Dec. 4, 1923. 1,476,525

A. LAZZARI

FLOAT OPERATED CIRCUIT CLOSER

Filed Aug. 3, 1921 2 Sheets-Sheet 1

FIG. 1.

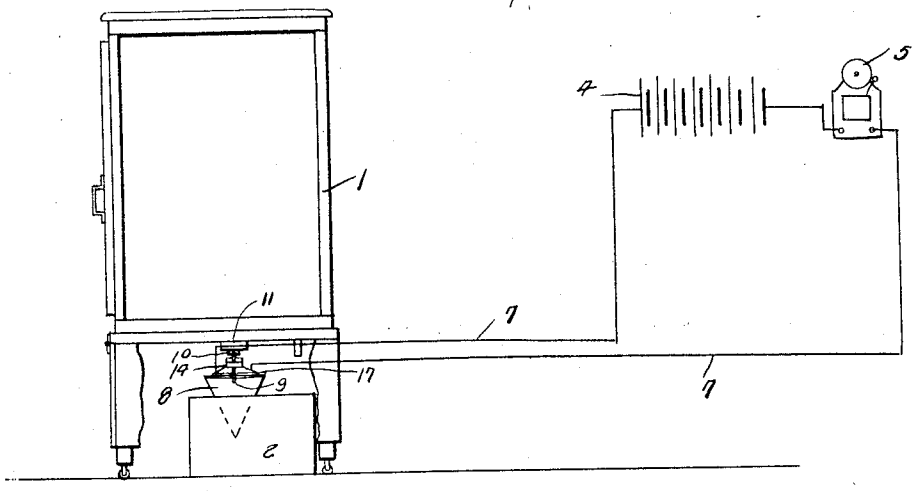
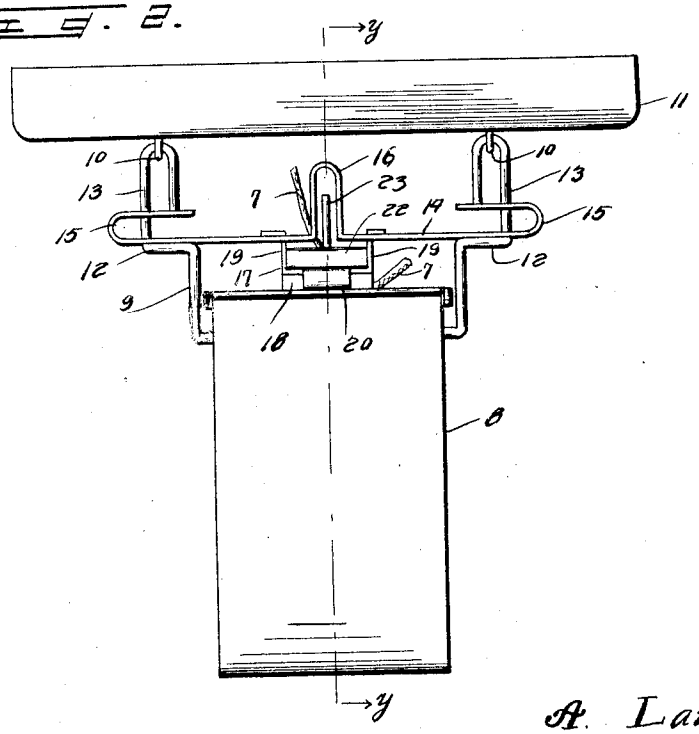



FIG. 2.




Inventor
A. Lazzari

By Randolph & Co.
Attorney

Dec. 4, 1923. 1,476,525

A. LAZZARI

FLOAT OPERATED CIRCUIT CLOSER

Filed Aug. 3, 1921 2 Sheets-Sheet 2

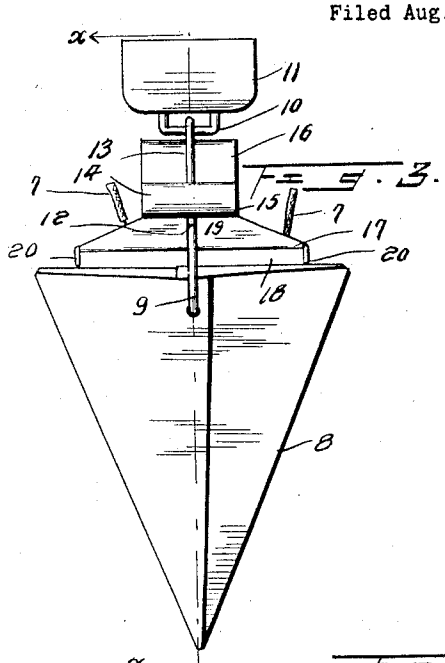



Fig. 3.

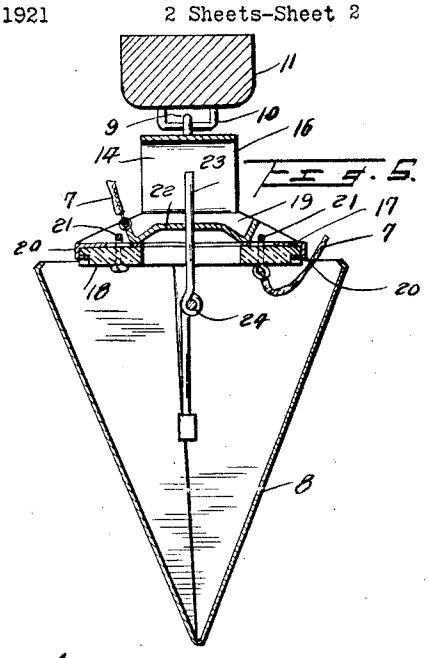



Fig. 5.

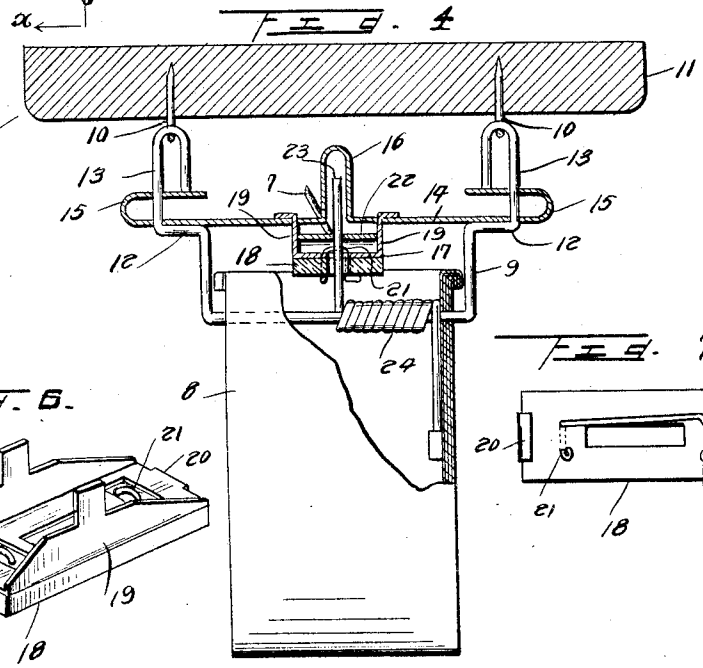



Fig. 4




Fig. 6.




Fig. 7.

Inventor

A. Lazzari.

By

Attorney

Patented Dec. 4, 1923. 1,476,525

# UNITED STATES PATENT OFFICE.

ALBERTO LAZZARI, OF NEW YORK, N. Y.

## FLOAT-OPERATED CIRCUIT CLOSER.

Application filed August 3, 1921. Serial No. 489,595.

*To all whom it may concern:*

Be it known that I, ALBERTO LAZZARI, citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in a Float-Operated Circuit Closer; 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.

Domestic refrigerators are generally equipped with a drip pan to catch the water of the melting ice. Frequently the drip pan overflows and causes damage particularly when there is a room, hall or analogous space immediately below.

The present invention provided means for automatically closing an electric circuit and sounding an alarm when the water in the drip pan exceeds a predetermined level prior to overflowing so that the pan may be emptied and thereby prevent its overflow to the injury of floor coverings and the annoyance of wet floors and ceilings.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification,

Figure 1 is an elevation of a refrigerator provided with an alarm embodying the invention.

Figure 2 is an elevation of the float and circuit closing means associated therewith.

Figure 3 is a view of the parts illustrated in Figure 2 as seen at right angles thereto.

Figure 4 is a section on the line $x$—$x$ of Figure 3.

Figure 5 is a section on the line $y$—$y$ of Figure 2.

Figure 6 is a detail perspective view of the guide which receives and supports the sliding contact, and

Figure 7 is a view of the plate of insulating material as seen from the lower side showing the contact and lead wire attached thereto and the bent ends of the supporting plate.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by like reference characters.

The numeral 1 designates a refrigerator such as commonly provided for domestic use and 2 represents a pan associated therewith for catching the drippings. These parts are of well known construction and arrangement and are shown to demonstrate the application of the invention.

At any convenient point is located a battery 4 and an alarm 5. The alarm 5 may consist of an electric bell or analogous device for producing an audible signal. The battery 4 may consist of any number of dry cells. Lead wires 7 connect the battery 4 and alarm 5 with circuit closing means associated with a float 8 adapted to cooperate with the drip pan 2.

The float 8 is preferably of tapering form and consists of a hollow wedge shape body pivotally supported by means of a bail 9 suspended from staples 10 carried by a cross piece 11 attached to the bottom of the refrigerator 1 in vertical line with the drip pan 2. The end portions of the bail 9 are offset as indicated at 12 and terminating in hooks 13 which engage the staples 10. A yoke 14 is carried by the bail 9 and the opposite end portions are recurved as indicated at 15 and receive the end portions of the bail 9 which pass through openings formed therein. The yoke 14 rests upon the offset portions 12 of the bail and the recurved ends 15 engage the hooks 13 whereby the yoke is prevented from vertical movement. The middle portion of the yoke 14 is bent upwardly to provide a loop 16 for a purpose presently explained.

A plate 17 is attached to the yoke 14 and carries a plate 18 of insulating material. The plate 17 is of metal and its longitudinal edge portions are upturned as indicated at 19 and secured to the yoke 14 upon opposite sides of the loop 16. The ends of the plate 17 are bent downwardly and about the extremities of the plate 18 as indicated at 20. Fixed contacts 21 are provided at opposite ends of the plate 18 and are electrically insulated from the plate 17. The contacts 21 are electrically connected and having one of the lead wires 7 in electrical connection. A

sliding contact 22 is mounted upon the plate 17 between the upturned edge portion 19 thereof and is adapted to electrically engage one or the other of the contacts 21. A finger 23 engages the sliding contact 22 and passes through longitudinal slots formed in the plates 17 and 18. The finger 23 has connection with the float 8 and moves therewith to effect a sliding movement of the contact 22 whereby to close the circuit through the contact 21 according to the direction of tilting of the float. The finger 23 is at one end of a coil 24 and the opposite end of the coil 24 is connected to the float 8. The lower portion of the bail 9 passes through the coil 24 and a swinging of the bail 9 or a tilting of the float 8 will effect a sliding movement of the contact 22 and a closing of the alarm circuit through either one of the contacts 21 as will be readily appreciated from the foregoing.

Having thus described the invention, what I claim is:—

1. A circuit closer comprising a pivoted bail, a float pivotally mounted upon the bail, a relatively fixed contact carried by said bail, a sliding contact supported by means of the said bail and an element connected with said float and engaging the said sliding contact to effect movement thereof and a closing of the circuit when the float is moved from a normal position by abnormal rise of the water in the drip pan.

2. A circuit closer comprising a pivoted bail, a float having pivotal connection with said bail, relatively fixed contacts supported by means of said bail and electrically insulated therefrom, a sliding contact supported by said bail and normally electrically insulated from the said fixed contacts and adapted to close the circuit through either one and an element connected with the float and in engagement with the sliding contact to effect movement thereof and close the circuit by a relative pivotal movement of the bail and float in either direction.

3. A circuit closer comprising a pivoted bail, a yoke mounted upon the bail, a plate having connection with the yoke, relatively fixed contacts carried by said plate, a sliding contact associated with the fixed contacts, a float carried by the bail and an element projecting from the float and engaging the sliding contact to effect positive movement thereof and a closing of the circuit through either one of the fixed contacts.

4. A circuit closer comprising a pivoted bail, a hollow wedge shaped float pivotally connected with said bail, a plate of insulating material supported by said bail, relatively fixed contacts carried by said plate, a sliding contact in cooperative relation with the fixed contacts, and an element connected with the float and in engagement with the sliding contact to effect positive movement thereof upon a relative pivotal movement of the float and bail to close the circuit through either one of the fixed contacts.

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

ALBERTO LAZZARI.

Witnesses:
FRANK W. TUTTLE,
LOUIS ROTHMAN.