

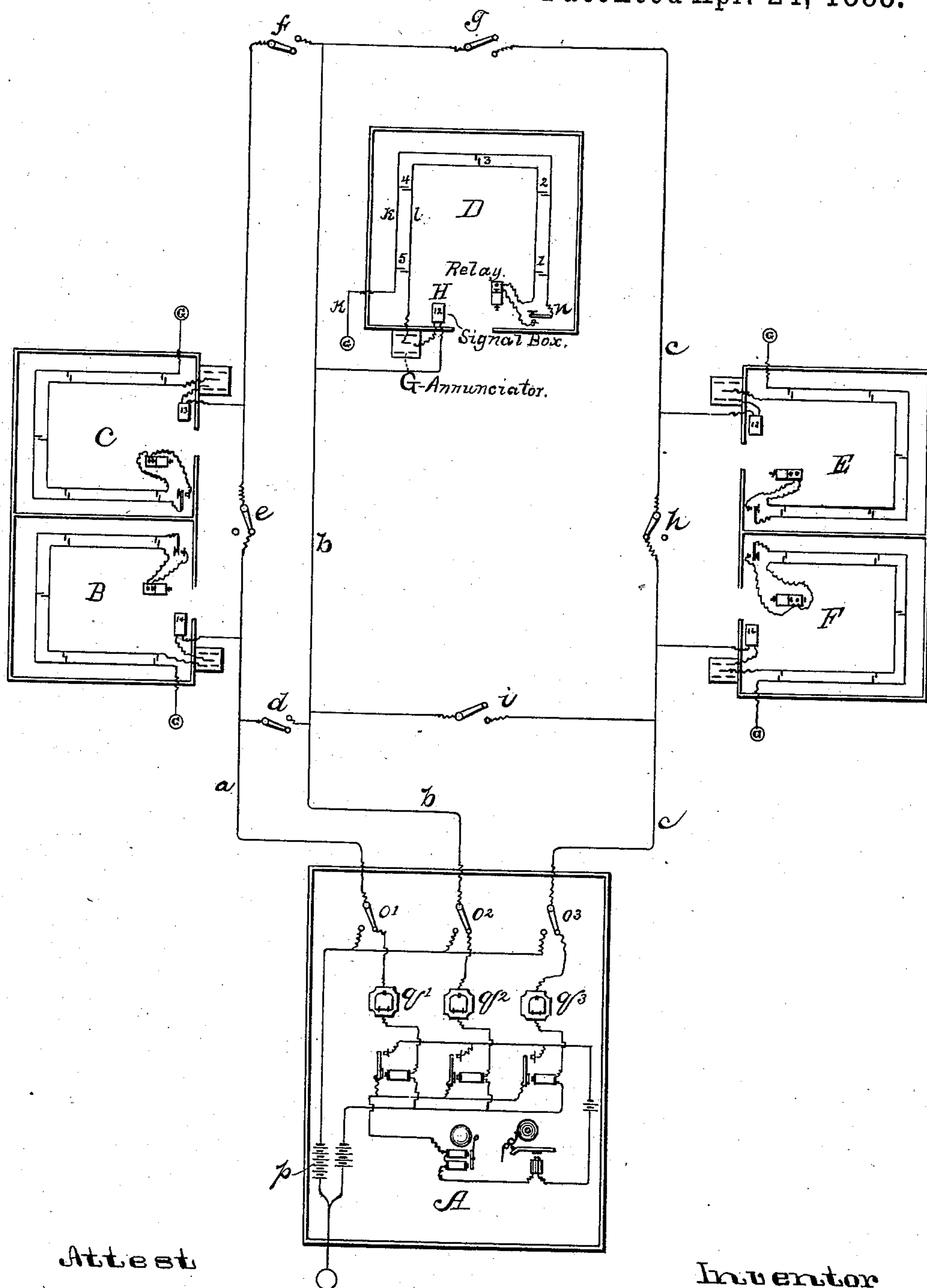
(No Model.)

J. YOUNG.

AUTOMATIC FIRE ALARM SYSTEM.

No. 381,896.

Patented Apr. 24, 1888.



Attest

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UNITED STATES PATENT OFFICE.

JOHN YOUNG, OF CHICAGO, ILLINOIS.

AUTOMATIC FIRE-ALARM SYSTEM.

SPECIFICATION forming part of Letters Patent No. 381,896, dated April 24, 1888.

Application filed April 28, 1884. Serial No. 129,666. (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 Systems, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.
10

It is common in cities to connect different buildings with a central office by means of electric circuits and apparatus so arranged that in case of fire in any building the circuit
15 will be automatically closed by the heat, so as to give a signal at the central station which indicates the location of the fire.

My invention herein described relates to these fire-alarm systems; and it consists in the
20 combination hereinafter claimed.

My invention is illustrated in the accompanying drawing, which is a diagrammatic view.

The central station, A, is connected with the
25 different buildings B C D E F by normally-open fire-alarm circuits. Buildings B C are shown connected with circuit *a*, building D with circuit *b*, and buildings E and F with circuit *c*. These circuits are normally open
30 and are provided with switches *d*, *e*, *f*, *g*, *h*, and *i*, so that any building may be cut off from the system or connected from one branch of the system to another, as may be desired.

As shown at building D, an annunciator, G, may be placed in any convenient position upon the building and provided with a number or indicator for each room, floor, or section thereof.
35

An automatic fire-alarm box, H, preferably
40 of the form shown in my application No. 122,659, filed March 1, 1884, is included in the circuit of the building, as shown. This box is so constructed that if the circuit is closed at any of the thermostats 1 2 3 4 5 a
45 specific signal will be sent and registered at the central office. The normally-open ground-circuit K is connected with one side of each of the thermostats. The branch *l* of the signal-circuit is connected with the other sides or
50 terminals of the thermostats. The relay, which

is preferably of about five hundred ohms resistance, is placed in the branch *l* back of the thermostats. By means of the key *n* the circuit may be closed through the relay for testing, and since the resistance of the said relay
55 or sounder is very high the other apparatus in the circuit will not be disturbed by closing the circuit through the sounder. If the circuit is complete the armature of the sounder will be attracted when the key is closed. I am thus
60 enabled to test out the different circuits of a building, while the normal connections remain undisturbed, without sending in signals.

In case of a fire it may be necessary to disconnect a building from the system. This is
65 accomplished by the switches *d e f g h i*. Thus by opening the switch *e* and closing the switch *f* building C may be readily disconnected from line *a* and connected to line *b*.

I will now describe the apparatus at the
70 central office more in detail.

The switches *O' O² O³* are placed, respectively, in the lines *a b c*, and are used for connecting said lines with the testing-battery *p*, which is provided at the central office. Thus,
75 suppose trouble be found upon the circuit *a*. The repairer, by changing switch *O'*, disconnects the circuit *a* from the central-office signal apparatus, and makes a new connection with testing-battery *p*, one pole of said testing-
80 battery being connected with the ground at the patrol-station, as shown. He is thus enabled to trace out the trouble and make the necessary repairs without interfering with other circuits or the signal apparatus at the
85 central office. The annunciators *q' q² q³* are placed in the normally-open circuits *a b c*, as shown. In case any circuit is accidentally grounded or crossed between the central station and a building, the annunciator drop or
90 needle of said circuit will be thrown down or turned, thus indicating the circuit which needs repair. In such case the relay at the central station in the circuit will be closed and the register will be set in operation without giving
95 a specific signal. The thermostats are preferably mercury-bulbs; any other well-known thermostat may be used. For clearness I here show metallic thermostats. The thermostats are set to operate at such a degree of tempera-
100

ture as may be suited to the surrounding conditions. Ordinarily they are set so that they will close the circuit when the temperature rises to 125° Fahrenheit. The closing of the
5 circuit at one thermostat of the building sets the brake-wheel of the signal-box H in motion. The specific signal will thus be sent in and recorded upon the register, while at the same time the single-stroke bell included in
10 the local circuit with the register will strike the number of the box. The particular room, section, or floor of the building will be indicated on the annunciator G, and after the signal has been repeated, preferably twice, the
15 brake-wheel will be arrested before it has quite completed a revolution, thus leaving the circuit open, as described in my application No. 95,621, filed May 21, 1883.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 20

In an automatic fire-alarm system, a sounder of high resistance permanently placed at the terminal of a circuit of a building back of the thermostats, and a key permanently connected with the circuit for closing said circuit 25 through said sounder, whereby a test may be made to determine whether the circuit is complete without operating the signal apparatus included in said circuit.

In witness whereof I hereunto subscribe my name this 3d day of April, A. D. 1884. 30

JOHN YOUNG.

Witnesses:

GEORGE P. BARTON,
H. O. STILLWELL.