

L. J. LOEFFLER.
ELECTRIC FIRE ALARM.
APPLICATION FILED JAN. 13, 1912.

1,061,763.

Patented May 13, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

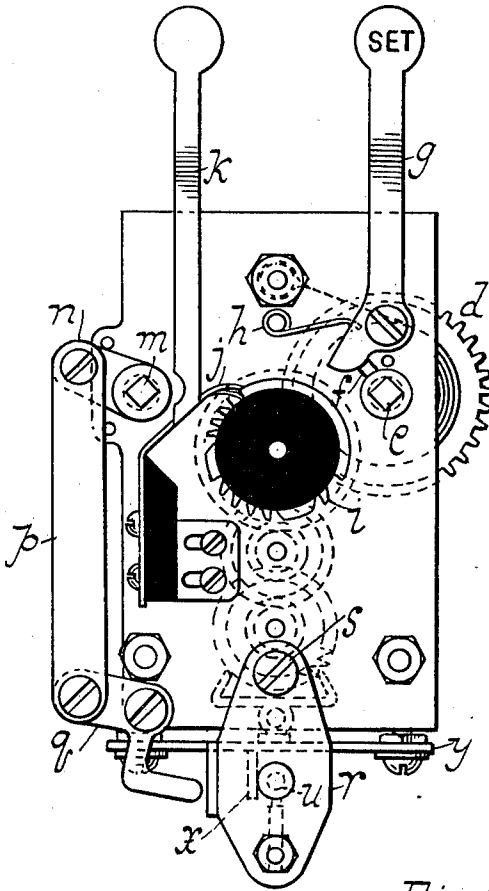


Fig. 2.

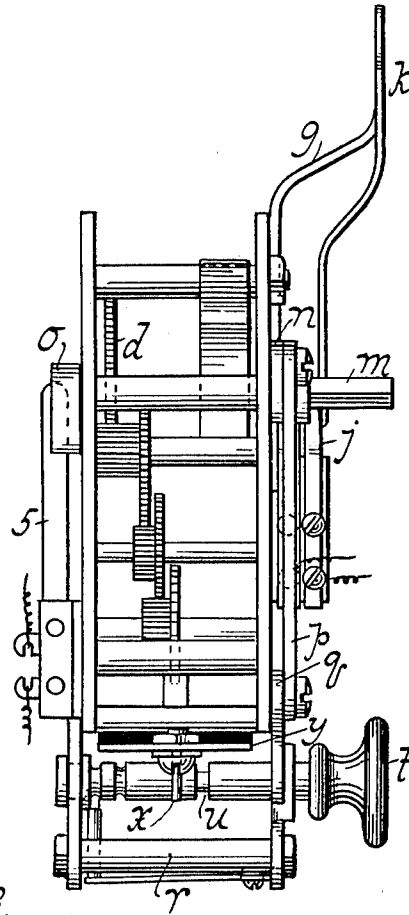
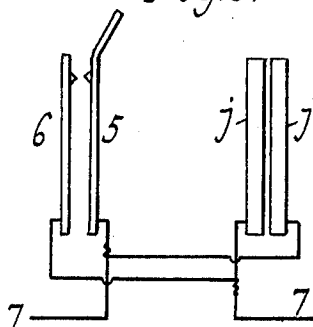


Fig. 3.



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2 SHEETS-SHEET 2.

Fig. 4.

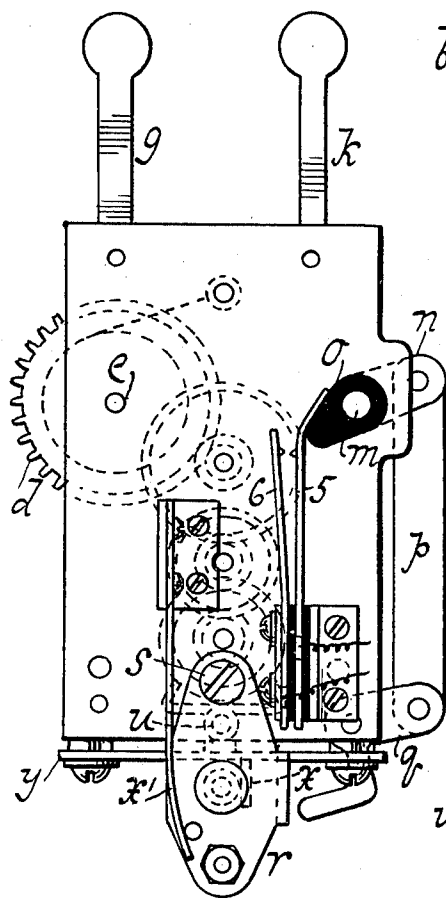


Fig. 5.

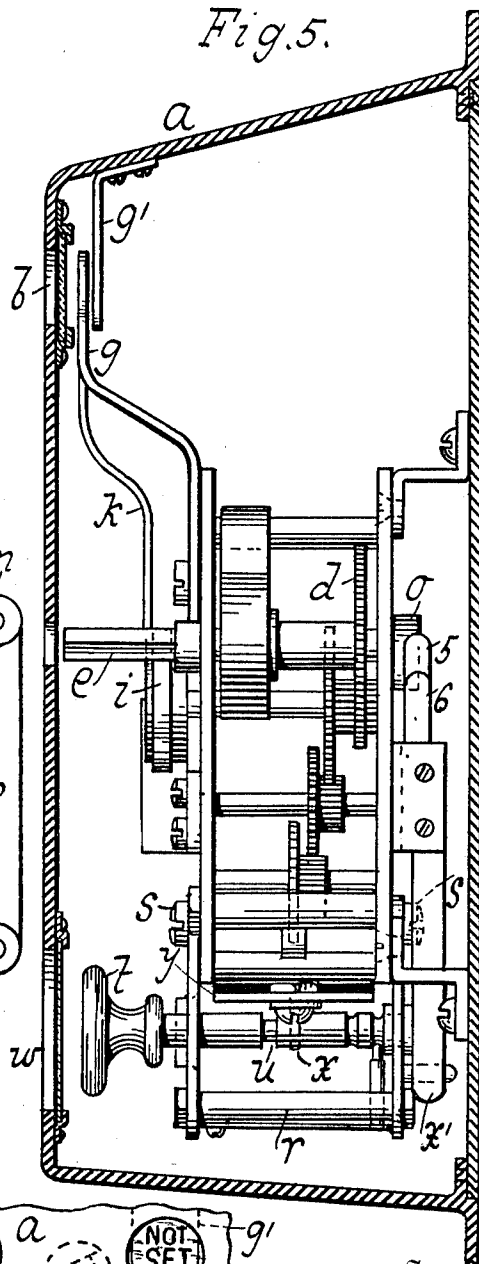
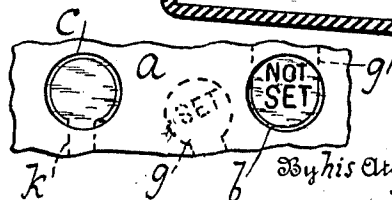


Fig. 6.



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LOUIS J. LOEFFLER, OF STAPLETON, NEW YORK.

ELECTRIC FIRE-ALARM.

1,061,763.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed January 13, 1912. Serial No. 671,039.

To all whom it may concern:

Be it known that I, LOUIS J. LOEFFLER, a citizen of the United States, residing at Stapleton, county of Richmond, State of New York, have invented new and useful Improvements in Electric Fire-Alarms, of which the following is a specification.

This invention relates to an electric fire alarm system which is operated by setting a clock movement in motion.

The instrument is connected to a central station by means of a closed circuit, and it has a make and break wheel for communicating the number of the box to the central station. This make and break wheel is rotated by setting the clock movement in operation, by means of a push button when it is desired to communicate with the central station.

One of the features of the invention is the method of testing the instrument to see whether it is in proper working condition. This is accomplished by means of a key which actuates mechanism coöperating with a rock lever piece connected to the escapement of the clock movement, thus releasing the escapement and setting the clock in motion. The key shaft is connected to a circuit opener for simultaneously shunting the instrument out of the circuit while testing the instrument.

The instrument is provided with a signal arm to show when the device is set and which is adapted to be actuated by a device carried by the winding arbor. Another signal arm is carried by the make and break device and oscillates when the clock movement is operated.

The novel features of the invention are more fully described in the following specification and claims and illustrated in the accompanying drawings in which:

Figure 1 represents a front elevation of a clock mechanism embodying this invention. Fig. 2 is an edge view thereof. Fig. 3 is a diagram of the circuit openers and make and break contact device. Fig. 4 is a rear view of the clock mechanism. Fig. 5 is an end view partly in section showing the clock mechanism mounted in a box or casing. Fig. 6 is a front elevation of a portion of the upper part of the box.

In this drawing the letter *a* designates a box or casing which is provided with sight openings *b* and *c* located in front of the

box. These sight openings are closed by a plate of glass as shown.

A clock movement *d* is mounted in the box and it has a winding arbor *e* carrying a projection or nose *f*. A signal arm *g* is pivoted above the key arbor *e* and when the clock is wound the nose *f* strikes on to the tail of the signal arm and holds the arm in its set position in front of the sight opening *b*. A spring *h* tends to push the tail end of the arm toward the arbor. When the nose moves away from the tail of the signal arm the upper end of the arm will move from the sight opening *b* hence denoting that the instrument is not set. The arm in moving away from the sight opening uncovers a fixed bracket *g'* to denote that the instrument is not set. (See Fig. 6.)

The clock movement carries a make and break wheel *i* which rotates when the instrument is operated. The wheel has a mutilated periphery which engages spring contact devices *j* to make and break the current as is well known in instruments of this kind. The contact device is provided with a signal arm *k* normally positioned in a line with the side opening *c*. The upper end of this signal arm swings back and forth on the sight opening and thus denotes that the instrument is operated. The oscillation of the signal arm by the make and break wheel when the instrument is being tested shows the operator whether the make and break devices are properly adjusted, and the movement of the signal arm visually gives the number of the box and if the number is incorrect it will convince the operator that the electrical devices are out of order.

A key shaft *m* is journaled in the movement plates and it has fixed to it a lever *n* and a cam *o*, the operation of the latter being hereinafter described. The lever *n* is carried by a link *p* to a bell crank lever *q*, the function of which will be hereinafter explained. The lever piece *r* is fulcrumed at *s* to the lever portion of the movement plates. This lever piece straddles both plates and it carries a push button *t* with a stem having a groove *u*. This push button is in line with a sight opening *w* which is closed by a thin pane of glass. In order to operate the push button the glass is broken and the button is pushed until the groove *u* registers with a projecting pin *x* fixed to a balance lever *y* which carries the pallet devices

for engagement with the scape wheel of the clock movement. This movement of the push button thus releases the escapement and operates the clock movement. The stem of the push button, when in its normal position is pushed against the projecting pin by means of a spring x' thereby preventing movement thereof.

When it is desired to test the instrument a key is inserted on the key shaft m , the shaft is given a partial turn to actuate the bell crank lever q , the lower tail end of which strikes on to the side of the rock lever thus swinging the lever piece with push button stem out of contact with the projecting pin x thereby releasing the escapement and setting the clock movement in motion. When the key shaft is turned it actuates the insulated cam o which operates a spring circuit opener 5 to contact with the terminal contact 6 (see Fig. 4). When the circuit opener is in contact with the terminal contact 6 it opens the circuit of the instrument thus short circuiting the instrument and shunting it from the main line 7, as indicated in Fig. 3. When the key is removed the key shaft with its mechanism is moved by means of a spring 5 to its normal position. (See Fig. 1.) The spring x' moves the lever piece r with push button stem back to engagement with the projecting pin on the escapement.

I claim:

1. In an electric fire alarm the combination with a normally wound spring motor, a lever piece mounted on the motor, a manually operable device carried by the lever piece normally preventing movement of the motor, and a manually controlled secondary device for independent operation of the lever piece to allow movement of the motor.

2. In an electric fire alarm, the combination with a normally wound spring motor including an escapement, a lever piece swingingly mounted on the motor, a manually operable device carried by the lever piece

normally preventing movement of the motor, and manually controlled secondary devices for controlling the lever piece to allow movement of the motor.

3. In an electric fire alarm the combination with a normally wound spring motor including an escapement, a lever piece swingingly mounted on the motor, a manually operable device carried by the lever piece normally preventing movement of the escapement, and secondary devices independent of the motor for operating the lever piece to release the escapement.

4. In an electric fire alarm, the combination with a normally wound spring motor, including an escapement, a lever piece swingingly mounted on the motor, a manually operable device carried by the lever piece normally preventing movement of the escapement, secondary devices independent of the motor, comprising a key lever, a link connected to the key lever and a bell crank lever actuated by the key lever for oscillating the lever piece to release the escapement and allow movement of the motor.

5. In an electric fire alarm, the combination with a normally wound spring motor, including a circuit breaker having a closed circuit, a lever piece swingingly mounted on the motor, a manually operable device carried by the lever piece normally preventing movement of the motor, manually controlled secondary devices including a key shaft for independent operation of the lever piece to allow movement of the motor, and means carried by the key shaft for shunting the circuit breaker while the secondary devices are in action.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LOUIS J. LOEFFLER.

Witnesses:

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