

(No Model.)

2 Sheets—Sheet 1.

J. YOUNG.

FIRE ALARM AND INDIVIDUAL ELECTRIC CALL.

No. 503,187.

Patented Aug. 15, 1893.

Fig. 1.

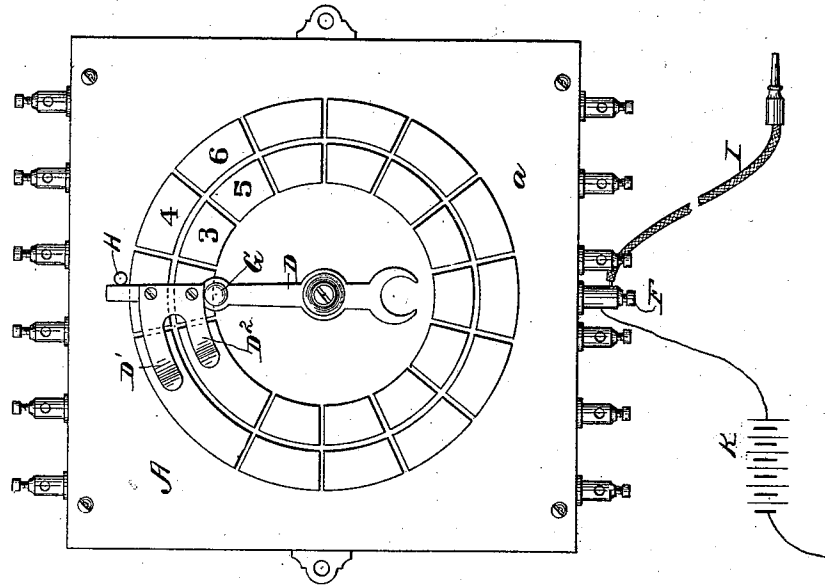


Fig. 2.

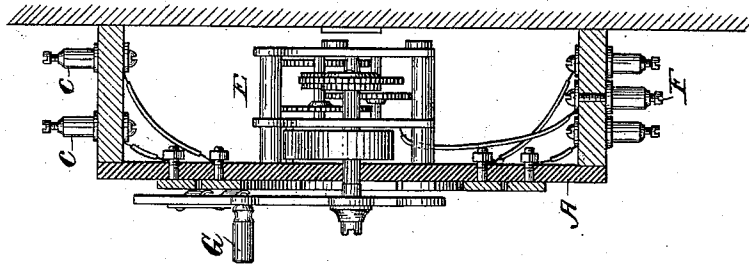
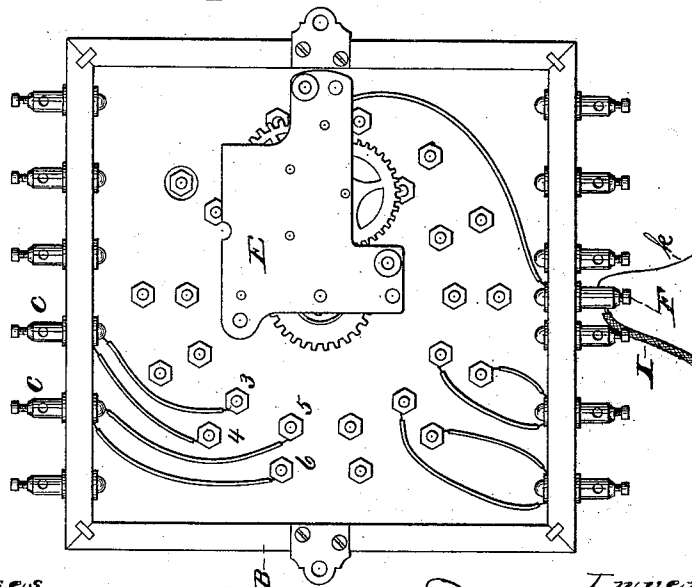


Fig. 3.



Witnesses.

Henry Thompson
W. L. Baker

Inventor.

John Young
Per. *George W. Barton*
Attorney

(No Model.)

2 Sheets—Sheet 2.

J. YOUNG.

FIRE ALARM AND INDIVIDUAL ELECTRIC CALL.

No. 503,187.

Patented Aug. 15, 1893.

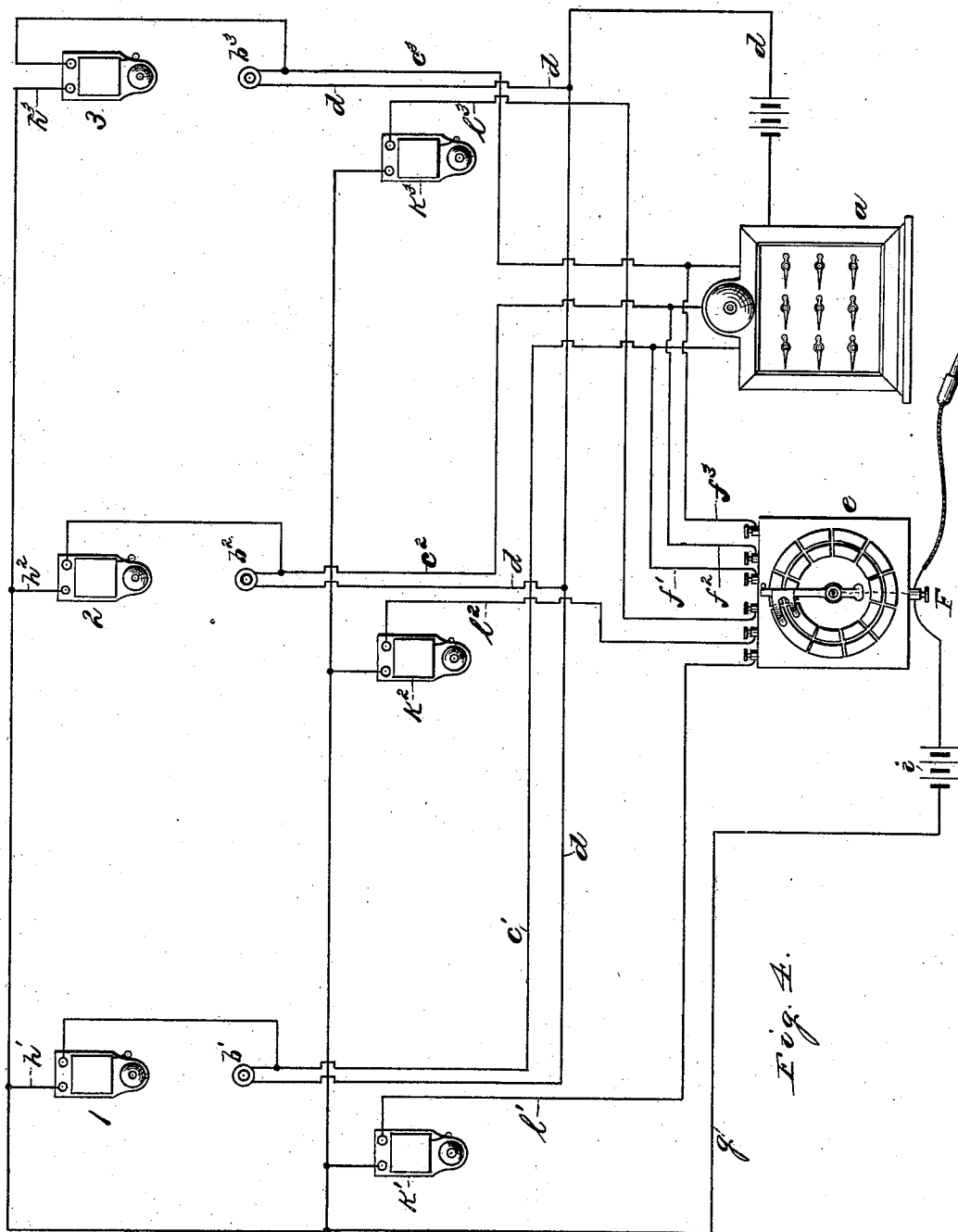


Fig. 4.

Witnesses.

Inventor,

Henry Frankfort.
Saml P. Dover.

John Young.
per. George R. Barton
Attorney.

UNITED STATES PATENT OFFICE.

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

FIRE-ALARM AND INDIVIDUAL ELECTRIC CALL.

SPECIFICATION forming part of Letters Patent No. 503,187, dated August 15, 1893.

Application filed July 18, 1884. Serial No. 138,010. (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 Fire-Alarm and Individual Electric Calls, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming
10 a part of this specification.

In hotels it is common to connect the different rooms with an electric annunciator at the office so that a guest desiring a messenger
15 may by simply pushing a key summon a bell boy. Such systems are in use in substantially all first class hotels.

My invention herein consists of an automatic circuit closing dial, a bell at each of the
20 rooms and circuits, as hereinafter described, to be used in connection with the annunciator call systems heretofore in use.

The objects of my invention are to enable the clerk at the office to send an answer back
25 call to any room, and in case of fire to turn on a general alarm and ring the bells in the different rooms successively, and keep them ringing at intervals, as long as may be necessary.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my automatic circuit closing dial. Fig. 2 is a sectional view
30 thereof, and Fig. 3 is a rear view of the same. In Fig. 4 I have shown a diagram illustrative of the circuits and connections as used with the hotel annunciator calls heretofore in use.

I will first describe my automatic circuit closing dial as shown in Figs. 1, 2, and 3. The
40 plate A is preferably of hard rubber mounted upon the frame B. The segments or terminals 3, 4, &c., are insulated from each other, and secured to the plate or front A, preferably by bolts, as shown in Figs. 2 and 3. The
45 binding posts c are each connected to a different segment, as shown in Fig. 2. These binding posts are most conveniently mounted upon the upper and lower sides of the frame as shown. The terminal segments should be placed in rings upon the face of the dial.
50 The circuit closer D is provided with contact springs D', D², which are so placed as to bear

upon the different contact segments as the circuit closer moves around the face of the dial. I have shown two rings of terminal segments only, but it is evident that the number
55 of rings, as well as the number of terminal segments in each ring, may be varied so that each of the rooms of a very large hotel may be provided with its special terminal upon the dial. It is also evident that two or more
60 dials may be used in the same system when a very large number of rooms are to be connected. At least one contact point must be provided upon the circuit closer for each series of terminals.
65

I have found it convenient in very large dials to extend the circuit closer clear across the dial, and provide an additional set of contact points thereon so that each terminal may
70 be closed twice at each revolution of the circuit closer. The circuit closer D is connected with the battery wire preferably through the medium of the clock work E and the connection to binding post F, as shown in Figs. 2
75 and 3. The clock work may be of any well known construction, and is wound up by simply turning the circuit closer or hand D backward, which may be done by means of the handle or knob G. The circuit closer is held
80 in place by the pin H, as shown in Fig. 1. By simply removing this pin the circuit closer will be released, and will continue to revolve until the pin is again inserted, or until the force of the clock spring is spent. By means
85 of the flexible branch conductor I, provided with the terminal point, any one of the segment terminals 2, 3, &c., may be closed to the battery wire K.

I will now describe my invention as illustrated in Fig. 4. The annunciator a is placed
90 in the office of the hotel, and is connected in the usual way with the push keys b¹, b², b³, of the different rooms by circuit wires c¹, c², c³, &c., and battery wire d. By closing any one of the push keys, the battery circuit is closed
95 through a corresponding number of the annunciator. A guest in any room is thus enabled to call a messenger in the usual manner. I have combined with this annunciator system my automatic circuit closing dial e, with circuits f¹, f², f³, branching to the different
100 annunciator circuits and the battery wire g ex-

tending to the different rooms, and connected with branches or extensions from the different circuit wires and bells 1, 2, 3, one in each room included in said branches or extensions
 5 h' , h^2 , h^3 , connecting the battery wire g with the circuit wires. By closing the circuit of the battery i at dial e through the bell of any guest who has signaled for a messenger an answer back call may be sent to notify the
 10 guest that his call has been received. In case of fire the circuit closer of the dial may be released and allowed to revolve thus ringing at intervals the bells in the different rooms. The bells k' , k^2 , k^3 , may be placed in the circuits l' , l^2 , l^3 , branching from the battery wire
 15 g and each extending to a different terminal upon the dial. These bells may be distributed in the halls or in other parts of the hotel or building, and used for fire alarm purposes in connection with the other parts of the system, as herein described.

It is evident that a very large number of bells could not be rung simultaneously by a battery of moderate size, but by ringing the
 25 bells successively at intervals a general alarm may be rapidly sounded throughout a very large building from a battery of moderate electro motive force.

It will be seen that my system of fire alarm and individual calls may be readily placed in
 30 hotels without disturbing the annunciator systems already in use, and that the two systems may be combined with economy.

I claim—

35 1. The combination with different bell circuits, of terminal segments, one for each bell circuit, arranged in a circle or series of concentric circles, a source of electricity to one side of which the bell circuits are connected
 40 in multiple, a circuit closer connected to the other side of said source of electricity and adapted to move over said terminal segments to consecutively close said source of electricity through said bell circuits, and to consecutively open the same whereby a general
 45 alarm may be sounded without unduly tax-

ing said source of electricity by consecutively ringing said bells; substantially as described.

2. The combination with different bell circuits, of terminal segments, one for each bell circuit, arranged in a circle or series of concentric circles, a source of electricity to one side of which the bell circuits are connected in multiple, a circuit closer connected to the other side of said source of electricity and
 55 adapted to move over said terminal segments, a clock mechanism for moving said circuit closer, a stop normally in the path of said circuit closer adapted when removed from said path to permit the circuit closer to pass over
 60 the terminal segments to close the bell circuits consecutively and to consecutively open the same, whereby said bells may be rung consecutively and one at a time to sound a general alarm without unduly taxing said
 65 source of electro-motive force; substantially as described.

3. In a combined calling and alarm sounding apparatus, the combination with the annunciator placed in the office and connected
 70 with push buttons in the different rooms by circuit wires, of branches, one from each of said circuit wires having their terminals arranged in a circle or series of concentric circles, branches from said circuit wires through
 75 bells situated in the respective rooms to a common battery wire, a battery and a terminal of said battery wire mounted upon a flexible cord to close a circuit through a bell to sound an answer back call, a contact closer
 80 held in position by a stop and connected to said battery wire, and adapted, when the stop is removed, to consecutively close said circuits through the bells to sound a general alarm without unduly taxing the battery,
 85 substantially as described.

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

JOHN YOUNG.

Witnesses:

GEORGE P. BARTON,
 HARRISON P. NICHOLS.