

UNITED STATES PATENT OFFICE.

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FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 526,599, dated September 25, 1894.

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To all whom it may concern:

Be it known that I, JOHN P. WILLIAMS, residing at South Pittsburg, in the county of Marion and State of Tennessee, have invented a new and Improved House Fire-Alarm, of which the following is a specification.

My invention relates to improvements in fire alarms adapted for use in buildings, such as hotels, apartment houses, schools, and the like and it primarily has for its object to provide an alarm mechanism and operating means therefor of a very simple and inexpensive construction, easily put up for use and very effective for its desired purposes.

With other objects in view, which hereinafter will be referred to my invention consists in the peculiar combination and novel arrangement of parts first described in detail and then pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a diagrammatic view illustrating my invention as applied for use. Fig. 2 is a face view of the alarm mechanism and the trigger holding means. Fig. 3 is a plan view of a section of the wire, having a fusible joint and having the supplemental or expansive portion and the trigger held in operative connection with the said supplemental portion.

In its practical construction my improved alarm mechanism when used on buildings, with a small number of rooms, comprises a single operating wire, which is arranged to pass through all the rooms and over suitably arranged guides provided therefor, its ends having weights or spring tension devices which will serve to keep the said wire taut. In such wire (one for each room) are arranged fusible joints, and to such wires near the joints are connected the trip members of the alarm devices. It should be stated that by providing tension or weight devices for the opposite ends of such wire no matter at which point such wire should separate, the separated sections will be pulled in reverse directions and in consequence operate all the alarms connected therewith. When however my improved devices are used in large buildings, such as hotels, I prefer to use one wire for each floor, which is adapted to pass through all the rooms on such floor and connect with

the alarm devices in each room. In such arrangement I also prefer to extend one end of each of such wires down into the office to connect with one indicator which will serve to locate the particular floor on which the fire occurs.

Referring now to the accompanying drawings A indicates the main or operating wire which is arranged to pass through the several rooms over guide rollers *aa*. At one end such wire has a weight B, located at a convenient point in one of the rooms and in practice out of sight, while the other end, when the mechanism is used in hotels, extends down into the hotel office, has a weight C and connects with a trip arm D of an indicator E, but when used in small dwellings such end has a weight B as indicated in dotted lines, Fig. 1.

The wire A is formed of a series of members connected by the fusible joints F, one of such joints, as also an alarm mechanism G, being disposed in each room.

The alarm mechanism, which is most clearly shown in Fig. 2, except in such detail as will be presently described is of any well known spring actuated construction, the exception being in the construction of the hammer *g*, which as shown has its stem formed with a curved off hump like portion *g'* which forms a cam for holding the trip lever H to its normal or set position. The lever H is fulcrumed at *h* to the alarm casing and has a short lower arm *h'* and a longer upper arm *h²*. The shorter arm *h'* is adapted when swung to a vertical position from either direction to engage the curved portion of hammer stem, and as it does it slightly forces such hammer down, and while it thus holds such hammer from ringing the bell it in turn is held to its adjusted or set position by the spring tension exerted on the hammer from the operating spring J. As but a slight movement in either direction will serve to operate the tripper H, and as the natural expansion of the wire A would serve to do so were such tripper connected directly with it, I provide on such wire a series of supplemental members K, connected at their ends *k* and *k'* with such wire A, and such members K have elongated or loop portions *K^x* fitted over the end *h²* of the said tripper H. By this arrangement it will

be readily seen that as the wire expands and contracts the loop K^x will move freely on such tripper, but in case any one of the fusible joints melts and the wire separates the wire sections will be pulled on and the loop caused to engage said tripper and move it in either direction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A house fire alarm mechanism comprising a main wire adapted to be passed through the several rooms, guides therefor, such wire having a series of fusible joints, a series of alarm bells connected with such wire and weights or tension devices at each end of such wire, all arranged substantially as shown, whereby as the said wires separate the two sections will be drawn outward and all the bells connected therewith operated as set forth.

2. A house fire alarm mechanism comprising a house wire having tension devices at each end, and having supplemental portions provided with loop sections, alarm bells, and

pivoted tripper devices therefor, adapted to normally hold the bells from ringing, and having portions extended into the said loop sections of the house wire, all arranged substantially as shown whereby such main wire will be held for a limited free movement in either direction before it engages the said trippers as and for the purposes described.

3. The herein described improved house fire alarm comprising a main wire having a series of fusible joints and a series of supplemental sections having loop portions, guides for such wires and weights secured to the opposite ends thereof bell ringing devices including a spring actuated hammer, pivoted tripper levers having one end fitted to enter the loop portions of the supplemental wire sections, and their opposite ends held to engage the spring actuated hammer, and be held to its normal position by the spring of such hammer substantially as specified.

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Witnesses:

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