

J. YOUNG.

ELECTRIC SIGNALING APPARATUS.

No. 396,795.

Patented Jan. 29, 1889.

Fig. 2.

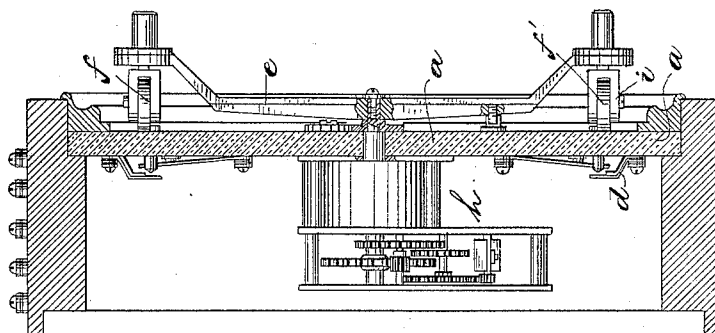
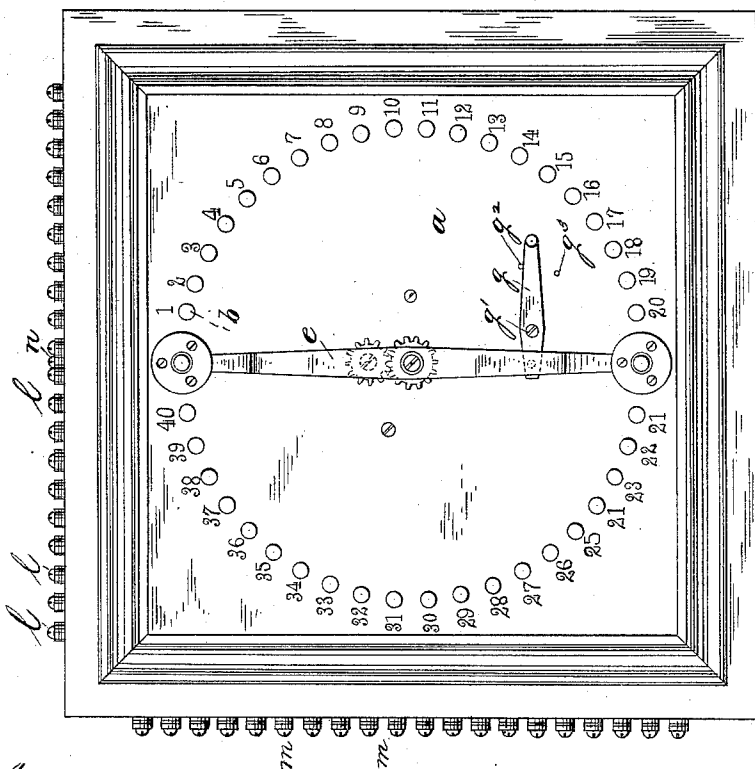


Fig. 1.



Witnesses.

Henry Trautman.
Sam B. Dover.

Inventor.

John Young.
per George P. Barton
Attorney.

(No Model.)

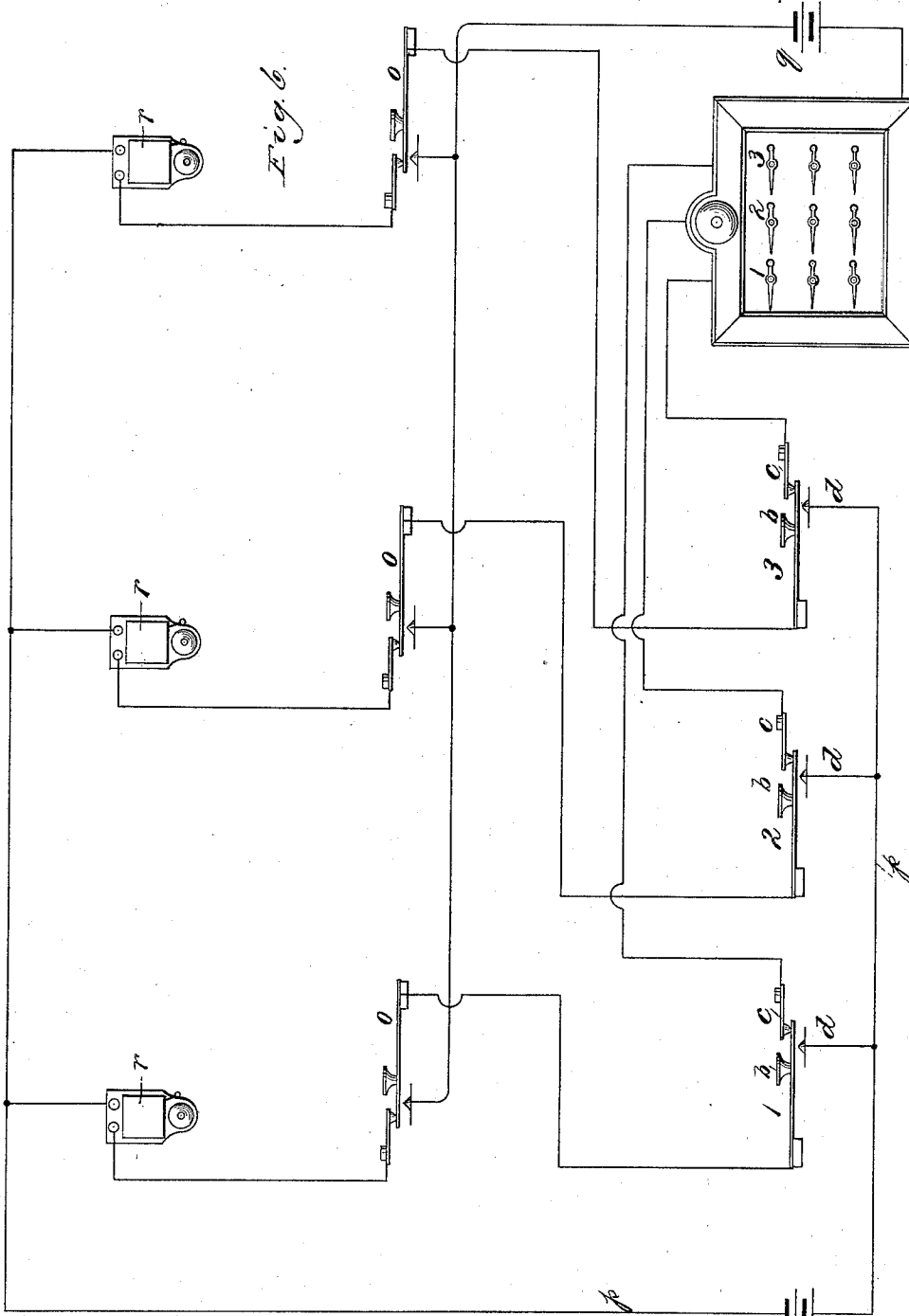
3 Sheets—Sheet 3.

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Witnesses.

Henry Thompson.
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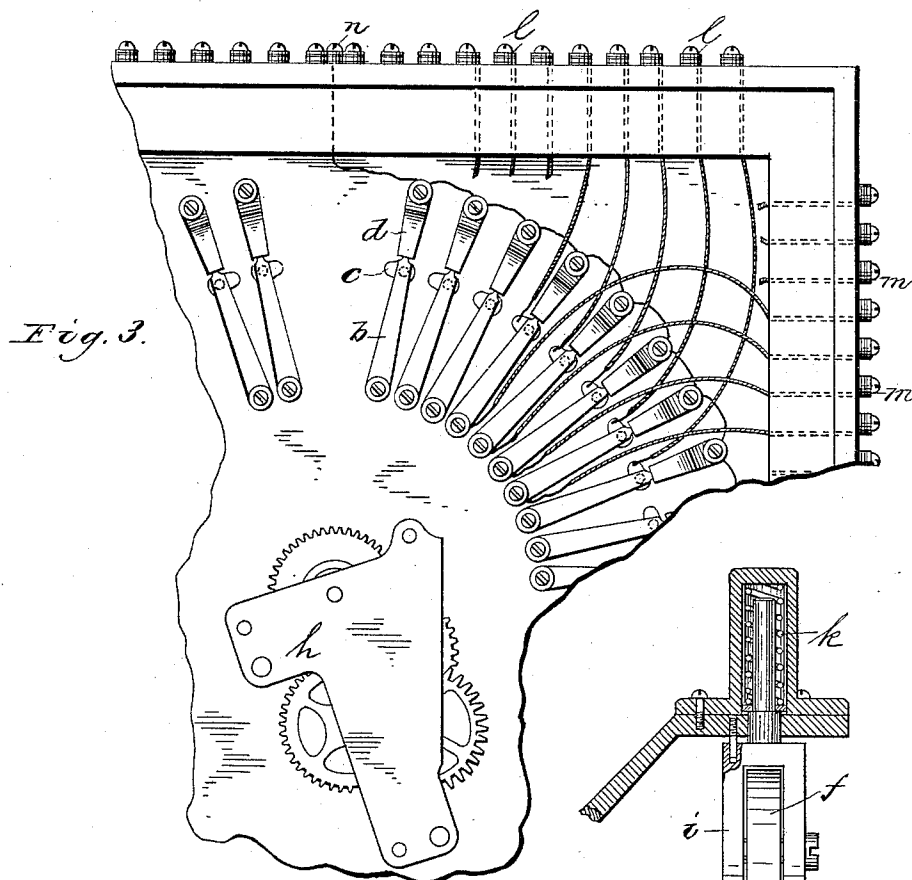


Fig. 5.

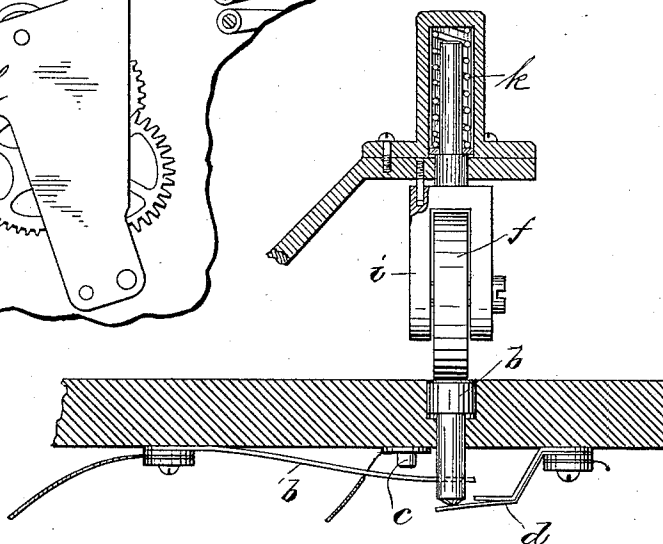
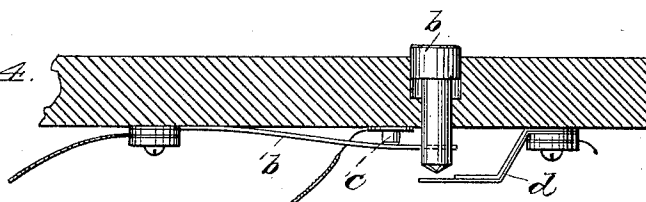


Fig. 4.



Witnesses.

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Inventor.

John Young.
per. *Geo. A. Barton*
Attorney.

UNITED STATES PATENT OFFICE.

JOHN YOUNG, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

ELECTRIC SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 396,795, dated January 29, 1889.

Application filed July 18, 1884. Serial No. 138,011. (No model.)

To all whom it may concern:

Be it known that I, JOHN YOUNG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
5 invented a certain new and useful Improvement in Electric Signaling Apparatus, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part
10 of this specification.

My invention relates to electric apparatus for sending signals; and its objects are to enable the clerk at a hotel to answer back when a guest calls, to summon a guest at any time,
15 and in case of fire or other danger to ring the bells successively in the different rooms.

My invention consists in a dial placed in the office of the hotel and a bell in each of the rooms, in combination with circuits, as herein
20 described and claimed.

The apparatus which I have devised is of great utility, either alone or in connection with the hotel-annunciator systems now in use.

In the drawings, which are illustrative of
25 my invention, Figure 1 is a front elevation of my dial provided with forty signaling-keys. Fig. 2 is a transverse vertical sectional view. Fig. 3 is a rear view of a portion thereof. Fig. 4 is a detailed view of one of the keys in its
30 normal position. Fig. 5 is a detailed view of the same depressed and of one of the wheels carried by the arm or pointer of the dial. Fig. 6 is a diagram illustrative of the circuits as used in connection with hotel-annunciators.

35 I will now describe the dial as shown in Figs. 1, 2, 3, 4, and 5. The front *a* of the dial is preferably of hard rubber. The push-keys 1 2 3, &c., are arranged in a circle upon the face of the dial, and are preferably marked
40 consecutively, as shown. The lever *b* of the key, as shown in Fig. 4, may be connected permanently with the circuit-wire. The point *c* may be connected with the wire leading to the annunciator, while the point *d* is connected
45 with the battery. The arm or hand *e*, which carries the wheels *f f'*, is normally held in the position indicated in Figs. 1 and 2 by the stop *g*. This stop *g* is pivoted at *g'*, and may be moved between the pins or stops *g² g³*.
50 This arm, when released by moving the stop

g, is set in motion by the clock-work *h*, and is carried about the dial. The wheels as they come successively upon the keys *b* depress the said keys, as indicated in Fig. 5. The lever *b* of the key is thus disconnected from the point
55 *c*, which leads to the annunciator, while a new connection is made between the lever *b* and the point *d* of the battery.

As shown in Fig. 5, the wheel *f* is carried by the bearing *i*, a uniform pressure being maintained between the wheel and the dial by the
60 spring *k*.

Any one of the keys *b* may be depressed by the finger, or they may be depressed successively by causing the arm *e* to revolve. By
65 providing two wheels *f f'*, one on each end of the arm, it is evident that each key will be depressed twice at each complete revolution of the arm, and the arm will keep turning until the force of the clock-spring is spent.
70

The clock-work may be wound up by simply taking hold of the arm *e* and turning it backward. The clock-work is desirable, though it is evident that the pivoted arm *e*
75 might be moved by hand without the aid of the clock-spring. It is evident, also, that a single arm might be used in place of the double arm *e*, and instead of a wheel a beveled piece with a smooth surface might be carried at one
80 or both ends of the arm to close successively the contact-points.

The binding-posts *l* of points *c* are shown upon the top of the case of the dial. The binding-posts *m* of points *b* are shown upon the
85 side thereof.

The binding-post *n* of the points *d* is shown upon the top of the case, as indicated in Figs. 1 and 3.

In Fig. 6 I have shown a diagram of the circuits from three different rooms, 1 2 3, connected with the annunciator at the hotel-office
90 and with keys which are marked to correspond with the keys of my dial. Thus each lever *b* is connected with a key, *o*, of one of the rooms. The points *c* are each connected with a different
95 number of the annunciator and the points *d* are connected with the battery-wire *p*.

A guest at any one of the rooms by depressing his key *o* closes the circuit of the battery
100 *q* through the number of the annunciator of

the room in the usual manner. The clerk on seeing the indication can, by depressing the key *d* of the dial connected with the room, send an answer-back call, ringing the bell *r* of the guest. These keys *b* are arranged, preferably, in a circle, as shown in Figs. 1 and 3, so that the clerk may, by turning the arm which is pivoted at the center of the circle of keys, depress the said keys successively by simply turning the arm, setting the same in motion by clock-work, or otherwise.

By reference to Fig. 6 it will be seen that I have a double-contact circuit-closer and an electric bell in each room and an annunciator and double-contact circuit-closer at the hotel-office or central station with two distinct batteries, so that there will be no electric current through the annunciator-coils in making a return signal from the office to the room. It will thus be seen that a call may be sent from the office to ring the bell in any given room while a signal at the same time is being sent from another room to the annunciator at the office, and the signals may be sent back and forth without interference. When the arm carrying one or more pressers is set in motion, the double-contact closers *b b*, &c., are, one after another, separated from their contact-points *c c*, &c., and momentarily closed upon points *d d*, &c., respectively, as before described.

I preferably use only two pressers or wheels, *f*, upon the arm, so that the bells may be rung with, say, about four cells of Leclanché battery.

35

I claim—

1. The combination, with the wheel or presser *f*, of a series of keys or levers, *b*, normally closed against corresponding contact-points, *c*, and the clock-work and the contact-points *d* of the battery-circuit, whereby the keys or levers *b*, respectively, are disconnected momentarily from their normal contact-points and connected successively to the battery-circuit as the wheel or presser is brought against the said keys or levers, substantially as and for the purpose specified.

40

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2. The combination, with the dial, of a series of double-contact keys and their contact-points, the arm *e*, operated by clock-work, and provided with a wheel or presser at each end, whereby the keys are depressed successively as the arm is rotated by the clock-work, substantially as and for the purpose specified.

50

In witness whereof I hereunto subscribe my name this 10th day of July, A. D. 1884.

55

JOHN YOUNG.

Witnesses:

GEORGE P. BARTON,
HARRISON P. NICHOLS.