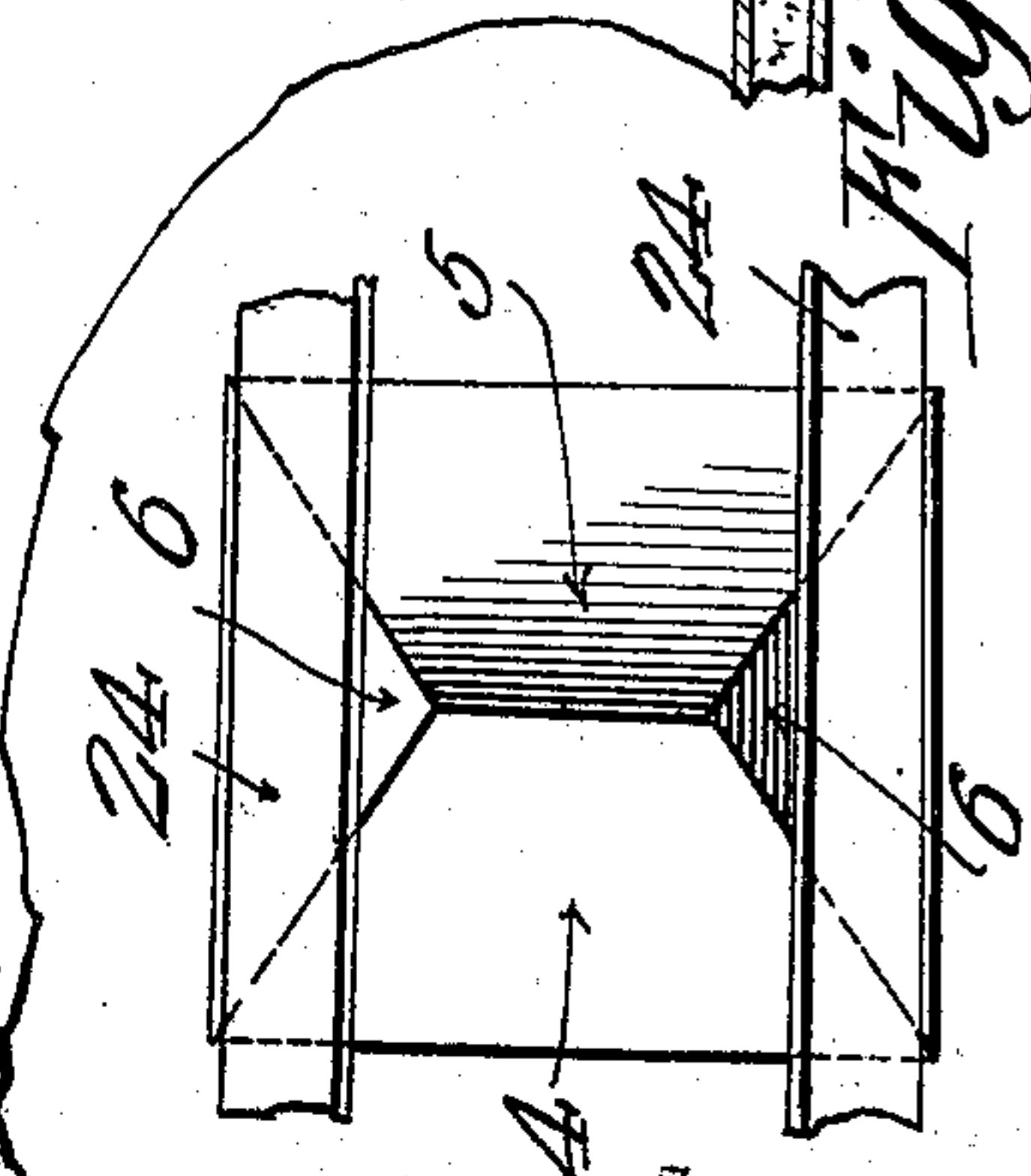
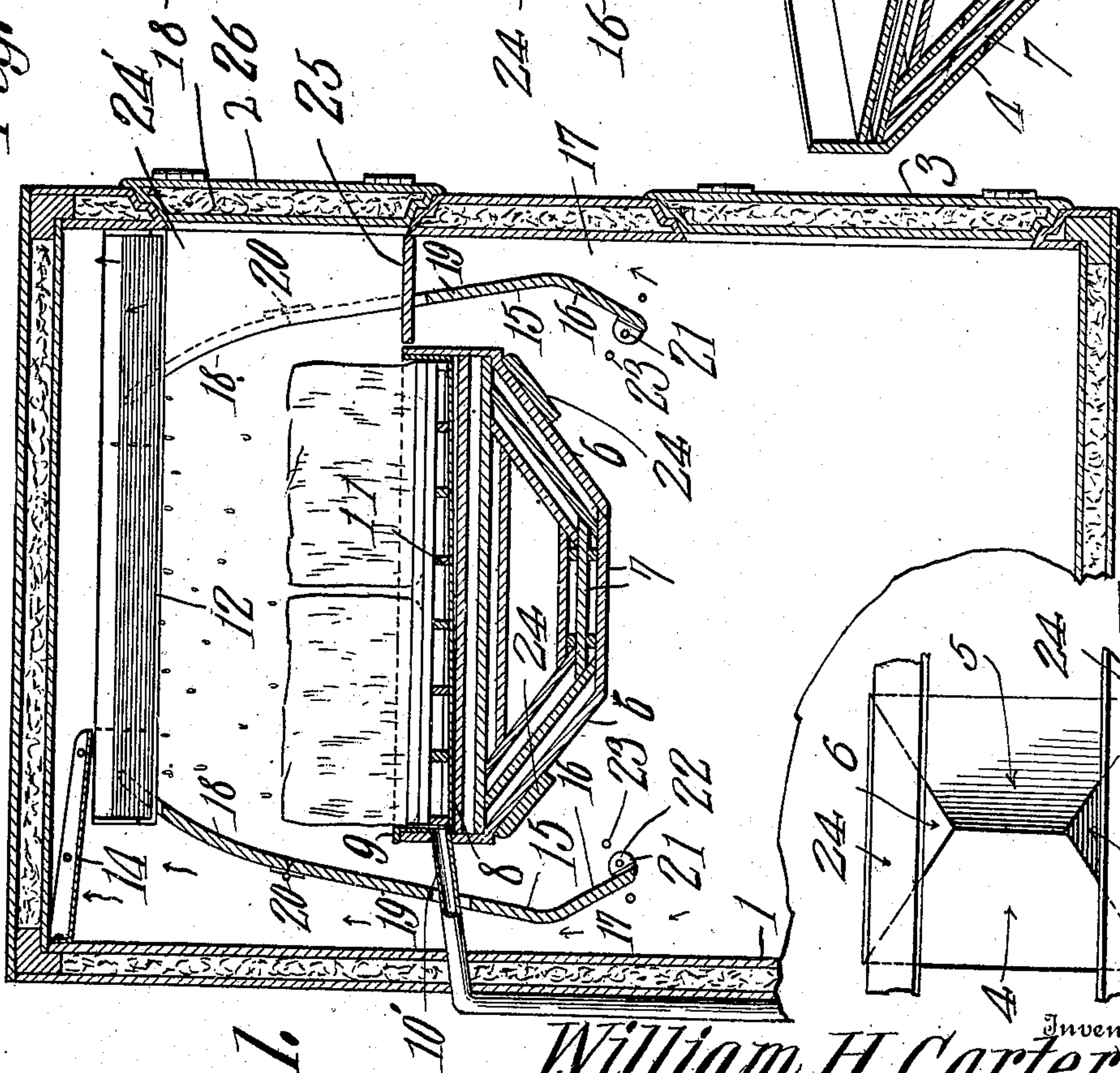
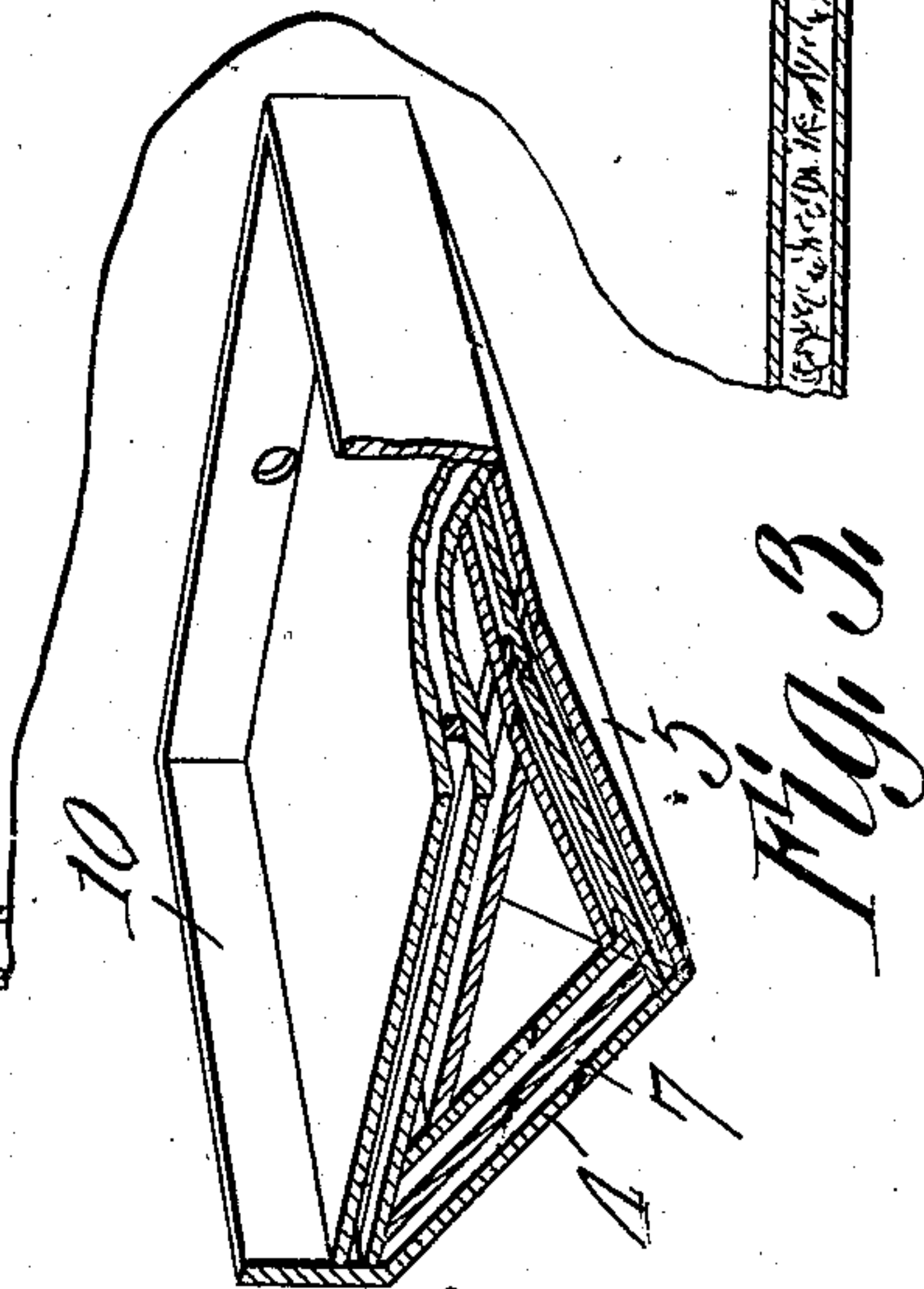
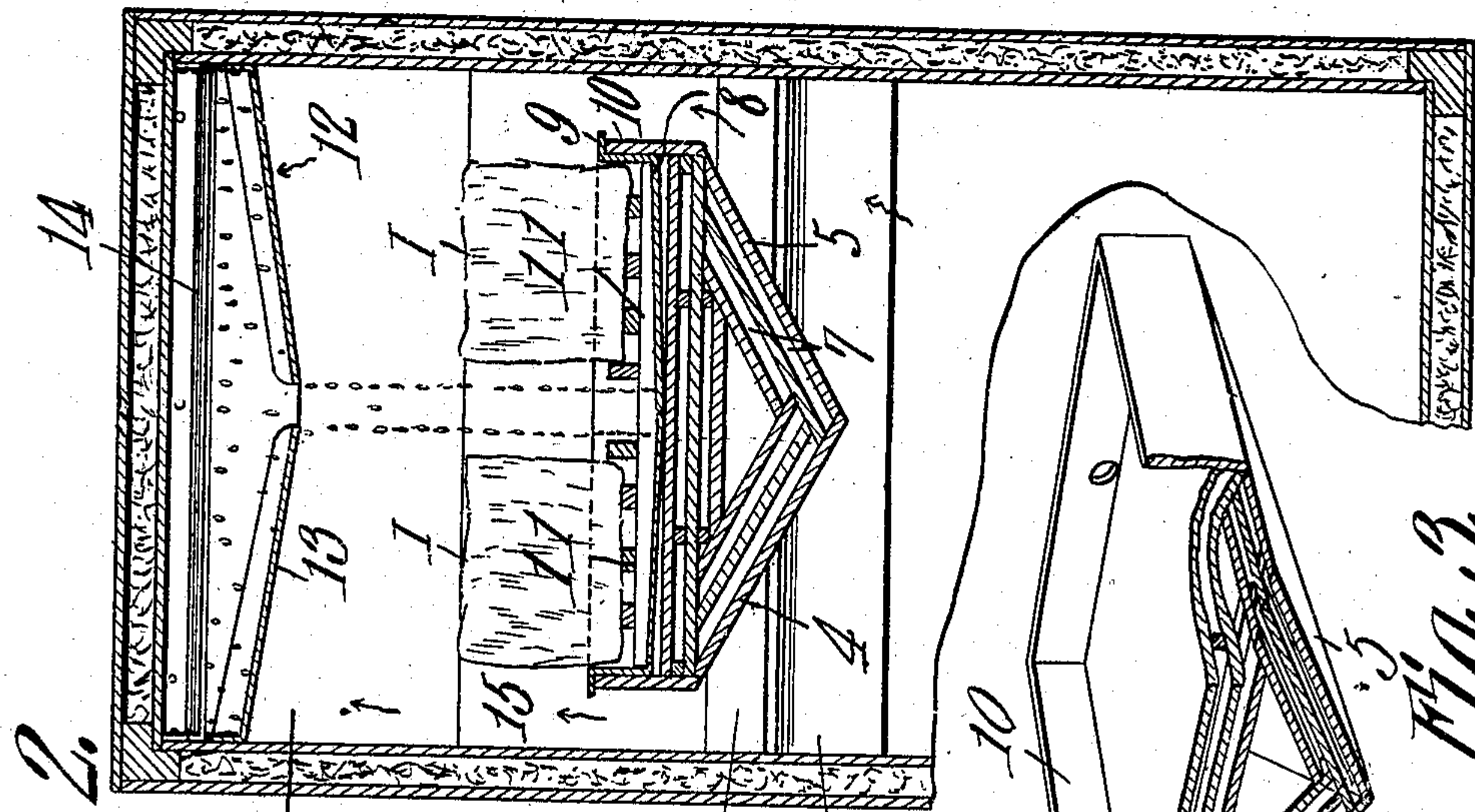


W. H. CARTER.
ICE CHAMBER FOR REFRIGERATORS.
APPLICATION FILED SEPT. 19, 1907.

923,624.

Patented June 1, 1909.



Witnesses
E. Stewart
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Fig. 1.

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UNITED STATES PATENT OFFICE.

WILLIAM H. CARTER, OF MARSHALL, TEXAS.

ICE-CHAMBER FOR REFRIGERATORS.

No. 923,624.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed September 19, 1907. Serial No. 393,713.

To all whom it may concern:

Be it known that I, WILLIAM H. CARTER, a citizen of the United States, residing at Marshall, in the county of Harrison and State of Texas, have invented a new and useful Ice-Chamber for Refrigerators, of which the following is a specification.

This invention relates to improvements in cold storage rooms, refrigerators and analogous structures, and has for its object to provide an improved ice pan supporter and a novel means for securing a circulation of air within the structure and for dividing the currents of warm air from the cold air, and for causing the latter only to pass through the cold air chamber or over the ice, whereby a thorough refrigeration of the goods to be preserved is insured, and a measurable saving in the quantity of ice used is secured.

With the above and other objects in view as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a refrigerator as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification and in which like characters of reference indicate corresponding parts,—Figure 1 is a view in vertical transverse section through a refrigerator or cold storage room constructed in accordance with the present invention. Fig. 2 is a vertical longitudinal sectional view through the same. Fig. 3 is a perspective detail view, partly in section, of the ice pan supporter. Fig. 4 is an inverted plan view of the ice pan support.

The body or shell 1 of the refrigerator may be constructed in the usual or any preferred manner and is provided with an ice feeding door 2 and with an entrance door 3. As shown, the shell and doors are compound structures, the space between the parts thereof being, as usual, filled with a suitable lagging material.

The ice pan supporter which constitutes one of the essential features of the present invention, is sustained in the refrigerating chamber in any preferred manner, and is herein shown as being about equally spaced from the four walls of the structure, although this is not essential. The ice pan supporter comprises a structure having relatively inclined sides 4 and 5 that are joined at their lower ends to form an apex, the ends

6 of the pan being inclined for a purpose that will presently appear. It will thus be observed that the ice pan supporter is approximately hopper shape, the object of this construction being to prevent the retardation of an eddy of rising air which would result in the condensation of the contained moisture on the supporter, whereby the provisions contained in the receptacle will be subjected only to air that is in the best condition for preserving purposes.

As shown in Figs. 1 and 2, the ice pan supporter is constructed of a series of spaced sections, the object of this arrangement being to provide dead air spaces 7 at the bottom and sides of the supporter, that will serve effectually to insulate the walls thereof. Arranged within the supporter is a metallic drip pan 8 in which the ice I is placed, the pan having outturned flanges 9 to bear upon the upper edges of the sides 10 of the supporter and thereby protect these latter parts from injury when the ice is being fed to the pan. The bottom of the pan is slightly hopper-shaped, and is lower at its rear than at its front in order that all of the water of condensation and of melting ice may be conducted to an escape pipe 10' which is tapped into the pan, extends through the rear wall of the casing, and discharges into a suitable receptacle. The pan 8 carries two racks 11, upon which the ice rests, and the inner bars of the two racks are spaced apart, as shown in Fig. 2, in order to provide a space between the cakes of ice for a purpose that will presently appear. In order to carry the pan supporter there is provided a pair of bars 24 inclined, and extending from one side of the casing to the other.

Arranged in the upper portion of the casing are three metallic condenser plates 12, 13 and 14, the plates 12 and 13 extending transversely of the casing, and the plate 14 longitudinally thereof. These sheets are trough-like structures, that is they are provided with side and end flanges, that will serve to direct moisture to the discharge ends and in between the space left between the cakes or blocks of ice. As shown in Fig. 2, the two plates 12 and 13 are downwardly inclined to the same degree and in opposite directions, while the plate 14 is inclined in only one direction. The object of these plates is to catch all the water of condensation that forms in the top of the casing and

direct it down between the blocks of ice to the drip pan whence it escapes through the pipe 10, as described.

In order to draw the warm air from the lower portion of the casing and convey it upward toward the condenser plates, a pair of shields or baffles 15 is provided, which extend from one side wall of the casing to the other, and are inwardly deflected at their lower ends at 16 to form a pair of constricted air passages 17 between the parts 16 and the front and rear walls of the casing. The shields may be made of any suitable material, either of metal, wood or a combination of both and have their upper portions 18 rigid, and their lower portions 19 hinged at 20, this arrangement being adopted in order to permit of the lower sections being adjusted to decrease or increase circulation through the passages 17.

In order to hold the movable sections of the shields in adjusted positions, any suitable means may be employed, that herein shown consisting of a pair of perforated ears 21 that are carried by the lower extremities of the movable sections, and carrying pins 22 that are adapted to engage a series of orifices 23 in one of the side walls of the casing.

In order to guide the ice to the ice pans, there is a throat provided, which comprises two side members 24', one only of which is shown in Fig. 1, and a bottom member 25, this throat being arranged opposite the feed door 26. The approximately vertical inner edges or ends of the members 24' conform to the contour of the upper portion of the shield 15 adjacent to the door 26, which latter is cut away to receive a throat.

It will be apparent that owing to the contour of the bottom of the ice pan supporter, that is to say, by its angular form, the rising currents of warm air will be deflected laterally and caused to pass up between the walls of the casing and the shields and over the condenser plates where any contained moisture will be precipitated, the cold air then passing down through the ice box and in contact with the ice, to the bottom of the casing and so on. By thus causing a continuous circulation of the contained air in the casing all danger of any precipitation on the contained products of moisture that might be deleterious is prevented, and, further, as

nothing but chilled or cool air will come in contact with the ice the latter will be conserved and a large saving in expenses effected.

What is claimed is:—

1. The combination with a refrigerating chamber and an ice pan arranged therein, of a pair of spaced ice supporting gratings in said pan, condenser plates supported in the chamber above the ice pan for condensing the moisture contained in the air of the chamber, said condenser plates sloping downward toward the center and having adjacent edges projecting over the space between the ice supporting gratings for draining said condensed moisture between the blocks of ice, and baffle plates interposed between the front and rear walls of the chamber and pan.

2. The combination with a refrigerating chamber and an ice pan arranged therein, of a pair of spaced ice supporting gratings in said pan, condenser plates supported in the chamber above the ice pan, said condenser plates sloping downward toward the center and having adjacent edges projecting over the space between the ice supporting gratings for draining the moisture between the blocks of ice supported by said gratings, and adjustable baffle plates interposed between the front and rear walls of the chamber and the pan.

3. The combination with a refrigerating chamber and an ice pan arranged therein, of a pair of spaced ice supporting gratings in said pan, condenser plates supported in the chamber above the ice pan, said condenser plates sloping downward toward the center and having adjacent edges projecting over the space between the ice supporting gratings for draining the moisture into the space between the blocks of ice to the gratings, and adjustable baffle plates interposed between the front and rear walls of the chamber and the pan, the lower portions of said baffle plates being inwardly deflected to provide constricted air passages.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM H. CARTER.

Witnesses:

H. C. FERRELL,
L. J. GUN.