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G. W. JONES

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FIRE ALARM

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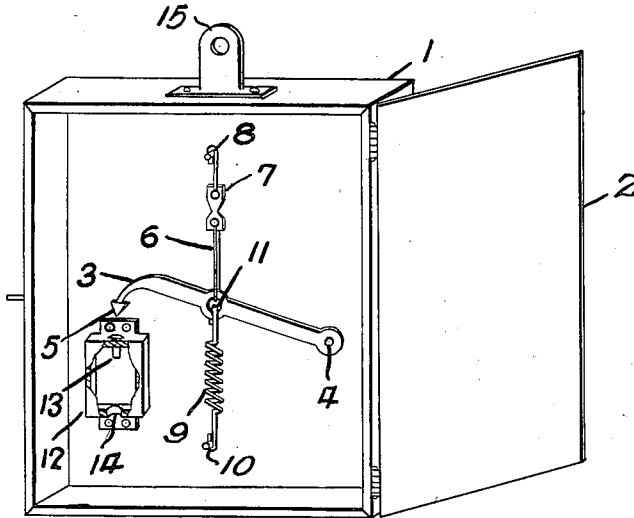


Fig. 1.

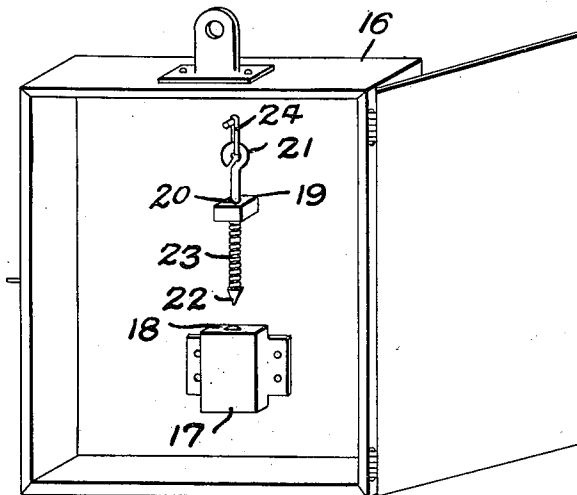


Fig. 2.

George W. Jones

Inventor

By Albert J. Kramer

Attorney

UNITED STATES PATENT OFFICE

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FIRE ALARM

George W. Jones, Winchester, Va.

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5 Claims. (Cl. 116—106)

My invention relates to portable fire alarms.

An object of my invention is to provide a simple, practical, and inexpensive fire alarm adapted for use in homes, factories, sea vessels, airplanes, and in any other place or places where a fire is liable to occur.

A further object of my invention is to provide a fire alarm equipped with a fusible member or other means normally holding a spring actuated detonator and which when released will violently strike a cartridge or other explosive to sound an alarm.

A still further object of my invention is to provide a fire alarm of this type which can be transferred from place to place with ease and which can be located at a critical point within the structure to be guarded from the hazard of fire, and is especially adapted for the use of an itinerant guest in a hotel or other lodging place where the proprietor thereof has neglected to furnish proper fire alarms.

The arrangements and combinations of parts, and the constructions and operations of the same will appear more fully in the following specification, reference being made to the drawing accompanying the same in which:

Figure 1 is a perspective view of my invention in its preferred form.

Figure 2 is a perspective view of my invention in an alternative form.

Referring with more particularity to Figure 1, the numeral 1 designates a housing of any suitable material having a door 2 hingedly mounted thereon. Within said housing a lever indicated by 3 is pivotally mounted at one end to an inner wall of the housing, shown in Figure 1 at 4. The other end of the lever 3 is shaped to the form of a detonating point or firing pin 5. One end of a cord 6, or other similar means, is secured to the lever at a point between the fulcrum and the detonating point, the other end of which is secured to one end of a piece of bismuth 7, or other fusible material designed to fuse, yield, or rupture at a predetermined temperature. The opposite end of the said fusible material is secured to the wall of the housing by means of an anchor 8. A spring 9 is tensionally mounted having one of its ends anchored to the housing at 10, and its other end secured to the lever 3 at 11, being so mounted that the lever is held in a retracted position against the tension of the said spring by means of the fusible metal 7 and its appurtenant parts.

An explosion box represented by the numeral 12, is preferably of a heat resisting material and

is fixedly mounted on the wall of the housing by rivets, screws, or otherwise, as shown in the Figure 1. At the top of the said explosion box an aperture is designed to receive the body of a cartridge 13, or other explosive, having its detonating head projecting therefrom and at the same distance from the fulcrum 4 as the point of the detonator 5. To permit the expulsion of gases from an explosion of the said cartridge or explosive, an exhaust port 14, or other ports, may be provided in the explosion box. The purpose of the said explosion box is to avoid any fire hazard which may be imminent from an explosion of the cartridge 13. The housing 1 is provided with a hanger 15 to facilitate mounting the instrument in a convenient place.

Referring to Figure 2, which shows a modification of my invention, a similar housing is employed to encase the instrument, and is designated by the numeral 16. An explosion box, represented by 17, is similar in design to that shown in Figure 1, and carries a similar explosive charge 18. 19 is a block of any suitable material, rigidly mounted inside the housing, positioned directly above the explosive charge 18, and having a vertical aperture therein at 20 through which a rod 21 is slidably mounted. The lower end of said rod 21 is formed into a detonating point 22. A spring 23 is compressibly mounted between and abuts the block 19 on the one end and the head of the detonator 22 at its other end thereby tending to exert a downward thrust on the head of the said detonator, which when released will strike the explosive charge 18. The upper end of said rod 21 is anchored to the wall of the housing by means of a ribbon of bismuth metal 24, or some other type of material designed to fuse, yield, or rupture at a predetermined temperature.

It is understood that various changes in the form, proportion, and minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit of the invention or sacrificing any advantages thereof.

Having thus described my invention, what I claim is:

1. In a portable fire alarm, a housing containing a spring actuated detonator, an explosion box having an exhaust therein, an explosive charge carried in said explosion box, means for automatically actuating said detonator against said explosive charge when the surrounding atmosphere reaches a predetermined temperature.

2. In a portable fire alarm, a lever pivotally

mounted, a detonator carried on said lever, a spring tensionally mounted between the base of the instrument and the lever, means for holding said lever against the actuation by said spring through a predetermined range of temperature, 5 an explosion box having an exhaust therein, and a cartridge removably carried in said explosion box at the radius of said detonator.

3. In a portable fire alarm, a lever pivotally 10 mounted at one end, a detonator at the other end, means for actuating said detonator against an explosion charge at a predetermined temperature, an explosion box in cooperative relation with said explosive charge, and an exhaust port 15 in said explosion box.

4. In a portable fire alarm, a housing containing a spring actuated detonator, a non-shatter-

able explosion box, an exhaust port in said explosion box, an explosive charge removably carried on said explosion box, means for actuating said detonator against said explosive charge when the surrounding atmosphere reaches a predetermined temperature. 5

5. In a portable fire alarm, a housing containing a spring actuated detonator, an explosive charge, means for actuating said detonator against said charge when the surrounding atmosphere reaches a predetermined temperature, 10 a non-shatterable explosion box carrying said explosive charge, and exhaust means for allowing the gases formed by an explosion of said explosive charge to escape said explosion box. 15

GEORGE W. JONES.