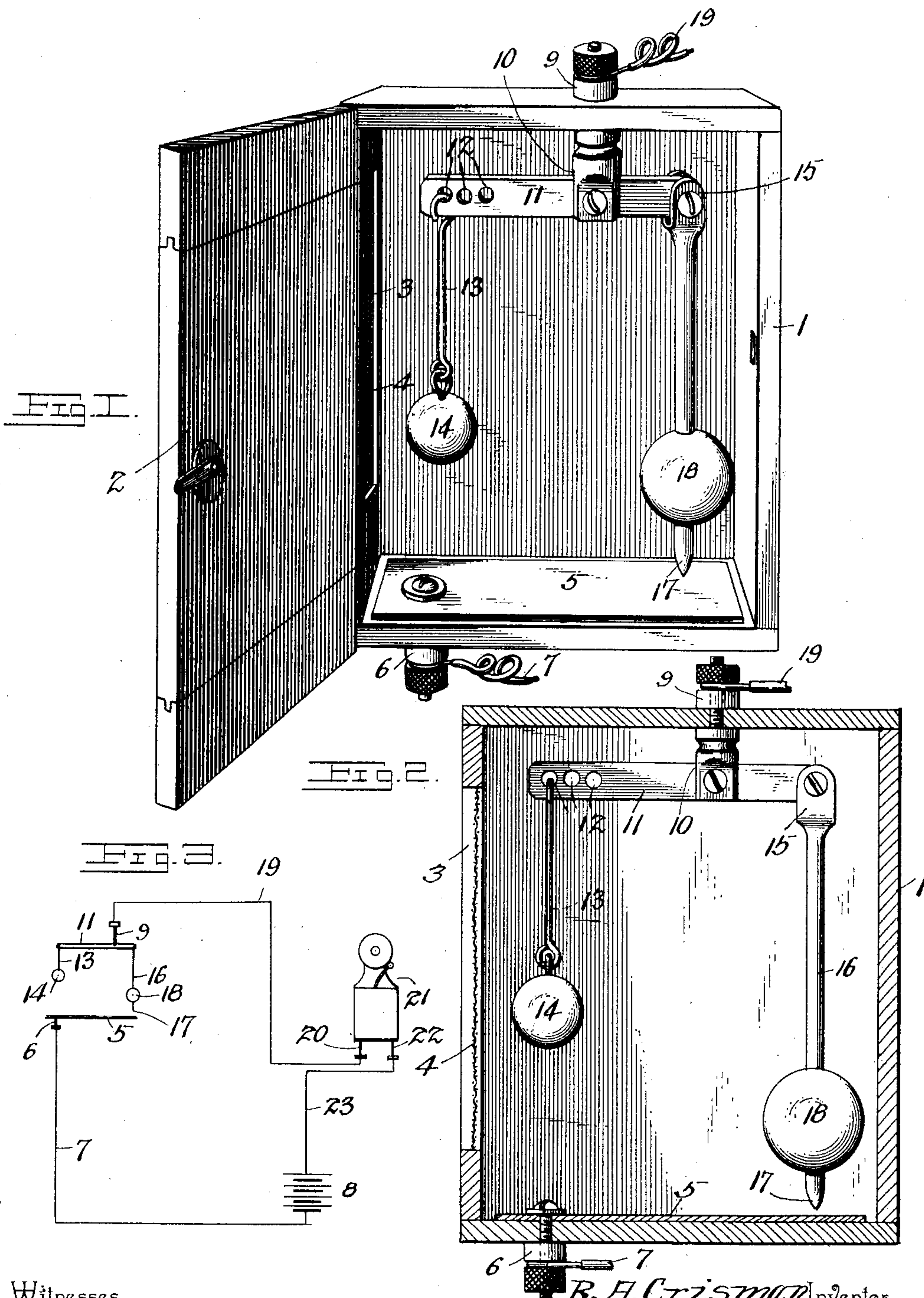


No. 685,745.

Patented Nov. 5, 1901.

B. A. CRISMAN.
AUTOMATIC FIRE ALARM.
(Application filed June 26, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

BESCHERRER ALGERNON CRISMAN, OF ST. ELMO, TENNESSEE.

AUTOMATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 685,745, dated November 5, 1901.

Application filed June 26, 1901. Serial No. 66,113. (No model.)

To all whom it may concern:

Be it known that I, BESCHERRER ALGERNON CRISMAN, a citizen of the United States, residing at St. Elmo, in the county of Hamilton and State of Tennessee, have invented a new and useful Automatic Fire-Alarm, of which the following is a specification.

This invention relates to automatic fire-alarms; and the object of the same is to provide a simple and effective device of this class which is electrically connected and controlled to automatically give an alarm by means of the fusion of a metallic member which melts at a comparatively low degree of temperature, the improved alarm being capable of individual use or arrangement in series to give an alarm from different portions of a building at a selected station or office, and thereby quickly designate or locate the existence of intense heat or fire at any point.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of an alarm-box in open condition and exposing the features of the invention. Fig. 2 is a longitudinal vertical section through the box. Fig. 3 is a diagrammatic view showing the electrical connections.

The numeral 1 designates a wooden or other suitable box of suitable dimensions, having its front side hinged to open and form a door 2, the one end of the box being formed with an opening 3, covered by suitable reticulated material, such as wire-gauze, as at 4. As a matter of safety and to prevent tampering with the mechanism contained within the box the door 2 will be provided with a suitable lock, and in some instances a thermometer will be mounted on the outer side of the door as a matter of convenience and ornament. In the bottom of the box a copper or analogous plate 5 is firmly secured to provide an extended contact-surface, and connected to one extremity of the said plate and projecting downwardly through the bottom of the box is a binding-post 6, to which a wire 7 is attached and runs to one element or pole of a battery 8, as shown by Fig. 3. A binding-post 9 extends through the upper side or top of the box and has the lower extremity

thereof within the box bifurcated, as at 10, to receive a lever 11, which is pivotally mounted therein in such manner as to have the greater portion of the length thereof projected toward the end of the box having the gauze-covered opening therein. The free end of this longer portion of the lever has a plurality of openings 12 therein for the adjustable application and attachment to the lever of the upper end of a small rod or wire 13, formed of metal, which fuses or melts at a comparatively low degree of temperature, the said rod or wire 13 having a weight 14 secured to the lower end thereof and held suspended thereby. To the free end of the shorter portion of the lever 11 the upper bifurcated end of a contact-rod 15 is pivotally mounted and has its lower free end pointed and normally held above or out of contact with the plate 5, and on this contact-rod a weight 18 is mounted and held in stationary position by any suitable means. A wire 19 connects with the binding-post 9 and runs to one post 20 of a bell, trembler, or the like 21, and from the other post 22 of the latter a wire 23 runs to the element or pole of the battery 8 opposite that to which the wire 7 is connected.

It is proposed to locate the improved automatic alarm in a room or other place and connect it up to an alarm device or signal at a distance therefrom, or a series of the alarms may be located in different parts or rooms of a building and be connected up to a single alarm device at a central office or station and in connection with an annunciator. Other means of application of the improved device will be made as may be desired, and in all such changes the improved construction will remain as described. It will be seen that the action of the lever as to its sensitiveness or quick movement will be controlled by the application of the rod or wire 13 to the different openings 12, and the operation of the device will now be described.

The mechanism within the box 1 is set, as clearly shown by Figs. 1 and 2, and the door 2 is closed and secured. In the event of the temperature in the vicinity of the box rising to an abnormal degree, as in the case of the presence of fire other than that used for heating purposes, said abnormal temperature

will affect the rod or wire 13 through the gauze-covered opening 3 and fuse or melt said wire or rod, and thereby release the lever 11 and allow the contact-rod 15 to lower 5 to cause the pointed end 17 thereof to engage the plate 5 and close the circuit in which the devices just set forth are included. This will cause the bell or other signal device to operate and continue to operate as long as 10 the circuit is closed, and thus the location of the fire will be indicated. The pointed end 17 of the contact-rod 15 will facilitate the closing of the circuit, and in view of the weight on the said rod the downward move- 15 ment of the said rod is insured when the lever 11 is released. It will be understood that the weight attached to the rod or wire 13 will hold the contact-rod and its weight elevated, though said rod or wire and its weight are ma- 20 terially lighter than the contact-rod and its weight by reason of the greater length of the lever 11 being engaged by the wire 13 and its weight.

The improved device is simple and reliable 25 and also purely automatic in its operation. It is also easily mounted in operative position and inexpensive in manufacture.

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

30 1. In an automatic fire-alarm, the combination with a box, of a metallic contact-plate immovably secured to the inner portion of the bottom of the box and forming a covering for the latter, a lever pivotally suspended from 35 the upper portion of the box, a weighted contact-rod movably attached to one end of the lever and normally suspended above the said plate, a readily-fusible rod adjustably applied to the opposite extremity of the lever 40 and having a weight attached thereto, and electrical connections for the said devices in-

cluding a signal device, the end of the box adjacent to the fusible rod being formed with an opening.

2. In an automatic fire-alarm, the combi- 45 nation of a box having an opening in one end, a metallic contact-plate immovably applied to and forming a covering for the bottom of the box, a lever pivotally held within the up- 50 per portion of the box, a binding-post secured in the top of the box and to which the said lever is pivotally attached, a weighted contact-rod movably attached to one end of the lever and having the lower end thereof normally held above the plate on the bottom of the box, 55 a weighted fusible rod adjustably attached to the opposite end of the lever, a binding-post connected to said plate, and electrical connections for said binding-posts including a signal device. 60

3. An automatic fire-alarm comprising an inclosure with a lower contact-plate, a suspended lever fulcrumed at an intermediate point, the lever being projected a greater 65 distance on one side of the fulcrum thereof than on the other, a rigid contact device movably attached to the shorter extremity of the lever and having a weight thereon, the said contact device being held above the contact-plate when the fire-alarm is in set position, and 70 a light-weighted fusible rod attached to the longer extremity of the lever to normally maintain the contact device elevated above the contact-plate, the lever and contact-plate having electrical terminals connected thereto. 75

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

BESCHERRER ALGERNON CRISMAN.

Witnesses:

W. M. POE,
THOS. HILL.