

July 17, 1928.

1,677,454

J. L. JONES
REFRIGERATOR

Filed Aug. 19, 1927

2 Sheets-Sheet 1

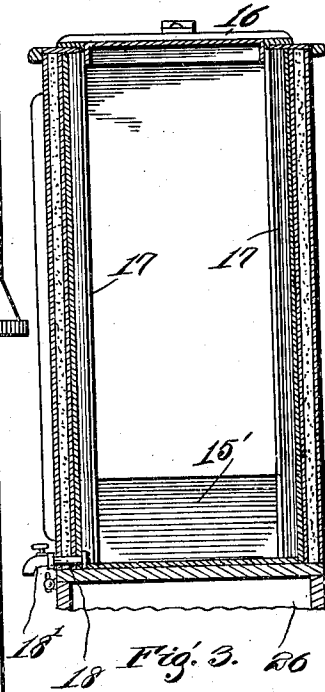
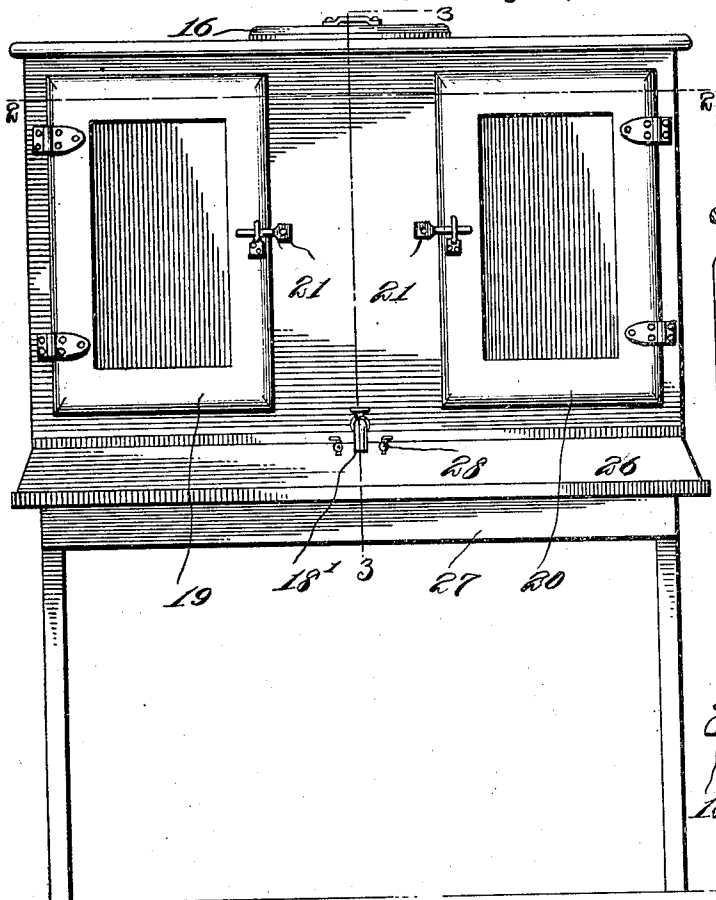
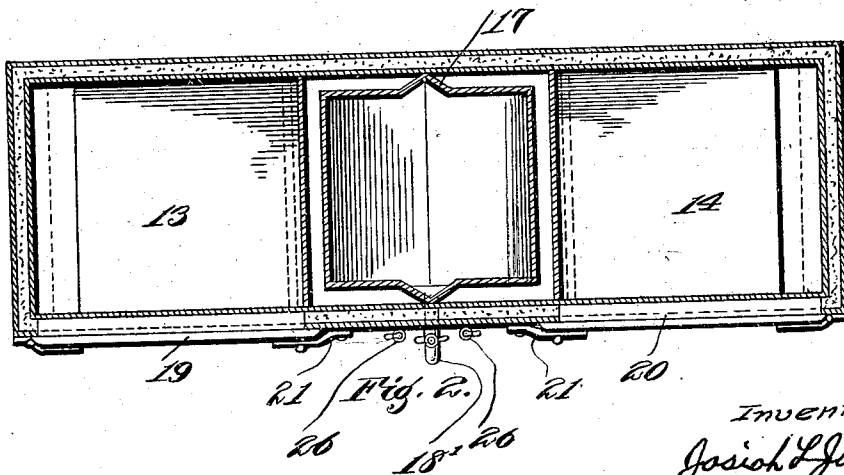


Fig. 1.



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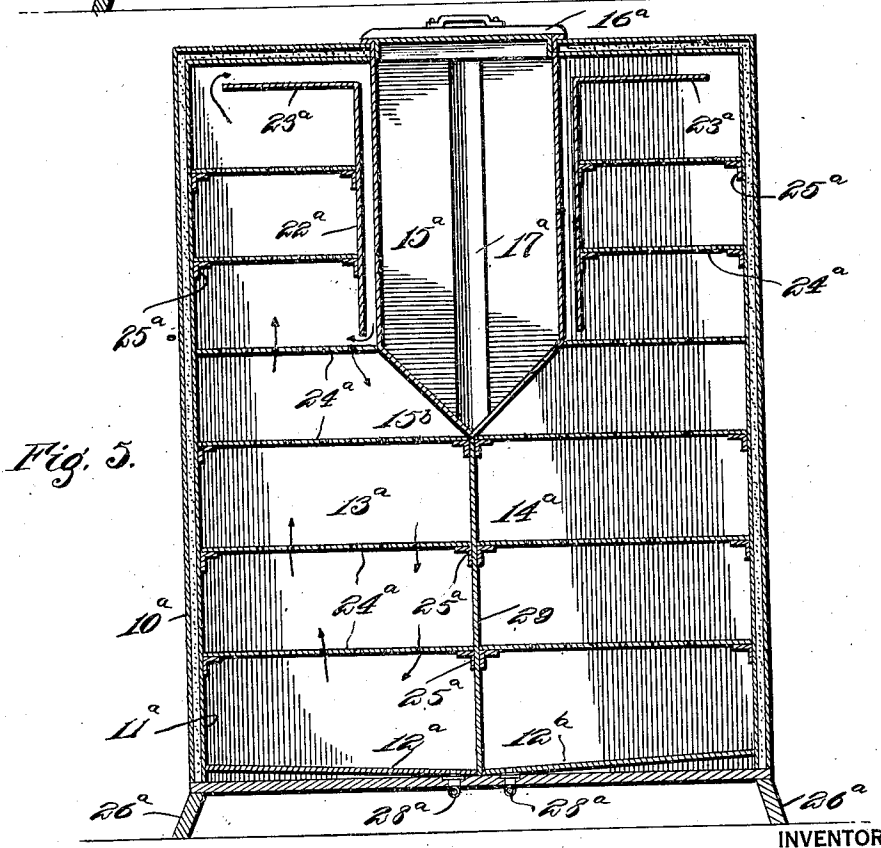
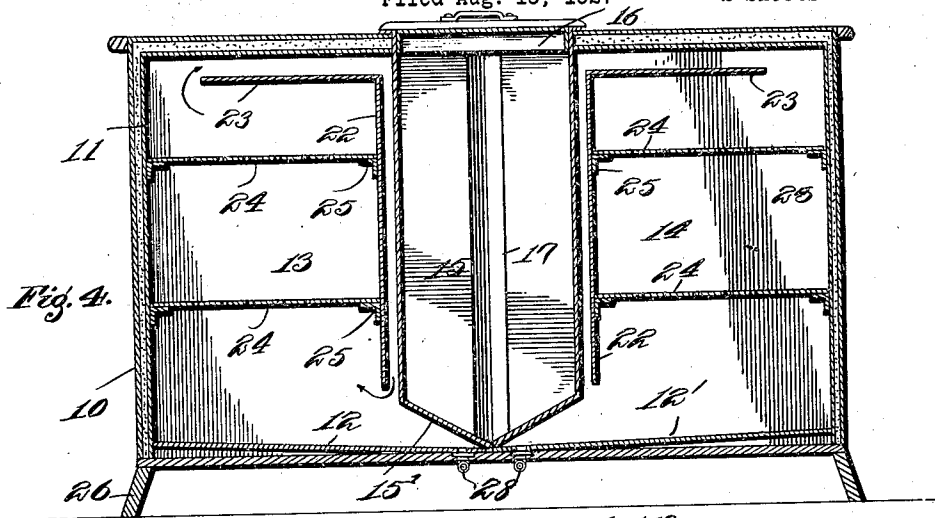
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2 Sheets-Sheet 2



INVENTOR

Josiah L. Jones.

UNITED STATES PATENT OFFICE.

JOSIAH L. JONES, OF ST. PETERSBURG, FLORIDA.

REFRIGERATOR.

Application filed August 19, 1927. Serial No. 214,139.

This invention relates to improvements in refrigerators generally, and more particularly to a combined water cooler and storage compartment type of such refrigerators.

5 The principal object of the invention is to provide for a refrigerator of the type aforesaid, and one of an extremely simple and comparatively inexpensive arrangement and construction, such as will be convenient and satisfactory for use in the home, restaurant, 10 or hotel dining room, particularly in those sections of the country where the available water supplies are of questionable pureness, and manufactured ice alone can be depended 15 up to furnish pure drinking water, when melted, and, at the same time, effect the cooling of the interior of the storage compartment or compartments of the refrigerator.

20 Another object of the invention is to provide for a refrigerator as hereinbefore characterized, and one wherein a central ice containing compartment is provided to completely house the ice supply, and is without 25 a drain so that the water from the melted ice is retained for drinking purposes, while the storage compartments for various food stuffs and the like are disposed about the ice compartment to be cooled by the air circulation within each storage compartment, 30 the air being directed against the unjacketed or uninsulated walls of the ice container or compartment.

35 A further object of the invention is to provide for a refrigerator of the class set forth, and one wherein a means is provided in the ice container or compartment to facilitate the lowering of the ice supply within the same in an easy and gentle manner, so 40 as to prevent injury or damage to the side and bottom walls of the container or compartment, such as would otherwise likely occur should the ice have to be forcibly moved or 45 dropped into supported position.

50 Another object of the invention is to provide for a refrigerator, wherein the several storage compartments are cooled by the individual air circulating currents cooled by contact with adjacent portions of the ice container or compartment, and in which the air 55 does not actually come in contact with the ice.

With the foregoing and other equally important objects and advantages in view, 60 the invention resides in the certain new and useful combination, construction and ar-

60 rangement of parts as will be hereinafter more fully described, set forth in the appended claim, and illustrated in the accompanying drawing in which:

Figure 1 is a front elevation of a preferred embodiment of the invention,

Figure 2 is a horizontal section taken on the line 2—2 of Figure 1,

Figure 3 is a vertical transverse section 65 taken on the line 3—3 of Figure 1,

Figure 4 is a vertical longitudinal section taken on the line 4—4 of Figure 2, and

Figure 5 is a similar section of a slightly 70 modified form of the same.

Referring to the drawings, wherein similar characters of reference designate corresponding parts throughout the several views thereof, and more particularly to Figures 1 to 4 inclusive, the preferred embodiment of 75 the refrigerator as shown therein comprises a case or cabinet formed of an outer shell 10, and an inner shell 11, having its several walls spaced equidistantly from and parallel to the opposed complemental walls of the 80 outer shell 10 to provide a dead air space between the same, and, if desired, this dead air space may be filled with a usual heat and cold insulating material, such as mineral 85 wool or the like. As shown, the bottom wall of the inner shell 11 may be oppositely inclined, to provide the sloping portions 12 and 12', the downward slope of each portion being toward the transverse center of the case or cabinet, for purposes to be herein- 90 after more fully explained.

95 Located centrally within the inner shell 11, and dividing the same into two oppositely disposed storage compartments 13 and 14, is an ice receiving container or compartment 15, which has its lower end formed substantially V-shape at the bottom 15', so that the ridge, formed by the junction line of connection of the oppositely sloping walls of this bottom 15' rest on the transverse center 100 line of the bottom wall of the inner shell as defined by the meeting point of the oppositely sloping portions 12 and 12' of the latter. The upper open end of the ice container or compartment 15 extends into an opening 105 formed in the top of the casing or cabinet with its top edge disposed flush in the plane of the top surface of the upper or top wall of the outer shell 10. An air tight closure 110 16 is arranged to snugly seat in the upper open end of the ice container or compartment 15, substantially as shown. Formed on

the vertical centers of the front and rear walls of the ice container or compartment 15 are outwardly disposed substantially V-shaped ridges 17, which snugly contact the opposed surfaces of the front and rear walls of the inner shell 11, whereby, with the ridge of the V-shaped bottom 15 contacting the bottom wall of the latter, all communication between the two storage compartments 13 and 14 at either side of the ice container or compartment 15 is cut off or otherwise prevented, and these storage compartments 13 and 14 are rendered substantially air-tight. An outlet 18 is provided at the lowermost part of the forward end of the V-shaped bottom of the ice container or compartment 13, and this outlet 18 is extended through the front walls of the inner and outer shells 11 and 10 for the attachment to the same of a spigot 18' for the drawing off of the water, produced by the melting of ice contained in the ice compartment 15, for drinking purposes.

From the foregoing, it will be obvious that all communication between the ice compartment 15 and the storage compartments 13 and 14, so that different food stuffs or the like in one storage compartment will not taint food stuffs or the like in the other storage compartment, nor can the drinking water or ice in the ice compartment 15 be in any way tainted or fouled by odors or the like from either of the storage compartments 13 and 14.

Suitable openings will be provided in the front walls of the outer and inner shells 10 and 11 for each of the storage compartments 13 and 14, and these openings will be normally closed by hinged closures or doors 19 and 20, respectively. Also, each closure or door 19 and 20 will be provided with usual forms of clamping latch devices 21, whereby the same will be sustained in substantially air tight closing engagement in the openings aforesaid.

The interior arrangement of each of the storage compartments 13 and 14 will be the same, and each has disposed therein a vertical air deflector wall 22 extending transversely of the same in parallel relation to the opposed wall of the ice container or compartment 15, and in a manner to provide a restricted air circulating passageway therebetween. The lower end of this wall 22 is terminated above the bottom wall portion 12 of the shell 11, and its top end below the top wall of the latter. A horizontally disposed air deflector wall 23 is extended in right angular relation outward from the top edge of the vertical deflector wall 22 in spaced parallel relation to the top wall of the inner shell 11, and has its outer or free end terminating in spaced relation from the opposed end wall of the inner shell 11. Suitable shelves 24 will be removably sup-

ported one above the other on pairs of oppositely disposed members or brackets 25, which are attached to the vertical air deflector wall 22 and the opposed end wall of the inner shell 11. These shelves 24 are preferably reticulated in a manner to facilitate the free circulation of air upwardly through the same. The members or brackets 25 are preferably formed from suitable lengths of angle iron, as shown.

In the use of this form of the invention, the case or cabinet may have its bottom side provided with a supporting frame 26, which may be, in turn, seated on a supporting stand or table 27, as shown in Figure 1, whereby ready access will be had to the spigot 18'. Ice will be placed within the container or central compartment 15 through the top opening by the removal of the cover 16 for the purpose. In the case of a block of ice being employed, the same may be lowered into the container or central compartment 15 with the usual ice tongs (not shown), the engaged portions of the tongs having free movement in the oppositely disposed channels formed at the inner sides of the front and rear walls of the ice container or compartment 15 by the vertical ridges 17 for the purpose, sufficient clearance being provided by the channels to permit of the withdrawing of the tongs after the ice has come to rest on the oppositely sloping walls forming the bottom of the container or compartment. As the opposite side and bottom walls of the ice container or compartment 15 become cool, warm air at the bottom of each storage compartment 13 and 14 will rise through the openings in the several shelves 24 to the upper part of the latter, and will pass around the free end edge of the horizontal deflector walls 23, and enter the passageways formed between the same and the top wall of the inner shell 11, and from thence will pass downwardly of the passageways formed between the vertical deflector walls 22 and the opposed walls of the ice chamber 15. In passing down the vertical passageways, the air will be cooled by contact with the unjacketed or uninsulated side walls of the ice chamber 15, and will discharge into the lower side of the storage compartments 13 and 14 around the bottom edge of the vertical deflector wall 22. As the ice melts within the chamber 15, the water from the same will gather in the bottom of the latter, and may be drawn off as desired from the spigot 18'. Liquids spilled in either of the storage compartments 13 and 14, or moisture resulting from condensation will gather at the lower ends of the sloping bottom walls 12 and 12' of the compartments, and may be drained off at will through valved outlets 28.

In the modified form of the invention, as shown in Figure 5, the case or cabinet is similarly formed to give greater storage ca-

capacity to the storage compartments 13^a and 14^a, and in this instance, the outer shell 10^a and the inner shell 11^a are elongated vertically, and a central transverse partition wall 27 is secured in vertical position on the transverse center of the bottom wall of the inner shell 11 formed by the oppositely sloping portions 12^a and 12^b. The top edge of this partition wall 27 seats on the same, the lower connected ends of the oppositely sloping walls of the bottom 15^b of the ice chamber 15^a, so that the partition wall 27 and the ice chamber 15^a, with the V-shaped bottom 15^b of the latter, divide the interior of the inner shell 11^a into the two oppositely disposed storage compartments 13^a and 14^a. The ice chamber 15^a has its upper open end normally closed by the cover 16^a, and is formed with the outstanding V-shaped vertical ridges 17^a after the manner in the first instance of the invention. The air deflector walls 22^a and 23^a are arranged in the same manner to effect a circulation of the air in each compartment as hereinbefore explained. Additional shelves 24^a are provided in the lower portion of each compartment, and the same are supported on vertically spaced pairs of angle iron brackets 25^a secured in proper position on the opposite sides of the partition wall 27, and the opposed end walls of the inner shell 11^a. A water outlet (not shown) will be provided at the bottom of the ice chamber 15^a in the manner as in the first instance, and valved drain outlets 26^a will be arranged in the bottom wall of the case or cabinet to drain

moisture from the oppositely sloping portions 12^a and 12^b of the bottom wall of the inner shell 11^a. The case or cabinet will be provided with a suitable supporting base 26^a.

Without further description, it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention or its scope as claimed.

Having thus fully described the invention, what is claimed is:

A refrigerator comprising an outer case of standard construction, an uninsulated ice chamber disposed centrally of said casing in such a manner that said ice chamber forms a practical airtight partition dividing said casing into two oppositely disposed storage compartments, said ice chamber insertable inwardly of an opening in the top of said casing, fitted snugly and made fast thereto, a closure for said opening, a faucet attached to the lower part of said ice chamber and extending through the front walls of said casing, said ice chamber having along the vertical centers of its front and rear walls channels formed to extend outwardly of said ice chamber to provide a clearance for the passage of ice-hooks therein to facilitate the placing of ice within the container without injury to same.

JOSIAH L. JONES.