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D. T. SPRING, A. LONG & G. H. EBELING.

REGULATOR FOR FIRE ALARM SYSTEMS.

APPLICATION FILED SEPT. 3, 1902.

NO MODEL.

Fig. 1.

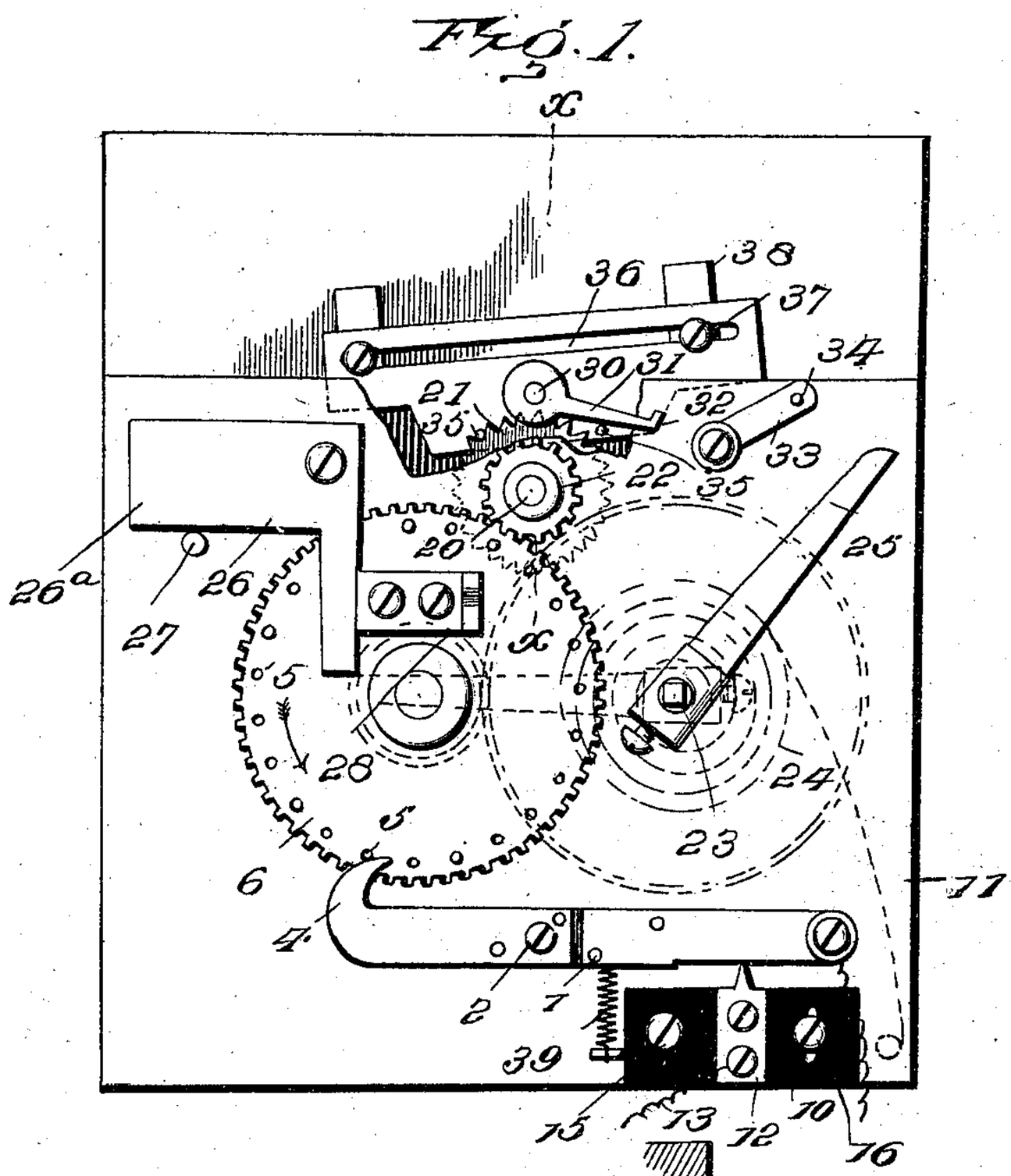


Fig. 2.

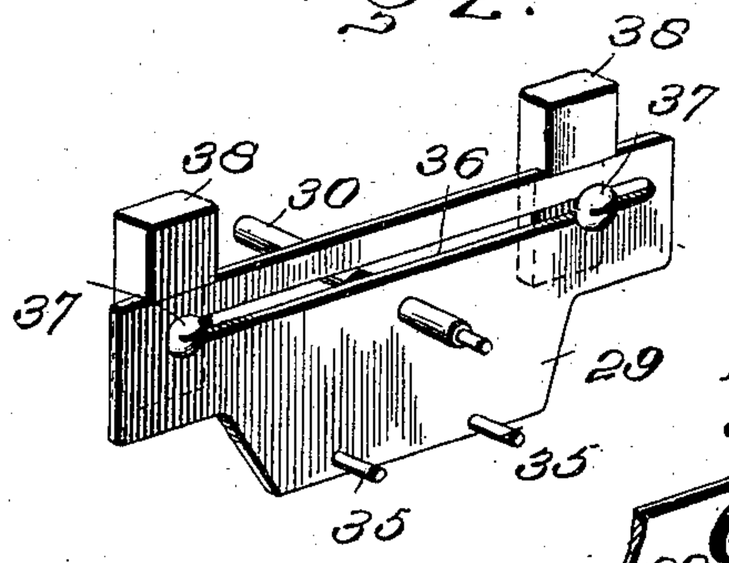


Fig. 3.

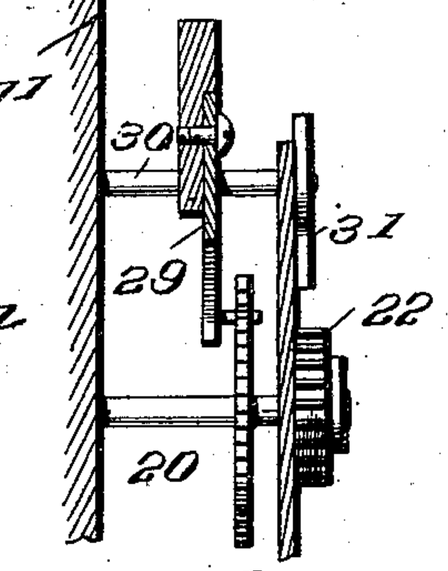
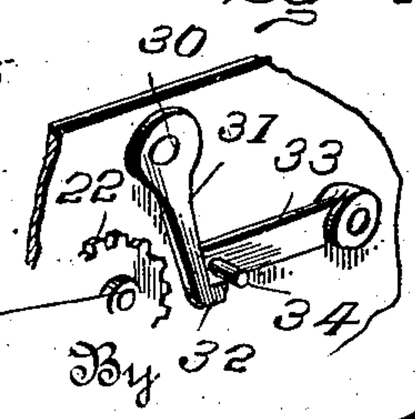


Fig. 4.



Inventors
D. T. Spring
A. Long
G. H. Ebeling

Witnesses
[illegible]
P. L. Wallbridge

By R. H. B. Lacey Attorneys

UNITED STATES PATENT OFFICE.

DANIEL T. SPRING, ANDREW LONG, AND GEORGE H. EBELING, OF WHEELING, WEST VIRGINIA.

REGULATOR FOR FIRE-ALARM SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 725,603, dated April 14, 1903.

Original application filed June 23, 1902, Serial No. 112,925. Divided and this application filed September 3, 1902. Serial No. 121,995. (No model.)

To all whom it may concern:

Be it known that we, DANIEL T. SPRING, ANDREW LONG, and GEORGE H. EBELING, citizens of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Regulators for Fire-Alarm Systems, of which the following is a specification.

This invention is a divisional part of the application filed by us June 23, 1902, Serial No. 112,925, for fire-alarm systems, and relates more particularly to the means for controlling the speed of the mechanism when released, so that the strokes of the bell may be uniform and distinct and the spaces between the groups of strokes representing a predetermined number may be easily determined, thereby obviating confusion and enabling the number of the box to be quickly and correctly ascertained.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of a fire-alarm mechanism embodying the invention. Fig. 2 is a perspective view of the pallet-lever. Fig. 3 is a detail section on the line X X of Fig. 1. Fig. 4 is a detail perspective view showing more clearly the means for holding the regulator out of action.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The mechanism comprises a train of gearing and circuit-breaking mechanism, the several elements being mounted as found most convenient and in practice is suitably housed for protection against the weather and tampering by mischievous persons. The circuit-breaking lever is indicated at 1 and pivoted at 2 and is provided with a cam 4 at its outer end extended into the path of tappets or pins 5, projected laterally from the circuit-breaking wheel 6. A plate or block 10, of insulating material, is connected to the frame 11 of the mechanism and is provided with an electric contact 12, adapted to coöperate with the circuit-breaking lever and connected by a wire 13 with the usual lead or line wire. (Not shown.) The plate or block 10 is connected by a pivot-fastening 15 with the frame 11 and is provided with a slot, through which a fastening 16 passes to hold the said part 10 in an adjusted position. The adjustment of the plate or block 10 admits of movement up or down of the electric contact 12, whereby, in effect, the time of contact between the circuit-breaking lever and the said part 12 is regulated when the mechanism is in operation and the circuit-breaking lever is oscillated by means of the tappets or pins 5.

The circuit-breaking wheel 6 is attached to the outer end of an arbor of a train of gearing and meshes with the pinion 22 at the outer end of the arbor 20, to which the scape-wheel 21 is attached. The arbor of the circuit-breaking wheel is included in the train of gearing, adapted to be operated by spring or in any accustomed way. The winding-arbor 23, to which one end of the spring 24 is attached, is provided with a restraining-arm 25, normally held in check by a detent 26 of elbow form, pivoted to the frame 11 at the elbow and having its horizontal member 26^a weighted, so as to insure bringing the vertical member of the detent into the path of the restraining-arm 25. A stop 27 projects from the frame 11 to properly position the detent and limit the downward movement of its weighted horizontal member. The pull-hook 28 is pivoted to the vertical member of the detent 26 and is adapted to move upward out of the way of the restraining-arm when the latter is released from the detent 26, but is limited in its downward movement to cause pivotal movement of the detent when the pull-hook is pressed upon to effect a release of the restraining-arm 25 when it is desired to turn in an alarm.

The regulator comprises the scape-wheel 21

and pallet-lever 29, the latter being secured to an arbor 30, journaled in the front and rear plate comprising the frame 11. An arm 31 is secured to the front end of the arbor 30 and is provided at its outer end with a shoulder or stop 32, which limits the movement of a pivoted check comprising an arm 33, pivoted at one end to the frame 11 and provided at its opposite end with a pin 34 to come in contact with the arm 31 and forming a grip to enable the check to be thrown into and out of operation. The pallet-lever 29 is provided with pins 35 for coöperation with the teeth of the scape-wheel 21 in the usual way and has a longitudinal slot 36 for reception of the fastenings 37, by means of which the weights 38 have adjustable connection therewith to admit of poising the pallet-lever after the apparatus has been installed, so as to insure correct, positive, and proper working of the regulator in the operation of the mechanism when tripped to turn in an alarm.

The casing for the mechanism may be of any construction and design to prevent tampering with the working parts and protect same from the elements.

The spring 24 is kept wound, and when it is required to turn in an alarm the restraining-arm 25 is released by pressing down upon the pull-hook 28. As the circuit-breaking wheel revolves in an anticlockwise direction, as indicated by the arrow in Fig. 1, the cam 4 of the circuit-breaking lever is acted upon by the tappets or pins 5, thereby oscillating said lever and interrupting the circuit, whereby the alarm is given in the accustomed way. To insure positive action of the circuit-breaking lever, a retractile spring 39 is interposed between it and the plate or block 10. When the arm 25 is released, the operation of the mechanism cannot be interfered with in the least by a continued movement up and down of the pull-hook. Hence the correct number of the box will be given at the station or other place for receiving the alarm. When the restraining-arm makes a complete revolution, it will come in contact with the detent and the mechanism automatically stopped until liberated by again pressing upon the pull-hook.

Having thus described the invention, what is claimed as new is—

A regulator for the purpose set forth comprising a scape-wheel, a pallet-lever for cooperation with the scape-wheel and provided with a longitudinal slot, and weights adjustable along the length of said pallet-lever, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

DANIEL T. SPRING. [L. S.]
ANDREW LONG. [L. S.]
GEORGE H. EBELING. [L. S.]

Witnesses:
PHILLIP H. BACHMAN,
JAMES SMITH.