O. B. JOHNSON.

AUTOMATIC FIRE ALARM.

APPLICATION FILED MAY 21, 1908.

913,146.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

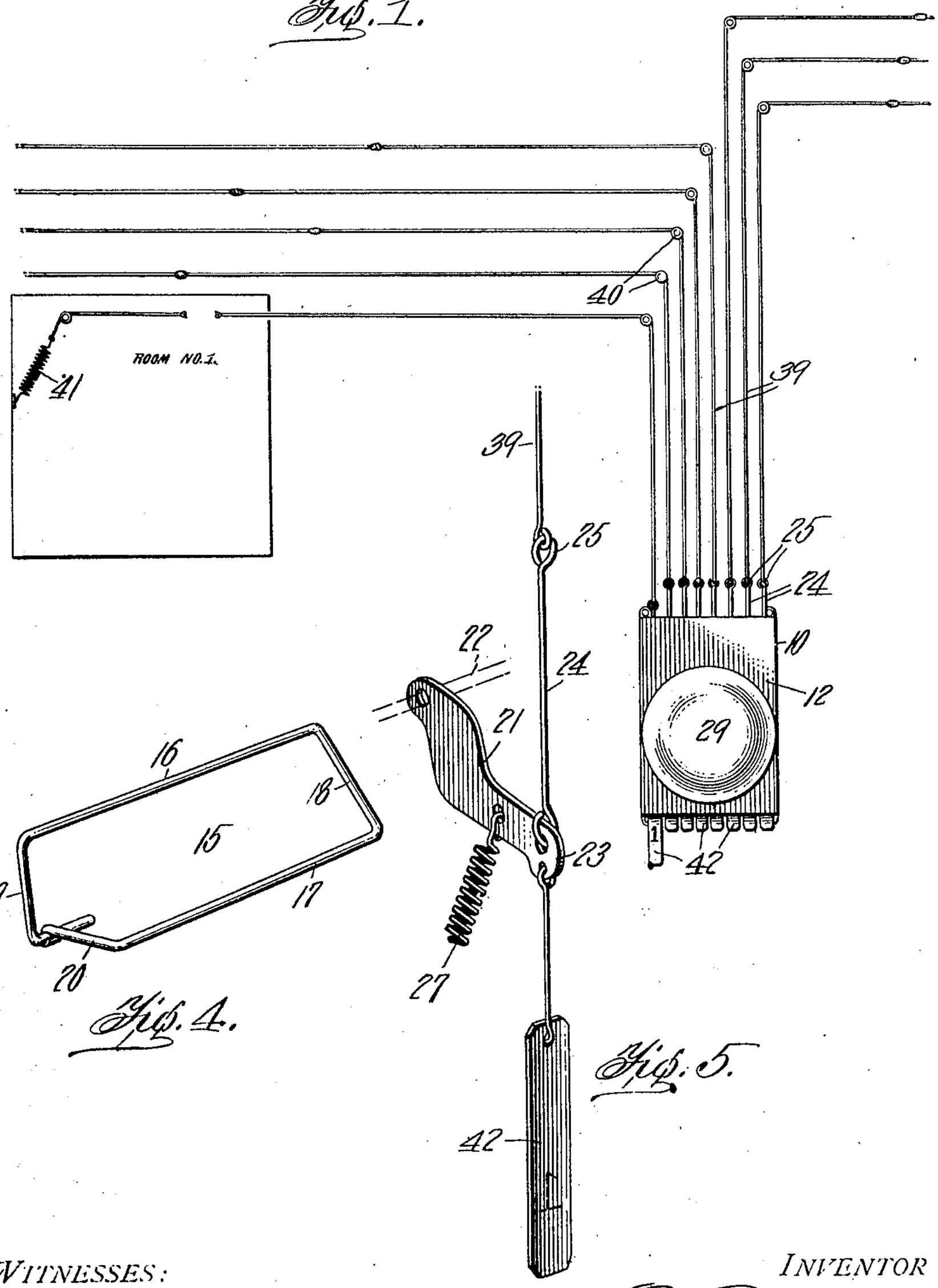

Fig. 4.

Fig. 5.

WITNESSES:

Alice M. Holmes.

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INVENTOR

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2 SHEETS—SHEET 2.

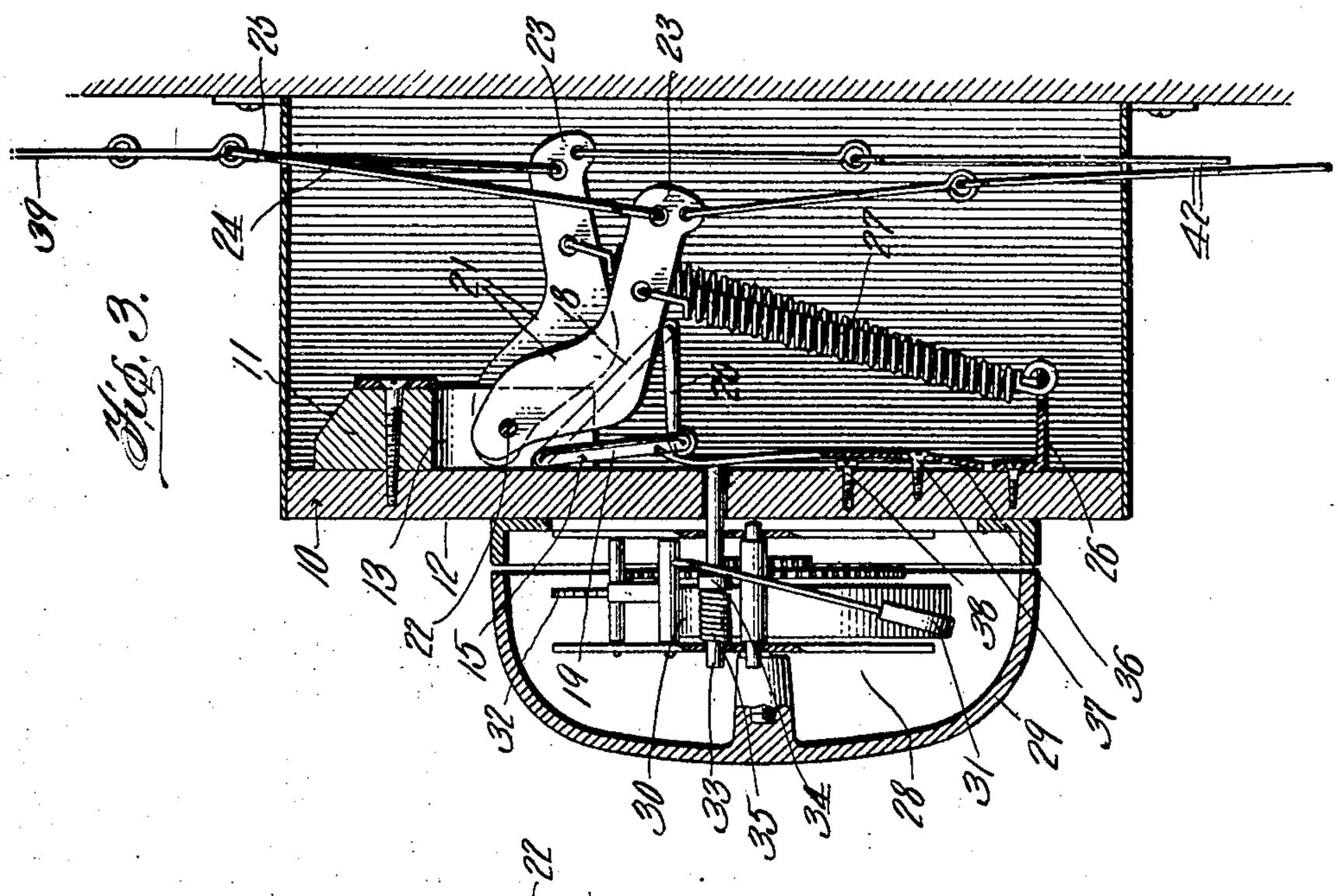

Fig. 3.

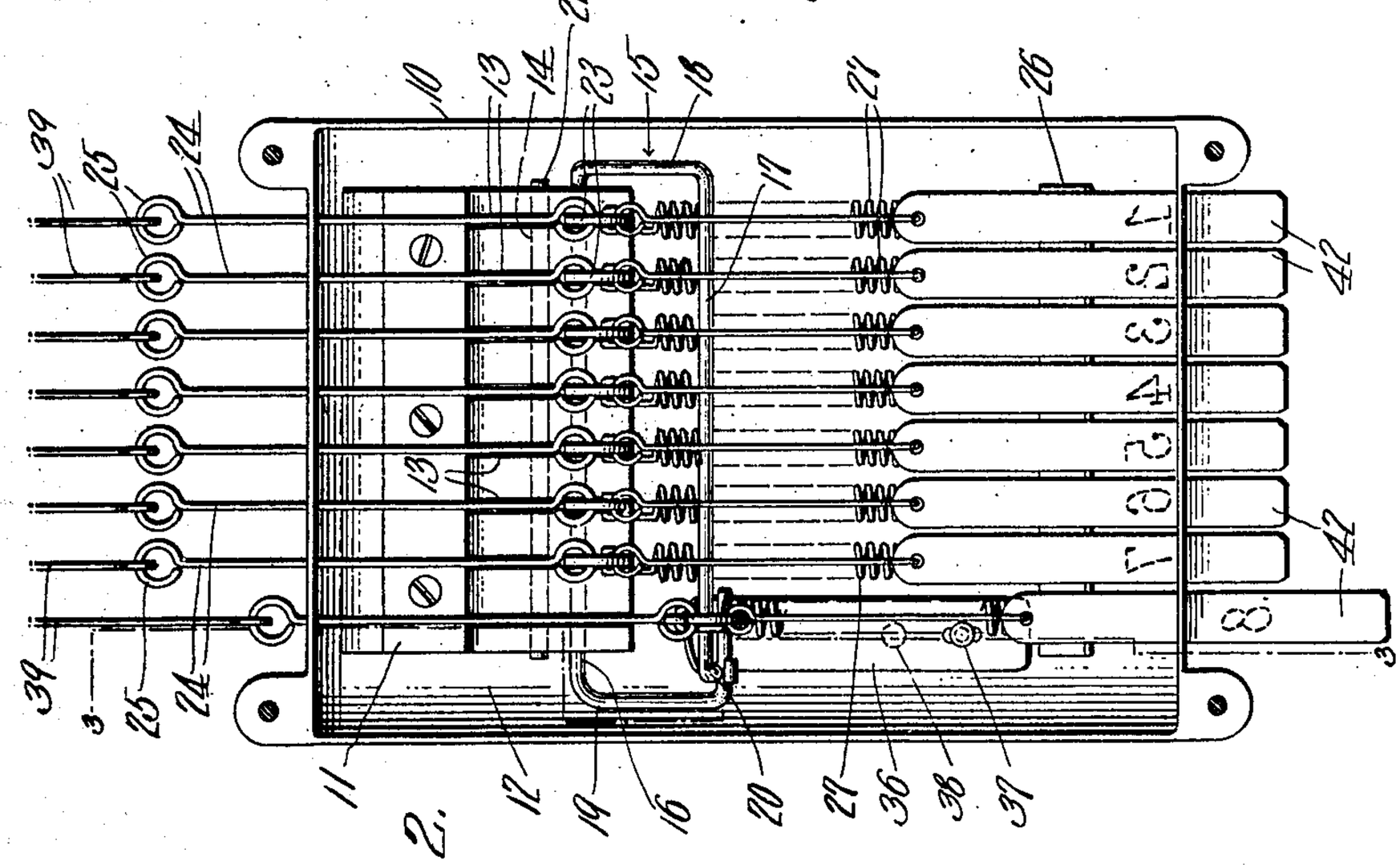

Fig. 2.

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UNITED STATES PATENT OFFICE.

OSCAR B. JOHNSON, OF GARFIELD, WASHINGTON.

AUTOMATIC FIRE-ALARM.

No. 913,146. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed May 21, 1908. Serial No. 434,156.

To all whom it may concern:

Be it known that I, OSCAR B. JOHNSON, a citizen of the United States, residing at Garfield, in the county of Whitman and State of Washington, have invented certain new and useful Improvements in Automatic Fire-Alarms, of which the following is a specification.

This invention relates to automatic alarms of that type which are designed to indicate unusual conditions, and which are applicable in numerous types of buildings and for attachment to various parts of buildings.

More definitely stated this invention embodies an audible alarm, including a bell, and means whereby the bell may be rung by reason of some abnormal disturbance in any one or more of the several rooms or apartments of a building. To this end the alarm mechanism proper is connected by a plurality of individual connections with as many different apartments as may be necessary or desirable, and upon disturbance of any one of said connections, as for instance the parting thereof, the alarm will be caused to ring, and indicate to any occupant of the building who may be attracted by the alarm the fact intended to be brought to his attention.

The invention hereinafter specifically set forth comprises improved mechanism for the foregoing objects, and the same is illustrated in the accompanying drawings, in which,

Figure 1 is a general diagrammatic view indicating the arrangement of the alarm proper with respect to the connections to the various parts of a building; Fig. 2 is a rear elevation of the casing showing interior mechanism; Fig. 3 is a vertical section on a broken plane indicated by the line 3—3 of Fig. 2; Fig. 4 is a detail perspective of the yoke to be hereinafter described, and Fig. 5 is a detail of one of the bell crank levers and parts connected therewith.

Throughout the following detail description and on the several views of the drawings similar parts are indicated by like reference characters.

Referring particularly to the drawings, the numeral 10 indicates a casing adapted to be secured to any suitable fixed support, such as a wall or door post. A fulcrum block is secured upon the inner face of the front wall 12 of the casing. This fulcrum block is provided with a plurality of substantially vertical slits 13, extending from the lower edge thereof upwardly. It is also provided with a transverse hole 14 which intersects the upper ends of said slits. Furthermore, the block 11 has journaled in its lower portion a skeleton yoke or frame 15 made preferably of heavy wire bent in such a manner as to provide a side 16 having immediate connection with the block 11, a side 17 substantially parallel with the side 16, end members 18 and 19, and a member 20 projecting laterally from one end of the side 17 and having connection with the free end of the portion 19.

There are indicated at 21 a plurality of bell crank levers mounted in the slits 13 and pivoted at one end upon a bar 22 extending through the hole 14 aforesaid. The outer or free ends 23 of the bell cranks 21 extend outwardly from the block 11 and in proximity to the side of the yoke 15, which they are adapted to engage in one position. Each bell crank 21 at its outer end has connection with a pullrod 24 extending outwardly as through the top of the casing 10 and terminating in a loop or eye 25. Connected near the bottom of the casing is a suitable support 26, herein indicated as being in the form of an angle plate secured to the front wall 12 of the casing, and the several bell cranks 23 are connected to said support 26 by springs 27, the normal tendency of which is to cause the bell cranks 23 to impinge upon the member or side 17 of the yoke 15 causing the same to turn on the pivot member 16 downwardly toward the wall 12.

A spring operated alarm bell 28 is mounted upon the outside of the casing 10 and comprises a bell proper 29, a spring 30, a hammer 31, an escapement 32, and a controlling plunger 33. The plunger extends through the wall 12 of the casing and is provided with a collar 34 adapted to engage the arm of the hammer 31, when operated in one direction by a coil spring 35, thereby preventing the operation of the escapement and the ringing of the bell. The inner end of the plunger 33 projects into the interior of the casing 10 and is engaged by a spring plate 36, secured at one end by a screw 37 to the casing. The upper or free end of the plate 36 lies between the interlocked ends of the yoke 15 and the inner wall of the casing.

Each of the springs 27 above described is stronger than the spring 35, and when any one or more of the arms 21 are free so as to be under the control of the springs 27 the yoke 15 will be caused to rotate in the direc-

tion indicated by the arrow *a*, causing the free end of the plate 36 to impinge against the end of the plunger 33 causing the same to move outwardly against the tension of the coil spring 35, removing the collar 34 out of contact with the arm of the hammer 31, and allowing the bell to ring under the influence of the spring 30.

If desired a screw 38 may be used beneath the spring plate 36 for the purpose of having proper adjustment of the connections for the spring 36 according to various requirements. It will be understood that the spring 36 will not be sufficiently strong to prevent the normal operation of the spring 35 to cause the plunger 33 to prevent the ringing of the bell.

As one of the various mechanisms which may be employed for carrying out the present invention there are indicated a series of connections 39 leading from the several pullrods 24 to various parts of the building. These connections 39 may be of any suitable character depending upon the nature of the service to be accomplished. For instance, they may be of inflammable cord, or they may be of fusible metal. Still different modification would be to make them of common wire comprising a plurality of sections connected by fusible couplings. In any event the fusible portion of each cord or connection would preferably be located in a single room or apartment, the several connections being adapted by this fact to cause an alarm to be sounded in accordance with the particular room or apartment to which the connections extend. Each connection 39 may pass over as many direction changing devices, such as pulleys 40, as may be necessary, and at its opposite end is connected by a stronger spring 41 to some suitable fixed point, the spring 41 being stronger than the spring 27 at the inner end of the connection will insure that the connection will be maintained taut and that the bell crank 23 connected therewith will be held out of contact with the yoke member 17. The foregoing being the normal position of the connections 39 and bell cranks 23, the yoke 15 will permit the spring 35 to cause the plunger to hold the hammer of the bell inoperative.

Upon disturbance of any one or more of the connections 39, as by a fire in the room or apartment to which it extends, or by contact therewith of a burglar, causing the connection to be parted or broken, the spring 27 will cause the arm 23 to rotate the yoke 15 and permit the ringing of the bell in the manner above described.

Connected with each of the bell cranks 23, preferably at the point of connection between the pullrod and said bell crank, is an indicating device 42, comprising a tablet projecting through the lower end of the casing. The several tablets 42 connected to the corresponding members 23 will bear distinguishing marks such as letters or numerals, to indicate the particular rooms or apartments to which they individually refer. In the normal position said indicating characters will be within the casing, but upon operation of any one of the bell cranks 23 the tablet 42 will project sufficiently far below the casing 10 to expose the character thereof, indicating thereby the room in which the disturbance has taken place.

While there is indicated in the foregoing specific description the best embodiment of the invention now known to me, yet it is to be understood that slight modifications may be made in actual construction without departing from the spirit of the invention hereinafter claimed.

Having thus described the invention, what is claimed as new, is:

1. The combination with a signaling device including a plunger, of a casing to which said signaling mechanism is attached and into which said plunger projects, a fulcrum block secured to the interior of the casing, one or more bell cranks pivoted on a common pivot in said fulcrum block, a yoke also pivoted in said block and having a member in proximity to said bell cranks for operation thereby in one direction, means whereby said operation of the yoke will cause operation of the plunger, means connected with said bell cranks normally tending to cause the same to impinge against the yoke, and other means connected to said bell cranks normally holding the same away from said yoke.

2. In a device of the character set forth, the combination of an automatic alarm including a movable member, a casing through which said movable member projects, a plurality of bell cranks pivoted within said casing, a skeleton yoke pivoted within the casing and having a member lying in proximity to said bell cranks, a plate within the casing between said yoke and the aforesaid movable member, a spring connected to each of said bell cranks tending to cause the same to impinge against said yoke, separable means connected to the several bell cranks to normally hold the same against the tension of the springs aforesaid, and a plurality of tablets connected to the respective bell cranks, for the purpose indicated.

In testimony whereof I affix my signature in presence of two witnesses.

OSCAR B. JOHNSON.

Witnesses:

CHAS. L. CHAMBERLIN,

G. W. MANRING.