(No Model.)

F. GURLEY.

WINDING INDICATOR FOR TIMEPIECES.

No. 588,331. Patented Aug. 17, 1897.

Fig. 1.

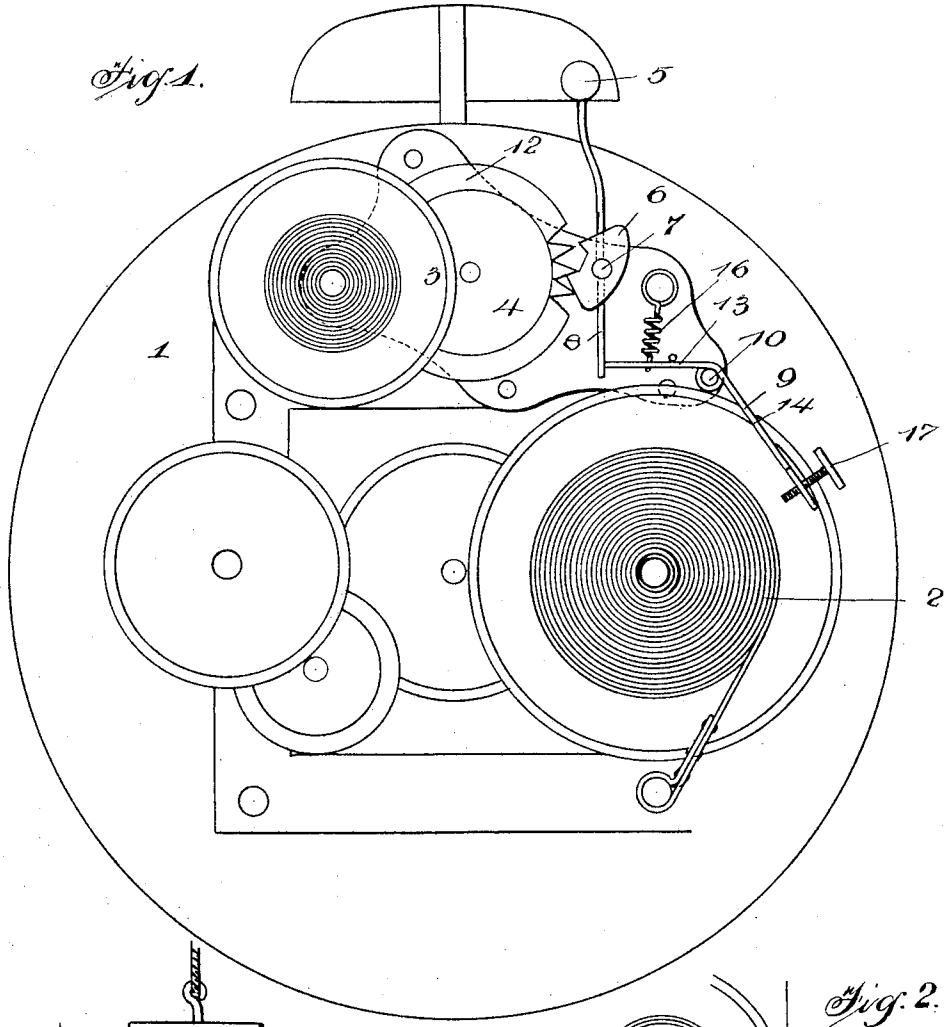
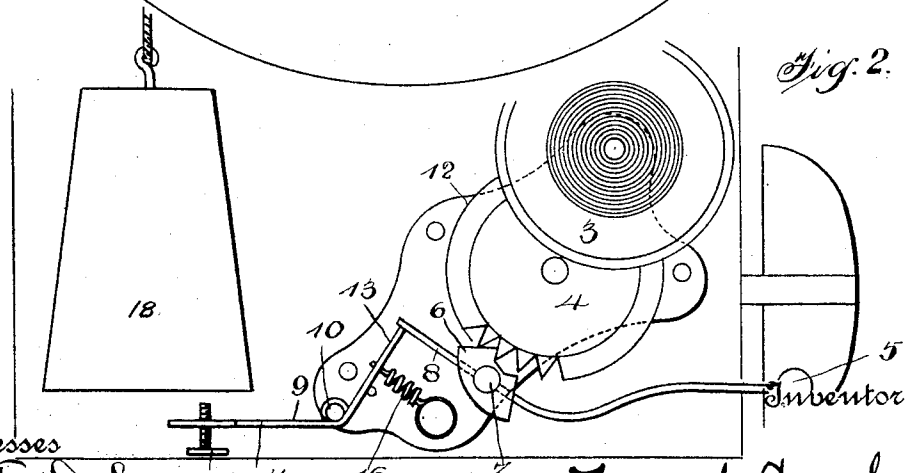


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK GURLEY, OF HIGH POINT, NORTH CAROLINA.

WINDING-INDICATOR FOR TIMEPIECES.

SPECIFICATION forming part of Letters Patent No. 588,331, dated August 17, 1897.

Application filed December 5, 1896. Serial No. 614,569. (No model.)

To all whom it may concern:

Be it known that I, FRANK GURLEY, a citizen of the United States, residing at High Point, in the county of Guilford and State of North Carolina, have invented certain new and useful Improvements in Automatic Winding-Signals for Regulators and 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 has relation to improvements in automatic winding-signals for clocks; and the object is to provide an audible signal for clocks and regulators that will sound an alarm when the clock requires winding.

To this end the novelty consists in the construction, combination, and arrangement of the several parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a front elevation of an ordinary spring-clock with my improved winding-signal attached thereto, and Fig. 2 is a view of the signal as applied to a weight-operated clock.

1 represents an ordinary spring-actuated clock, of which 2 represents the spring.

3 represents one wheel of a train of gearing mounted in the signal-frame 12, and which comprises the escape-wheel 4, which gives a vibratory movement to the hammer 5 through the medium of the escapement 6, mounted on the shaft 7. This shaft is provided with an arm 8, which vibrates with the hammer 5.

9 represents a lever fulcrumed on a shaft 10 in the signal-frame 12, and one end 13 of said lever is arranged to travel in the path of the arm 8, while the opposite end 14 extends into the path of the mainspring 2 of the clock-movement.

16 is a spiral spring which is connected to the end 13 of the lever 9 to retain that end in contact with the arm 8 of the escapement-shaft and prevent movement of the latter. The outer end 14 of the lever 9 is provided with an adjusting-screw 17, which projects into the path of the mainspring 2 and is so adjusted as to clear the outer coil of said spring at all times except when the spring is nearly spent or almost fully expanded and just before the clock is about to "run down."

The spring 2 in expanding presses against the inner end of the set-screw 17, which forces that end 14 of the lever 9 upward and the opposite end 13 downward and out of the path of the arm 8 on the escape-shaft 7, which allows the hammer 5 to sound an alarm on the gong 18.

When the clock is wound up, the spring 2 is contracted, which allows the spiral spring 16 to restore the lever 9 to its normal position, so that its end 13 is projected into the path of the arm 8 on the escape-shaft, and prevent its movement.

In the modification illustrated in Fig. 2 I have shown the signal as applied to a regulator or ordinary weight-clock. The arm 14 and adjusting-screw extending into the lower end of the path of the weight 18, which just before it runs down comes in contact with the end of the adjusting-screw, carrying it down with it to release the arm 8 and allow the alarm to sound.

While my invention is applicable to the ordinary twenty-four-hour clocks, it is more particularly intended for that class of clocks or regulators which require winding at more remote periods of time and which are liable to be forgotten. As such clocks are generally depended upon as the standard of time it is very important that they should never be allowed to run down, and it is obvious that a signal that will automatically give notice of the required attention will be a valuable adjunct to such a timepiece.

I do not wish to confine myself to the location of my automatic winding-signal, nor to the exact construction of the same, as it will be seen that it can be incorporated in the frame of new clocks in the course of construction or assembled separately, as shown in Fig. 2, and applied to clocks already in use.

Although I have specifically described the construction and relative arrangement of the several elements of my inventon, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention,

what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

An audible winding-signal for clocks, comprising the frame 12, the alarm mechanism mounted therein, and provided with an arm 8, in combination with the lever 9, having its end 13 located in the path of the arm 8, and its opposite end provided with an adjusting-screw 17 projecting into the path of the motive power of said clock, substantially as and for the purpose set forth.

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

FRANK GURLEY.

Witnesses:
W. T. KIRKMAN,
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