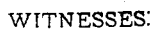


C. A. MANN.
AUTOMATIC FIRE ALARM.

Patented July 3, 1894.



Chas. F. Burkhardt.
F. Gustav. Wilhelm.

Chas. A. Mann

INVENTOR.

By Wilhelm H. Bonnet.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES A. MANN, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO
CHARLES J. SLADA, OF SAME PLACE.

AUTOMATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 522,346, dated July 3, 1894.

Application filed March 16, 1894. Serial No. 503,919. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. MANN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Automatic Fire-Alarms, of which the following is a specification.

This invention relates to the automatic fire alarms which are employed principally in hotels and similar buildings for giving an alarm at the office in case of fire in any of the various rooms.

My invention belongs to the class of alarms which are combined with an electric circuit and in which the release of the alarm is controlled by an easily-fusible material or solder which melts when the surrounding temperature rises to a predetermined point.

The object of my invention is to produce an automatic fire alarm of this character which can be manufactured at small cost and which permits the ready renewal of the easily-fusible part of the alarm.

In the accompanying drawings: Figure 1 is a front view of my improved alarm, in connection with a call bell and a push button, the alarm being shown in its normal, inoperative condition. Fig. 2 is a horizontal section of the alarm in line 2--2, Fig. 1, on an enlarged scale. Fig. 3 is a vertical cross section thereof, on an enlarged scale, in line 3--3, Fig. 1, showing the switch spring in its normal position. Fig. 4 is a similar section, showing the switch spring released. Fig. 5 is a perspective view of the fusible link.

Like letters of reference refer to like parts in the several figures.

A is the annunciator board located in the office of the hotel or other building.

B is the usual call bell mounted on said board, and C is the push button located in one of the guest's rooms and connected with the corresponding annunciator of the board A by the usual conducting wires *c c'*.

D represents the non-conducting base board of my improved automatic alarm which latter is located in the guest's room and adapted to ring the call bell in the hotel office in the event of fire breaking out in the room.

e e are two contact plates or terminals, secured side by side to the face of the base

board D and adapted to be connected with the terminals or binding posts of the call bell B. When the alarm is used in connection with the main call bell of a hotel, these contact plates are preferably connected with the push button wires *cc'*, respectively, by branch wires *e' e'*, as shown in the drawings.

F is a switch spring which is secured to the base board adjacent to the contact plates *e* and which is adapted to bridge or connect said plates so as to close the call bell circuit and give the alarm. This spring is flat and is preferably divided into two separate branches, one for each contact plate, so as to insure a proper contact of the spring with both plates in case one plate should project forward beyond the other.

G is a link or stop, whereby the free lower end of the switch spring is held out of contact with the terminal plates *e*, so as to leave the alarm circuit open. This link is approximately Z-shaped in cross section and rests loosely upon a horizontal rod *h* which is supported at its ends in a horizontal yoke or strap I, projecting from the front side of the base board and secured to the latter by screws or other fastenings. The supporting rod *h* extends across the contact plates and forms a support upon which the link may be slid laterally. The upper lip or flange *g* of this link engages behind the free end of the switch spring, as shown in Fig. 3, while its lower flange *g'* is loosely confined between the front side of the supporting rod and the adjacent side of the yoke, so as to prevent the link from tipping toward the base board under the pressure of the spring.

The link may be constructed wholly of an easily-fusible solder or composition, but it is preferably composed of two angle plates, as shown in Fig. 5, the overlapping flanges of which are united by a solder which fuses at a certain temperature, say 100° Fahrenheit, but which is sufficiently strong to hold the spring away from the contact plates under normal temperatures.

In the normal condition of the alarm, the alarm circuit is broken by the disconnection of the contact plates, due to the retraction of the switch spring. In case of fire in the room, the solder connection of the link is fused by

the rise in the temperature and the strained switch spring disconnects the upper angle plate of the link from the lower angle plate. The released spring, snapping against the two contact plates, connects the latter and closes the circuit, thereby ringing the call bell in the hotel-office and giving the alarm.

In resetting the alarm, a new link is placed upon the supporting rod *h* on one side of the switch spring, the latter is sprung away from the face of the base board and the link is then slid laterally under the spring with its upper flange behind the free end of the spring.

My improved fire alarm is composed of few parts, rendering it comparatively inexpensive, and it is conveniently applied and connected with the main call bell of a hotel or other building, without requiring skilled labor and without interfering with the ordinary call service.

I claim as my invention—

1. The combination with a base, of a flat switch spring secured at its upper end to said base and adapted to be deflected away therefrom, line terminals arranged on said base in rear of the free end of said spring and below the point of attachment of the spring to the base, a rod or support attached to the base in front of the free end of the switch spring, and a metallic fusion link mounted loosely on

said rod or support and having a lip or flange adapted to engage with the free end of the spring for holding the same out of contact with said line terminals, substantially as set forth.

2. In a fire alarm, the combination with a base and terminals or contacts arranged thereon, of a switch spring adapted to connect said contacts, a supporting rod arranged in front of said contacts, and a laterally-sliding fusion-link mounted on said rod and engaging with said switch spring, substantially as set forth.

3. In a fire alarm, the combination with a base and terminals or contacts arranged thereon, of a switch spring adapted to connect said contacts, a yoke or strap arranged in front of said contacts, a supporting rod supported in said yoke, and a fusible link mounted on said rod and having a flange which is confined between said rod and the adjacent portion of the yoke, and a flange or stop which engages with the free end of the switch spring, substantially as set forth.

Witness my hand this 12th day of March, 1894.

CHARLES A. MANN.

Witnesses:

CARL F. GEYER,
JNO. J. BONNER.