

J. DENSON.
REFRIGERATOR.

No. 518,396.

Patented Apr. 17, 1894.

Fig. 2.

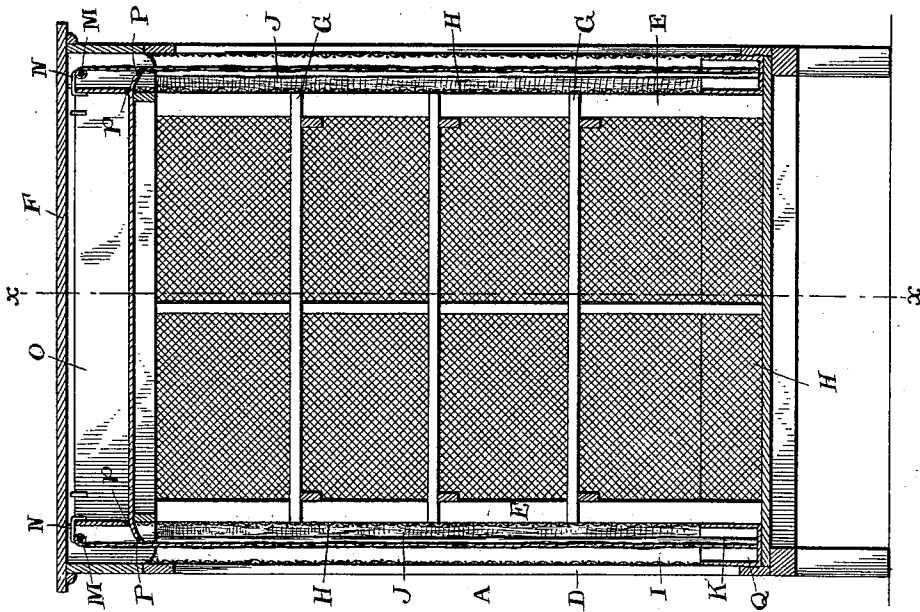
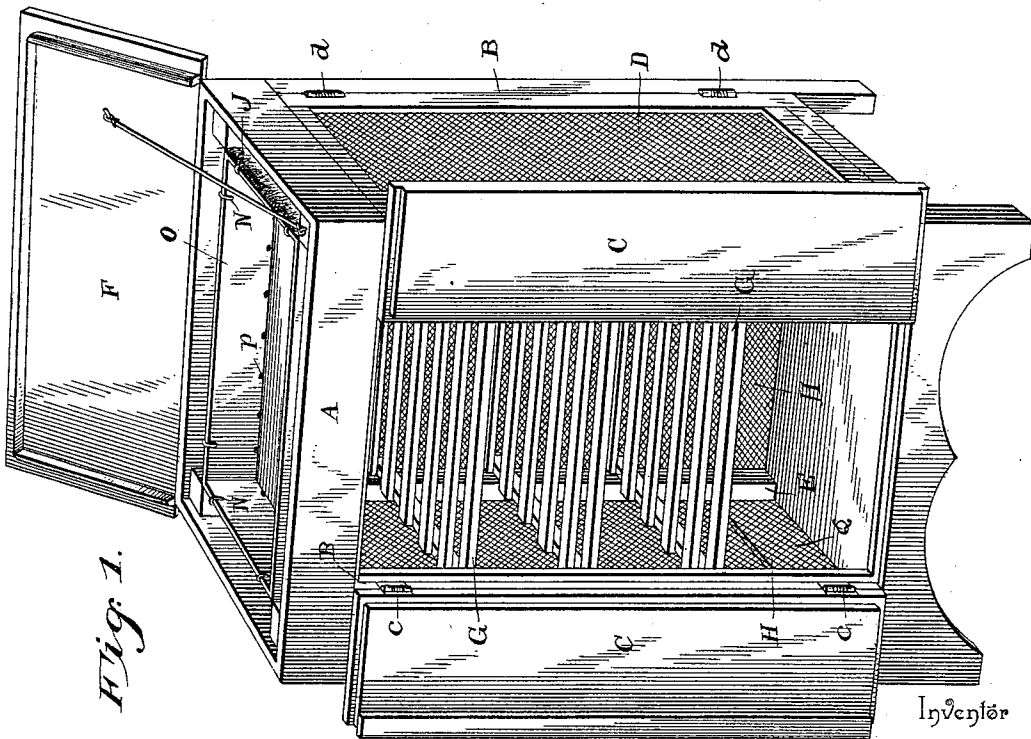


Fig. 1.



Witnesses

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Fig. 4.

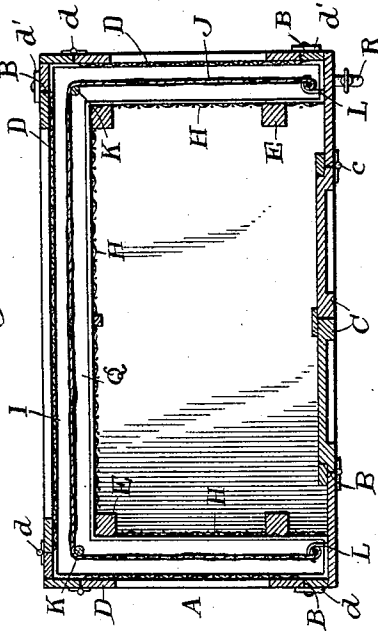


Fig. 5.

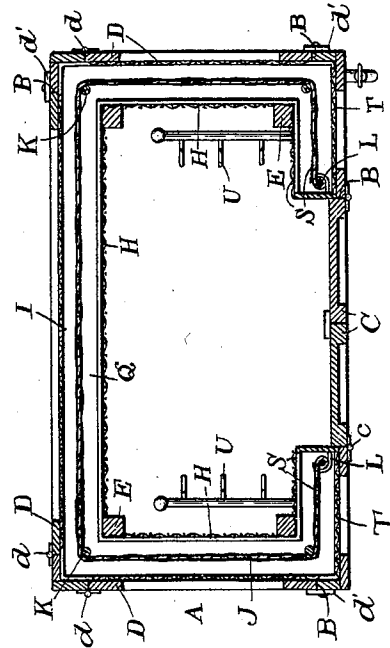
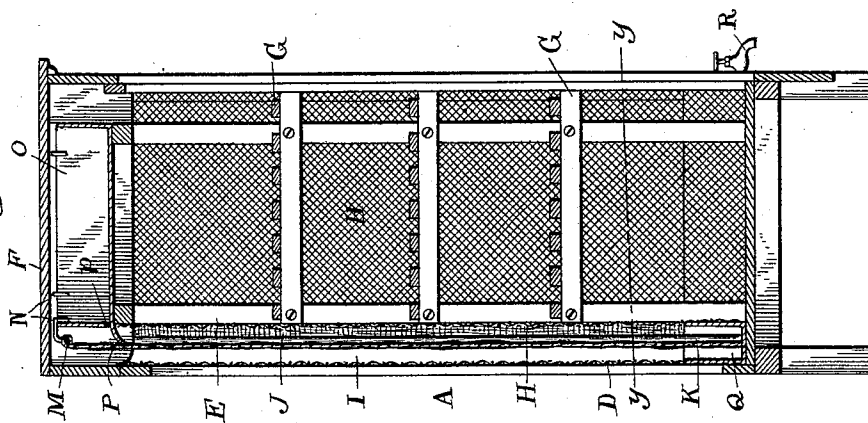


Fig. 3.



Inventor

Joseph Denson,

By his Attorneys.

Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH DENSON, OF STOCKDALE, TEXAS, ASSIGNOR OF ONE-HALF TO
HENRY SMITH, OF SAME PLACE.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 518,396, dated April 17, 1894.

Application filed November 29, 1893. Serial No. 492,348. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DENSON, a citizen of the United States, residing at Stockdale, in the county of Wilson and State of Texas, have invented a new and useful Refrigerator, of which the following is a specification.

This invention relates to refrigerators; and it has for its object to provide certain improvements in refrigerators of that type employed for preserving meats, dairy, and farm products.

To this end the main and primary object is to construct a refrigerator which shall provide efficient cooling means without the employment of ice, and will utilize the cool temperature produced by simply the evaporation of water exposed to a large evaporating area.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings:—Figure 1 is a perspective view of a refrigerator constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a vertical transverse sectional view on the line $x-x$ of Fig. 2. Fig. 4 is a horizontal sectional view on the line $y-y$ of Fig. 3. Fig. 5 is a view similar to Fig. 4 showing a modified form of refrigerator especially adapted for preserving meats.

Referring to the accompanying drawings, A represents an upright refrigerator casing or box constructed out of suitable material, and in any suitable sizes according to the quantity of articles to be stored inside of the same, and said refrigerator box or casing A, is provided in each of its side and end walls with the door openings B, and the front door opening is preferably inclosed by the double imperforate doors C. The doors C, are preferably hinged to the box or casing on the spring hinges c , so that the same will quickly open when unlocked, and when closed they are fastened by any suitable locking devices. The other end and back door openings are

inclosed by the screen doors D, hinged to the box or casing on the spring hinges d , and conveniently locked within the door openings by the turn buckles d' , and said screen doors not only provide for gaining ready access to the interior of the refrigerator box or casing to adjust the several parts therein, but also provide for a free and large circulation of air throughout the box or casing in order to secure a free evaporation of the water employed as a cooling agent.

Inside of the refrigerator box or casing A, is constructed an interior shelf frame E, which extends from the bottom of the box or casing to a point near the upper open end thereof, which is inclosed by the hinged top F, providing means for gaining access to the top of the refrigerator. The said interior shelf frame E, accommodates therein a parallel series of regularly spaced slatted shelves G, which form supports for holding the articles placed within the refrigerator, and at the same time permit of a free circulation of the cool air there-through. The upright shelf-frame E, is exteriorly surrounded by the perforate frame walls H, which are preferably of a screen material, which permits the cool air to freely enter inside of the shelf frame and circulate through and around the shelves supported thereby, and the perforate or screen walls of the interior shelf frame E, inclose therebetween and the outer screen doors, or more properly walls, of the box or casing, a cold air space I, in which is arranged the drip or leach cloth J.

The drip or leach cloth J, is arranged centrally in the cold air space I, between the outer and inner walls of the refrigerator and is held stretched out of contact with the corners of the inner perforate wall H, by means of the vertical spacing rods K, arranged at the corners of the refrigerator box or casing. The said drip or leach cloth J, is stretched around the exterior wall of the shelf-frame E, and has the free end or edges thereof detachable caught into the cloth retaining hooks L, secured to the front wall of the refrigerator box or casing so as to properly retain the drip or leach cloth in position in the cold air space I. The cloth J, is provided at its upper edges

with stiffening bars M, in which are secured the cloth supporting hooks N, adapted to detachably engage over the upper edges of the water tank or pan O.

5 The water tank or pan O, is removably supported in position in the refrigerator box or casing on top of the interior shelf frame E, and is removably locked therein if desired, and said pan or tank is provided at its lower
10 edges with the exterior declining drip flange P, at the base of which, in the bottom corners of the tank or pan, are located the drip openings *p*, through which the water runs from the tank onto the drip flange. The said drip
15 flange projects beyond the exterior screen walls of the interior shelf frame and meets all sides of the drip cloth J, near its upper edges, so that the water escaping from the tank or pan will leach or percolate through
20 the drip or leach cloth its entire vertical length before reaching the bottom drip trough or pan Q. The drip trough or pan Q, is of an approximate rectangular shape fitting in the bottom of the cold air space I, and is adapted
25 to receive the lower edges of the drip or leach cloth to catch the drippings, which may be drawn off through a suitable cock or faucet R, fitted to the drip trough or pan at a point conveniently accessible.

30 Now it will be apparent that while the water is leaching or percolating through the vertically arranged drip or leach cloth, A, circulation of outside air is brought in contact therewith by reason of the exterior screen walls of
35 the box or casing, so that a large portion of the percolating water is caused to evaporate, and necessarily absorbs the interior heat of the refrigerator box or casing, and thereby produce a sufficiently low temperature to
40 properly cool the articles within the refrigerator, thereby dispensing with the necessity of ice as a refrigerant.

Slight modifications of the construction described may be observed such as shown in
45 Fig. 5 of the drawings, in which the inner screen wall surrounding the interior shelf frame, and the free edges or ends of the drip cloth, are continued as at S, up to the front door opening of the refrigerator box or casing,
50 thereby necessarily enlarging the circulating area of the refrigerator to increase the capacity thereof. In this modification the front wall of the refrigerator box or casing at each side of the door opening therein is of a screen
55 material T, so that the air may freely circulate against the front extension S, of the drip cloth. This construction provides a refrigerator especially useful for preserving meats, and is of course provided, in addition to the
60 ordinary shelves, with suitable meat hooks U, therein.

Other modifications will suggest themselves to those skilled in the art, and I will have it understood, that changes in the form, proportion and the minor details of construction may
65 be resorted to without departing from the prin-

ciple or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters 70 Patent, is—

1. In a refrigerator, the box or casing having outer and inner perforate walls, a vertical drip or leach cloth arranged centrally in the space between said walls, and a water 75 supply for said cloth, substantially as set forth.

2. In a refrigerator, the box or casing having outer and inner perforate walls, a water tank or pan removably arranged within the 80 top of said box or casing and having bottom drip openings, at its bottom edges and a vertical drip or leach cloth arranged within the space between said walls and removably connected at its upper edge to the top edges of 85 said water tank, substantially as set forth.

3. In a refrigerator, the box or casing having separated perforate walls inclosing an air space, a drip trough or pan arranged in the bottom of said air space between the walls, a 90 water tank removably arranged in the top of said box or casing and having drip openings, and an exterior drip flange below the plane of the openings, and a drip or leach cloth stretched in the space between the two walls 95 and having its lower edges arranged in said drip trough or pan, the upper edges of said cloth being connected with the water tank above its drip flange, substantially as set forth. 100

4. In a refrigerator, the combination of the casing having outer and inner screen walls inclosing an air space, vertical spacing rods arranged in said air space at the corners of the casing, cloth retaining hooks secured to the 105 front wall of the casing, a water tank at the top of the casing and provided with drip openings, and a drip or leach cloth stretched around said spacing rods in the space between said screen walls, and provided at its upper edges 110 with supporting hooks adapted to detachably engage the upper edges of the water tank, the free ends of said cloth detachably engaging said cloth retaining hooks, substantially as set forth. 115

5. In a refrigerator, the casing having outer and inner screen walls, a water tank removably arranged in the top of said casing and provided with an exterior declining drip flange and drip openings in the bottom corners thereof, and a drip or leach cloth arranged centrally in the space between said walls and having its upper edges supported in contact with said declining drip flange, substantially as set forth. 120 125

6. In a refrigerator, the combination of the box or casing having door openings in the sides and ends thereof, screen doors fitted in the end and rear side openings, an interior shelf frame arranged inside of the box or casing and having surrounding screen walls inclosing there-between and the screen doors a 130

cold air space, a rectangular drip trough or pan arranged in the bottom of said air space, a water tank removably arranged in the top of the box or casing and having drip openings, and a vertical drip or leach cloth, arranged centrally in said cold air space, substantially as set forth.

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

JOSEPH DENSON.

Witnesses:

M. M. SMITH,
W. H. LORENZ.