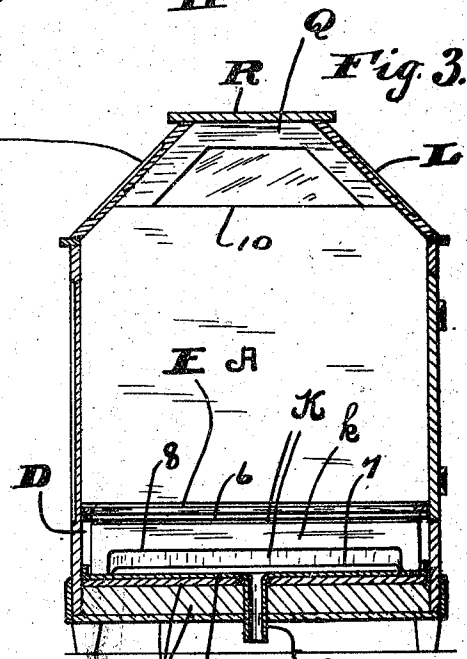
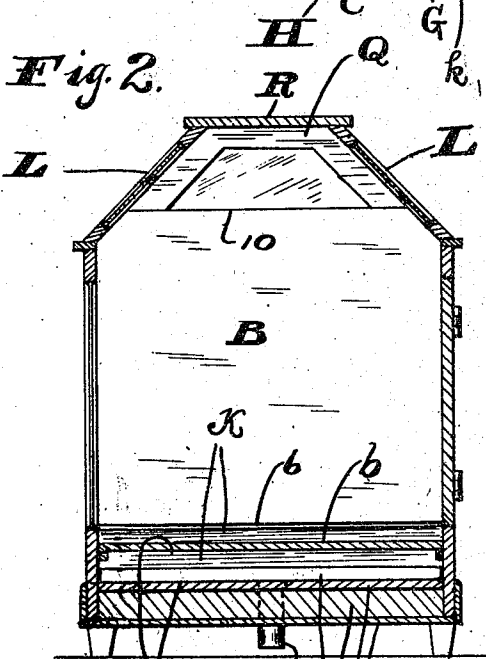
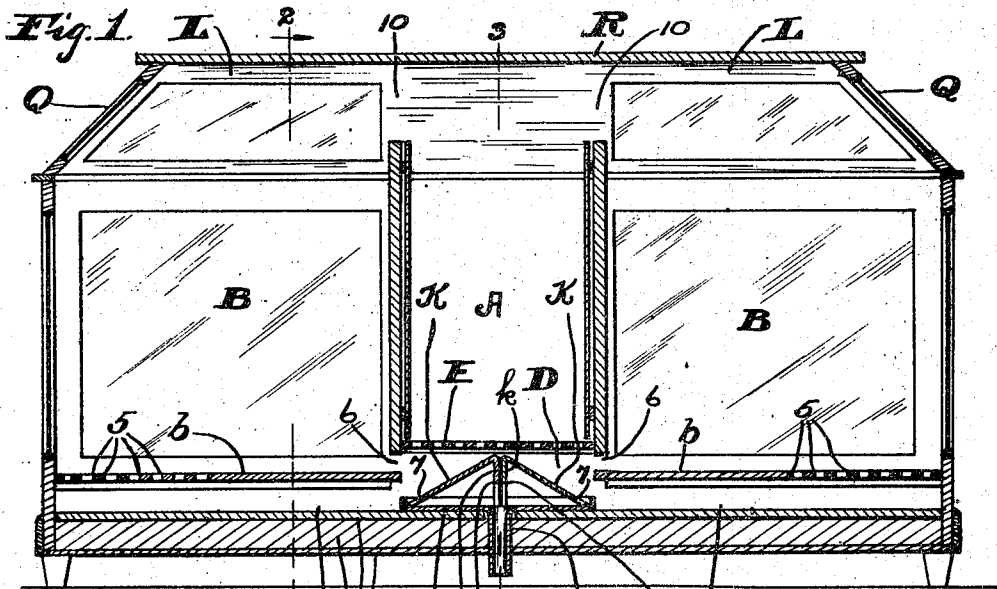


A. S. KLEIN.
REFRIGERATOR.
APPLICATION FILED OCT. 25, 1911.

1,170,824.

Patented Feb. 8, 1916.



Witnesses:
H. J. Gettins.
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UNITED STATES PATENT OFFICE

ADOLPH S. KLEIN, OF CLEVELAND, OHIO.

REFRIGERATOR.

1,170,824.

Specification of Letters Patent.

Patented Feb. 8, 1916.

Application filed October 25, 1911. Serial No. 656,701.

To all whom it may concern:

Be it known that I, ADOLPH S. KLEIN, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Refrigerators; and I hereby 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 pertains to make and use the same.

This invention relates to improvements in refrigerators, and more especially to a portable refrigerator having an ice-chamber arranged centrally of the refrigerator and between the provision-chambers.

One object of this invention is to insure the passage of cold air from the lower end of the ice-chamber not only to and upwardly through the provision-chambers in proximity to the ice-chamber but to have the provision-chambers receive an ample supply of cold air at points farthest from the ice-chamber.

Another object is to distribute the cold air descending from the ice-chamber equally between two provision-chambers arranged at opposite sides respectively of the ice-chamber.

With these objects in view, this invention consists in certain features of construction, and combinations and arrangements of parts, hereinafter described, pointed out in the claim, and illustrated in the accompanying drawings.

In said drawings, Figure 1 is a central longitudinal section of a refrigerator embodying my invention. Fig. 2 is a transverse vertical section taken through one of the provision-chambers along the line 2-2, Fig. 1, looking inwardly or toward the ice-chamber. Fig. 3 is a transverse vertical section taken centrally through the ice-chamber along the line 3-3, Fig. 1, looking in the direction indicated by the arrow.

My improved refrigerator is constructed internally in any approved manner to form an ice-chamber A centrally of the refrigerator and between two provision-chambers B. That is, said refrigerator has two provision-chambers formed in opposite end-portions respectively of the refrigerator and at opposite sides respectively of an ice-chamber which is arranged centrally of the refrigerator and is open at the top.

C represents the bottom of the refrigerator,

which bottom is arranged substantially horizontally and the ice-chamber is arranged above the central portion of said bottom and spaced from said bottom to form a cold-air-chamber D between said bottom and the ice-chamber. A substantially horizontally arranged grating E is arranged at the lower end of the ice-chamber, between the ice-chamber and the cold-air-chamber D, and forms a support for ice. The bottom of said cold-air-chamber is preferably formed by a drip-pan G resting on the bottom C of the refrigerator and provided centrally of said cold-air-chamber with a depending tubular member *g* which projects downwardly through the bottom C and forms the outlet of the drip-pan.

Each provision-chamber has a bottom *b*, which is imperforate between the cold-air-chamber D and a point central between the side walls of said provision-chamber, which bottom is provided between said point and the outer side wall of said provision-chamber with apertures *5* which communicate with and form air-inlets for said provision-chamber and establish communication between said provision-chamber and a passageway H which is formed under said provision-chamber and extends from and laterally of the aforesaid cold-air-chamber and under said provision-chamber. Said apertures therefore form air-outlets for the outer end-portion of said passageway which communicates at its inner end with said cold-air-chamber.

Each provision-chamber at its inner side and lower end has a lateral air-inlet *6* which communicates above the bottom of said provision-chamber with the cold-air-chamber D.

By the construction hereinbefore described it will be observed that the ice-chamber communicates through the grating E with the cold-air-chamber D; that cold air descends from the ice-chamber through said grating into said cold-air-chamber; that any water dripping from or through said grating is received by said cold-air-chamber; that the tubular member *g* of the drip pan G forms the water-outlet of said cold-air-chamber; that the lateral air-inlets *6* of the provision-chambers form air-outlets of said cold-air-chamber; that each provision-chamber is in communication therefore at its inner side and lower end with said cold-air-chamber at the upper end of said cold-air-chamber; that the passageway H forms air-

outlets of said cold-air-chamber and have their outer end-portions in communication with the provision-chambers, and that cold air passes into the provision-chambers not only at the inner side of said provision-chambers but upwardly into the provision-chambers at points spaced outwardly from said sides of the provision-chambers.

The air-inlet 6 of each provision-chamber extends preferably from the front to the back of said provision-chamber, and each passageway H extends not only from the cold-air-chamber D into proximity to the outer side wall of the adjacent provision-chamber, but also preferably extends from front to rear of said cold-air-chamber, and the bottom b of each provision-chamber is arranged at a point centrally between the top and bottom of said cold-air-chamber so as to facilitate the passage of cold air from said cold-air-chamber through the aforesaid air-inlet and through the aforesaid passageway.

Two deflectors comprising each a slanting plate K are arranged within opposite side-portions respectively of the cold-air-chamber D and arranged to effect the deflection into the passageways H of cold air descending from the ice-chamber into said cold-air-chamber. Each slanting deflecting plate K is removably mounted on the bottom of the drip-pan G and extends from within the upper portion of said cold-air-chamber at a point substantially central between the side walls of the ice-chamber laterally and downwardly into the drip-pan and terminates at its outer end in proximity to the adjacent passageway H and has its lower portion facing said passageway. Each deflecting plate K rests at its outer end on the bottom of the drip-pan G and is cut away along a portion of the said end, as at 7, to permit the passage of water dripping onto and flowing down said plate to escape to the outlet of the drip-pan. Each deflecting plate K is provided at its upper and inner end with a downwardly projecting flange f resting on the bottom of the drip-pan, and the said flange is cut away centrally and at its lower end and at the bottom of the drip-pan, as at 8, to avoid obstructing the passage of water from the outer end of said plate to the outlet of the drip-pan.

The top comprises two slanting sections L forming the front and back of said top and two slanting sections Q forming the ends of said top. The slanting sections L converge toward but are spaced at their upper ends and consequently slope upwardly and inwardly over the provision-chambers and over the ice-chamber. The slanting top-sections Q converge upwardly and consequently slope upwardly and inwardly over

the provision-chambers. The top of the refrigerator also comprises a substantially horizontally arranged central section R which rests on the upper edges and consequently overlaps the upper ends of the slanting top-sections L and Q. I would here remark that the sections of the top of my improved refrigerator are secured in place in any approved manner.

The provision-chambers communicate with the ice-chamber, as at 10, at the upper end of the ice-chamber, so that air within the provision-chambers upon ascending as its temperature rises can pass to and over the ice in the ice-chamber, and it will be observed that the slanting sections L and Q of the top of the refrigerator are materially instrumental in effecting the deflection or guidance of air thus ascending within the provision-chambers toward and over the ice-chamber where said air is cooled.

Not unimportant is the spacing of the central section R of the top of the refrigerator upwardly from the ice-chamber A so that by the illustrated arrangement of the slanting sections L and Q the guidance of said air to and over the central portion of the ice-chamber is insured.

What I claim is:—

In a refrigerator having a substantially horizontally arranged bottom, two provision-chambers arranged over opposite end-portions respectively of said bottom and having their bottoms spaced from the first-mentioned bottom so as to form air-conducting passageways under the provision-chambers, apertures in the outer end-portions of the bottoms of the provision-chambers a cold-air-chamber arranged between the lower portions of the provision-chambers, and an ice-chamber arranged over said cold-air-chamber, each provision-chamber being provided at the inner side and lower end with a lateral air-inlet which communicates with and forms an outlet of said cold-air-chamber, the aforesaid passageways communicating at their inner ends with said cold-air-chamber and having their outer end-portions in communication with the provision-chambers in proximity to the outer side walls of the provision-chambers, and the bottom of each provision-chamber being substantially imperforate between said cold-air-chamber and a point central between said cold-air-chamber and the outer side wall of said provision-chamber.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

ADOLPH S. KLEIN.

Witnesses:

B. C. BROWN,
N. L. McDONNELL.