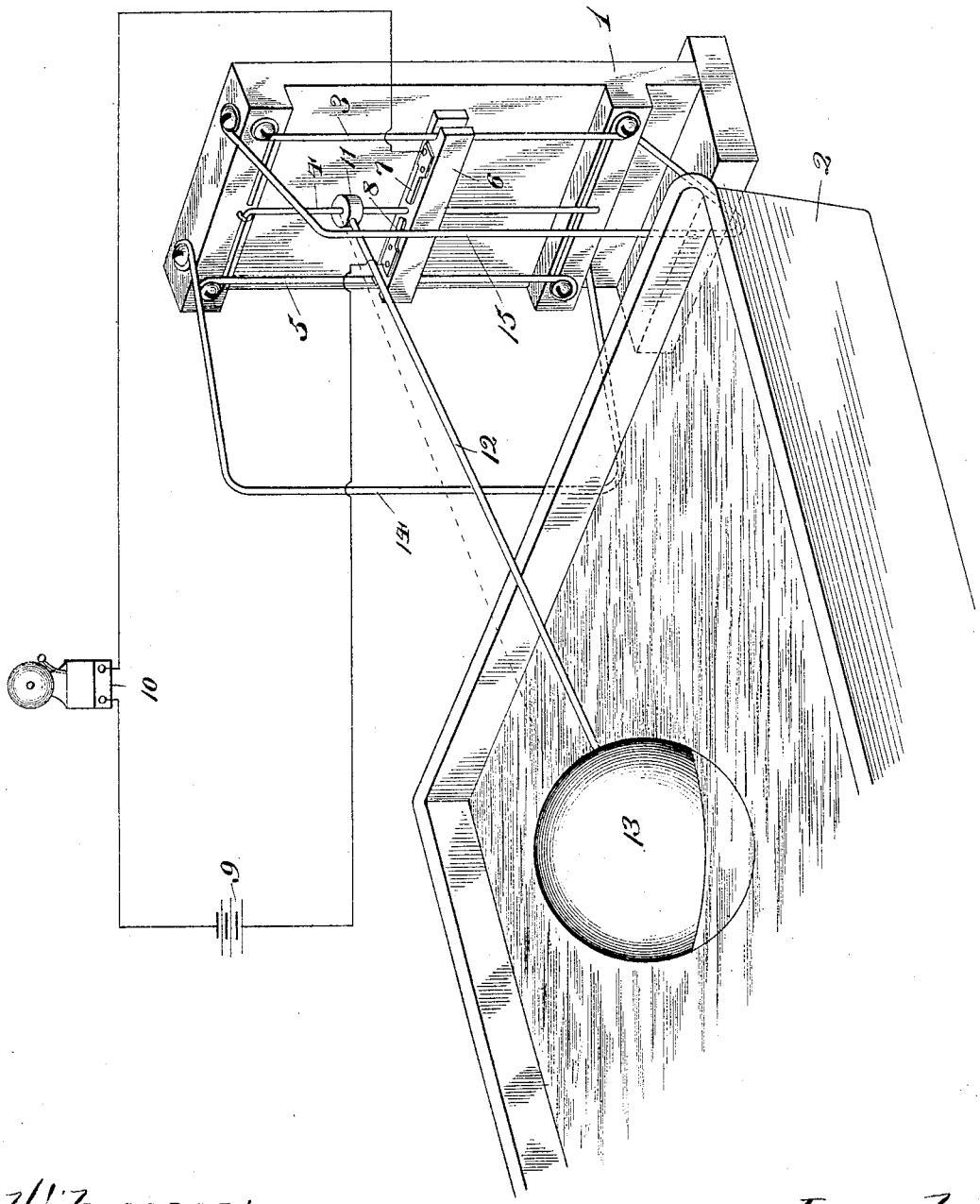
(No Model.)

C. JOHNSON.

OVERFLOW ALARM.

No. 594,403. Patented Nov. 30, 1897.



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UNITED STATES PATENT OFFICE.

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OVERFLOW-ALARM.

SPECIFICATION forming part of Letters Patent No. 594,403, dated November 30, 1897.

Application filed September 18, 1897. Serial No. 652,104. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHNSON, residing at Chicago, Cook county, Illinois, have invented a certain new and useful Overflow-Alarm, of which the following is a specification.

The object of my invention is to produce a simple and reliable automatic alarm for giving notification in case of high water in any receptacle in order to prevent overflow thereof.

My invention is particularly applicable to the water-pans of ordinary refrigerators; but its use is not limited thereto.

In the accompanying drawing the figure represents my device in perspective with the electrical bell-circuit, &c., illustrated diagrammatically.

Upon any suitable support 1, which is adapted to be placed near a water-pan, such as 2, I arrange a framework comprising, preferably, three vertical rods or wires 3, 4, and 5. As shown, these rods are made of a continuous piece of wire, which I prefer to use, but do not limit myself in this regard. A cross-bar 6, which is provided with a hole to receive a middle wire 4 and has ends recessed to receive the other wires, is adapted to slide up and down on the wire frame. Its movement is made somewhat stiff, so that it will remain where adjusted; but any suitable and obvious adjusting device, such as a set-screw, may be employed. Two electrical terminals 7 and 8 are secured upon the upper face or top of the cross-bar on either side of the wire 4. These terminals are a part of the circuit, in which a battery 9 or alarm-bell 10 is interposed. This circuit is at all times closed except at the terminals 7 and 8. A boss or head 11 is adapted to slide upon the middle wire and is provided with a rod 12, having at its end a ball or float 13. This boss or head may be made wholly of a conductive material, or, if desired, only the lower part may be faced with such material.

My alarm device, being made as above described, operates as follows: The device is placed adjacent to the water-pan and the cross-bar is adjusted up or down according to the height of the pan, the top line of the cross-bar to be preferably a slight distance above the top edge of the pan. The boss is then raised slightly on the wire 4, as shown in the drawing, and the weight of the ball 13 on the long arm will cause the boss to bind on its rod. The rod 12 is thus slightly downwardly inclined from its head, which will remain in its adjusted position on its rod 4 so long as the rod 12 is thus inclined. When the water rises in the pan to the predetermined danger-level, it raises the ball, and when the rod 12 becomes substantially horizontal, as shown in the head-lines, the boss will drop and connect the two terminals to sound an alarm.

The ball 13 is not in fact a "float," as that term is commonly understood, because it is normally suspended in the air above the water until the water rises and reaches it. The drawing shows a pan in which the water is approaching the danger-level. The water has reached the ball and is about to raise it and the rod 12 to the dotted-line position when the water in the pan rises still farther.

In order to keep the device a proper distance from the water-pan, I prefer to pivot upon the support 1 two outwardly-extending frames 14 and 15, preferably of wire, as shown in the drawing. These frames can be moved so as to adjust the device at different distances from the pan.

Although I have described more or less precise forms and details of construction, I do not intend to be understood as limiting myself thereto, as I contemplate changes in form, proportion of parts, and the substitution of equivalents, as circumstances may suggest or render expedient. Furthermore, although I have styled my invention or device as an "overflow-alarm" I contemplate using it wherever else applicable.

I claim—

1. In an overflow-alarm for water-receptacles and the like, the combination with two terminals of an alarm-bell circuit, of a member normally positioned above the terminals and a body capable of floating and normally located in the air above the water and substantially at high-water level, said member being conditioned to fall and connect the terminals when the water in the receptacle reaches said level and touches said body.

2. In an overflow-alarm for water-receptacles and the like, the combination of two terminals of an alarm-bell circuit, a member normally positioned above the terminals, and a

ball connected to such member and located over the water-receptacle and positioned at the high-water level and normally above the water, such ball being adapted to cause the said member to drop and connect the terminals.

3. In an overflow-alarm for water-receptacles and the like, the combination of two terminals of an alarm-bell circuit, a boss normally above the terminals and slidable up and down, a rod connected with the boss and a ball at the free end of the rod, the ball being normally positioned above the water the boss being normally retained in elevated position but adapted to fall and connect the terminals when the water rises and raises the ball.

4. In an overflow-alarm, the combination of a frame, a vertical rod therein, two terminals of an electrical alarm-circuit located adjacent to the rod, a boss sliding on the rod, an outwardly-extending rod connected with the boss, and a ball at the free end of such last-named rod.

5. In an overflow-alarm, the combination of a frame, a cross-bar therein, two terminals of an electrical alarm-circuit upon the top face of the cross-bar, a member having a vertical movement in the frame and located above the terminals and means for causing the member to fall to connect the terminals when the water in a receptacle has reached a predetermined level, said means comprising a body capable of floating and connected to said member, such body being normally suspended substantially at the predetermined level and above the water.

6. In an overflow-alarm, the combination of a frame, a vertical rod therein, two terminals of an electrical alarm-circuit located adjacent to the rod, a boss sliding on the rod, and means for causing the boss to drop to connect the terminals when the water in the receptacle has reached a predetermined level, said means comprising a rod connected to the boss, and a body capable of floating and attached to the free end of the rod.

7. In an overflow-alarm, the combination of a frame, a vertically-movable cross-bar therein, two terminals of an electrical alarm-bell circuit located upon the top face of the cross-bar, a vertical rod in the frame passing between the terminals, a boss sliding on the rod above the bar, a rod connected to the boss and extending over a water pan or receptacle and a ball at the free end of the last-named rod, the weight of the ball normally binding the boss on the vertical rod but the raising of such ball by the water causing such boss to fall and connect the terminals.

8. In an overflow-alarm, the combination of a frame having three vertical wires, a cross-bar vertically adjustable thereon, two terminals of an electrical alarm-bell circuit located upon the top face of the cross-bar, a boss sliding upon the middle wire, a rod connected to the boss and a ball at the free end of such rod and extending over the edge or side of a water-pan.

9. In an overflow-alarm, the combination of two terminals of an electrical alarm-bell circuit, a frame having a vertical rod adjacent to the terminals, a weight having a hole to receive the rod, and a weighted arm located over the water-pan and connected to said weight to normally bind the same on its rod but such weight being released when the water rises and reaches the weighted arm.

10. In an overflow-alarm, the combination of a weighted arm having a ball at one end and movable in a guide at the other end, the weight of the ball normally binding the other end of the arm, and two terminals of an electrical alarm-bell circuit in the path of travel of the end of the arm which moves in the guide and which is conditioned to fall to connect the terminals when the water in a pan raises the ball.

11. In an overflow-alarm, the combination of a frame-guiding mechanism therein, an arm whose one end is slidable in the guiding mechanism in the frame and whose other end is provided with a float or ball, the arm being normally inclined by the weight of the ball to bind the same in the guiding mechanism but adapted to be caused to fall when the water by raising the ball raises the arm to horizontal position, and an electrical alarm-bell circuit adapted to be closed when the said arm falls.

12. The combination of a frame having wires 3, 4 and 5, a boss 11 slidable on wire 4, an arm 12 connected thereto, a ball 13 at the free end of the arm and electrical alarm-bell-circuit terminals adapted to be connected by the boss as the latter falls when the water in a pan has raised the ball.

13. The combination of a frame having wires 3, 4 and 5, a cross-bar 6 vertically adjustable on the wires, an arm 12 having a boss 11, said arm projecting over the side of a water-pan, and terminals 7 and 8 of an electrical alarm-bell circuit.

14. The combination of a frame having three vertical wires 3, 4 and 5, formed of a continuous wire, a cross-bar 6, a boss 11 movable on wire 4, an arm 12 connected thereto and having a ball 13 at its free end and electric alarm-bell-circuit terminals 7 and 8 upon the cross-bar and in the path of travel of the boss which connects such terminals when the water has risen to raise the ball and permit the boss to drop.

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