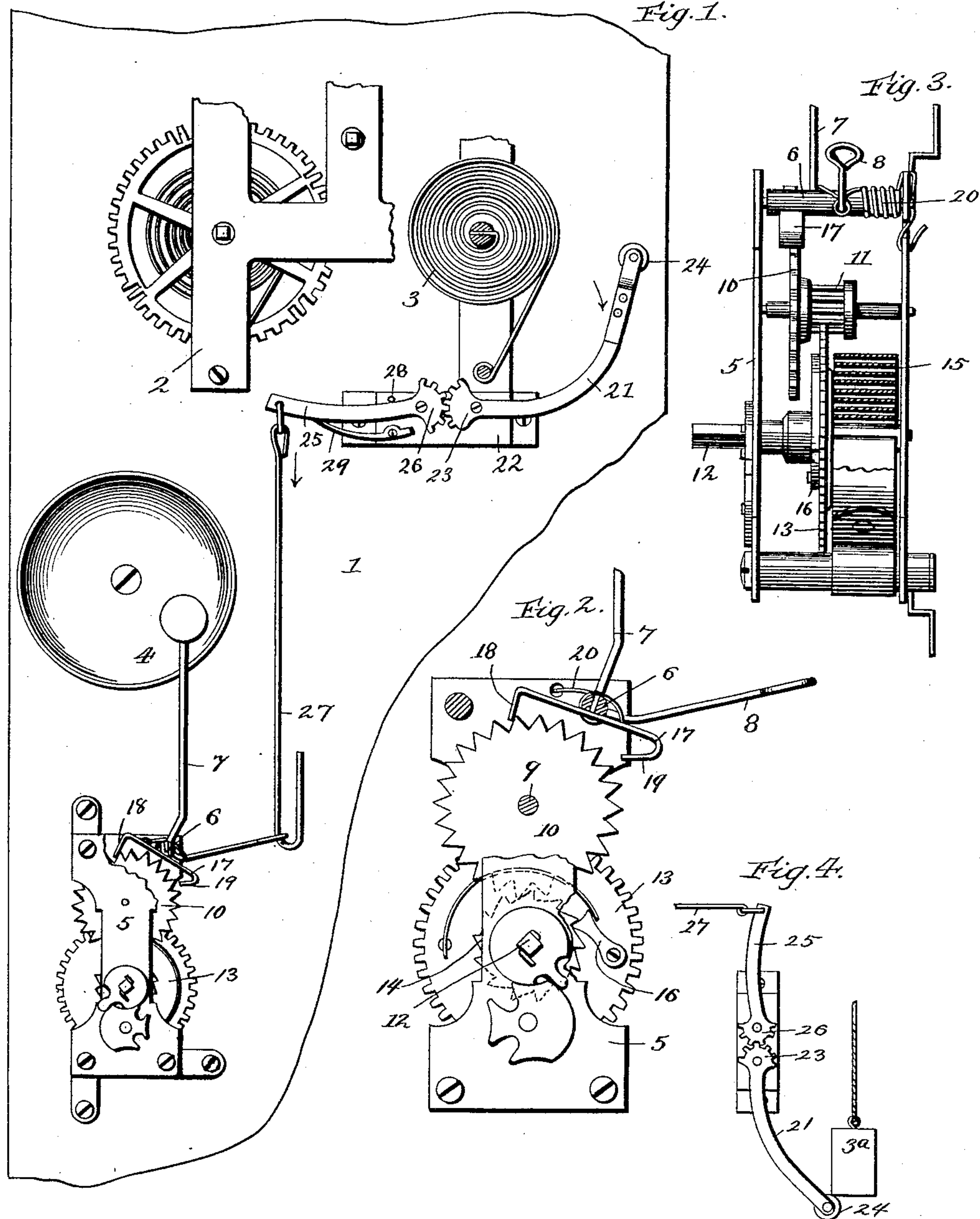


(No Model.)

J. MOWRER.
WINDING INDICATOR FOR CLOCKS.

No. 572,440.

Patented Dec. 1, 1896.



Witnesses:
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JAMES MOWRER, OF CASPER, WYOMING.

WINDING-INDICATOR FOR CLOCKS.

SPECIFICATION forming part of Letters Patent No. 572,440, dated December 1, 1896.

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To all whom it may concern:

Be it known that I, JAMES MOWRER, a citizen of the United States, residing at Casper, in the county of Natrona and State of Wyoming, have invented certain new and useful Improvements in Alarm Attachments for Clocks; and I do 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.

My invention relates to improvements in clocks and other spring and weight actuated devices; and it has for its general object to provide an attachment for such devices which is designed and adapted to sound an alarm when the device is almost run down and requires rewinding.

Other objects and advantages of the invention will be fully understood from the following description and claim when taken in conjunction with the accompanying drawings, in which—

Figure 1 is an elevation, with parts broken away, of a portion of a clock mechanism with my improvements in their proper operative position. Fig. 2 is an enlarged front elevation, partly in section, of a portion of the mechanism comprised in my improvements. Fig. 3 is an elevation, partly in section, of the same, taken in a plane at right angles to Fig. 2; and Fig. 4 is a detail view illustrating the manner in which the attachment operates in conjunction with a weight-actuated device.

Referring by numerals to said drawings, and more particularly to Figs. 1 to 3 thereof, 1 indicates a wall or base which may form one wall of a clock-case.

2 indicates a portion of the frame of an ordinary clock mechanism, a portion of which is shown, and 3 indicates the mainspring of the clock, which is of the ordinary construction and is adapted to operate in the usual manner, that is to say, is adapted to be contracted by winding and to expand, so as to actuate the clock mechanism.

The mechanism so far described forms no part of my invention, and the spring 3, instead of being connected with and adapted to actuate clock mechanism, may be used for actuating toys or other devices.

4 indicates a gong which forms a part of my attachment and may, if desired, also serve as the hour-gong of the clock mechanism when the attachment is used in conjunction with the same, and 5 indicates a frame which is preferably arranged below the gong 4 and connected to the wall 1, as illustrated. This frame 5 may be of any suitable construction, and it carries the shaft 6, having the hammer 7, and the arm 8; the shaft 9, having the escapement-wheel 10, and the cage-wheel 11; and the shaft 12, having the loose gear-wheel 13, engaging the cage-wheel 11, and also having the fixed ratchet-wheel 14 for a purpose presently described. The shaft 12 is designed to be rotated by a coiled spring 15, which has one end connected to said shaft and its opposite end connected with the frame 5. This spring is wound up in the usual manner by turning the shaft 12 toward the left; and in order to prevent the wheel 13 from turning with the shaft 12 during the winding process and yet enable it to turn with the shaft when the spring 15 expands I mount said wheel 13 loosely on the shaft, as described, and provide it with the spring-pressed pawl 16, which engages the ratchet-wheel 14, as shown. The spring 15 is held against casual expansion by the verge 17. This verge is fixed to the shaft 6 and has the pallets 18 19, as shown.

A spring 20, which surrounds the shaft 6, and is connected at one end to the frame 5 and at its opposite end to the said shaft 6, is preferably provided in order to assist the oscillation of the verge and hammer 7 when the arm 8 is released. In virtue of this construction it will be seen that when the spring 15 is wound up and the arm 8 is released the wheel 10 will be rotated, and its teeth engaging the pallets 17 18 of the verge will rapidly oscillate said verge and the hammer connected therewith and sound the alarm. In order to sound such alarm when the mainspring 3 of the clock mechanism is almost run down or fully expanded, I provide the mechanism better shown in Fig. 1. This mechanism comprises the lever 21, which is fulcrumed on a bracket 22, and has a gear-segment 23 at one end and an antifriction-wheel 24 at its opposite end, and also has such end arranged so that it will be engaged

by the spring 3 when the same is almost fully expanded, and the lever 25, which is also fulcrumed on the bracket 22 and is provided at one end with the gear-segment 26, which engages that of the lever 21 and has its opposite end provided with a depending hook 27, which extends loosely through an eye at the outer end of the arm 8. Upward movement of the lever 25 is limited by the stop 28, against which it is normally held by the spring 29, and consequently it will be seen that the hook 27 will hold the arm 8 in the position illustrated. When, however, the lever 21 is engaged and rocked by the spring 3, the end of the lever 25 to which the link 27 is connected will be moved downwardly with the hook 27, and consequently the wheel 10 will be released and the alarm sounded, as before described. When the said alarm is sounded, those within hearing distance are apprised of the fact that the clock or other mechanism is almost run down and must be wound up to prevent the clock from stopping.

When desirable, the lever 21 may be so arranged that it will be engaged and moved by the spring 15 when the same is only partially expanded, and in this way an alarm may be sounded at a certain predetermined hour.

In Fig. 4 of the drawings I have shown the alarm attachment in conjunction with a weight-actuated clock. In this construction the parts operate in precisely the manner described, except that the lever 25 is engaged

and moved by the descending weight 3^a, instead of by the spring 3, as in Fig. 1.

It will be observed from the foregoing that the mechanism of my improved alarm attachment is very simple, and therefore adds but little to the cost of a clock or other spring or weight-actuated device. I do not desire, however, to be understood as limiting myself to the construction shown, as any suitable device may be employed for the engagement of the spring, weight, or other actuating device, and any suitable alarm mechanism may be employed and may be connected with the said device in any suitable manner.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the actuating device of a clock or similar mechanism, a gong, a lever adapted to be engaged by said actuating device and having a gear-segment at one end, a second lever having a gear-segment engaging that of the first-named lever, and mechanism connected with the second-named lever for striking the gong and sounding an alarm when said lever is moved, substantially as specified.

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

JAMES MOWRER.

Witnesses:

FRANK WOOD,
A. E. CASE.