

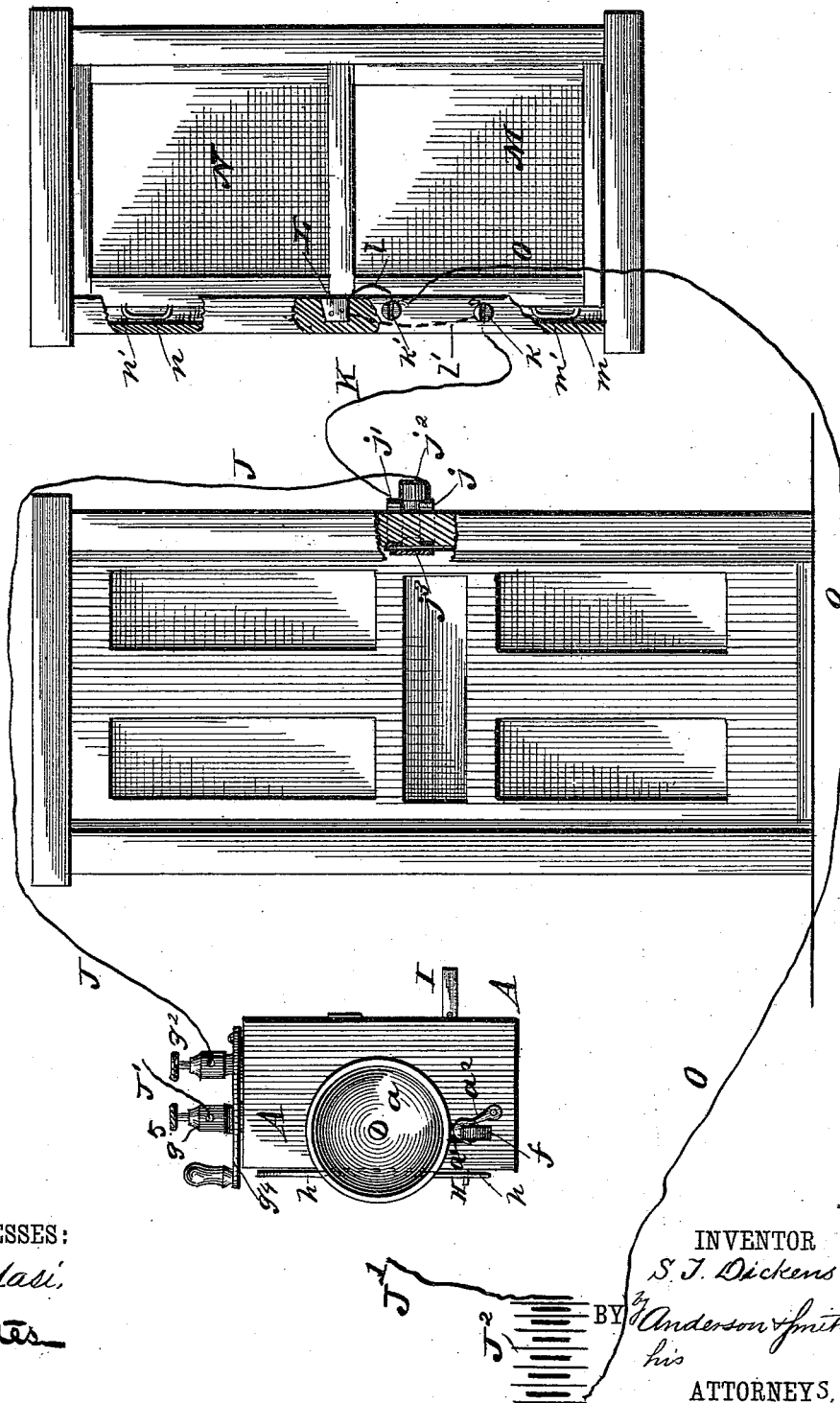
S. T. DICKENS.

ELECTRIC BURGLAR ALARM.

No. 344,358.

Patented June 29, 1886.

Fig. 1.



WITNESSES:
Phil Masi
E. H. Bates

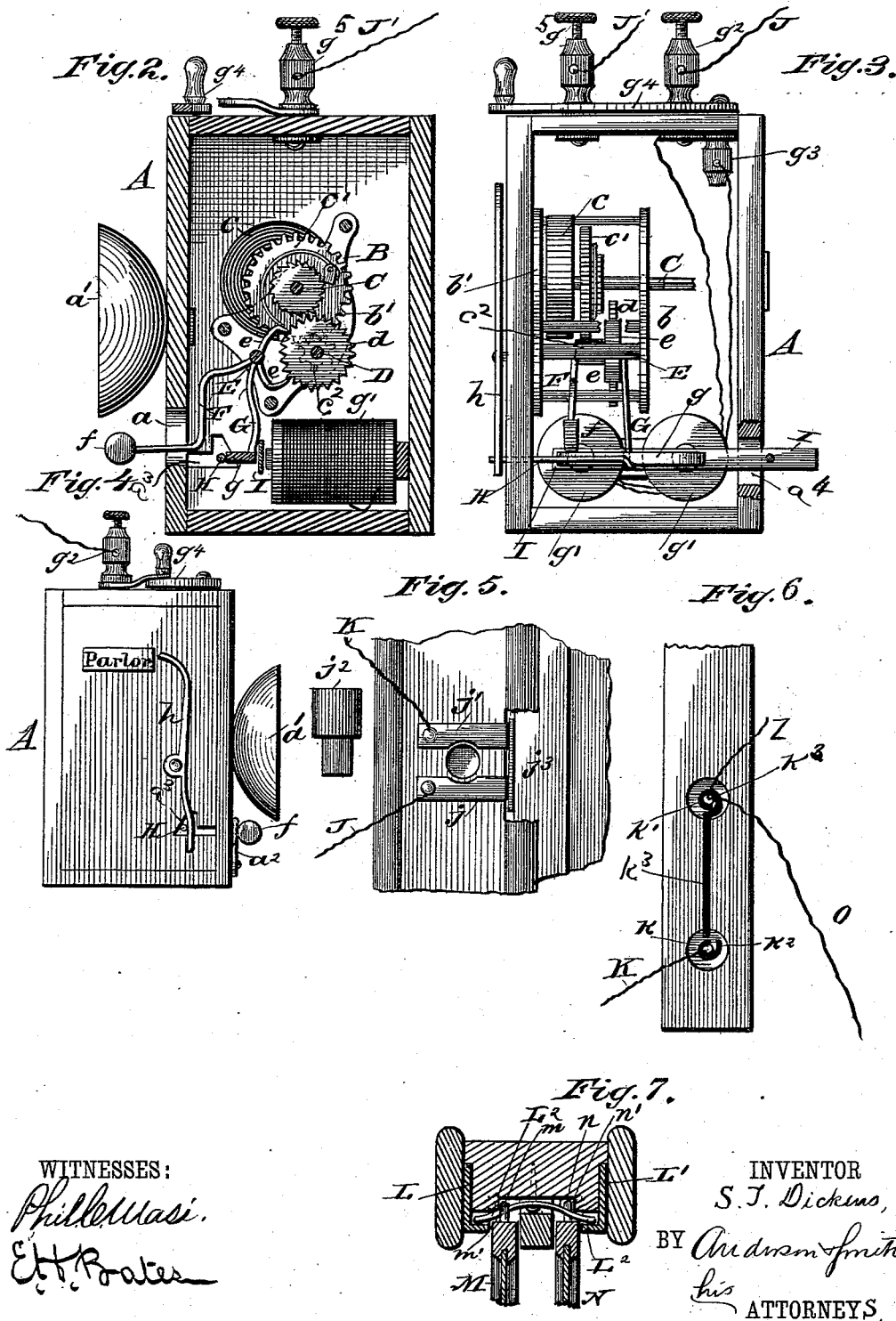
INVENTOR
S. T. Dickens

BY *Anderson Smith*
his
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

SAMUEL T. DICKENS, OF JOPLIN, MISSOURI.

ELECTRIC BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 344,358, dated June 29, 1886.

Application filed October 30, 1884. Serial No. 146,830. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL T. DICKENS, a citizen of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Electric Burglar-Alarms; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is an inside view of a door and window, showing my device attached thereto. Fig. 2 is a vertical sectional view of the alarm. Fig. 3 is a front view. Fig. 4 is a side view of the same, and Figs. 5, 6, and 7 are detail views.

The invention relates to improvements in burglar-alarms; and it consists in the construction and novel arrangement of parts hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, A designates one of the alarm or annunciator boxes, all of which are of similar construction, and each of which is connected by circuit to one room or compartment only and has the name of said room marked upon it, as shown in Fig. 4, which shows a box that connects with the parlor, having the word "parlor" marked upon it.

B, Figs. 2 and 3, is a movement similar to a clock-movement within the box, and constructed as follows: Two similar plates, *b b'*, the latter secured to the side of the box A, are connected by posts, so as to form a frame, and provided in the usual manner with bearings for the spring-arbor C, the escapement-wheel arbor D, and the oscillating arbor E, that carry the pallets hereinafter described.

c is the mainspring wound up by a key fitting on the squared end of the arbor C and constructed in the usual manner.

c' is a gear-wheel on the arbor C and rotating therewith as the spring acts, and meshing with a pinion, *c''*, on the arbor D, so as to rotate the escapement-wheel.

ee are pallets attached to the arbor E and vibrated by the rotation of the escapement-wheel suitably.

F is a bent arm standing from the arbor E, passing through a slot, *a*, in the side of the box A, and carrying on its end the ball or hammer *f*.

a' is a bell secured to the outside of the box A in suitable position to be struck by said hammer; and *a''*, Fig. 4, is a hook pivoted to the outside of the box and arranged to engage the hammer-rod F, so as to prevent the same from moving, when desired.

G is an arm standing from the arbor E and having at its end the armature *g*, for the similar electro-magnets, *g' g'*, one of the wires from which run to the binding-post *g''* and the other to the circuit-breaking post *g'''*, to which the circuit-breaking lever *g''''* is pivoted. The said wheel can be turned to connect with or disconnect from the other binding-post, *g''''*, as seen in Figs. 2 and 3. By means of said lever, therefore, the circuit is broken and closed. When the electro-magnets are in circuit, the armature is drawn to them, the arbor E cannot oscillate, and consequently the hammer cannot vibrate and no alarm can be sounded; but when the circuit is broken the armature is released and the movement B, by means of the pallets and escapement-wheel, vibrates the arm F and causes the alarm to sound.

H is an arm passing through a slot, *a*, in the side of the annunciator-box, and *h*, Fig. 4, is a pointer pivoted near its center on the outside of the box, with its lower arm resting against the arm H, the inner end of which is secured to the armature, as shown in Figs. 2 and 3. When the circuit is broken and the armature moves outward, the arm H causes the upper arm of the pointer *h* to move upon the word "parlor" on the side of the box, so that the eye can quickly tell which of the annunciator-boxes have rung.

I is a pivoted lever passing through a slot, *a'*, Fig. 3, in the annunciator-box, and with its inner end resting upon the upper edge of the armature when the circuit is closed. The said lever is made of some non-conducting material, and when the circuit is open it is arranged to fall between the armature and mag-

nets, so that the circuit cannot be lifted till it is raised by hands or otherwise, and the movement B will keep the alarm sounding.

J, Fig. 1, is the circuit-wire from the post j^2 of the annunciator-box A to the door of the room with which the said box is in circuit, and J' is the wire from the binding-post j^5 to the battery J² in the circuit.

K is a wire from the door to the window of the room, and O is a wire from said window to the battery J². The connections of said wires will be hereinafter more fully described. As shown in Fig. 1, the wire J runs to the door-frame on the side thereof, and connects with a plate, j , which is attached to said frame and lies transversely across the same on its edge meeting with the door. j' is a similar plate situated above j , and having the wire K to the window attached to it. The plates j and j' bend around to the outer edge of the frame, and have there the wires J and K secured to them.

j^2 is a plug which passes into an opening in the frame between the outer ends of the plates j, j' , and by impinging on the edge of said plates cuts the door out of circuit. When the said plug is out, the circuit is broken when the door is opened by means of the plate j^3 , secured to the side edge of the door, and which, when the door is closed, lies against and connects the plates j, j' . The circuit being broken when the door is open the alarm is rung.

k, k' , Figs. 1 and 6, are screws which pass through the binding-strip of a window of the room, and have their heads exposed on the outer surface of said strip. The wire K connects with the screw k and the wire O with the screw k' , thus completing the circuit when the screws are electrically connected so as to cut the window out of circuit.

k^2 is a metal strip surrounding the screw k on the inside of the binding-strip and situated in a proper recess, and k^3 is a metal strip the upper end of which surrounds similarly the screw k' . When the screw k is turned with its slot vertical, the free end of the strip k^2 meets the end of the strip k^3 and closes the circuit, so as to cut the window out of circuit. This would be done during the day. When the slot of the screw is horizontal, the screw is in circuit.

L L', Figs. 1 and 7, are metal plates fixed to the inner edge of the window-frame on its front and rear aspects, and situated at a point corresponding to the meeting-rails of the sashes. The screw k' has connection with the plate L by means of the wire l , and the screw k has connection with the plate L' by means of the wire l' .

L² is a transverse spring pivoted centrally

within the window-frame, and which in its normal position has its ends bearing against the edges of the plates L L', so as to electrically connect them.

M is the lower sash having on its edge a staple or projection, m , moving in the vertical groove m' in the window-frame. When the sash is raised, the staple presses the spring L² back, and consequently breaks the circuit. N is the upper sash provided with a similar projection or staple, n , moving in a similar groove, n' , so that when the said sash is lowered the circuit is broken.

The operation of the invention is evident from the foregoing description.

Having described my invention, I claim—

1. The combination of the electro-magnets connected to the outside circuit, the movement B, constructed substantially as described, the pallets actuating the shaft E, the rods F and G, secured to said shaft, and the former carrying the hammer and adapted to strike the bell a' , the armature g , secured to the rod G, and having the rod H secured to it, and the pivoted indicator or pointer h , actuated by the rod H, substantially as specified.

2. The combination of the electro-magnets connected to the outside circuit, the train B, constructed substantially as described, the pallets actuating the shaft E, the rods F and G, secured to the said shaft, and the former carrying the hammer f , adapted to strike the bell a' , the armature g , secured to the arm G, and the pivoted rod or bar I, of non-conducting material, adapted to rest on the upper edge of the armature when the circuit is closed and fall between the armature and magnets when the circuit is open and prevent the same from closing, substantially as specified.

3. The combination of the annunciator A, containing the electro-magnets, the movement B, and the pallets and arms by which the bell is rung, the circuit-wires, and the battery with the circuit-breaker composed of the plates L L' and spring L², secured to the window-frame, and the staples m, n , secured respectively to the edges of the lower and upper sashes, substantially as specified.

4. The combination, with the battery and circuit-wires, arranged substantially as described, of the cut-off composed of the screws k, k' and metal strips L L', substantially as specified.

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

SAMUEL T. DICKENS.

Witnesses:

GALEN SPENCER,

D. A. LOOSE.