

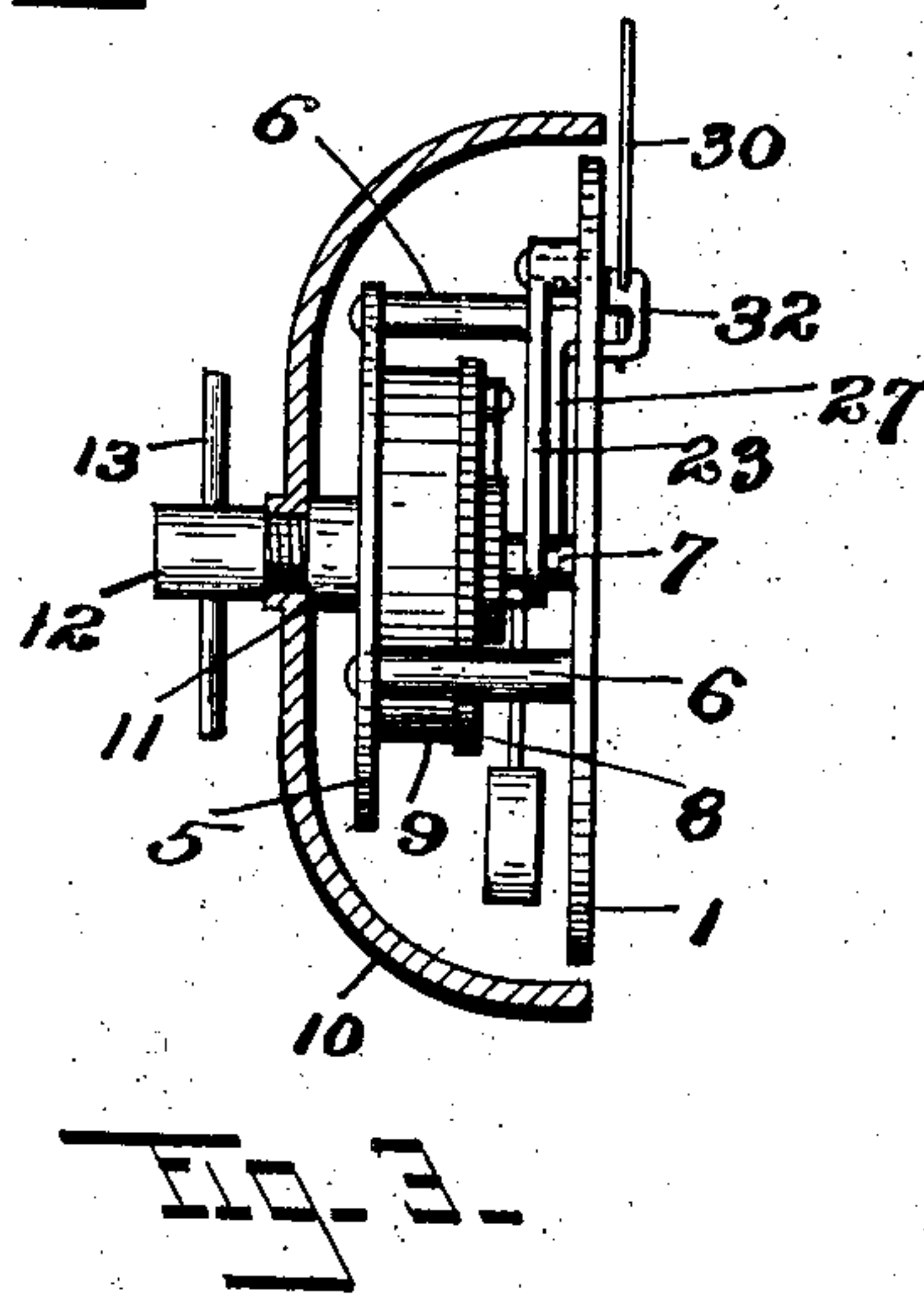
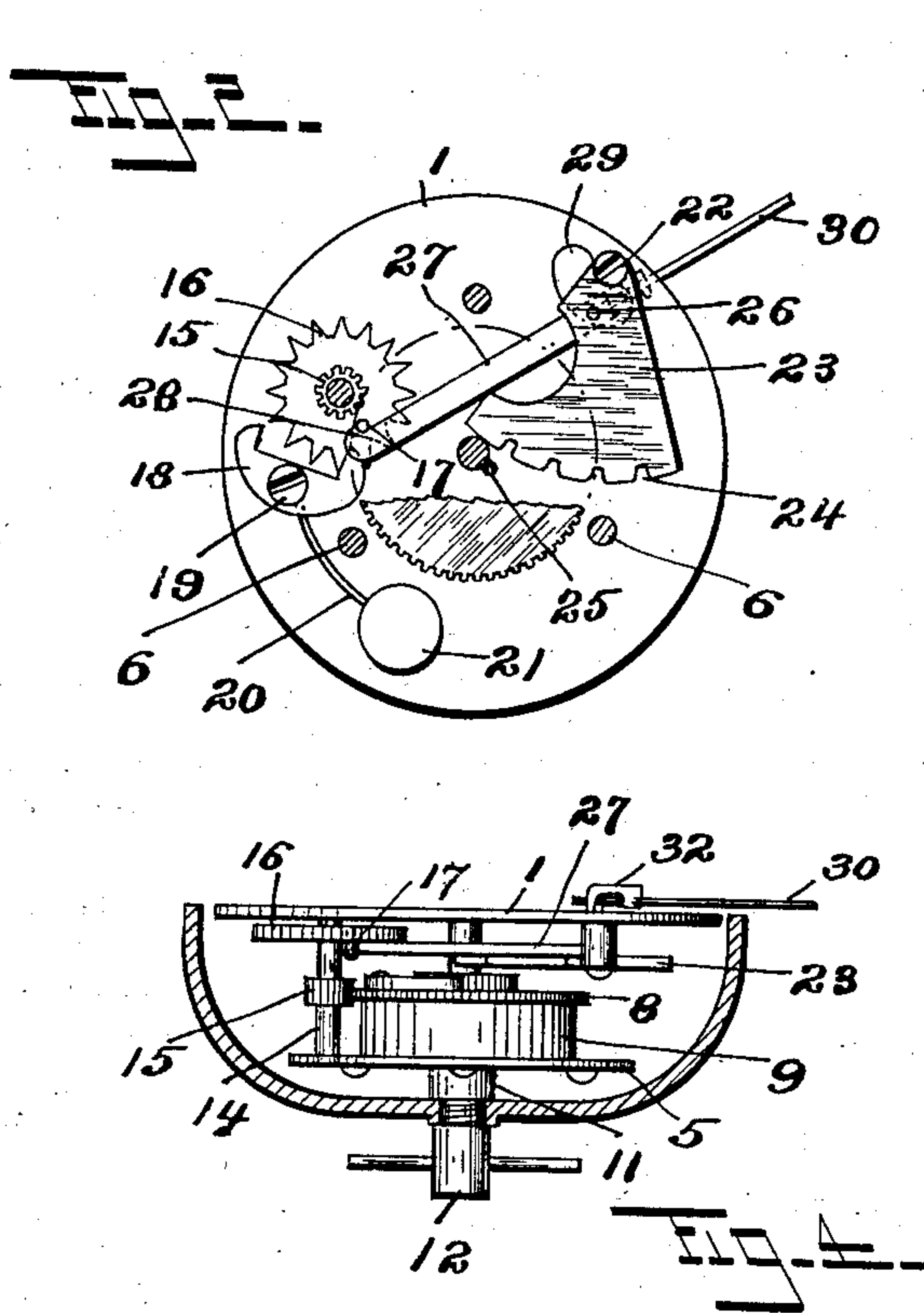
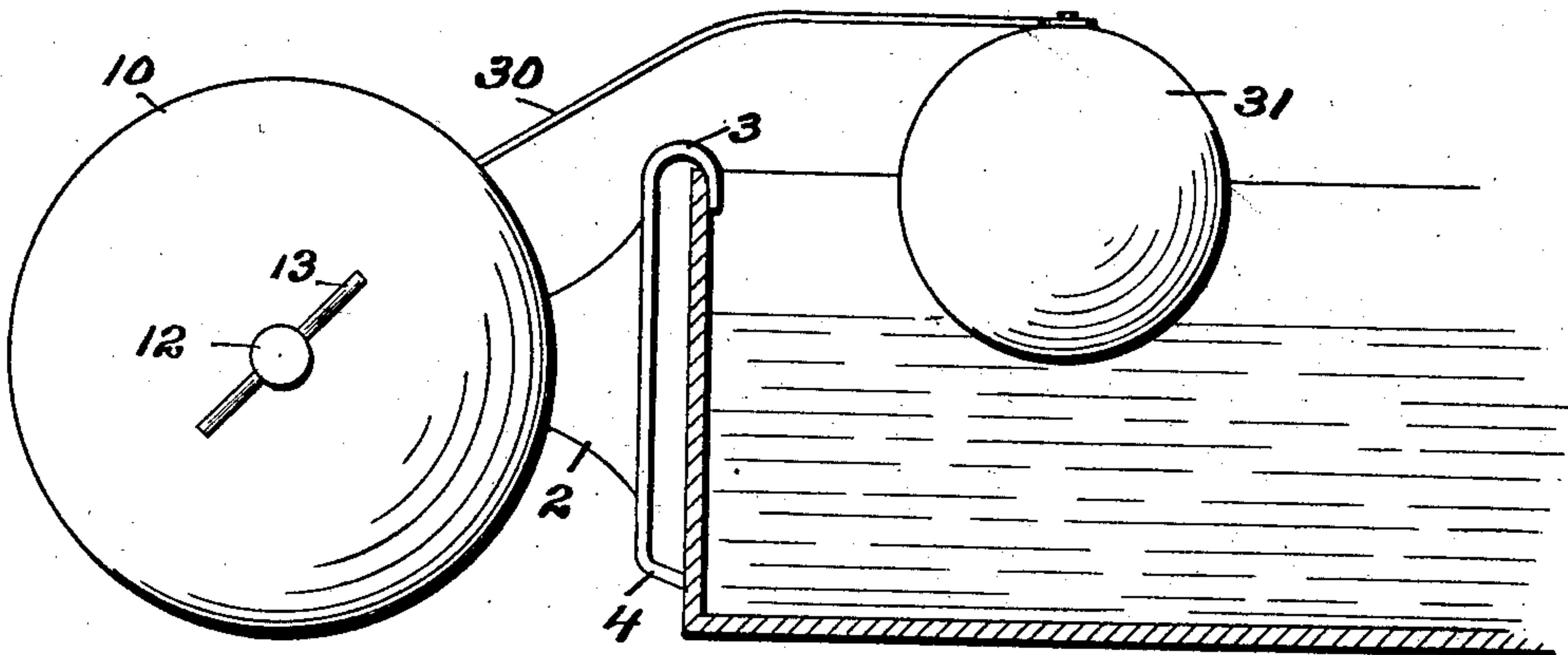
No. 753,518.

PATENTED MAR. 1, 1904.

E. A. REEVES.
OVERFLOW ALARM.

APPLICATION FILED JAN. 21, 1903.

NO MODEL.



Witnesses.

J. P. Lyon
William B. Brier

Inventor.

Edwin A. Reeve
by George E. Hall
Attorney.

UNITED STATES PATENT OFFICE.

EDWIN A. REEVES, OF NEW HAVEN, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO EMIL WEIBEL, OF PATERSON, NEW JERSEY, AND JOHN J. WEIBEL, OF BROOKLYN, NEW YORK.

OVERFLOW-ALARM.

SPECIFICATION forming part of Letters Patent No. 753,518, dated March 1, 1904.

Application filed January 21, 1903. Serial No. 139,936. (No model.)

To all whom it may concern:

Be it known that I, EDWIN A. REEVES, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Overflow-Alarms, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to overflow-alarms, being a device that is attached to a drip-pan or other liquid-receiver, and the bell forming part thereof is automatically rung when the liquid within the pan has reached a predetermined level.

It is the object of this invention, among other things, to provide a device of this character which will be automatically actuated at all of several predetermined levels, and, further, to make the same of few parts so designed as to be readily constructed and the device sold at the minimum cost.

To these and other ends my invention consists in the overflow-alarm having certain details of construction and combination of parts, as will be hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals designate like parts in the several figures, Figure 1 is a front elevation of the device attached to a pan. Fig. 2 is an interior view of the mechanism with the bell removed. Fig. 3 is an end elevation of my device with the bell in section, and Fig. 4 is a similar plan view.

In the overflow-alarms heretofore made an alarm is sounded when the liquid in the pan has reached a predetermined level, but does not again sound even though the pan should overflow. As the alarm is frequently not heard when sounded but once, the liquid continues to accumulate, and the very end for which the device is intended is not attained. I have overcome this defect in the present overflow-alarm devices by providing means whereby the alarm will ring at any number of predetermined levels, each time sounding a separate and distinct alarm and reducing the

liability of an undesired overflow and its consequent damage to the minimum.

In carrying out my invention I provide a back plate 1, which is secured on the end of a bracket 2, having a hook 3 and a foot 4 at the other end.

In attaching the device to a pan the hook 3 is slipped over the upper edge thereof, and the foot 4 rests against the outside, as shown in Fig. 1.

Rotatably mounted within the back plate 1 and the top plate 5, which is supported above said plate 1 by the posts 6, is the spindle 7, having a main gear 8 thereon and surrounded by a coil-spring 9. Concentric with said spindle 7 and threaded thereon against the shoulder 11 is the bell 10, and threaded upon the end of said spindle is the thumb-button 12, having a pin 13 therethrough. The spindle 7 is rotated by the coil-spring 9, which is fastened to said spindle, the power being transmitted through said spring to the gear 8 in a manner well known to the art, the spring being wound by the thumb-button 12. The detailed construction of this spring and gear mechanism is not material to my invention, any form or construction of spring-power shaft being equally as well adapted to my device as the particular form shown. Parallel with said spindle 7 is the spindle 14, which is mounted within the plates 1 and 5 and carries a pinion 15 thereon, which meshes into the main gear 8, and an escapement-wheel 16, in the face of which is fixed a pin 17. The verge 18 is secured to the plate 1 by the screw 19, and connected therewith by the rod 20 is the hammer 21. Pivotally secured to the back plate 1 by the screw 22 is the sector 23, having a plurality of notches 24 in its outer edge, which notches are arranged so as to be engaged by a pin 25, fixed to said spindle 7. Pivotally secured to said sector 23 by the pintle 26 is the trip-lever 27, having a lug 28 at its forward end and an offset 32 at its opposite end, which projects through a hole 29 in the plate 1 and in which is held the rod 30, carrying the float 31 at its outer free end.

The relative position of the parts after the

spring 9 is wound up and the device is ready to be attached is shown in Fig. 2. It is then fixed to the pan, as shown in Fig. 1, with the float in such position that at the lowest predetermined level the float will be raised and the alarm sounded for the first time. As the liquid raises the float 31 the trip-lever 27 is oscillated upon the pin 26, and the lug 28 is freed from the pin 17 in the escapement-wheel. The spring now being free, its power is spent in rotating the spindle 7, and through the gear 8 and pinion 15 the escapement-wheel 16 is rotated, and the hammer 21 is caused to vibrate and strike the bell 10 through the verge 18. During the rotation of the spindle 7 the pin 25 also rotates and engages one of the notches 24 in the sector 23, which causes said sector to oscillate upon its pivot-mounting 22. This oscillation raises the position of the pintle 26, and with it the trip-lever 27, until the lug 28 is again brought into the path of the stop-pin 17, at which point the mechanism will be again held against further rotation and the alarm silenced. Now if the alarm is not heard and the pan is not emptied the liquid, of course, will continue to rise, and after it has risen a sufficient distance the float will again be raised and the lug 28 released from the pin 17 and the alarm sounded, as before. The pin 25 during its rotation again raises the position of the sector 23, and the lug 28 is again brought into the path of the pintle 17. These operations are continued as many times as there are notches in the sector, the alarm being sounded each time. The sector 23 is returned to its original position when the spring 5 is wound, the pin 25 then rotating in the reverse direction.

There are minor changes and alterations that can be made within my invention aside from those herein suggested, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an overflow-alarm; pivotally-mounted means for controlling the operation of said alarm when the liquid within the pan has reached a predetermined level; and means for automatically changing the position of said

pivot, whereby said alarm will be successively sounded when the liquid reaches predetermined levels higher than the first-mentioned level.

2. In an overflow-alarm, the combination with the bell; of a hammer; a pivotally-mounted lever, controlling the operation of said hammer when the liquid within the pan has reached a predetermined level; means for automatically changing the position of said pivot; and means for actuating said hammer after the liquid has reached a higher predetermined level than the first-mentioned level.

3. In an overflow-alarm, the combination with the bell; of a vibratory hammer, a trip-lever; a float connected with said trip-lever; and means for raising said trip-lever after the same has been oscillated by the liquid within the pan.

4. In an overflow-alarm, the combination with the bell; of a vibratory hammer; a verge and escapement movement for imparting a vibratory movement to said hammer; a trip-lever; a float connected with said trip-lever; and means for raising said trip-lever after the same has been oscillated by the liquid within the pan, said means being actuated from the same mechanism that imparts the vibratory movement to said hammer.

5. In an overflow-alarm, the combination with the bell; of a vibratory hammer; a rotary spindle having a tooth connected therewith; a sector having notches therein; a trip-lever pivotally secured to said sector; and a float connected with said lever.

6. In an overflow-alarm, the combination with the back plate 1; of a spring-rotated spindle having a tooth 25 thereon; of the vibratory hammer 21; sector 23 pivotally secured to said back plate; lever 27 pivotally secured to said sector; and a float 31 connected therewith.

7. In an overflow-alarm, the combination with the bell; of a hammer; a trip-lever; a float connected with said trip-lever; and means for raising said trip-lever after the same has been oscillated by the liquid within the pan.

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

EDWIN A. REEVES.

Witnesses:

GEORGE E. HALL,
J. P. DEJON.