

(No Model.)

C. H. CARTER.
Electric Alarm and Indicator.

No. 229,867.

Patented July 13, 1880.

Fig. 1

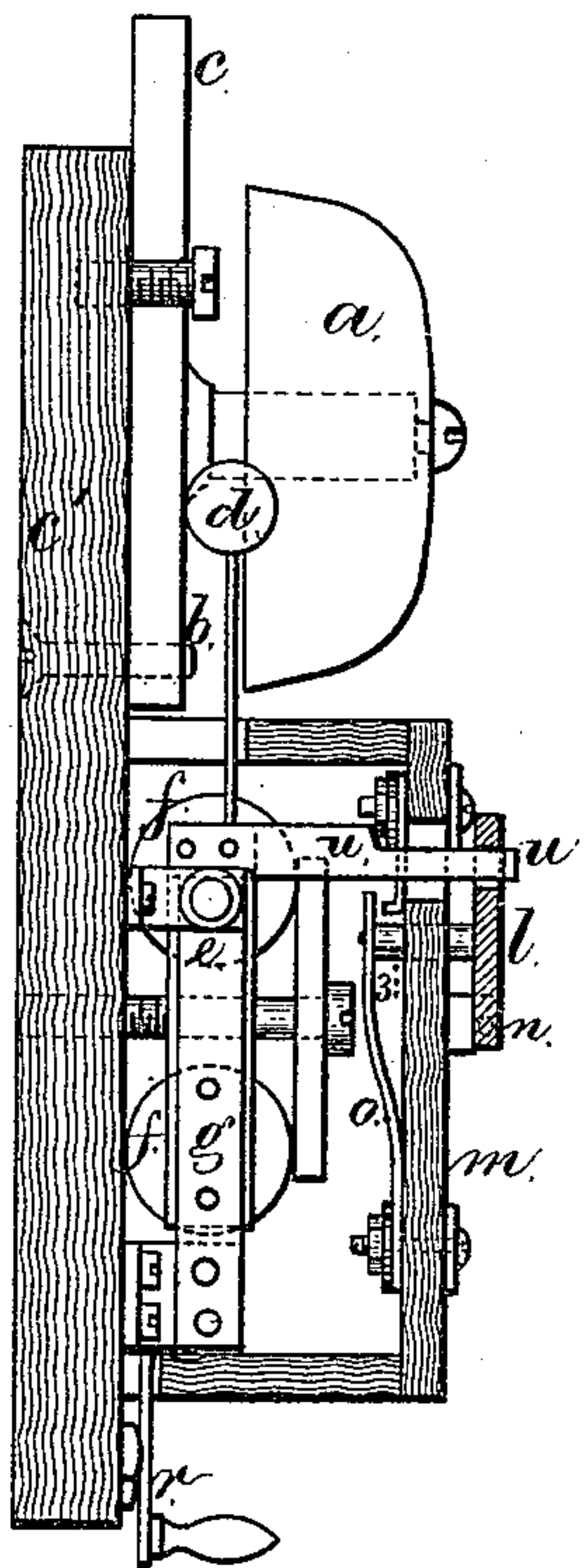


Fig. 2

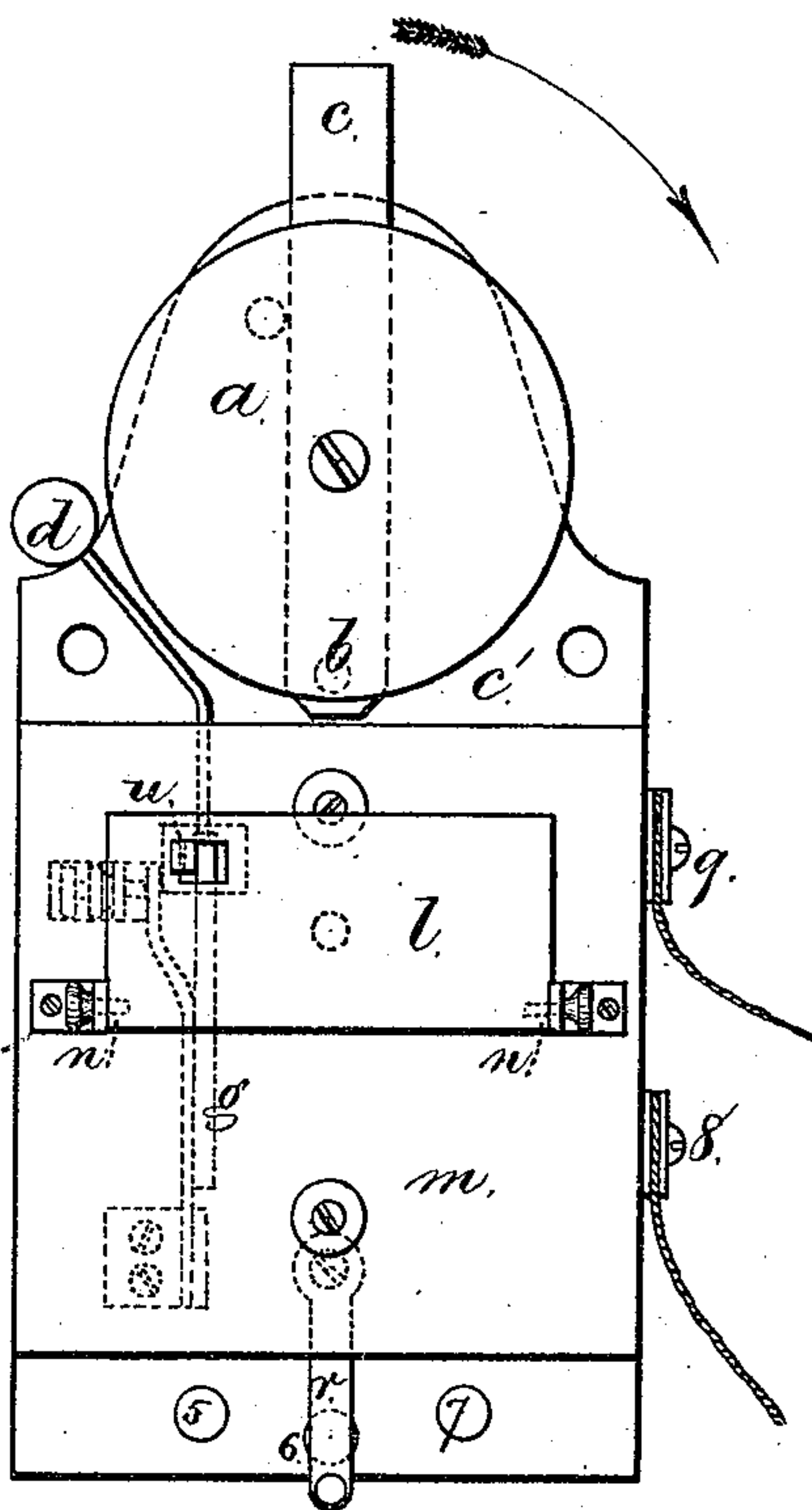
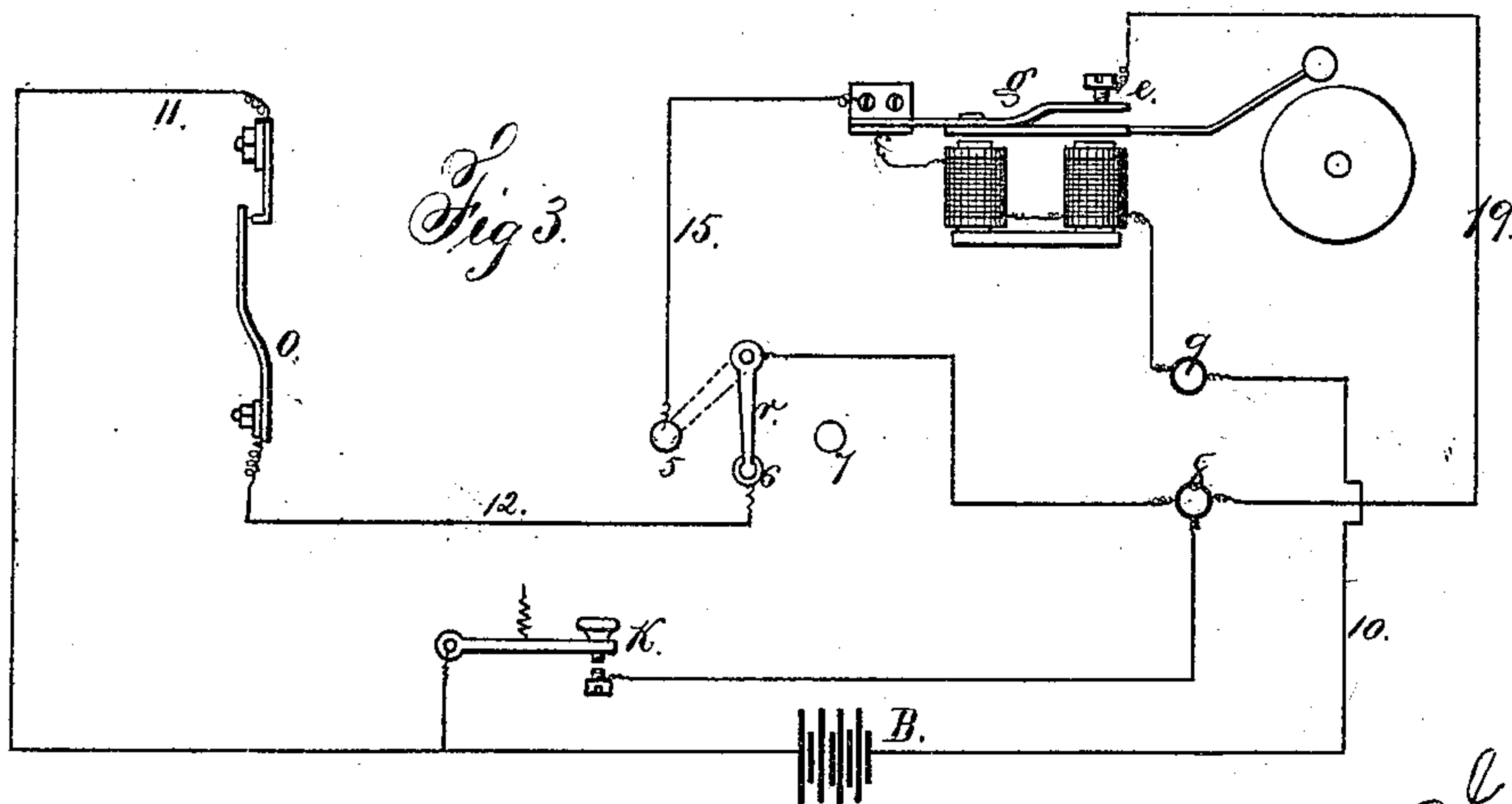


Fig. 3



Witnesses

Harold Terrell

Chas. H. Smith

Inventor

per Charles H. Carter
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UNITED STATES PATENT OFFICE.

CHARLES H. CARTER, OF BROOKLYN, NEW YORK.

ELECTRIC ALARM AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 229,867, dated July 13, 1880.

Application filed May 5, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. CARTER, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Electric Alarms and Indicators, of which the following is a specification.

This invention is especially adapted to use with electric letter-boxes that are located near the doorway and connected with a battery and circuit to the alarm in the room or office; but this indicator and alarm may be used under other circumstances wherever available.

The object of this invention is to operate a visual indicator whenever the circuit is closed, to ring an alarm once or to continue to ring the alarm until the indicator is restored to its normal condition, or to prevent the bell being sounded.

In the drawings, Figure 1 is a side elevation of the instrument with part of the case removed. Fig. 2 is a front view, and Fig. 3 is a diagram, of the circuit-connections.

The bell *a* is attached upon an arm, *c*, that is pivoted at *b* to the frame or support *c'*. When it is in the position to be struck by the armature-hammer *d* it occupies the place shown by full lines; but when it is desired to stop the sound the bell and arm can be swung aside on the pivot *b*, so as to be out of the way of the hammer.

The electro-magnet *f* and its armature *g*, carrying the hammer *d*, are of ordinary construction, and the back point, *e*, of the armature-lever closes the circuit through the magnet, so that the movement of the hammer makes and breaks the circuit and rings the bell automatically, as usual.

The hinged drop *l* is pivoted at *n* to the case *m*, in front of the magnet, and when this drop is turned upwardly it is caught by the armature-latch *u* and held; but as soon as the electro-magnet is charged the movement of the armature and latch liberates the drop *l*, and the same falls and exposes the inner surface of the drop, upon which the word "mail" is printed to indicate that the mail requires to be moved from the letter-box; or the said flap may have numbers or other visual calls to attract attention when the drop falls.

There is a spring, *o*, and insulated pusher *3*, that aids in causing the drop to fall when un-

latched, and this spring *o* also acts as a circuit-closer, as hereinafter indicated.

The switch *r* may be swung upon either stud 5, 6, or 7. When on 7 the alarm will be rung as long as the key or circuit-closer at the letter-box remains closed. When on 6 the alarm will be rung continuously after being closed at the letter-box or other place of operation, and when the switch is on 5 the bell will be struck but one blow, thus allowing this alarm to be used in either manner desired.

By reference to the diagram, Fig. 3, the circuit-connections will be understood.

k represents the letter-box or push-button or other source from which the signal comes; *B*, the battery.

With the switch *r* on 6 the current comes from *B*, through *k* to 8, thence by 19 to back screws of armature, through armature *g* and electro-magnet to 9, and by 10 to battery. The circuit at *o* has been broken by the flap being up; but as the magnet drops the same *o* and 11 close, opening a new route from 8, through *r* 6 12 *o* 11, to battery, and the armature acts as the circuit-breaker and causes the alarm to ring automatically until the flap is turned up again and separates *o* and 11.

When the switch is at 5 the closing of the circuit at *k* causes the current to pass by 8 *r* 5 and wire 15 to the electro-magnet, and by 9 and 10 to *B*, thus short-circuiting the armature circuit-breaker, and only causing the hammer to strike one blow for each time the key *k* is closed.

When the switch is at 7 the circuit will pass through the key *k* when closed, and by 10 9 to the electro-magnet; thence through the back stop *e* and 19 8 back to *k*, and the ringing will be automatic and continuous while *k* is closed, and that independently of the action of the flap.

If *o* and 8 are connected, the switch *r* may be dispensed with for a repeating alarm.

If the key *k* is closed when in the normal position, so that the electro-magnet is charged, the parts will be operative in the manner before described when the key *k* is opened. In that case, however, the armature-latch will have to act the reverse way and drop the flap when the armature flies back.

I claim as my invention—

1. The combination, in an alarm and indicator, of the electro-magnet, the armature, the hammer and bell, the flap, a latch upon the armature acting to hold the flap, and the circuit-closing spring *o*, which also serves to move the flap, substantially as specified.

2. The combination, in an alarm and indicator, of the electro-magnet, armature-latch, hammer and bell, the flap, circuit-closer *o*, switch *r*, stops 5 and 6, and circuit-connections, substantially as and for the purposes set forth.

3. In combination with the electro-magnet, armature, and hammer in an electric alarm, a bell supported upon a pivoted arm, so that it

can be turned aside from the hammer, substantially as set forth.

4. The combination, in an alarm and indicator, of an electro-magnet, an armature, a hammer for the bell projecting from the armature, a drop with a latch that is held directly by the armature and liberated when the armature is moved, substantially as specified.

Signed by me this 1st day of May, A. D. 1880.

CHAS. H. CARTER.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.