

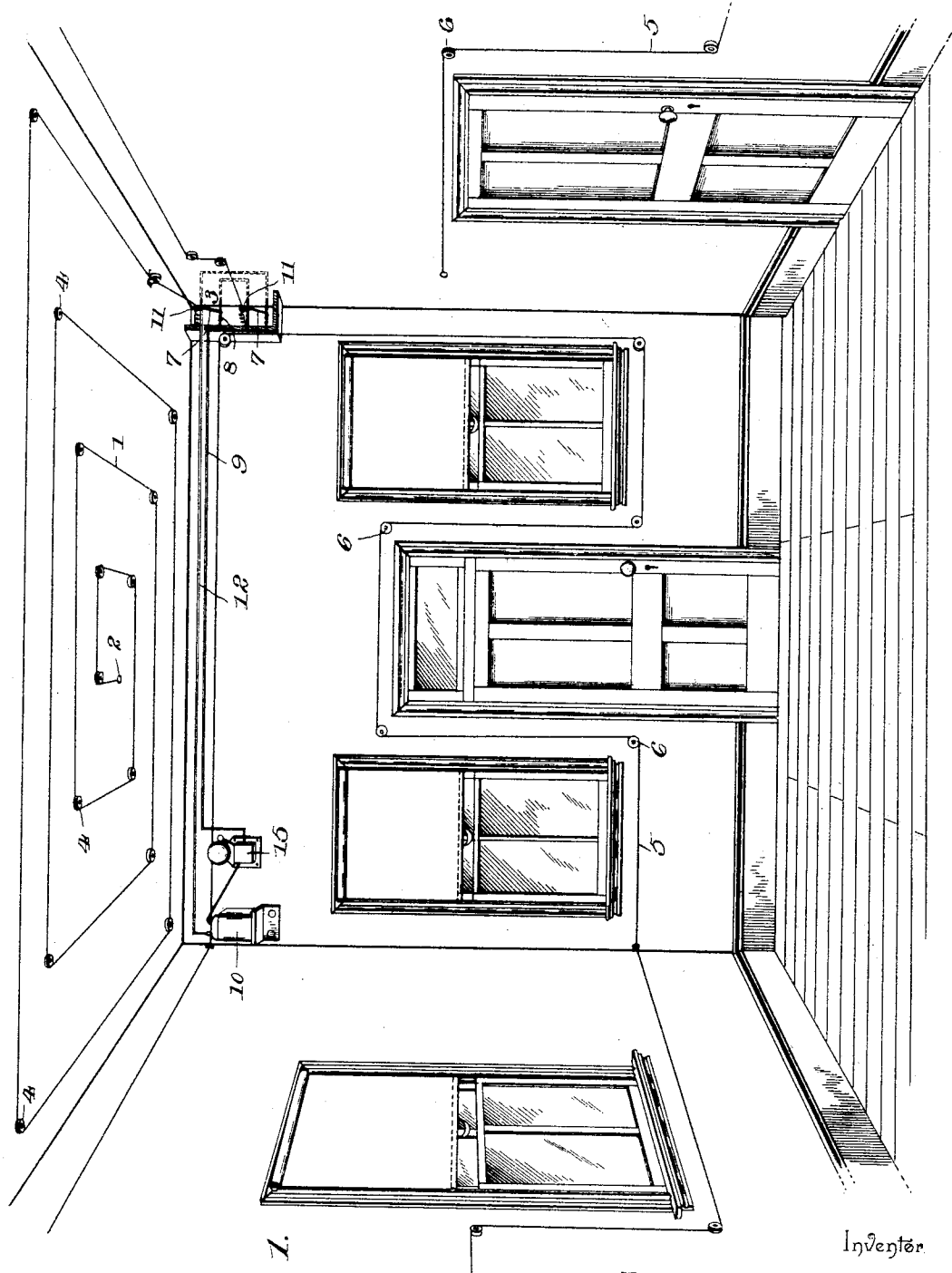
(No Model.)

2 Sheets—Sheet 1.

J. R. McCOY
FIRE ALARM.

No. 542,775.

Patented July 16, 1895.



Witnesses

Chas. A. Ford.

[Signature]

Fig. 1.

By his Attorneys.

Josiah R. McCoy.

[Signature]

Inventor

(No Model.)

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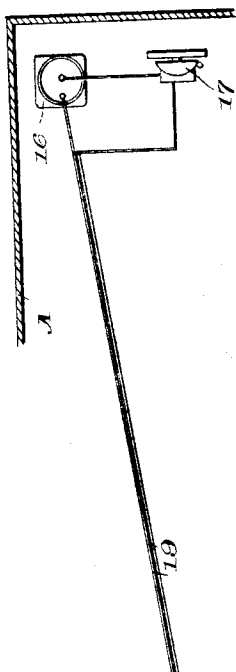


Fig. 2.

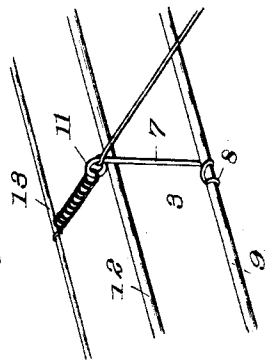


Fig. 3.

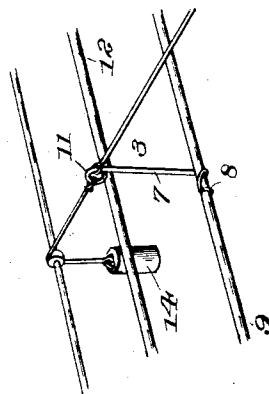
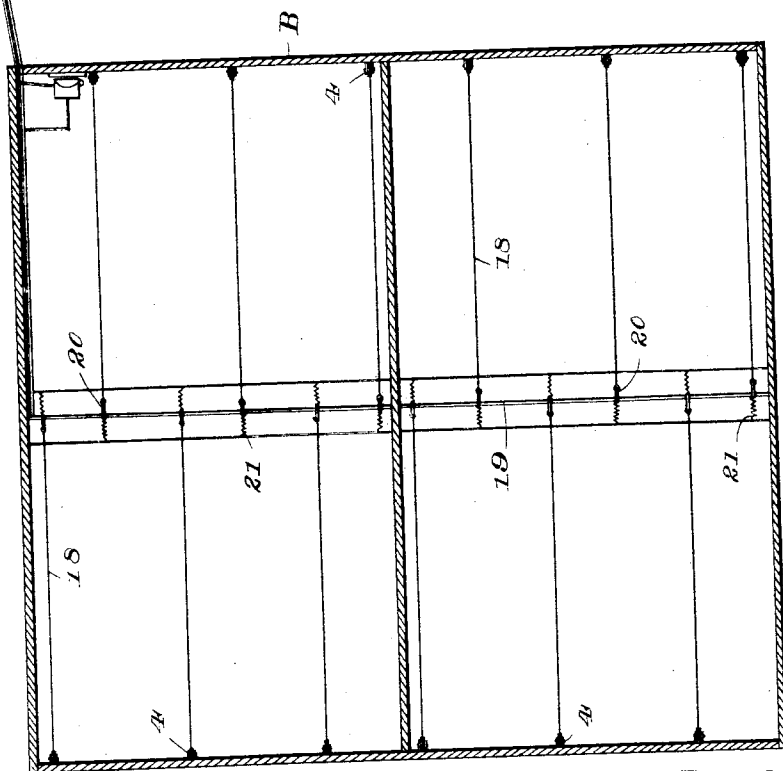


Fig. 4.



Inventor.

Josiah R. McCoy,

Witnesses

Chas. A. Ford.

[Signature]

By his Attorneys.

[Signature]

UNITED STATES PATENT OFFICE.

JOSIAH R. MCCOY, OF MARSHALLTOWN, IOWA.

FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 542,775, dated July 16, 1895.

Application filed April 3, 1895. Serial No. 544,320. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH R. MCCOY, a citizen of the United States, residing at Marshalltown, in the county of Marshall and State of Iowa, have invented a new and useful Fire-Alarm, of which the following is a specification.

My invention relates to fire-alarm systems adapted for use in dwellings, warehouses, office buildings, &c.; and the object in view is to provide a simple and efficient device embodying a combustible lead, consisting of a thread or its equivalent, extending continuously throughout a room or building in positions liable to be first attacked by fire and connected with an alarm mechanism, which is held in its inoperative position by the lead and when released by the severance of the lead at any point announces the existence of fire, such alarm mechanism being placed either in the building supplied with the system, in an adjacent building, as that of the custodian of the protected building, or in a central alarm-station, or in any or all of the above, to announce the fact of the existence of fire at a number of points simultaneously.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of the interior of a room provided with a fire-alarm system constructed in accordance with my invention. Fig. 2 is a detail view in perspective of a circuit-closing mechanism forming a part of the improved alarm system, in which springs are employed to preserve the proper tension in the leads and upon the severance of a lead bring the circuit-closer into position to close the circuit. Fig. 3 is a similar view showing a circuit-closing mechanism in which weights instead of springs are employed for closing the circuit. Fig. 4 is a plan view in diagram showing the arrangement of the leads, circuit-closers, alarms, and battery when the alarm is to be sounded at a point remote from the building supplied with the system.

Similar letters and numerals of reference indicate corresponding parts in all the figures of the drawings.

A continuous lead 1 is preferably arranged upon the ceiling of a room or apartment, with one end fixed, as shown at 2, and the other end connected to a circuit-closer 3, which is preferably located at a convenient point—as, for instance, adjacent to a wall of the room—the intermediate portions of the lead being supported by and extending around suitable direction-pulleys or keepers 4. In this way a network, as shown in the drawings, may be formed upon the ceiling of a room and in position to be attacked by fire occurring therein, said lead being formed of thread, silk, or similar combustible material. In the same way continuous leads 5 are arranged on the side walls of the room, preferably extending around and close to the various door and window openings, suitable direction-pulleys 6 being employed for causing the necessary bends or angles in the leads, and one end of each lead is attached to a circuit-closer, such as that mentioned in connection with the leads for the ceiling.

Fig. 1 illustrates an effective arrangement of leads for protecting the various exposed points of a room, or those points likely to be first attacked by fire occurring therein, and in said figure a single continuous lead is employed for the four walls of the room, (three only of which are shown,) the free end of such lead being connected to a different circuit-closer from that to which is attached the extremity of the lead 1. In the same way these leads may be extended to other rooms of the building and in each of the rooms the requisite number of circuit-closing devices may be arranged.

In Figs. 2 and 3 I have shown circuit-closers constructed in accordance with my invention, the same consisting of a link 7 provided at its lower end with an eye 8, which is swiveled upon a wire 9 forming one leg of an electric circuit and in circuit with the battery 10, and the other end of said link being provided with an eye 11 by which connection with the free end of the lead 1 is made, said last-named extremity of the link being adapted to be brought into contact with a second wire 12 forming the other leg of the circuit in which said battery is arranged. Any suitable means for moving the free end of the link toward, to bring it in contact with, the second leg of

the conductor may be employed, in Fig. 2 a coiled spring 13 being shown and in Fig. 3 a weight 14 being indicated, said lead, which is attached to the link, normally holding the latter out of contact against the tension of the spring or the tendency of the weight. It is obvious that when the lead which is attached to this link is severed at any point the link is free to be actuated by the spring or weight and is thereby brought into contact with the second leg of the conductor to complete the circuit with the battery and thus actuate the alarm bell or bells, also arranged in the circuit, such alarm-bells being indicated at 15.

From the above description it will be seen that the combustible leads which are arranged in the exposed parts of a room or building are connected, respectively, with circuit-closers located at convenient points to connect the electrical conductors and thus complete the circuit; but it is equally obvious that this circuit may be of any desired extent to communicate with alarm mechanisms located in each room or in a particular room or part of the building or located at a remote point or points, as the residence of the custodian or the proprietor of a building or a fire-alarm station.

In Fig. 4 I have shown an arrangement of the alarm system in which the battery 16 and an alarm-bell 17 are arranged in a residence or lodge A, which is located at a point remote from the building B, which is supplied with leads and connections for disclosing the existence of fire, a plan view of the building B, with the general arrangement of the leads 18, circuit-wires 19, circuit-closers 20, and springs 21, being shown. An alarm mechanism 22, also in circuit with the battery, is arranged in the protected building.

It is obvious that I desire to protect the roof and chimneys of a building in a manner similar to that above described with relation to the door and window openings and other parts of the interior, the same general method being followed throughout.

Various changes in the form, proportion,

and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a fire alarm system, the combination with an electrical conductor in circuit with a battery, and an audible alarm mechanism, the legs of the conductor extending in parallel lines and being disconnected, of combustible leads arranged adjacent to exposed parts of a building, circuit closers having links pivoted upon one of the legs of the conductor and connected at their free ends, respectively, to the leads, and means for moving the free ends of the links into contact with the second leg of the conductor, the links being normally held out of contact with said second leg of the conductor by the tension of the leads, substantially as specified.

2. In a fire alarm system, the combination with an electrical conductor in circuit with a battery, and an audible alarm mechanism, the legs of the conductor extending in parallel lines and being disconnected, of circuit closers comprising links provided at their extremities with eyes, the eye at one end of each link being swiveled upon one leg of the conductor, continuous combustible leads arranged at the exposed points of a building and attached at their free ends, respectively, to the eyes at the free ends of the links, whereby said free ends are held out of contact with the other leg of the conductor, and means for normally straining the free end of the link toward the conductor in opposition to the resistance of the lead, whereby the leads are held under tension, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSIAH R. MCCOY.

Witnesses:

JOHN D. VAIL,

JOHN W. MARION.