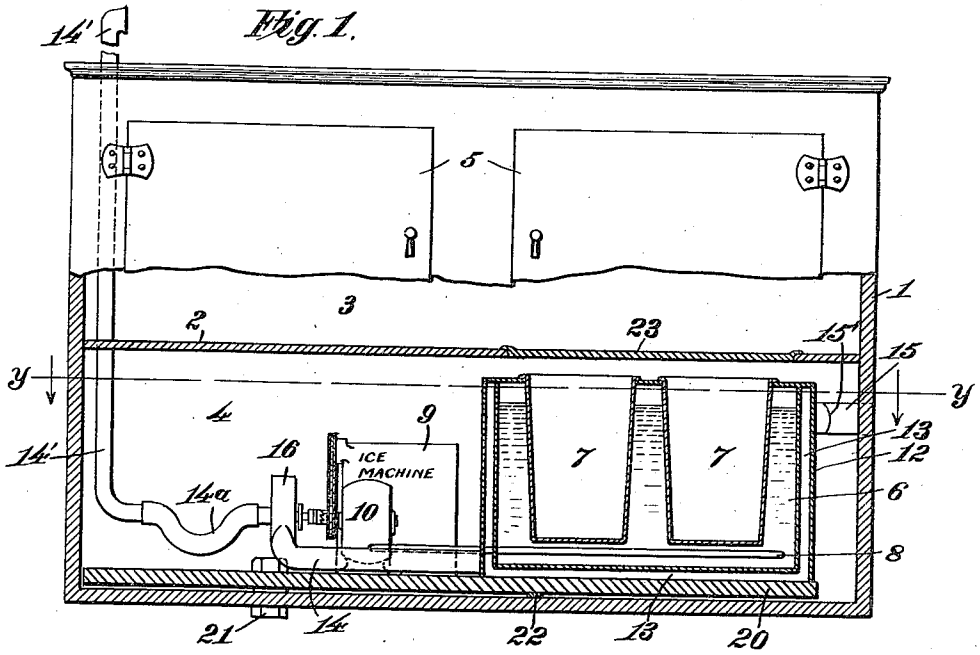
McKINNON SUMMERS & W. R. VILES.

REFRIGERATING AND COOLING DEVICE.

APPLICATION FILED OCT. 20, 1915.

1,279,608. Patented Sept. 24, 1918.

Fig. 1.



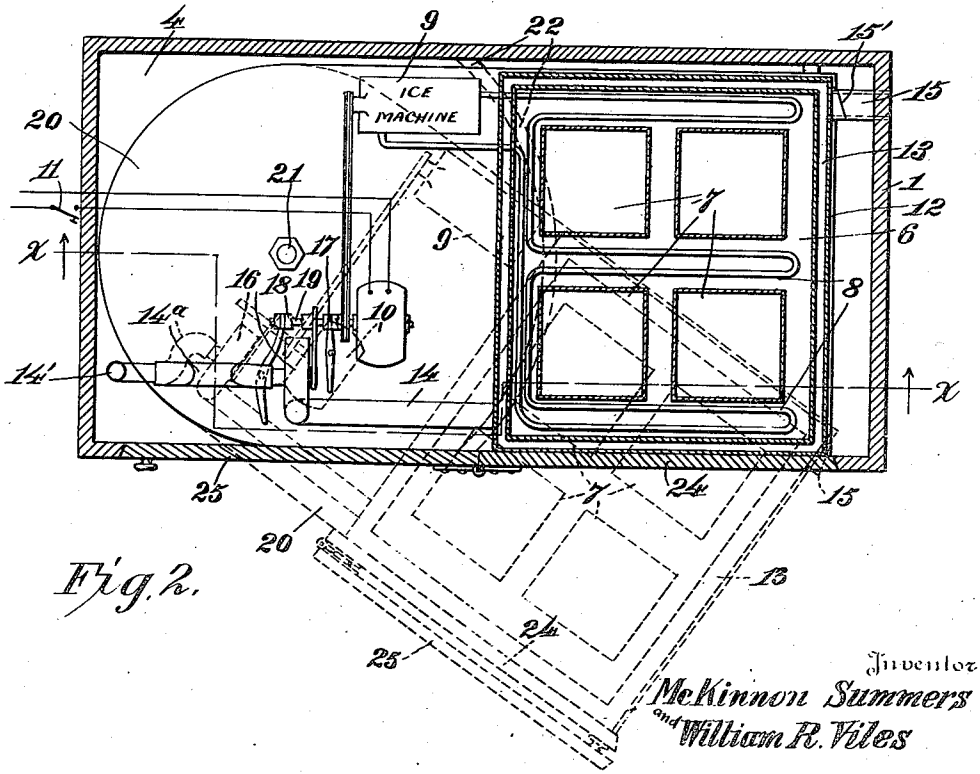




Fig. 2.

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# UNITED STATES PATENT OFFICE.

McKINNON SUMMERS, OF WELDON, AND WILLIAM R. VILES, OF CLINTON, ILLINOIS; SAID VILES ASSIGNOR TO SAID SUMMERS.

## REFRIGERATING AND COOLING DEVICE.

1,279,608. Specification of Letters Patent. Patented Sept. 24, 1918.

Application filed October 20, 1915. Serial No. 56,835.

*To all whom it may concern:*

Be it known that we, McKINNON SUMMERS and WILLIAM R. VILES, citizens of the United States, residing at Weldon, county of Dewitt, State of Illinois, and Clinton, county of Dewitt, and State of Illinois, respectively, have invented certain new and useful Improvements in Refrigerating and Cooling Devices, of which the following is a specification.

Our invention relates to refrigerating devices and particularly to refrigerators adapted for domestic use.

The object of our invention is to provide a refrigerator especially adapted for domestic use provided with a chamber for containing the food stuffs and equipped with means for making its own ice. A further object of our invention is to provide, in a device of the class mentioned, means whereby the device may be utilized for cooling the air of the room in which it is located, and thereby the adjacent rooms also. A further object of our invention is to provide in a device of the class mentioned, means whereby the ice formed in the device may be rendered accessible. Other objects will appear hereinafter.

With these objects in view our invention consists generally in a casing provided with a food compartment and an adjacent compartment equipped with ice making apparatus. Our invention further consists in a device as mentioned further characterized by an air duct leading through the same adjacent the ice making apparatus and provided with means for forcing a current of air therethrough whereby the heated air may be removed from the upper portion of the room, cooled and again returned to the room in its cooled condition. Our invention further consists in providing a swinging base or platform arranged within the ice making compartment and arranging the ice making apparatus and air cooling device upon the same so that by swinging the platform outwardly the ice formed in the device may be rendered accessible. Our invention further consists in a device as mentioned further characterized by providing the partition between the two chambers with an opening for giving access to the ice without necessitating swinging the apparatus outwardly from the casing. Our invention further consists in an improved closure for the compartment provided with the swinging platform, a portion of said closure being rigidly attached to the platform and a portion hingedly connected thereto. Our invention further consists in various details of construction and arrangement of parts all as will be further described hereinafter and particularly pointed out in the claims.

Our invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification and in which—

Figure 1 is a vertical section of a refrigerator embodying our invention, the same being taken upon the line *x*—*x* of Fig. 2 and the upper portion of the device being illustrated in elevation, and

Fig. 2 is a horizontal section on the line *y*—*y* of Fig. 1.

Referring now to the drawings, 1 indicates the body or casing of the refrigerator which may be of any preferred size and practically any preferred form to suit the requirements of the conditions under which the same is to be used; that is, if for domestic use, for which it is primarily designed, it may be of small size, but if for lunch rooms and the like, it may be of larger size and the arrangement in either case may be made to suit the various conditions as will appear as the description proceeds. The casing is provided with a partition 2 dividing the same into a food compartment 3 and a refrigerating compartment 4. As shown in the drawings, the food compartment is arranged above the refrigerating compartment although it is obvious that this particular arrangement is not essential. 5 indicate doors for giving access to the compartment 3.

Arranged within the compartment 4 is an ice making apparatus and air cooling means.

The ice making mechanism comprises a brine tank 6 equipped with the receptacles 7 in which the ice is formed and provided with ammonia tubes 8. A suitable ammonia pump is provided illustrated diagrammatically at 9 and this pump is actuated by any suitable motor power such as an electric motor 10. 11 indicates a switch arranged in the circuit to the motor by means of which the same may be started and stopped as desired.

The air cooling mechanism comprises a jacket 12 around the brine tank 6 forming an air space 13 preferably entirely around

the four sides and bottom of said tank, a conduit 14 leading into said jacketed space and an outlet 15 leading from said space and discharging into the atmosphere of the room in which the device is located. A fan 16 is interposed in the conduit 14 for creating a circulation of air and this is arranged to be driven from the motor 10. The conduit 14 is extended beyond the fan 16 as at 14′ to any height above the casing 1 as is desired.

In order that the pump 9 and fan 16 may be operated independently or simultaneously as desired, suitable clutches 17 and 18 are provided whereby the same may be respectively connected to or disconnected from the power shaft 19 of the motor. Any suitable clutch mechanism may be employed for this purpose, that shown in Fig. 2 being merely diagrammatic.

The brine tank, the pump, motor and fan are preferably arranged upon a platform 20 pivotally connected as at 21 to the casing 1 and swinging upon an arcuate track 22, the latter being provided to lessen the friction. It is obvious that by swinging the platform 20 outwardly as shown in dotted lines in Fig. 2, the ice which is formed in the receptacle 7 is rendered accessible. However, in order that the ice may be accessible without necessitating the swinging of the platform I provide the partition 2, adjacent the receptacle 7, with an opening equipped with a closure 23. In the form shown in the drawings this closure would therefore constitute a portion of the bottom of the food containing chamber and hence it would not always be convenient to remove the closure 23. At such times the platform may be swung outwardly when it is desired to have access to the ice. The swinging of the platform necessitates providing the extension 14′ of the air induction pipe with a flexible portion $14^a$; and the eduction pipe 15 is formed of two portions as shown clearly in Fig. 2, one portion being rigidly connected to the casing 1 and the other connected to the jacket 12, the adjacent ends being beveled as at 15′ to facilitate swinging the platform and making a close joint between the portions of the eduction pipe when the platform is swung inwardly.

A suitable closure is provided for the chamber 4. This comprises a portion 24 rigidly connected to the outer edge of the platform at its free end and a hingedly mounted portion 25. When it is desired to swing the platform the portion 25 is swung backwardly against the portion 24 as shown in dotted lines in Fig. 2 after which the platform is free to swing. It is obvious that by this arrangement the portion 25 serves as a lock to prevent swinging of the platform 20.

The operation of the device is obvious from the preceding description.

We claim:—

1. In a refrigerator, a casing provided with an opening in one of its walls, a platform pivotally mounted within said casing and adapted to swing outwardly through said opening, ice making apparatus on said platform and a closure comprising a portion fixed to said platform and a portion hingedly connected to said fixed portion, substantially as described.

2. In a refrigerator, a casing provided with an opening in one of its walls, a platform arranged within said casing and pivotally connected thereto adjacent one end of said platform, said platform being arranged to swing outwardly through said opening, ice making apparatus on said platform and a closure for said opening comprising a fixed portion secured to the outer edge of the platform adjacent its free end and a portion hingedly connected to the fixed portion and adapted to close the portion of said opening adjacent the pivoted end of the platform, substantially as described.

3. In a refrigerator, a casing provided with an opening in one of its walls, a swinging platform arranged within said casing and adapted to swing outwardly through said opening, ice making apparatus on said platform and a closure for said opening comprising a fixed part secured to said platform and a swinging portion serving as a lock for said platform, substantially as described.

4. In a refrigerator, a casing provided with an opening in one of its walls, a swinging platform pivotally mounted within said casing and adapted to swing outwardly through said opening, ice making apparatus on said platform, an air passage way arranged on said platform in close proximity to said apparatus, a fan arranged in said passage way for creating a current of air therethrough, an induction pipe fixed in said casing and extending above the same, a flexible connection arranged between the inner end of said induction pipe and said fan, and an eduction pipe, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

McKINNON SUMMERS.
WILLIAM R. VILES.

Witnesses:
CHAS. C. LISNEBY,
WILLIAM C. LANE.
Witnesses:
ELMER HAMMOND,
THOS. O. BEATTY.