

No. 721,508.

PATENTED FEB. 24, 1903.

B. P. FORTIN.  
OVERFLOW ALARM FOR FLUID RECEPTACLES.

APPLICATION FILED APR. 11, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

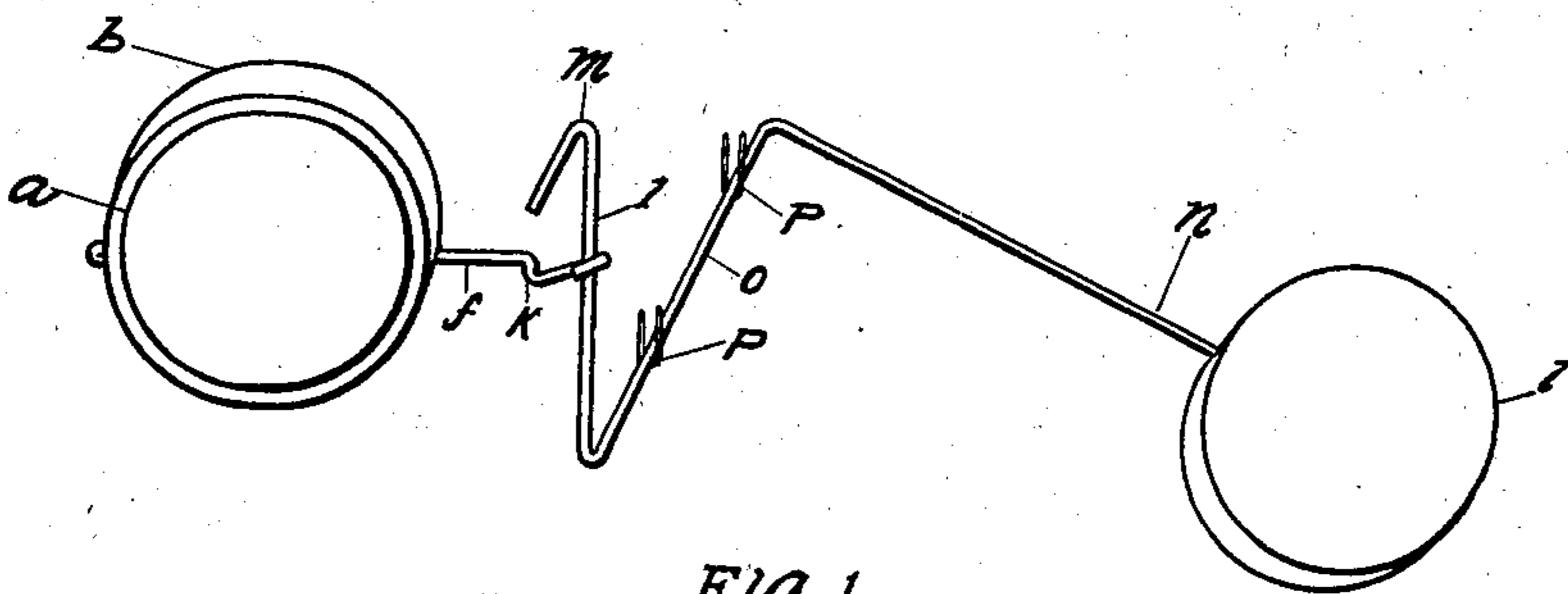


FIG. 1.

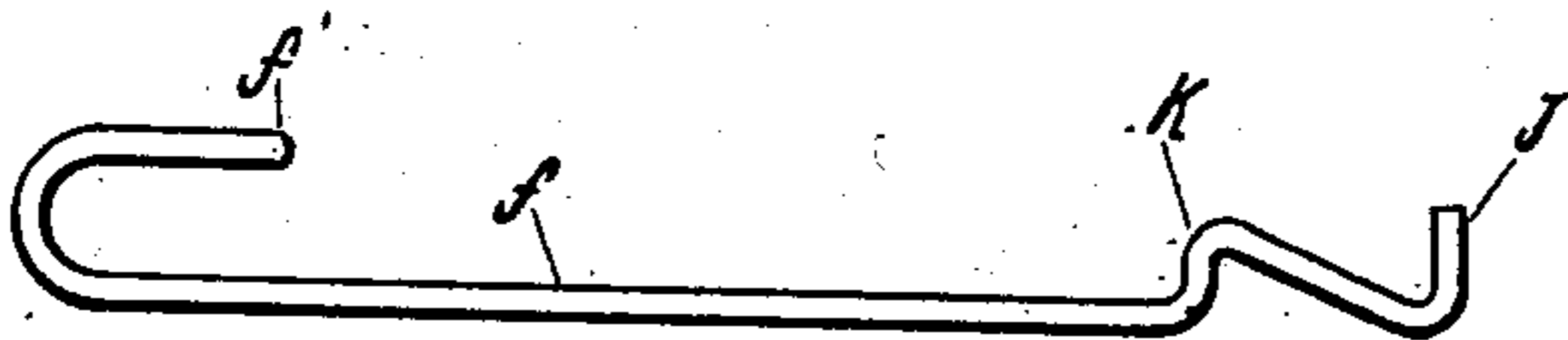


FIG. 4.

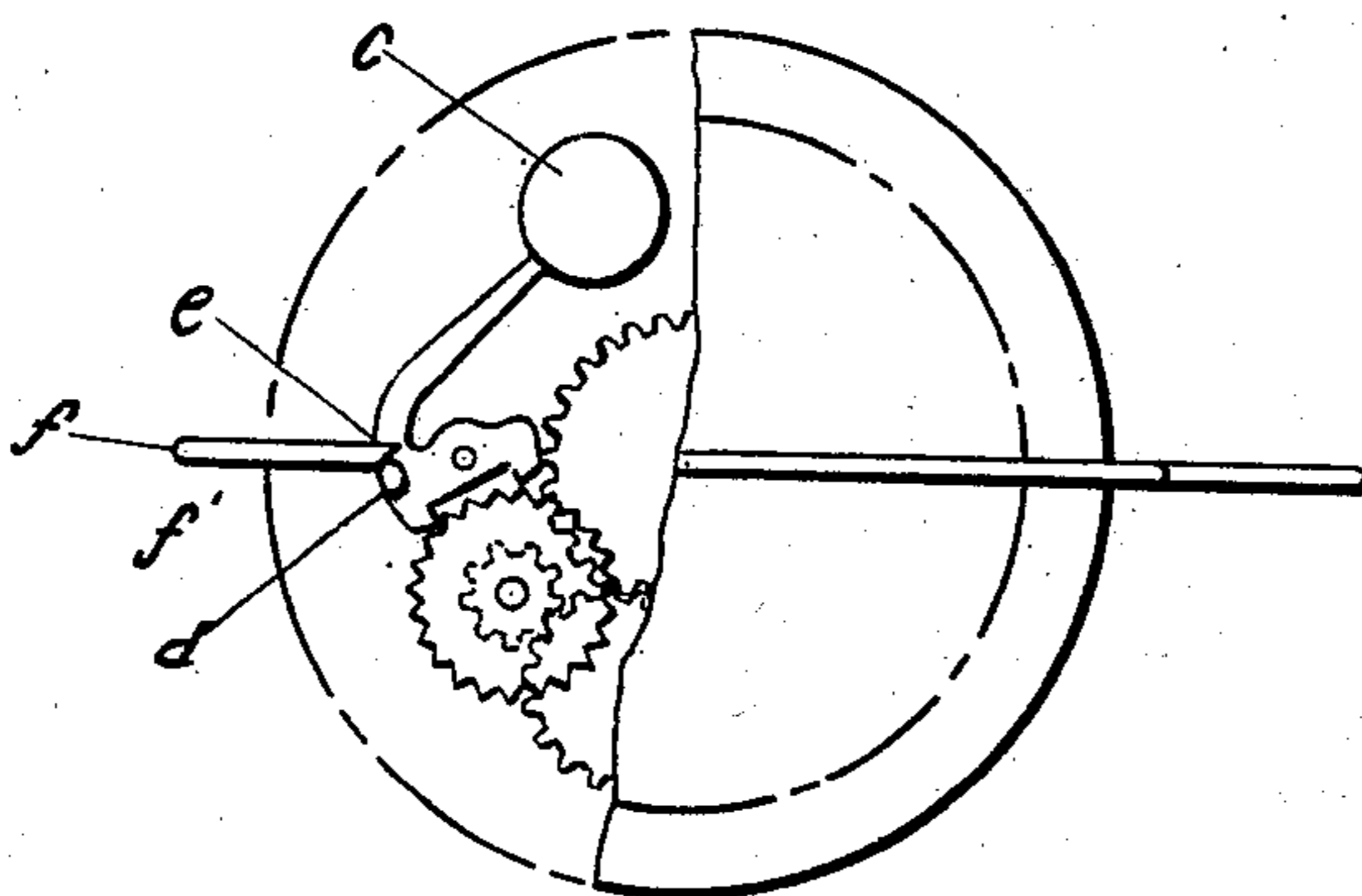


FIG. 2.

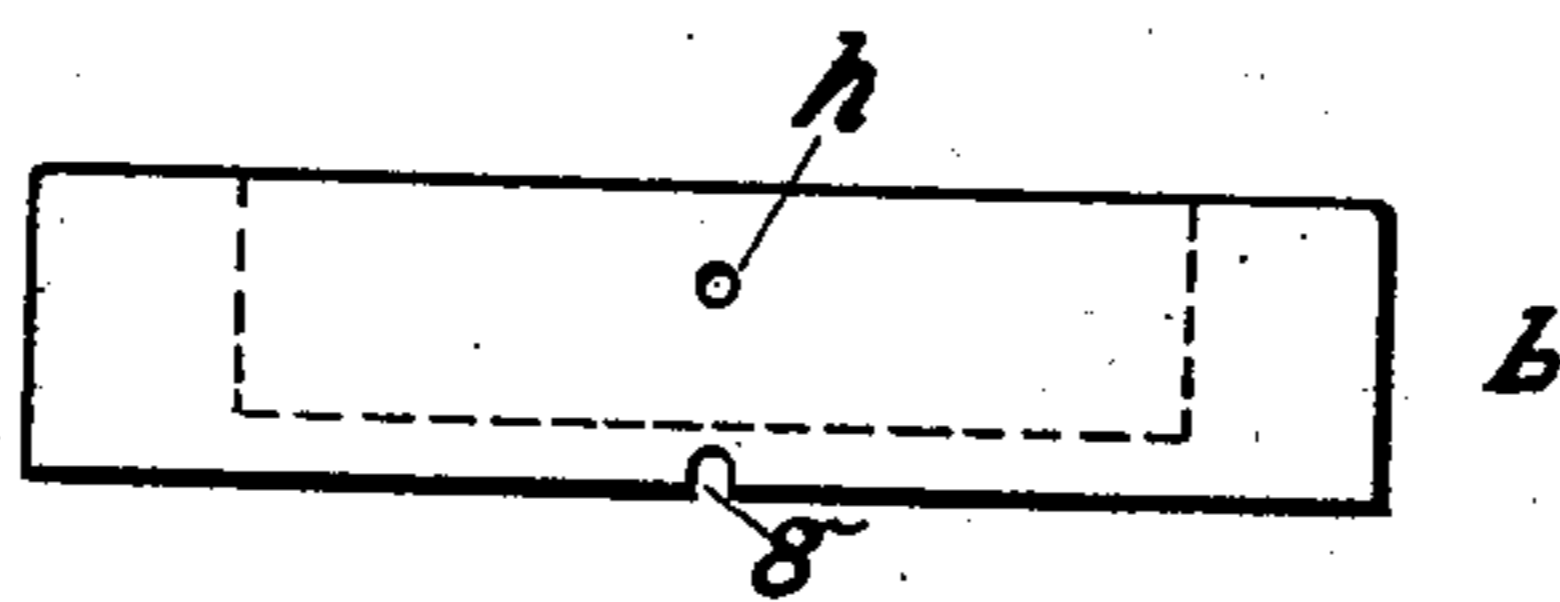


FIG. 5.

WITNESSES

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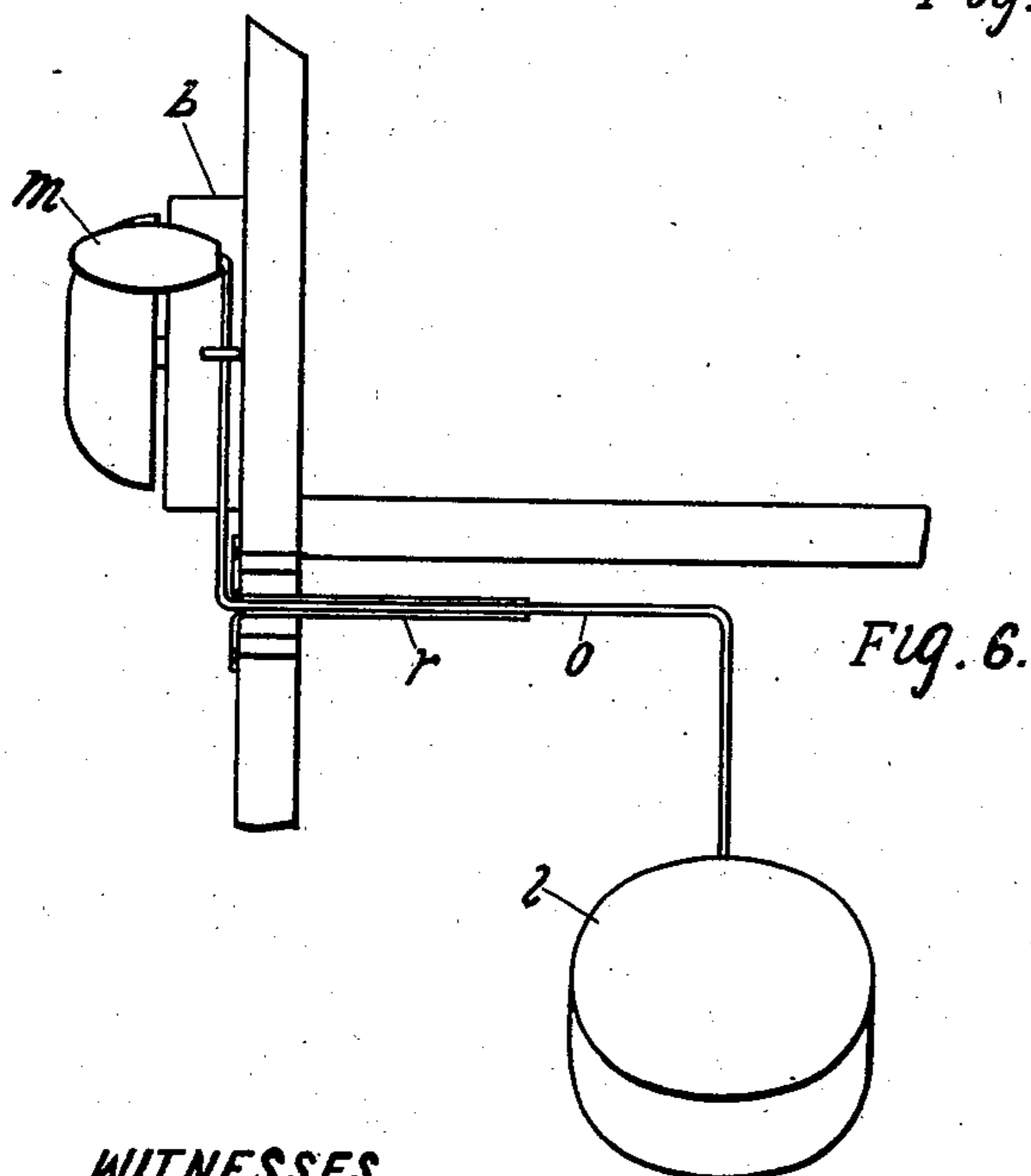
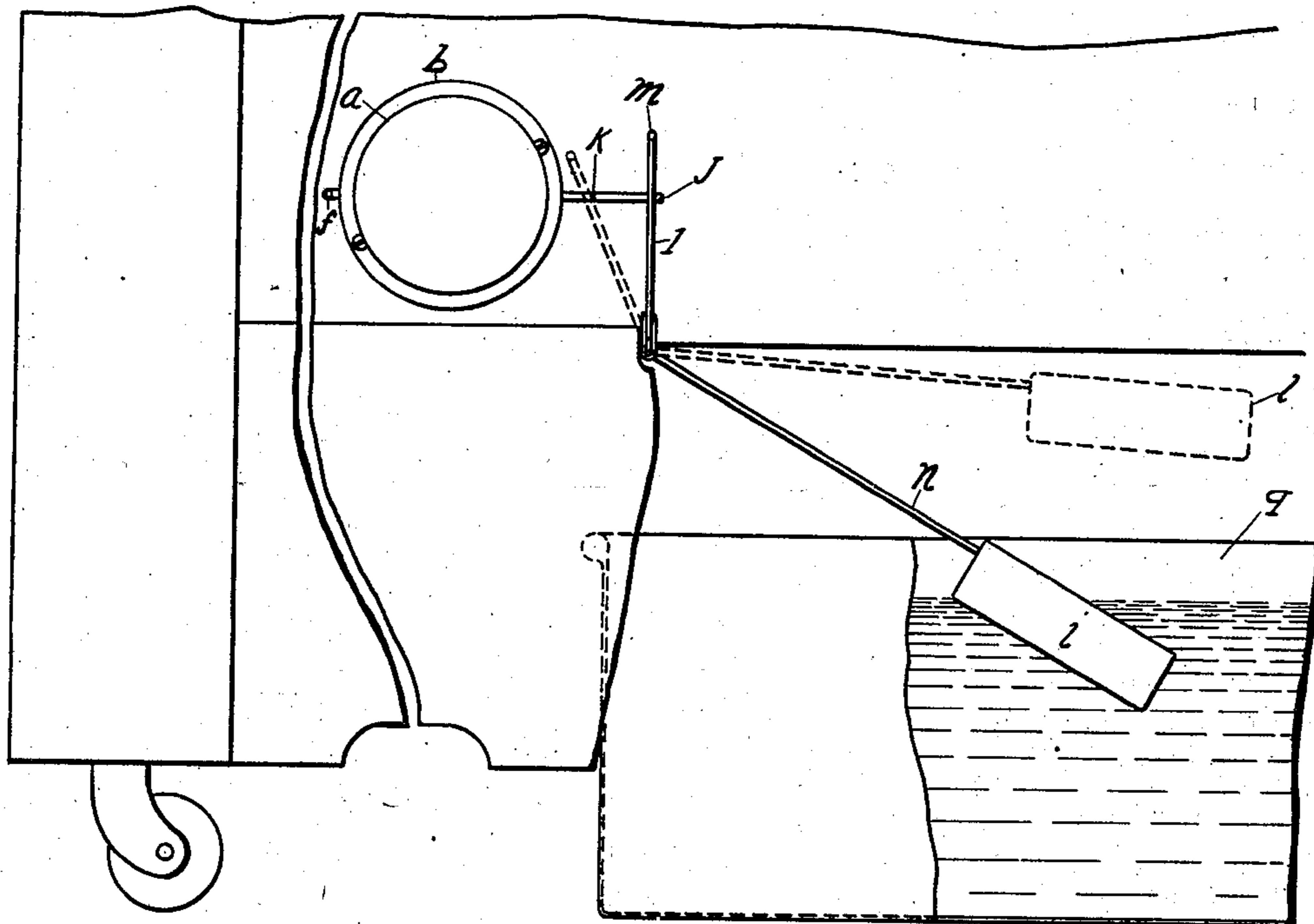
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# UNITED STATES PATENT OFFICE.

BENJAMIN P. FORTIN, OF PROVIDENCE, RHODE ISLAND.

## OVERFLOW-ALARM FOR FLUID-RECEPTACLES.

SPECIFICATION forming part of Letters Patent No. 721,508, dated February 24, 1903.

Application filed April 11, 1902. Serial No. 102,455. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN P. FORTIN, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Overflow-Alarms for Fluid-Receptacles, of which the following is a specification.

My invention relates to alarms or signals for indicating the rise of water and other fluids to a certain height within a receptacle, and is particularly designed for use with refrigerators to indicate when the waste-water pan is full and needs to be emptied.

The object of my invention is to provide a device that shall be simpler than other devices designed for the same purpose and which may be secured to a refrigerator independently of the pan and, further, provide means for readily arresting the action of the alarm when the waste-pan is removed and for more readily removing and replacing the pan.

The accompanying drawings represent, respectively, in Figure 1, a perspective view of my device disconnected from the refrigerator, but indicating the manner in which it is attached and the relative position of its members; Fig. 2, a side view of the alarm, partly in section; Fig. 3, a broken view of a refrigerator with the indicator attached and the waste-pan in position; Figs. 4 and 5, details of the device; Fig. 6, a modification of the device.

My device includes a bell *a*, preferably of the "electric-stroke" type, so called, having a hammer that is vibrated by a "clockwork" mechanism. The bell is secured to the refrigerator on a support or base *b* of desired form and material, within which is located either wholly or in part the "works" by which the hammer is actuated. The hammer *c* is formed or fitted with a projection *d*, which extends into the base and against which normally abuts the detent portion *e* of the rod *f*, whereby the hammer *c* is restrained from action. The rod *f* is appropriately mounted and guided, preferably in the block *b*, through which it passes behind the works of the bell, through the groove *g*, Fig. 5, the detent end of the rod returning in a hook *f'*, Figs. 2 and 4, and reëntering the base by the hole *h*, Fig. 5, and extending to the hammer

projection *d*, Fig. 2. The detent end *e* of the rod *f* is preferably beveled, and the rod *f* is mounted to move in a direction substantially at right angles to the direction of oscillation of the projection *d*, so that when the rod *f* is relieved of the weight of the float *i* it is readily shifted by the wedging action of the projection *d* on the inclined face of the detent. The projection *d* is located so closely to the fulcrum of the hammer that a very slight movement of the detent suffices to release the hammer, and the hammer possesses great leverage to shift the rod *f* when the latter is released. The end of the rod *f* away from the bell is formed with two hooks *j* and *k*, Fig. 4, with either one of which the arm *l* may be engaged to support the float and restrain the bell from action. The extremity *m* of the arm *l* is formed at right angles to its body as a handle, whereby the float *i* may be shifted as desired. The arm *l* and also the arm *n*, to which the float *i* is attached, are preferably formed integral with the rod *o*, forming a two-armed lever, of which the rod *o*, mounted to rock in the staples *p*, forms the fulcrum or rock-shaft.

The arms *l* and *n* are so related that when the arm *l* is engaged with the outer hook or catch *j* the float *i* is dropped within the waste-pan *q* in such position that when the water therein rises to a certain height the float is raised and the bell-hammer released. When the pan is removed, the float is simply raised out of the way by means of the handle *m* and the arm *l* engaged with the second hook *k*, in which position the weight of the float acts to restrain the bell from ringing, as before.

I am aware that alarm-bells have been heretofore devised in which the bell-hammer was restrained from operation by the engagement therewith of a detent and that overflow-alarms have been devised for use with refrigerators and for similar purposes in which such detent devices were combined with and controlled by a float; but no device of this character has been so made that the float can be suspended either within the pan to be acted upon by the rising fluid or above and out of the way of the pan to facilitate the removal of the latter and yet act in both positions to prevent the action of the alarm.

Alarms have been devised to be attached

to the pan itself; but they are unprovided with means for stopping the bell immediately on arrival of the attendant, and hence it will continue ringing until removed from the pan, and even then unless hung up in such position that the float will act to arrest the hammer. To employ a detachable device of this nature is a distinct disadvantage, for when removed from the pan it is liable to be misplaced or dropped and injured. If when removed from the pan it is laid down instead of hung in an appropriate position, the works run down, necessitating that they be completely rewound when the alarm is again set.

Where the alarm is attached directly or closely adjacent to the waste-pan, the moisture from the pan quickly rusts the works, rendering them non-operative. By actual test an alarm attached directly to the pan became inoperative by rust in seven weeks, while one of my improved alarms secured to the outside of the refrigerator and away from the water continued in operation for two seasons with no indication of deterioration from rust. When thus permanently secured to the outside of the refrigerator, the alarm is readily accessible.

My device is such that when the attendant reaches the refrigerator the bell can be at once arrested, thus saving the time required for rewinding and also the unnecessary continuation of an unpleasant sound.

It is obvious that the structure of my invention may be variously modified without affecting its essence, and, further, that various modifications must be made to accommodate different structures of refrigerators or pan or, indeed, of the form of bell or signal employed.

Fig. 6 shows one modification in which a sleeve *r* is substituted for the staples *p* as a bearing for the rod *o*.

The form of detent employed may be different or its position relative to the hammer projection *d*. For instance, the movement of the detent might be at right angles to its present direction of movement in the same general direction as the hammer projection itself.

It might be expedient to substitute for the rod *f* a movable member of some other form, as a lever.

Therefore, without limiting myself to the precise form and arrangement described, I claim as my invention—

1. The combination with an alarm for a fluid-receptacle, of a float to be acted upon by the fluid, a detent which by supporting the float restrains the alarm from acting, and connections between the float and detent whereby the latter may support the float, either within the receptacle, to be acted upon by the fluid, or above and away from the receptacle, to permit the removal of the latter.

2. The combination with a bell, a hammer, and clockwork mechanism for driving said hammer, of a rod supported to permit longitudinal movement, a beveled detent on said

rod in position to engage and hold the hammer inoperative, a float which is shifted by the rise of fluid in a vessel, and hook connections from said float to said slide-rod.

3. The combination with an alarm, of a float, and a detent adapted to support the float in a position besides its operative one, in either of which positions the said float acts to restrain the signal from operation.

4. The combination with the bell *a*, mounted on the base *b*, of the rod *f*, one end of which extends through the base and bends back, reëntering the base to form a detent *e* and the other end having two hooks *j* and *k*; a bell-hammer having a projection *d* closely adjacent its fulcrum to be engaged by the said detent, an arm *n* and float *i* attached thereto, and an arm *l* connected with the arm *n* and adapted to be engaged with either one of the hooks *j* or *k* to adjust the position of the float, in the manner and for the purpose substantially as described.

5. The combination in an alarm for a fluid-receptacle, with an alarm-bell and hammer therefor, of a movable member with a detent portion to engage and prevent the action of the said hammer, and a float adapted to be supported by said movable member at different points to adjust the said float to a position either within the fluid-receptacle or above it, and, when within the receptacle, adapted to be raised by the fluid to cause the action of the bell.

6. The combination in an alarm for a fluid-receptacle with an alarm-bell and hammer therefor, of a movable member adapted to be engaged with said hammer to prevent its action, a rock-shaft and bearings therefor, an arm extending from the rock-shaft, a float secured to said arm by whose weight the said movable member and hammer are maintained in engagement and which, when raised by the fluid causes the release of the hammer, and a second arm extending from the said rock-shaft to engage the movable member at different points, to adjust the position of said float.

7. The combination with the bell *a* mounted on the base *b* and having a hammer *c* with projection *d*, of a movable member *f* with detent portion *e* to engage the projection *d* and restrain the said hammer and having two hooks *j* and *k*, a rock-shaft *o* with bearings therefor and having an arm *n*, a float *i* whose weight maintains the detent *e* and projection *d* in engagement, and a second arm *l*, whereby the rock-shaft *o* is connected with the movable member by either of the hooks *j* or *k* in the manner and for the purpose substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN P. FORTIN.

Witnesses:

ARTHUR A. ANNINGTON,  
SUSIE M. DIXON.