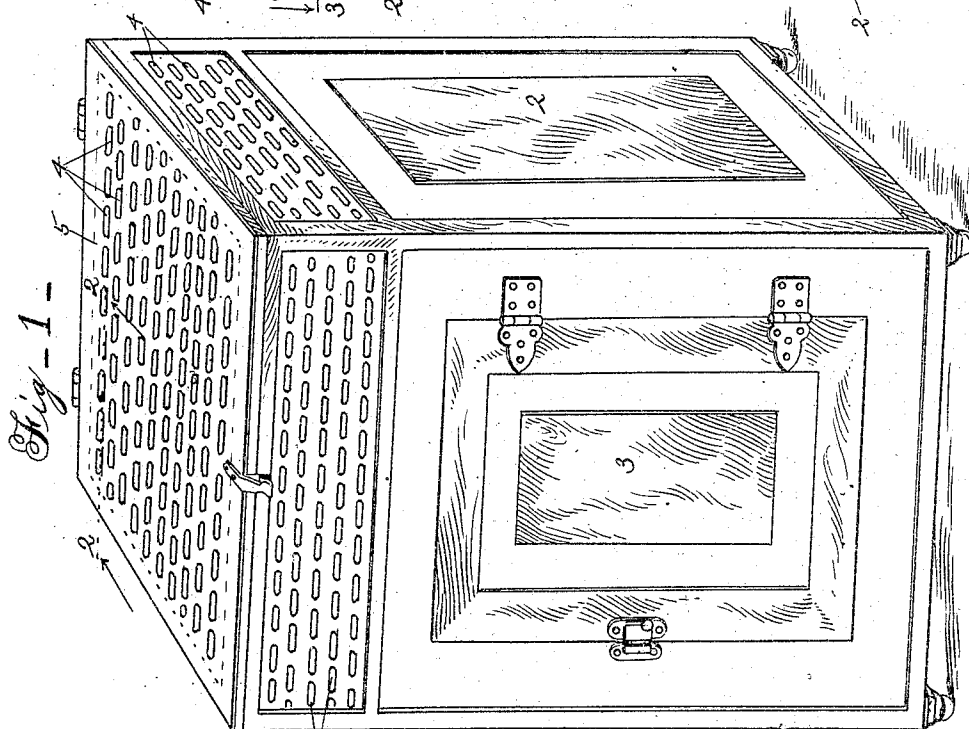
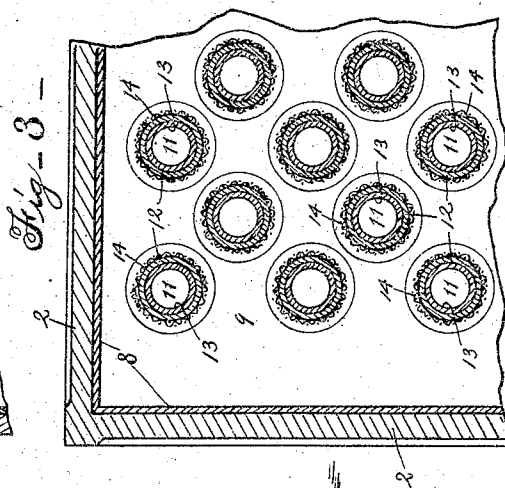
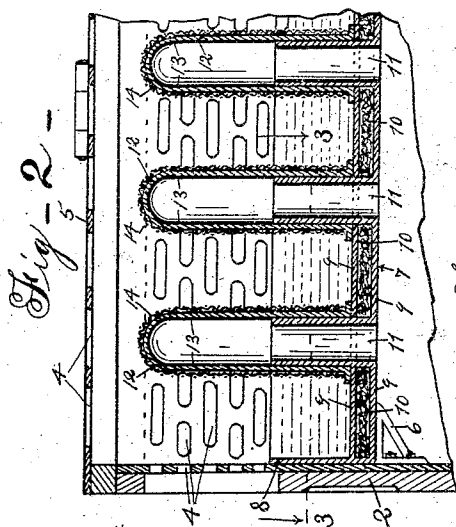


W. N. AMSBARY.  
REFRIGERATING APPARATUS.

APPLICATION FILED DEC. 18, 1911. RENEWED FEB. 24, 1913.

1,063,312.

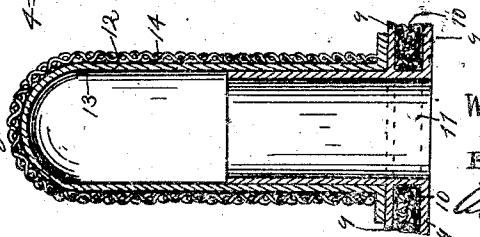
Patented June 3, 1913.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM N. AMSBARY, OF LOS ANGELES, CALIFORNIA.

## REFRIGERATING APPARATUS.

1,063,312.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed December 18, 1911, Serial No. 663,692. Renewed February 24, 1913. Serial No. 750,418.

*To all whom it may concern:*

Be it known that I, WILLIAM N. AMSBARY, a citizen of the United States of America, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a certain new and useful Refrigerating Apparatus; and I do 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 appertains to make and use the same.

This invention relates to refrigerating apparatus, more particularly to such apparatus in which evaporation of a liquid produces the cooling effect.

Objects of the invention are to furnish novel and improved apparatus which provides a large area of evaporating surface in a small space and also provides a large area of cooling surface in the refrigerator box.

Further objects of the invention are to provide novel and improved apparatus of the class specified which is simple in construction, economical to manufacture, easy and cheap to install and maintain, durable and efficient in use, and which permits of attaining a high degree of dryness in the interior of the refrigerator box.

With the above and other objects and advantages in view which will be apparent to those skilled in the art, the invention may be said to consist in the provision of the novel features and in the novel and improved construction, arrangement and combination of parts and devices in the apparatus as will appear from the description and claims which follow.

Referring to the drawings which illustrate one form of construction in which the invention may be embodied: Figure 1 is a perspective view of a refrigerator box having the invention applied thereto; Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1 and showing a portion of the apparatus; Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2, and Fig. 4 is an enlarged fragmentary detail of a portion of the apparatus in vertical section.

The refrigerator box 2 may be provided with a door 3 and it is preferably provided with openings 4 in its top portion and with a hinged top cover 5. On the interior of the refrigerator box 2, below the openings 4, may be arranged on brackets 6 or other suitable means, a basin 7 provided with side

walls 8 adapted to fit closely against the walls of the refrigerator box. The bottom of the basin 7 is preferably formed to minimize conduction of heat therethrough, and it may consist of spaced plates 9 and a layer of felt 10 or other suitable heat insulating material between the plates 9. In suitably spaced openings in the bottom of the basin 7 are arranged hollow parts or flanges 11, preferably tubular, which may extend upwardly from the bottom and preferably terminate flush with the top edge of the basin to prevent any water in the basin from flowing over their top edge. Over the parts 11 are fitted removably parts 12 which extend upwardly into the perforated upper portion of the refrigerator box and are closed at the top thereof. The parts 11 and 12 are preferably made of copper or other suitable material having high heat conductivity. As the cooling of the parts or bodies that may be disposed in the cooling chamber in the interior of the refrigerator box 2 is effected partly by radiation and partly by the conduction of heat from the surfaces of the parts or bodies to the air in contact with them, a coating 13 of lamp black or other suitable material to facilitate heat radiant absorption may be applied, as found expedient on the inner surfaces of the parts 11 and 12. Suitable absorbent material 14, preferably canvas, is affixed on the exterior of the parts 12.

In use, the basin 7 being filled with liquid—preferably water on account of its availability and cheapness—the liquid is continually taken up by capillary attraction of the canvas and is continually evaporated by air circulating through the upper perforated portion of the refrigerator box 2. The evaporation of the liquid effects a cooling of the parts 11 and 12 and consequently of the air on the interior of said parts. On being cooled by the parts 11 and 12 the air descends in the cooling chamber of the refrigerator box and is replaced by warm air; thus cool air continually moves downwardly to abstract heat from the interior of the refrigerator box 2 and rises to be cooled again.

A comparatively small amount of water is consumed in the operation of the apparatus, and the interior of the refrigerator box 2 may be kept comparatively dry as there is no drip or leakage of water therein.

It will be seen that the construction is

simple and compact and affords large areas of evaporating and cooling surfaces in a comparatively small space.

Many changes and modifications in the construction of the apparatus as described will readily occur to those skilled in the art, and the right is therefore reserved to all such changes and modifications as do not depart from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. The combination of a refrigerator box, a basin fitted in the top part of said box, said basin having openings in the bottom thereof in communication with the cooling chamber of said refrigerator box, a hollow part affixed to said basin at each of said openings, said part open at each end thereof, a hollow part fitted on the first mentioned hollow part, the last mentioned hollow part closed at the top thereof and extending upwardly above said basin, and absorbent material affixed on the last mentioned part.

2. The combination of a refrigerator box, a basin fitted in the top part of said box, said basin formed with a heat insulating bottom having openings therein in communication with the cooling chamber of said refrigerator box, a hollow part affixed to said bottom at each of said openings, said part open at each end thereof, a hollow part

fitted on the first mentioned hollow part, the last mentioned hollow part closed at the top thereof and extending upwardly above said basin, and absorbent material affixed on the last mentioned part.

3. The combination of a refrigerator box having a perforated upper portion, a basin fitted in the interior of said box and extending below the perforated upper portion, said basin formed with a heat insulating bottom having openings therein in communication with the cooling chamber of said refrigerator box, a hollow part affixed to said bottom at each of said openings, said part open at each end thereof, a hollow part fitted on the first mentioned hollow part, the last mentioned hollow part closed at the top thereof and extending upwardly into the region of the perforated upper portion of said box, and absorbent material affixed on the last mentioned part.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses at Los Angeles, county of Los Angeles, State of California, this 24th day of December A. D. 1911.

WILLIAM N. AMSBARY.

Witnesses:

THOMAS D. STEWART,

A. H. LIDDERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."