

J. G. BARNET.
REFRIGERATOR.
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955,574.

Patented Apr. 19, 1910.

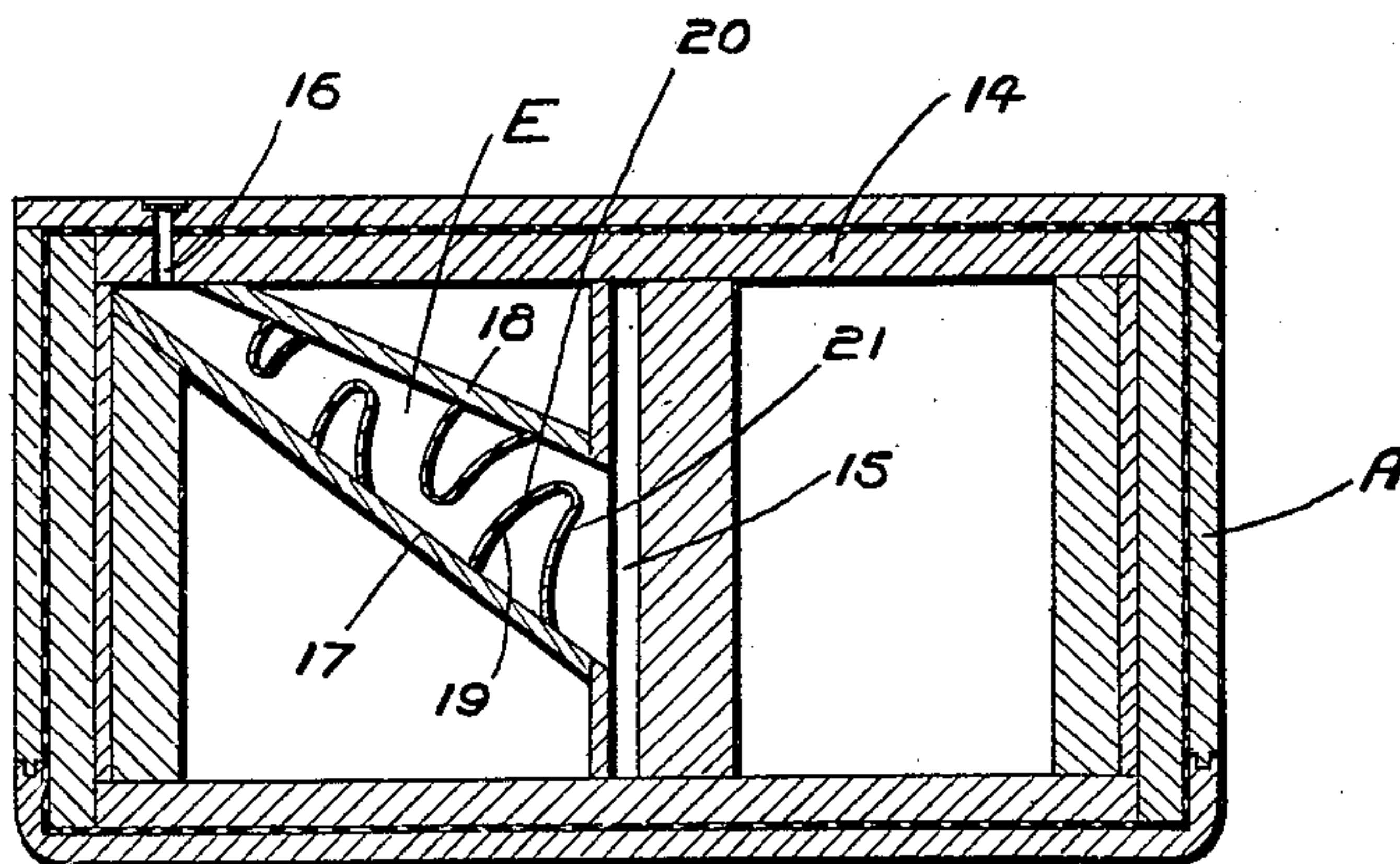


Fig. 2.

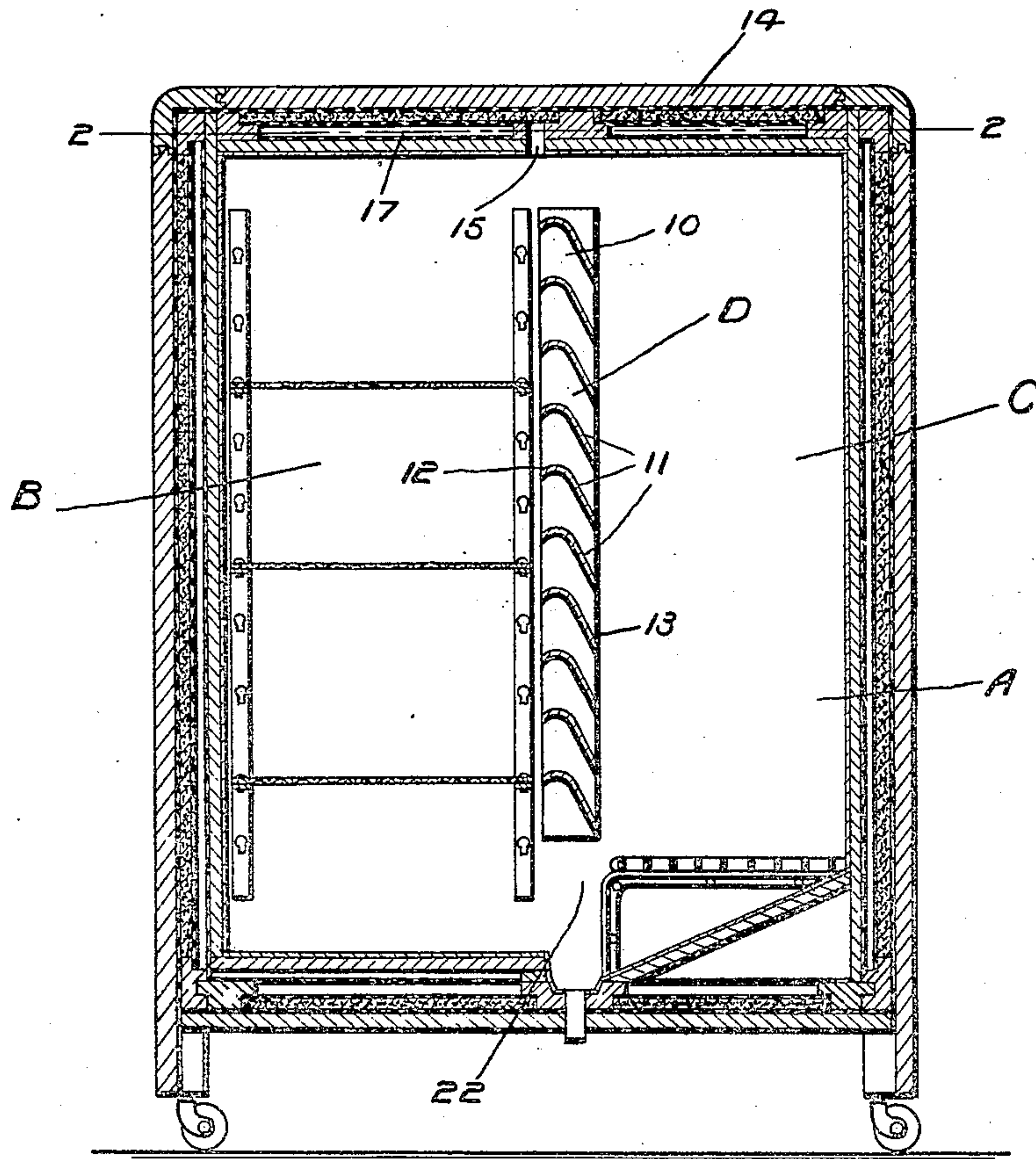


Fig. 1.

WITNESSES,
J. G. Barnett
Pearle Garrow

INVENTOR,
J. G. BARNET.
BY Russell Smart
ATTY.

UNITED STATES PATENT OFFICE.

JOSEPH GEORGE BARNET, OF RENFREW, ONTARIO, CANADA.

REFRIGERATOR.

955,574.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH GEORGE BARNET, of Renfrew, in the county of Renfrew, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to improvements in refrigerators, particularly of the type having an adjacent ice chamber and provision chamber with air circulating ports between, and the objects of my invention are to provide an improved form of ventilating passage-way for carrying off the waste or odoriferous gases, which consists essentially of the structure hereinafter described in detail in the accompanying specification and drawings.

In the drawings, Figure 1 is a vertical section through the refrigerator. Fig. 2 is a section on the line 2—2, Fig. 1.

Referring to the drawings, A represents the casing of any suitable form and having heat insulating walls constructed in any manner now known in the art.

B represents the provision chamber and C the ice chamber separated by the partition D. This partition is formed with a plurality of siphon ports 10, and in the construction illustrated, the partition is formed of a plurality of curved plates 11 having the opposite sides 12 and 13 inclined downwardly toward the provision chamber and ice chamber respectively, the sides 13 of the plates being all converged toward each other, whereby the ports 10 will be constricted on the side nearest the ice chamber, the theory being that the air passing through the ports condenses on its way to the ice chamber and so requires less space.

E represents the ventilating passage-way provided in the top 14 of the refrigerator. This passage-way is provided with an inlet port 15 extending completely across the refrigerator above the partition D. The outlet 16 of the ventilating passage-way is at the rear of the refrigerator.

In accordance with the present invention, the sides 17 and 18 of the passage-way are converged toward the outlet 16, whereby the creation of too great a draft is prevented through the gases being crowded together toward the outlet. The outlet 16 may be placed on any side of the casing.

To further obstruct the passage of gas through the ventilating passage-way, stag-

gered baffle plates 19 are provided, each plate being formed with a convexed side 20 nearest the outlet and a concaved side 21 nearest the inlet.

I have found that the baffle plates of this shape are more efficient than any other as they appear to fit or conform to the path of the current of gas passing through the ventilating passage-way.

In operation, the heated air circulates through the siphon ports 10 into the ice chamber C and passes downwardly through the same and through the space 22 at the bottom of the partition D into the bottom of the provision chamber.

It will be observed that the ports 15 and 16 are not used to permit the outlet of air but simply to permit the outlet of waste and odoriferous gases from within the refrigerator. The air in the refrigerator circulates continuously and will not pass out through the ports for the reason that the air being cooler than the refrigerator, will tend to drop down and not pass upwardly through the ports. When there are edible substances in the provision chamber of the refrigerator, these substances almost invariably produce waste and odoriferous gases and unless some means are provided to take these gases away, they will contaminate the food. These gases are always lighter than the air and consequently, as explained, will readily pass upwardly through the ventilating port.

As to the position of the port, it is found that if it is placed at, say the center of the chamber, it will fail to eliminate part of the gases. These gases will be carried to a certain extent by the current of air and when the port is placed immediately over the dividing wall it insures that all odoriferous gases will pass across the same and thus have an opportunity of passing out.

With regard to the tapering of the passageway 3 it is found that it is not desirable to create a strong current through the port as this would interfere with the circulating current of air in the refrigerator, consequently, as the passageway is constricted toward the outlet, this will cause crowding together of the gases passing through and will serve to retard the current.

The waste and the odoriferous gases being lighter than the air circulating, will rise to the top and consequently, as they are passing, the inlet port 15 will rise through

the same and pass out the circuitous ventilating passage-way 17. Some of these waste gases will be of an ammoniacal character, and thus lighter than air. Any others may
5 be a little heavier than air, but they would be of a slightly higher temperature owing to their reaching the ventilating passage-way before they reach the ice chamber. In this case a slight quantity of air may es-
10 cape, but the amount will be inappreciable.

As many changes could be made in the above construction, and many apparently widely different embodiments of my invention, within the scope of the claims, could
15 be made without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specifications and drawings shall be interpreted as illustrative and not in a limiting sense.

20 What I claim as my invention is:

1. A refrigerator comprising a casing, a partition dividing the same into an ice
25 chamber and a provision chamber and having ports at the top and bottom permitting the circulation of air, the top of the casing being formed with a ventilating passage-

way having an inlet at one end above the partition and having an outlet at the opposite end on the exterior of the casing, the said passage-way being provided on oppo- 30 site sides with staggered baffle plates and being gradually tapered from the inlet to the outlet.

2. A refrigerator comprising a casing, a partition dividing the same into an ice 35 chamber and a provision chamber and having ports therein, the top of the casing being formed with a ventilating passage-way having an inlet at one end above the parti- 40 tion and an outlet at the opposite end on the exterior of the casing, the said passage-way having a plurality of staggered baffle plates therein, substantially V-shaped in form and being convexed toward the outlet and con- 45 caved toward the inlet.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH GEORGE BARNET.

Witnesses:

FRANCIS McDONALD,
ERNEST J. STEWART.