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PATENTED APR. 10, 1906.

M. J. MCGOWAN, JR.
FIRE ALARM SIGNAL BOX.

APPLICATION FILED JAN. 18, 1904. RENEWED NOV. 13, 1905.

2 SHEETS—SHEET 1.

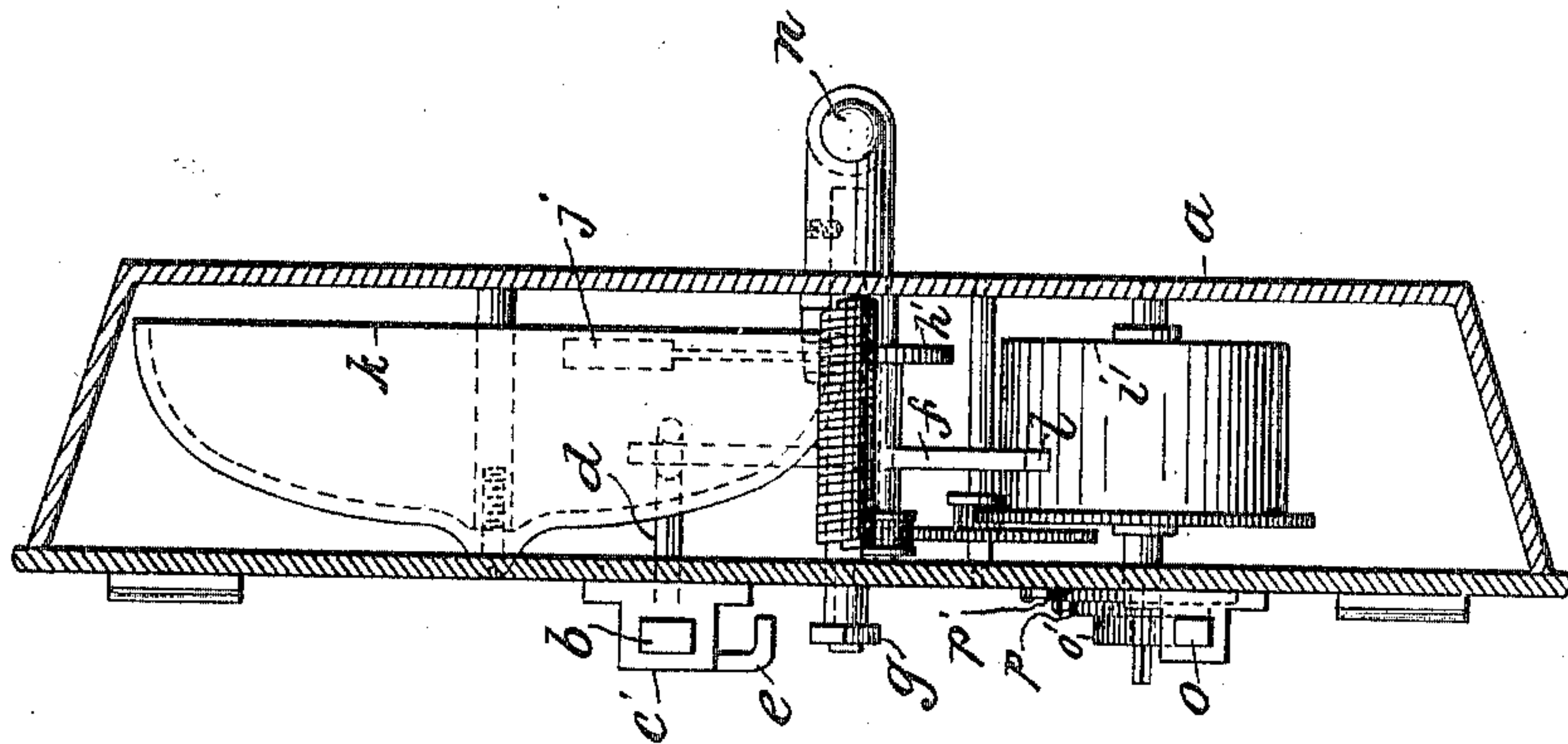


Fig. 2.

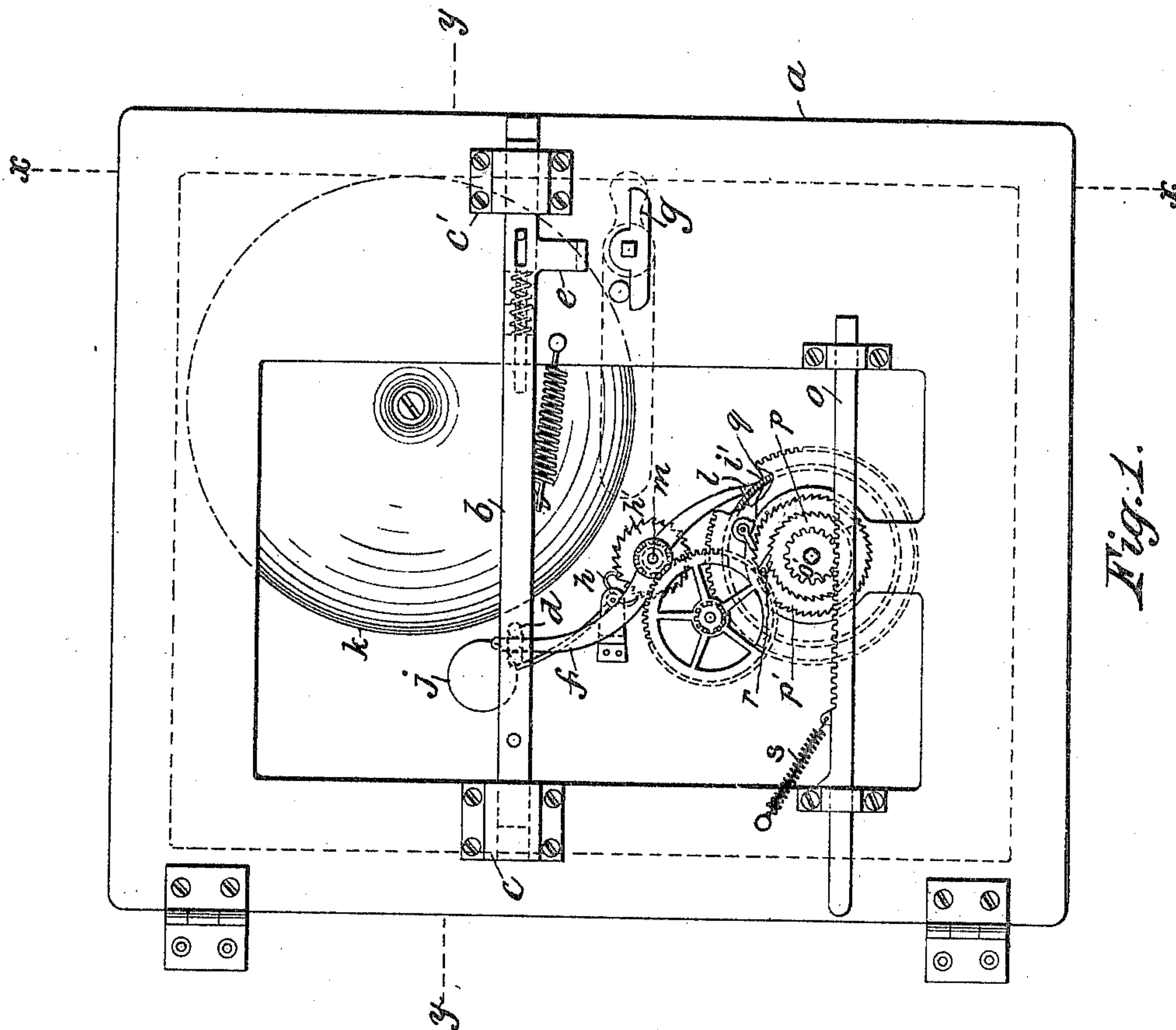


Fig. 1.

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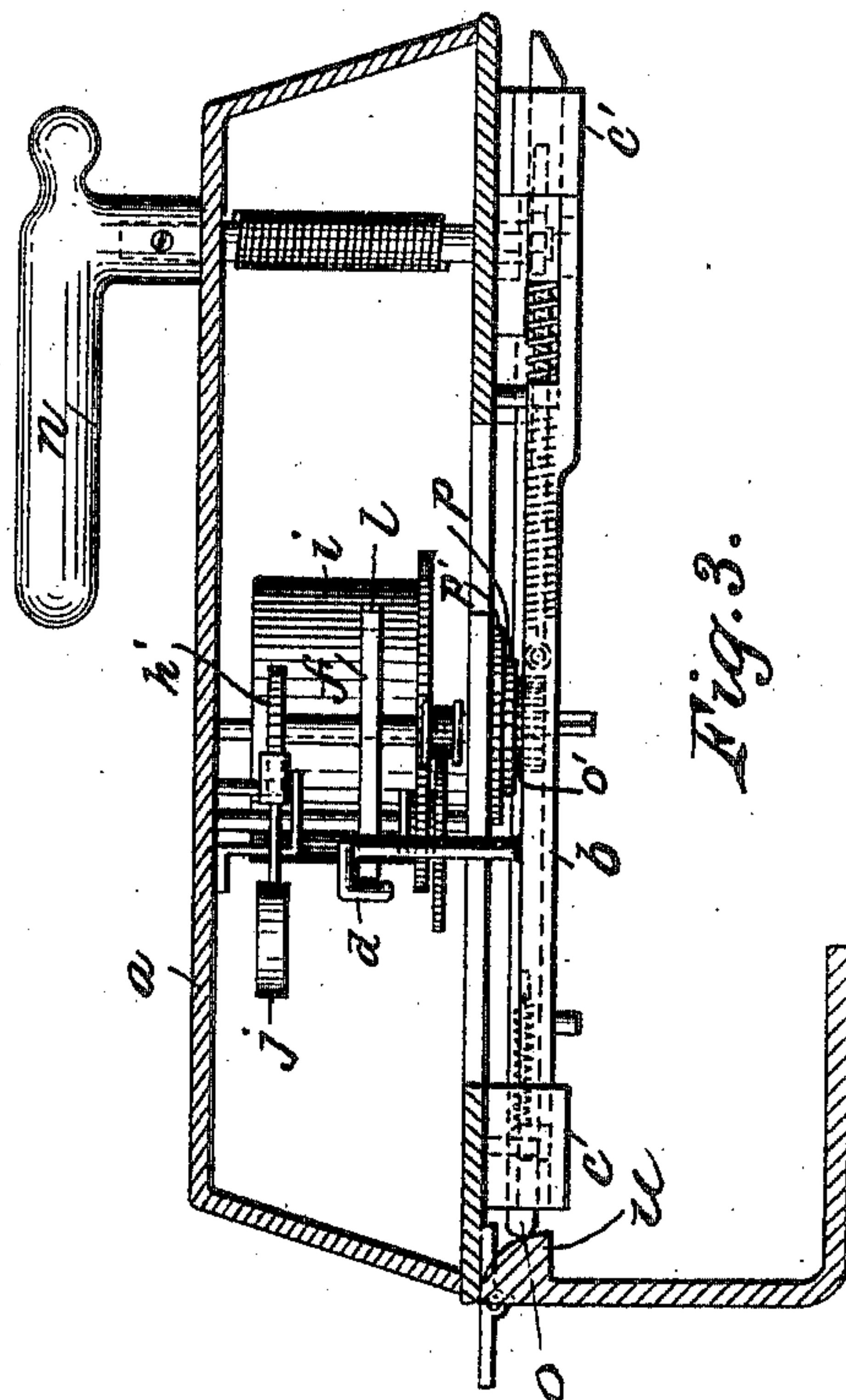
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UNITED STATES PATENT OFFICE.

MICHAEL J. MCGOWAN, JR., OF NEWARK, NEW JERSEY.

FIRE-ALARM SIGNAL-BOX.

No. 817,437.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed January 18, 1904. Renewed November 13, 1905. Serial No. 287,184.

To all whom it may concern:

Be it known that I, MICHAEL J. MCGOWAN, Jr., of the city of Newark, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Fire-Alarm Signal-Boxes; and I do hereby 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide an alarm that is thrown into actuation and so connected that it may be rung for a given length of time when an attempt is made to open the door of a fire-alarm box by a maliciously-disposed person, the alarm, or, rather, sounding of the bell, being of such an amplitude as to attract the attention of persons in the near vicinity, thereby insuring against the escape of the person maliciously turning in a false alarm.

The invention relates to a fire-alarm signal-box in which an alarm of the usual type is employed. An actuating means consisting of an ordinary clock-movement capable of storing energy operates the alarm, and a locking-bar attached to the door of the signal-box engages with a stop mechanism, such as a lever, which in turn engages with a permanent stop arranged on the spring-barrel of the movement, so that when the handle or knob of the signal-box is turned the locking-bar is moved backward, which in turn causes the stop mechanism or lever to become disengaged from the stop on the spring-barrel, thereby starting or stopping the movement.

Referring to the drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a rear plan view of the door embodying my invention. Fig. 2 is a vertical sectional end view taken on lines X X in Fig. 1, and Fig. 3 is a horizontal sectional plan view of my invention taken on lines y y in Fig. 1.

In the drawings, *a* represents a fire-alarm signal-door provided with a locking-bar *b*, which may be secured to the door in any suitable manner, preferably by means of two bearings *c* and *c'*. Secured to this bar *b* or cast integral therewith are two extensions, preferably rectangular in form and lettered *d* and *e*, designed to engage, respectively, with the levers *f* and *g*.

h represents an escapement-lever engaging with the escapement-wheel *h'*, said wheel being driven by suitably-interposed gearing from the convolute spring located in the spring-barrel *i'*. To the escapement-lever *h* a hammer *j* is secured, which is designed to strike the bell *k*. The spring-barrel *i'* has secured thereon a suitable stop *l*, which engages with the lever *f*, which in turn is actuated by and engages with the extension *d* of the locking-bar *b*. The lever *f* is pivoted at *m* and designed to be released from the stop *l* when the locking-bar *b* is moved laterally in an attempt to open the door of the signal-box. The door-knob *n* is provided with a shank, which carries the lever *g*, designed to engage with the extension *e* of the locking-bar, serving to unlock the door and causing the bar *b* to be moved laterally.

A rack *o*, suitably mounted in bearings on the rear of the door, engages with a pinion *o'* on the rounded portion of the square shaft of the actuating means and serves as an automatic means for winding up the convolute spring when the door of the signal-box is closed. The pinion *o'* is pinned to the ratchet-wheel *p*, and both run loose on the cylindrical portion of the actuating-means shaft.

p' is a ratchet-wheel, which is fast on the square shaft and is prevented from rotating by a retaining-pawl *q*. *r* is a pawl pivoted to the ratchet-wheel *p'* and engages with the ratchet *p*, so that when the pinion *o'* and the ratchet-wheel *p* are turned by means of the rack *o* the ratchet-wheel *p'* turns simultaneously with them and causes the spring to be wound up. When the door *a* is opened, the spiral spring *s* pulls the bar *o* into the position shown.

The operation of my device is very simple and as follows: When the knob *n* of the door *a* is turned in an attempt to open the same, the lever *g* engages with the extension *e* of the locking-bar *b* and moves the same laterally, thereby causing the rectangular extension *d* of said locking-bar *b*, which is in engagement with the lever *f*, to cause said lever to become disengaged from the stop *l*, located on the spring-barrel *i'*, which permits the movement to run down, thereby releasing the escapement-lever *h* from the escapement-wheel *h'* and causing the hammer *j* to strike the bell *k* until the stop *l* again comes into contact with the end of the lever *f*. The spring-barrel *i'*, carrying the stop *l*, rotates

when the movement runs down, and consequently the stop *l* when disengaged from the lever *f* will rotate with the spring-barrel and will engage with the lever *f* after the said
 5 spring-barrel has made a complete turn. When an attempt is made to close the door, the end of the rack *o* engages with a suitable projection *u* on the inside of the box and is
 10 moved laterally, thereby turning the pinion *o'* and the ratchet-wheels *p* and *p'* and causing the convolute spring located in the spring-barrel *i'* to be automatically wound up.

The automatic winding means can be dispensed with and an ordinary clock-key fitted
 15 to the square shaft could be used to wind up the spring should it be so desired.

I am aware that changes may be made in the various arrangements and combinations of the parts without departing from the scope
 20 of my invention. Hence I do not limit my invention to the exact arrangement and combination of the parts as described, nor do I confine myself to the exact shape and configuration of the same.

25 Having thus described my invention, what I claim is—

1. In a fire-alarm signal-box, an alarm, means for actuating said alarm, a stop arranged on said actuating means, a bar for re-
 30 leasing said actuating means, a projection on said bar, and a lever contacting with the projection on said bar and engaging with the stop on said means for releasing and stopping the movement for actuating said alarm.

35 2. In a fire-alarm signal-box, the combination of an alarm, means for actuating said alarm, a combined timing device and stop mechanism in operative relation with said actuating means, a spring-actuated bar for
 40 releasing said stop mechanism and permit said timing device to contact with said stop mechanism after a predetermined period of

operation to arrest said actuating means, and thus stop the alarm.

3. In a fire-alarm signal-box the combination of a swinging door, forming a casing, alarm mechanism located within said casing, comprising an alarm means for actuating
 45 said alarm, a latch-bar for locking said door or casing and provided with means for releasing said actuating means and timing
 50 mechanism for arresting said actuating means after a predetermined period of operation.

4. In a fire-alarm signal-box, the combination of an alarm, means for actuating said
 55 alarm, a combined timing device and stop mechanism in operative relation with said actuating means, a spring-actuated bar for releasing said stop mechanism and permit
 60 said timing device to contact with said stop mechanism after a predetermined period of operation to arrest said actuating means, and thus stop the alarm, and automatic
 65 winding means for winding up said actuating means.

5. In a fire-alarm signal-box, the combination of a swinging door, forming a casing, alarm mechanism located within said casing, comprising an alarm means for actuating
 70 said alarm, a latch-bar for locking said door or casing and provided with means for releasing said actuating means and timing
 75 mechanism for arresting said actuating means after a predetermined period of operation, and automatic winding means for winding up said actuating means.

This specification signed and witnessed this 11th day of January, 1904.

MICHAEL J. MCGOWAN, JR.,

Witnesses:

LOUIS M. SANDERS,
 FREDK. C. FISCHER.