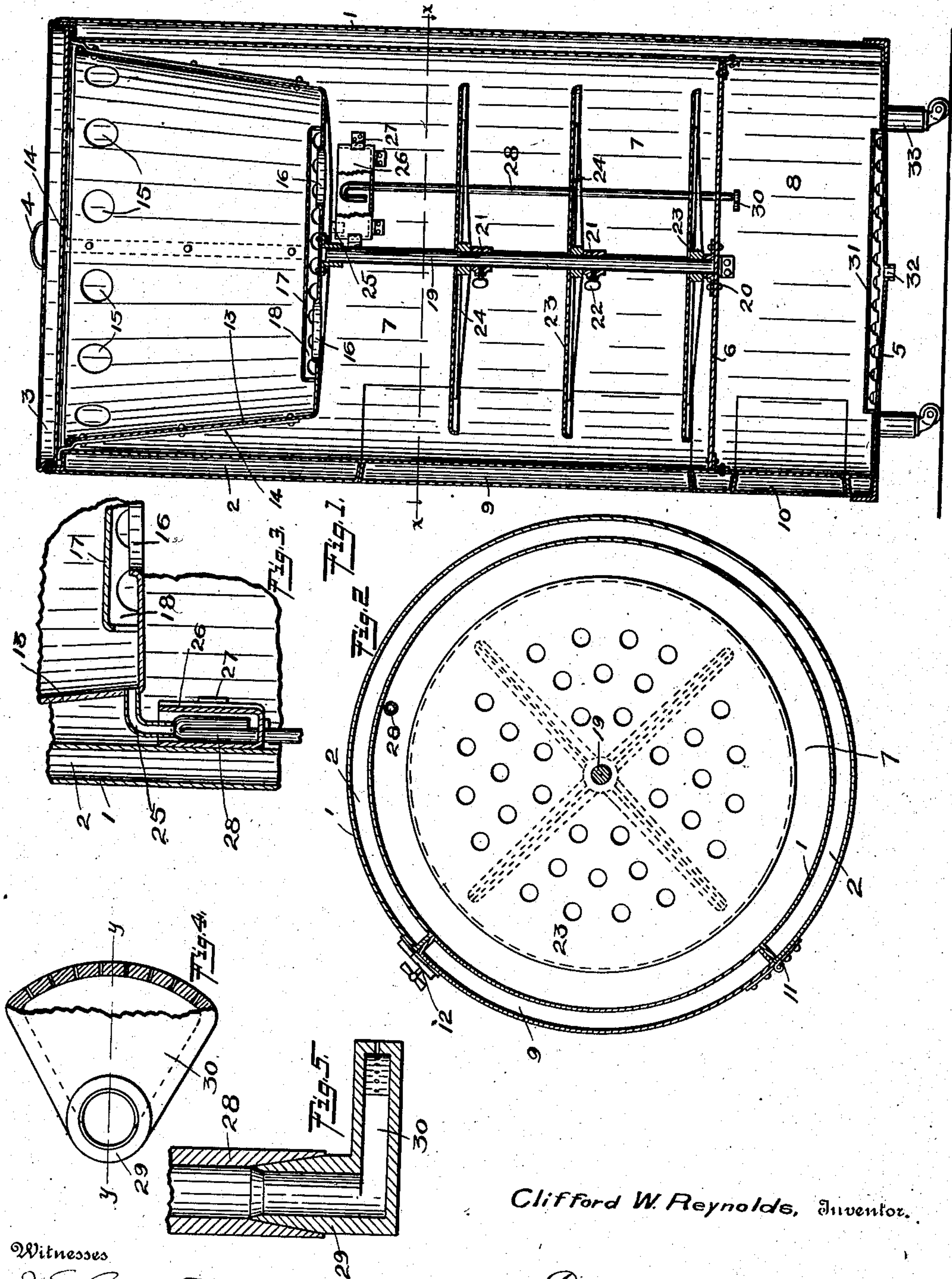


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C. W. REYNOLDS.
REFRIGERATOR.

APPLICATION FILED NOV. 6, 1905.



Clifford W. Reynolds, Inventor.

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Witnesses

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UNITED STATES PATENT OFFICE.

CLIFFORD W. REYNOLDS, OF OMAHA, NEBRASKA.

REFRIGERATOR.

No. 847,823.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed November 6, 1905. Serial No. 286,129.

To all whom it may concern:

Be it known that I, CLIFFORD W. REYNOLDS, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to household-refrigerators; and the objects thereof are to provide a refrigerator of this class of which all parts are readily accessible for cleaning, thus making a sanitary construction; to provide efficient insulation without making a device so heavy as to be difficult to handle; to provide large ice-storage capacity proportionate to the size and weight of the casing; to provide efficient and rapid circulation of dry cold air within the refrigerating-chamber; to provide a moist chamber for the storage of vegetables and the like, means for collecting the water formed by melting of the ice and for intermittently sprinkling said water within the moist chamber, and to provide within the refrigerating-chamber shelves adjustable as to height and rotatable, so that all parts thereof may be brought adjacent the door of the chamber for convenience in placing articles thereon or removing same therefrom. These objects are attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a sectional side elevation of the device. Fig. 2 is a sectional plan of the same, the section being taken on the plane indicated by line *xx* of Fig. 1. Fig. 3 is a detail section through the water-collecting siphon-cup. Fig. 4 is a detail plan view of the sprinkler-nozzle, and Fig. 5 is a section of the same on the line *yy* of Fig. 4.

In the construction shown I provide a cylindrical sheet-metal casing 1, the same having double walls inclosing an air-space 2. At the top of the cylinder is the removable double-walled lid 3, having the handles 4 for convenience in removing the same. A suitable distance above the bottom plate 5 of the casing is a partition-plate 6, dividing the inclosed space into the upper or refrigerating chamber 7 and the lower or moist chamber 8. Access to the said chambers is provided by the doors 9 and 10, opening thereinto, respectively, at the front of the casing. Said doors are provided with hinges 11 and latches 12, of suitable form, as shown in Fig. 2.

The ice-pan 13 has the straps 14 secured on

the sides thereof, as shown, the same terminating at their upper ends in hooks which engage the shoulder beneath the lid 3 and removably suspend the ice-pan within the refrigerating-chamber. The said ice-pan is tapered from top to bottom, so that a space is left between the same and the walls of the casing, and near the top of the pan are a number of openings 15, through which the air-currents rising adjacent the casing-walls may pass in over the ice in the pan. The bottom of the pan is slightly inclined toward one side and has the large upwardly-flanged openings 16 therein, over which is the removable imperforate plate 17, having thereon the downwardly-extending perforate flanges 18, which support the plate above the tops of the flanges around the openings 16. As the ice rests on said imperforate plate, the drip therefrom is prevented from passing through the flanged openings 16, while a free circulation of cold air is permitted to pass through the perforated flanges 18 below the plate 17 and thence downwardly through said openings 16.

At the center of the partition-plate 6 the vertical shaft 19 is supported by a suitable step-block 20, said shaft being held at its upper end by a similar block secured to the bottom of the ice-pan. At suitable intervals on the said shaft are placed the collars 21, which are adjustably held in position by set-screws 22. On said adjustable collars are revolvably supported shelves each comprising a perforated circular plate of sheet metal 23, which is downwardly-flanged at the outer edges and supported by the T-section arms 24, uniting in a hub at the shaft, as shown. The perforation of the shelves is for the purpose of permitting free downward movement of cold air from the openings 16 in the bottom of the ice-pan through the shelves to the bottom of the chamber. The upward return-current of warmer air passes between the outer edges of the shelves and the inside of the casing up to the openings 15 in the ice-pan, as before described.

The drip from the ice in the pan 13 upon reaching the inclined bottom of the pan flows to the drain-tube 25 at the side of the pan and is conducted thereby to the siphon-cup 26, which is removably supported at the side of the casing in brackets 27. In the cup 26 is placed the siphon-tube 28, the top of the U-bend therein being disposed below the top of the cup and the down-leg of the tube pass-

ing through the bottom of the cup and extending downward adjacent the casing-wall through the partition-plate 6 into the moist chamber 8, as shown. At the bottom of the tube within the moist chamber is placed the sprinkler-nozzle, comprising the tapered tubular shank 29, fitting within the siphon-tube 28, as shown in Fig. 5, and the fan-shaped hollow sector 30, having the small openings in the outer rim thereof. (Shown in Figs. 4 and 5.) As the drip from the ice fills the cup 26 and the water-level therein reaches the top of the U-bend in the siphon-tube a flow is established through the tube, which quickly empties the cup, the water descending through the tube with sufficient pressure to spray through the sprinkler-nozzle into the moist chamber. Thus the water collected in the cup 26 will be intermittently discharged through the siphon-tube, the discharge taking place at regular intervals, the time between which depending on the size of the cup and the rate of melting of the ice.

In the bottom of the moist chamber is a removable rack 31, on which may be placed vegetables or the like in position to receive the spray from the nozzle. The bottom of the chamber is inclined toward the center, at which is a suitable drain-opening 32 for the escape of the water, the casing being placed on legs 33 to permit a suitable drip-pan to be placed below said opening.

It will be apparent from the drawings that by removing the lid 3 from the casing the ice-pan may be readily lifted out of the same and the shelves, vertical shaft, and siphon-cups similarly removed, the sprinkler-nozzle at the bottom of the siphon-tube being removed through the door 10 of the moist chamber. The rack 31 may be similarly removed through the door of the moist chamber, so that every part of the refrigerator is readily accessible for cleaning. Should it not be desired to use the water discharged from the siphon-tube for sprinkling of articles in the

moist chamber, the sprinkler-nozzle may be removed from the tube and a drip-pan placed in the moist chamber below the end of the tube.

The refrigerator being made throughout of metal may be finished in any suitable manner, but is preferably enameled to form a smooth non-corrosive surface.

Now, having described my invention, what I claim is—

1. In a refrigerator, a casing divided into an upper and a lower chamber, an ice-pan disposed near the top of the casing within the upper chamber, a cup adjacent the ice-pan and arranged to receive the drip therefrom, a siphon-tube leading from said cup to the lower chamber, means on said tube within the lower chamber for spraying the discharge therefrom into said chamber, and means permitting the escape from said chamber of the water sprayed therein.

2. In a refrigerator, a casing divided into an upper and a lower chamber, an ice-pan suspended within the upper chamber near the top thereof, revoluble perforate shelves within said chamber below the ice-pan, a cup held near the ice-pan and arranged to receive the drip therefrom, a siphon-tube leading from said cup to the lower chamber, said tube being adapted to intermittently discharge the contents of the cup, means carried on the lower end of the siphon-tube for spraying the discharge therefrom into the said lower chamber for the purpose set forth, and means for draining from said lower chamber the water discharged therein by the siphon-tube.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

CLIFFORD W. REYNOLDS.

Witnesses:

J. L. ARMSTRONG,
D. O. BARNELL.