

No. 671,350.

Patented Apr. 2, 1901.

J. H. McCracken.
ALARM SYSTEM.

Application filed Nov. 23, 1900.

(No Model.)

2 Sheets—Sheet 1.

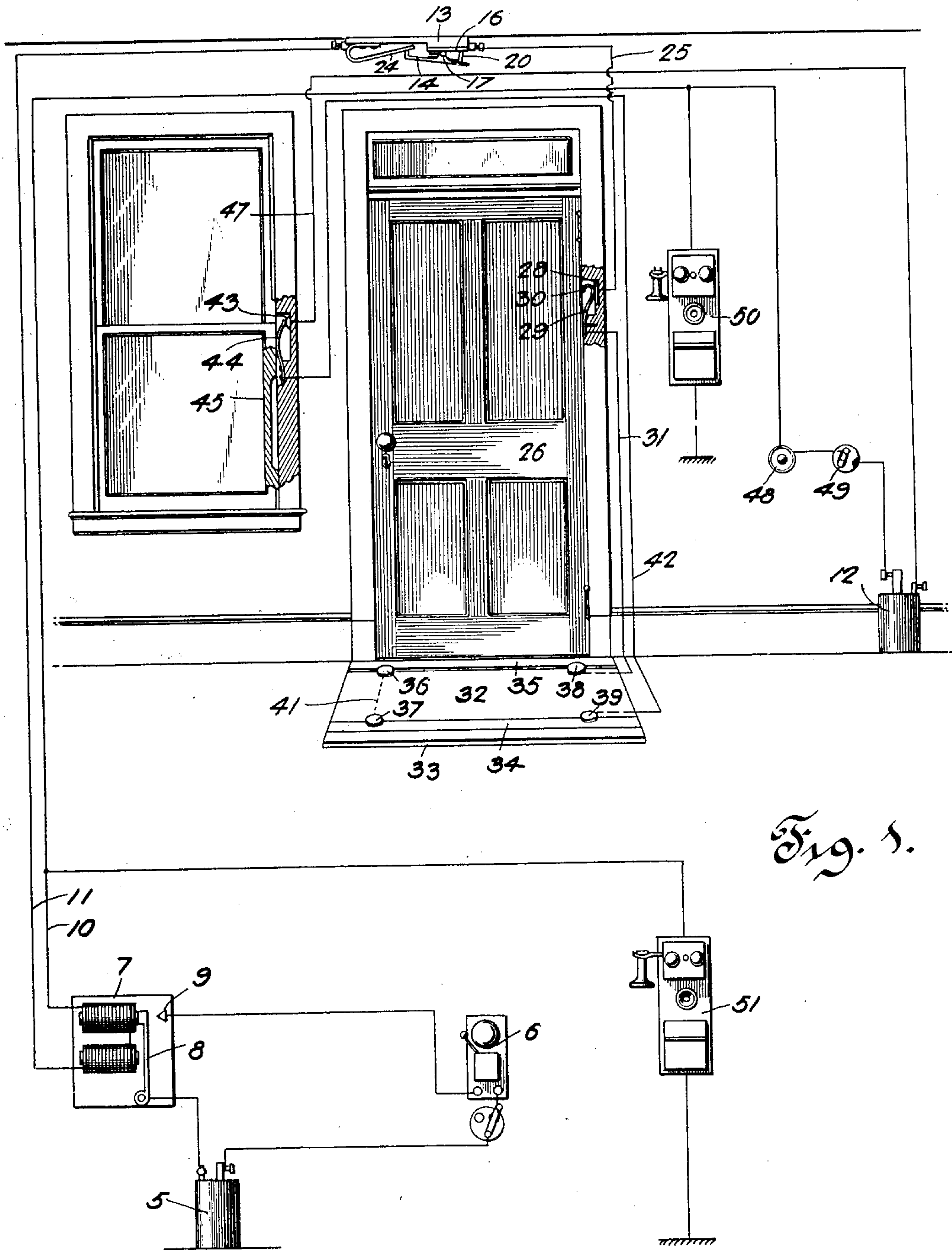


Fig. 1.

Witnesses

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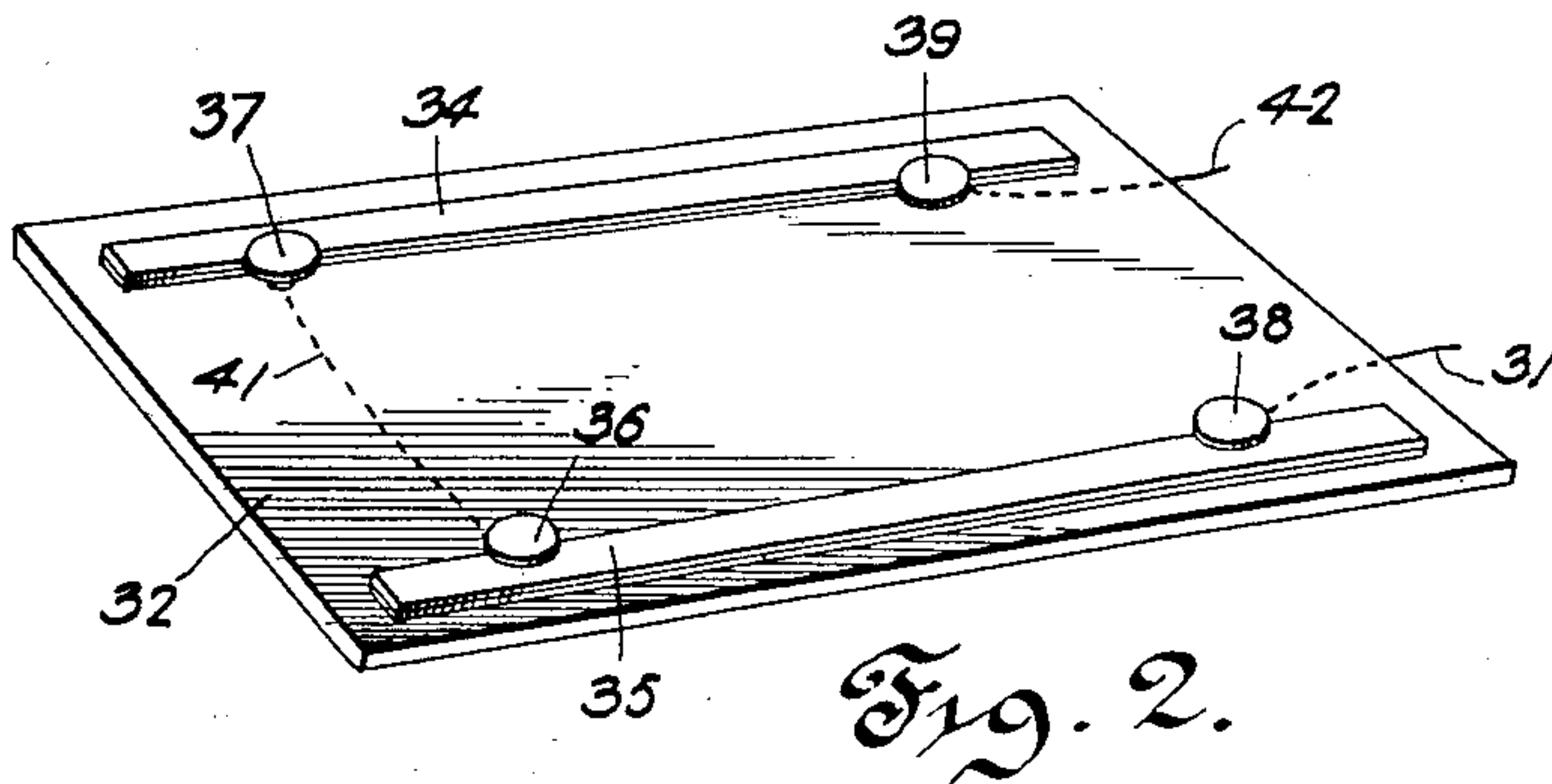


Fig. 2.

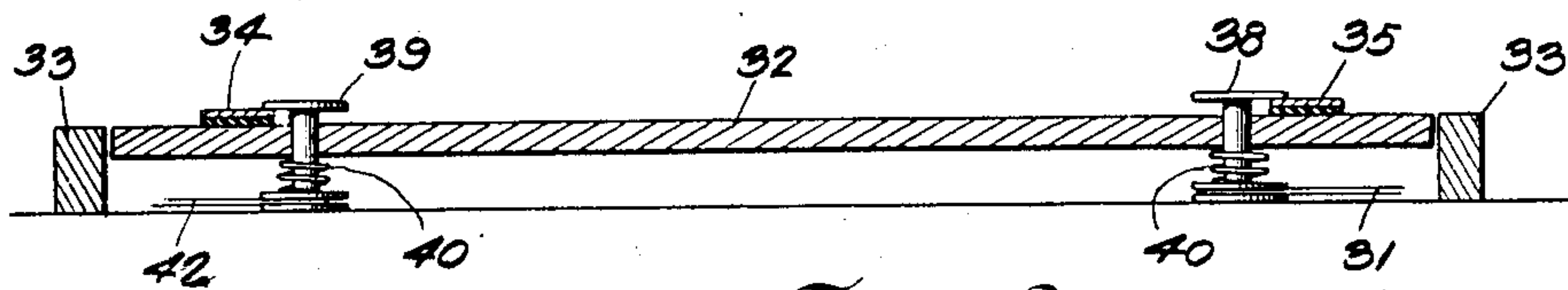


Fig. 3.

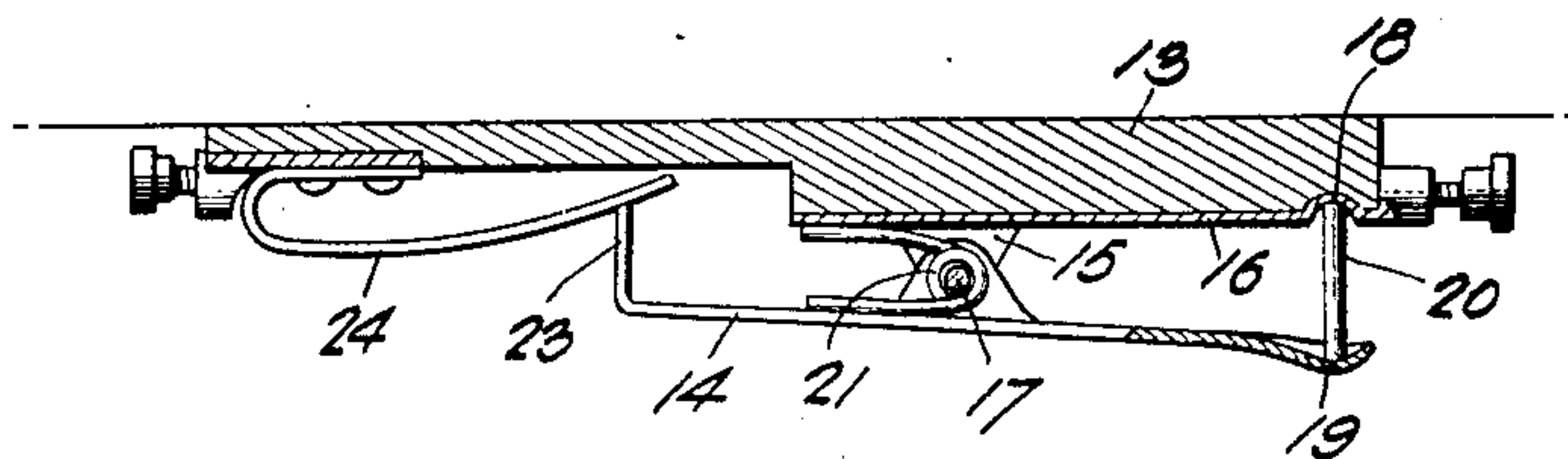


Fig. 4.

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UNITED STATES PATENT OFFICE.

JAMES H. McCracken, OF WASHINGTON, INDIANA.

ALARM SYSTEM.

SPECIFICATION forming part of Letters Patent No. 671,350, dated April 2, 1901.

Application filed November 23, 1900. Serial No. 37,521. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. McCracken, a citizen of the United States, residing at Washington, in the county of Daviess and State of Indiana, have invented a new and useful Alarm System, of which the following is a specification.

This invention relates to alarm systems in general, and more particularly to that class wherein a house is wired and connected by a closed circuit with a central station, the object of the invention being to provide a system wherein the same circuit may be utilized for sending in an alarm when the circuit is broken at the house by opening a door or window or by stepping upon a circuit-breaking mat or may be broken when the temperature of an apartment exceeds a predetermined degree.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation showing the side of a room having a door and window protected by alarms or circuit-breakers for operation when the door or window is opened, a circuit-breaking mat, a thermometric circuit-breaker, and a telephone, said view showing also the central station connected in circuit with the instruments in the room. Fig. 2 is a perspective view showing the circuit-breaking mat. Fig. 3 is a longitudinal section through the mat and its retaining-strips. Fig. 4 is a longitudinal section through the thermometric circuit-breaker.

Referring now to the drawings, at central there is placed a battery 5, in the circuit of which is an alarm 6 and the make and break of a relay 7, including the armature 8 and the contact 9, this armature when the relay is deenergized standing against the contact-point to close the local circuit to sound the alarm.

The circuit of the relay includes two wires 10 and 11, which lead to a house, and in the circuit of these two wires are included a number of circuit-breakers, any one of which may be operated to break the circuit of a battery 12, which is located in the house and which energizes the relay. Hence when the circuit of this battery 12 is broken by operation of

any one of the circuit-breakers the relay will be deenergized and the local circuit at central will be closed to sound the alarm.

In the present instance the wire 11 leads directly to a thermometric circuit-closer, which is secured, preferably, to the ceiling of a room, where it will receive a maximum heat, and which consists of a base 13, upon which is pivoted a rocker 14 in ears 15. The base is of insulating material, while the ears are formed integral with a plate 16, of metal, secured upon the base, the rocker being also of metal and being electrically connected with the ears through the medium of its pivot-pin 17. In the plate 16 is formed a depression 18, which corresponds to a second depression 19 in the under side of the end of the rocker, and in these two depressions are engaged the ends of a soft-metal plug 20, which holds the recessed portions of the plate and rocker spaced against the tendency of a spring 21, wrapped around the pivot-pin and bearing with its ends against the plate and rocker. When the soft-metal plug, which is a fuse, is in position, it holds the rear upturned end of the rocker against a spring-metal plate 24, which is mounted upon the insulating-base, and when the plug melts and the recessed end of the rocker rises this upturned end of the rocker is moved downwardly and away from the spring-plate. The wire 11 is connected directly with the plate 24, while a second wire 25 is connected with the plate 16 and leads directly to a circuit-breaker, that is operated when the door 26 of the room is opened. This last-named circuit-breaker consists of a contact-plate 28, with which wire 25 is directly connected, and a spring-finger 29, having a head 30 so disposed that when the door is closed the edge thereof will bear against the head and will press it inwardly and into contact with the contact-plate. Conversely, when the door is opened the head is released and the spring quality of the finger causes it to move outwardly and away from the contact-plate, and thus break the circuit, which includes the finger and plate.

From the finger 29 leads a wire 31 to a circuit-breaking mat. This mat consists of a plate or slab 32, of wood or other suitable material, which is held against displacement by

means of end strips 33, which are secured upon the floor of the room. Upon the upper face of the slab are secured parallel metallic strips 34 and 35, and adjacent thereto are 5 mounted headed pins 36, 37, 38, and 39 in perforations formed through the slab. These pins are headed at both ends, and between the lower heads and the under side of the slab are disposed helical springs 40 upon the 10 pins, while the upper heads thereof are so disposed that under the influence of the downward pushing of these springs said upper heads will lie normally in contact with their respective strips 34 and 35. If, however, the 15 slab be moved downwardly, with the lower ends of the pins resting upon the floor, the pins will remain stationary and the contact-strips will be moved away from the heads of the pins.

20 The wire 31 is connected directly with the lower portion of pin 38, while pins 36 and 37 are connected by a wire 41, the pin 39 being connected with the battery 12 through an additional circuit-breaker, hereinafter described. 25 With the mat in raised position under the influence of the springs 40 the pins are in contact with the strips and the circuit of the battery is closed, as will be understood; but if the mat be depressed, as by stepping 30 upon it, at least one portion of a strip will be moved from contact with the head of a pin, and this breaking of the circuit will effect a deenergization of the circuit, including the relay.

35 From the pin 39 leads the wire 42 to a circuit-breaker at a window and consisting of a contact 43, which is fixed to the window-casing, in a recess therein, and which is adapted for engagement by a spring-finger 44, 40 which is secured to the window-casing and is curved so that a portion thereof projects into the path of movement of the window-sash. When the sash (shown at 45) is in closed position, the finger is held in contact with the 45 contact 43, and when the sash is moved to open position the finger is released and moves from the contact 43 to break the circuit of the battery 12. A wire 42 connects the pin 39 with the finger 44, and a wire 47 50 connects contact 43 with the battery 12. The return-wire 10 includes a circuit-breaking push-button 48 of common form and a switch

49. The push-button may be operated manually to send in an alarm.

Between the push-button and the relay at 55 central the wire 10 is unbroken, and this portion of the wire is used for the metallic portion of a telephone-circuit comprising instruments 50 and 51, located in the house and at central, respectively. 60

It will thus be seen that in the system described a variety of mechanisms are used for breaking the circuit, any one of which when operated will effect a deenergization of the relay to close the local circuit at central and 65 sound the alarm.

What is claimed is—

1. In an alarm system, a circuit-breaking mat comprising a perforated and movable insulating-slab having spaced contact-strips, 70 headed pins mounted loosely in the perforations of the slab to permit of movement of the slab with the contact-strips into and out of contact with the heads of the pins, means for holding the slab yieldably with the contact-strips in contact with the heads of the 75 pins, and connections between the pins and a circuit to be broken, said pins being connected in series through said connections and the contact-strips. 80

2. In an alarm system, a circuit-breaking mat comprising a movable insulating-slab having means for preventing lateral displacement thereof and having spaced contact-strips on its upper face, openings through the 85 slab adjacent to the strips, pins disposed loosely in the openings and having heads at their ends, the upper heads being adapted for contact with their respective strips, helical springs disposed upon the pins between 90 the lower heads and the slab to hold the slab with the contact-strips in normal contact with the upper heads of the pins, connections between the pins at one end of the slab to connect the pins in series, and connections with 95 the pins at the opposite end of the slab for attachment to circuit-wires.

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

JAMES H. MCCrackEN.

Witnesses:

STEPHEN A. POTTER,
W. C. DOAK.