M. M. SCHULTZ.

REFRIGERATOR.

APPLICATION FILED JAN. 26, 1914.

1,147,754. **Patented July 27, 1915.**

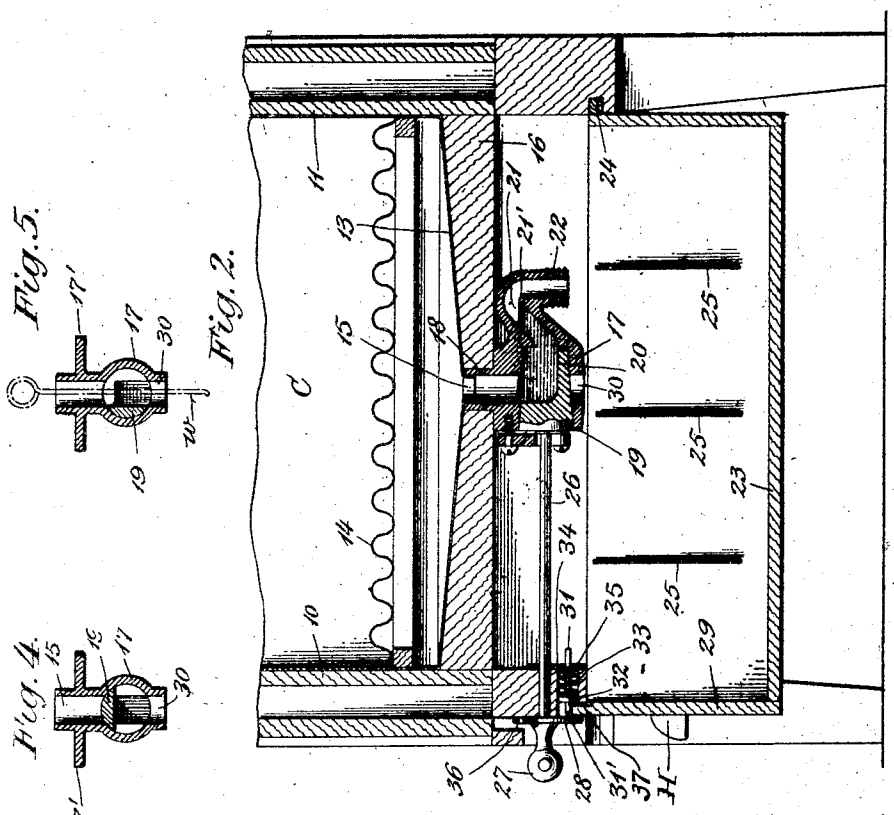


Fig. 2.

Fig. 5.

Fig. 4.

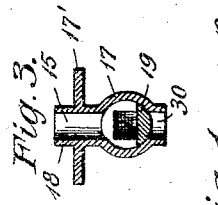


Fig. 3.

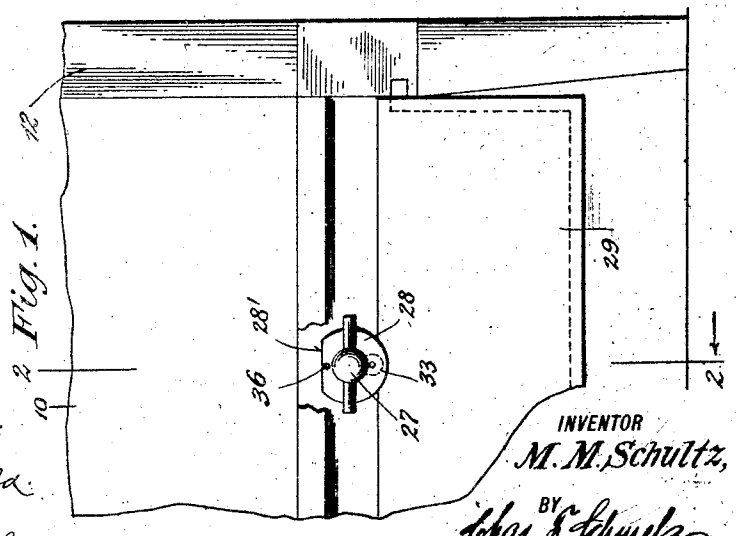


Fig. 1.

WITNESSES:

H. D. MacDonald.

H. M. McMillan

INVENTOR

M. M. Schultz,

BY

Chas. F. Schmelz

ATTORNEY

UNITED STATES PATENT OFFICE.

MAX M. SCHULTZ, OF DETROIT, MICHIGAN.

REFRIGERATOR.

1,147,754. Specification of Letters Patent. Patented July 27, 1915.

Application filed January 26, 1914. Serial No. 814,271.

To all whom it may concern:

Be it known that I, MAX M. SCHULTZ, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

This invention relates to refrigerators, and more particularly to the drip-pans thereof, and it has for one of its objects the provision, in connection with the refrigerator box and the drip discharge thereof, of a valve whereby the drip pipe which forms a part of the refrigerator, may be closed before the drip pan is removed.

The invention has, furthermore, for its object the provision of means, in connection with such a valve, whereby the latter must be in closed condition before the drip pan may be removed.

The invention has also for its object the provision of means whereby the valve will be locked in closed position, and will thus remain, as long as the drip pan is not in position on the refrigerator.

Further objects of the invention will hereinafter appear and be particularly defined in the claims.

The invention has been clearly illustrated in the accompanying drawings in which similar characters denote similar parts and in which:—

Figure 1 is a front view of a portion of a refrigerator embodying my invention. Fig. 2 is a transverse section on line 2, 2 of Fig. 1. Figs. 3 and 4 and 5 are cross sections of the drip valve showing the same in different positions.

Briefly stated, the present invention has for its particular aim to prevent the leakage of drip water from the refrigerator, when the drip pan has been removed therefrom for the purpose of emptying the same, while at the same time means are provided whereby the housekeeper is prevented from removing the drip pan from the refrigerator, unless the valve has first been closed, and then under ordinary conditions, the valve cannot be opened on account of its remaining locked in closed position until the drip pan has been again restored to its proper position in the refrigerator, whereupon the valve may again be opened to permit the issue of drip water into the pan.

Referring to the drawings, 10, 11 denote the front and rear walls of a refrigerator, and 12 is one of the side walls thereof, these walls inclosing the ice chamber C the bottom of which is lined with zinc 13, as usual, and is slightly depressed toward the center so that the drip may issue or be discharged through an opening 15 provided in the chamber bottom. Attached to the base board 16 of the chamber bottom is a valve casing 17 having at its upper end a tubular nipple 18 which is forced into tight contact with the base board 16, and it may be held in position therein in any suitable manner, as for instance by side flanges 17', as shown in Fig. 3.

Disposed within a tapered bore of the valve casing, is a correspondingly-shaped plug 19 which is cut away, as at 20, to establish a communication between the duct 15 and an outlet pipe or conduit 21 which is also formed in said casing and has its flow-over ledge 21' so disposed as to form a trap for the drip water, so that, therefore, the latter may be enabled to seal the lower end of the outlet duct 15 against the admission of atmosphere into the bottom of the ice chamber C. Furthermore, inasmuch as in some instances the drip opening of the refrigerator may be directly connected with a pipe leading to a sewer, I provide an extension 22 on the discharge end of the casing, in which case the trap will also serve to prevent the entrance of sewer gas into the bottom of the ice chamber, as will be readily understood.

The water issuing from the drip spout 22 falls into a drip pan shown herein as a drawer 23, the side and rear walls of which are provided near the upper margins with extensions or flanges 24 so arranged that the drawer 23 may be pulled out toward the front of the refrigerator by a handle H and also so that when said drawer is in place, said flanges will form tight joints with the casing of the refrigerator and thus prevent drip water from dripping onto the floor, this construction being particularly advantageous in cases where the refrigerator, as a whole, is of the portable type, in which instance the movement of the refrigerator may cause the water in the drip pan to "slop." In order to prevent this body-movement of the water to a more or less extent, baffles 25 may be provided in the pan, as desired.

The plug 19 of the valve is operable from the front of the refrigerator by virtue of

a rod or stem 26 secured to the plug in any suitable manner and having secured to its front end a handle 27, the latter being provided with a flange 28 which, when the valve is in the position shown in Fig. 2, will overlap the front face of the front wall 29 of the drip pan. By referring to Fig. 1, it will be noted that the flange 28 is cut away, as at 28′, so that when said handle is rotated for 180 degrees, said drawer can then be removed by pulling the same forwardly, it being understood that this 180 degree rotation of the handle 27 will result in rotating the valve plug 19 into the position shown in Fig. 4 where it will be noted that the duct 15 is closed, while the trap conduit 21 is in open communication with the aperture 30 preferably in vertical alinement with the duct 15 above mentioned. It will therefore be understood that, when the valve plug 19 is in the position shown in Fig. 4, all the water contained within the trap 21 may find an exit through said aperture 30 into the drip pan, while at the same time further discharge from the ice chamber through the duct 15 is stopped. It will also be understood that if the handle 28 should be turned at right angles to bring the plug into the position shown in Fig. 5, a direct communication will be established between the duct 15 and the discharge aperture 30, so that any loose matter, such as is frequently found adhering to the ice and finding a lodging place within the plug or the casing, can be readily displaced or removed, as for instance by means of a piece of wire such as is indicated at *w* in Fig. 5.

Means are provided whereby the valve plug 19 may be locked in the position shown in Fig. 4 whenever the drip pan is not in proper position on the refrigerator, these means preferably comprising a lock plunger 31 having a collar 32 and slidable in a recess 33 provided therefor in the refrigerator casing. A back plate 34 secured to the casing may serve to guide said plunger for longitudinal movement and at the same time act as an abutment for a spring 35 interposed between it and the collar 32 for normally projecting said plunger 31 forwardly and into engagement with the recess 36 of the flange 28, when the latter has been turned to bring said recess into alinement with said plunger, it being remembered that at such time the valve plug 19 is closed.

As shown in Fig. 2, the front wall 29 of the drip pan extends upwardly far enough so as to be within the path of the collar 32 of the plunger, so that consequently, when the drawer is closed, the plunger 31 will have been pushed back far enough to withdraw the point 31′ of the plunger out of the recess 36 and in fact leave the flange 28 entirely free therefrom. If desired, a wearing plate 37 may be secured to the drawer wall 29 for operating against the collar 32 of the plunger.

Changes may be made in the general organization and particular construction of some of the component elements of my improved device without departing from the spirit of the invention, especially in the construction and operation of the valve and in the means whereby the valve will be locked against opening movement by the removal of the drip pan.

I claim:—

1. The combination with a refrigerator having an ice chamber provided with a discharge opening, of a drip pan carried by said refrigerator and movable therein, a rotatable plug valve controlling the passage of liquid from said ice chamber into said pan, means for rotating said valve, and means adapted to lock said valve against opening rotation by the movement of the drip pan out of its normal position, and to unlock said valve by the reinstatement of said pan into its normal position.

2. The combination with a refrigerator having an ice chamber provided with a discharge opening, of a drip pan carried by said refrigerator and movable therein, a valve controlling the passage of liquid from said ice chamber into said pan, a device for operating said valve, and a spring-pressed plunger coöperative with said device for locking the same against valve-opening movement by the movement of the drip pan out of its normal position, and for automatically unlocking said device by the reinstatement of the drip pan into its normal position.

3. The combination with a refrigerator having an ice chamber provided with a discharge opening, of a drip pan carried by said refrigerator and movable therein, a valve for controlling the passage of liquid from said ice chamber into said pan, a device for operating said valve, a spring-operated plunger coöperative with said device for locking said device against valve-opening movement by the movement of the drip pan out of its normal position, and means carried by the front wall of said drip pan for retracting said plunger during the end of the closing movement of the drip pan.

4. The combination with a refrigerator comprising an ice chamber having a discharge opening, of a drip pan carried by and movable in said refrigerator, a valve comprising a casing connected with said discharge opening, a plug rotatable in said valve casing and adapted for opening and closing said discharge opening, a rod extending forwardly from said plug and having a flanged handle, a drip pan carried by and movable in said refrigerator and having its front wall overlapped by said flange when in proper position, a portion of said

flange being cut away and adapted to clear the front wall of said drip pan when the valve is in closed position.

5. The combination with a refrigerator comprising an ice chamber having a discharge opening, of a drip pan carried by and movable in said refrigerator, a valve comprising a casing connected with said discharge opening, a plug rotatable in said valve casing and adapted for opening and closing said discharge opening, a rod extending forwardly from said plug and having a flanged handle, a drip pan carried by and movable in said refrigerator and having its front wall overlapped by said flange when in proper position, a portion of said flange being cut away and adapted to clear the front wall of said drip pan when the valve is in closed position, and means carried by said refrigerator for locking said flange against valve-opening movement upon the movement of the drip pan out of its normal position.

6. The combination with a refrigerator comprising an ice chamber having a discharge opening, of a drip pan carried by and movable in said refrigerator, a valve comprising a casing connected with said discharge opening, a plug rotatable in said valve casing and adapted for opening and closing said discharge opening, a rod extending forwardly from said plug and having a flanged handle, a drip pan carried by and movable in said refrigerator and having its front wall overlapped by said flange when in proper position, a portion of said flange being cut away and adapted to clear the front wall of said drip pan when the valve is in closed position, and a spring-actuated plunger carried by said refrigerator for locking said flange against valve-opening movement upon the movement of the drip pan out of its normal position.

In testimony whereof I affix my signature in presence of two witnesses.

MAX M. SCHULTZ.

Witnesses:
CHAS. F. SCHMELZ,
H. D. MACDONALD.