

No. 821,098.

PATENTED MAY 22, 1906.

J. W. GRIFFIN.
AUTOMATIC FIRE ALARM.
APPLICATION FILED APR. 10, 1905.

Fig-1-

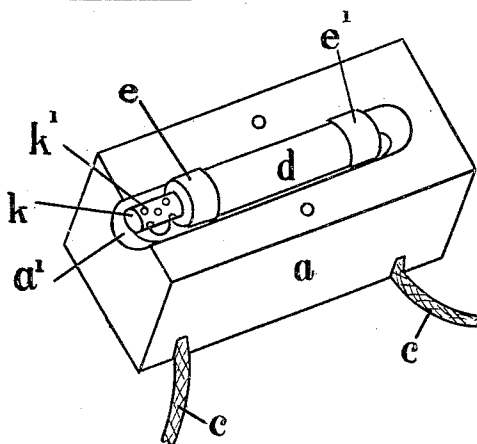


Fig-2-

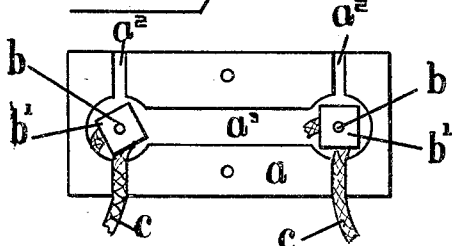


Fig-3-

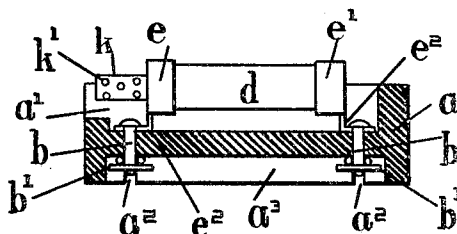


Fig-4-

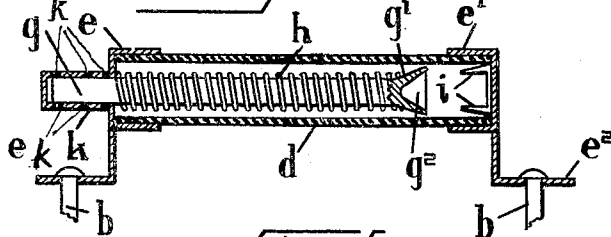
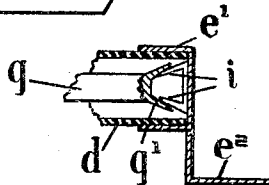


Fig-5-



John W. Griffin,
Inventor,

Frank H. Allen
by Attorney

Witnesses
Frank S. Dewire.
May S. Ritchie.

UNITED STATES PATENT OFFICE.

JOHN W. GRIFFIN, OF PAWTUCKET, RHODE ISLAND.

AUTOMATIC FIRE-ALARM.

No. 821,098.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed April 10, 1905. Serial No. 254,739.

To all whom it may concern:

Be it known that I, JOHN W. GRIFFIN, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Automatic Fire-Alarms, of which the following is a specification.

This invention is in that class of electric fire-alarms in which an open circuit is maintained normally by a fusible cap. In the event of fire the plug fuses and allows the previously-separated contact-points to move into engagement, thus closing the circuit and causing an alarm-bell to ring.

My present invention seeks to provide an exceeding simple and cheap device having no exposed binding-posts, adjusting-screws, or other parts that can be surreptitiously tampered with or that can be accidentally misplaced or otherwise rendered inoperative.

The drawings annexed hereto serve to illustrate my said invention.

Figure 1 is a perspective view of my newly-improved device, and Fig. 2 is an under side plan view of the same. Fig. 3 is a longitudinal central view of the base-section and shows in side elevation the cylindrical case in which the contact-points are supported. Fig. 4 is a relatively enlarged central sectional view of said case and of the parts located therein, the contact-points being shown as separated. In Fig. 5 I have shown by a similar view the contact-points as closed.

Referring to the drawings, the letter *a* indicates a base of porcelain or the like suitable material, the upper face of said base being channeled or recessed, as at *a'*, in order that the operative parts of my device may be partially inclosed and protected, as I shall explain more fully later. The under side of said base is also, by preference, channeled, as at *a²* *a³*, in order that the binding-posts *b* and nuts *b'* may be concealed, as well as the circuit-wires *c*.

The letter *d* denotes a tubular section of insulating material having fixedly mounted upon its opposite ends metallic caps *e e'*, each of which caps is formed with an angular foot *e²*, that is clamped to the base *a* by means of the binding-posts *b*, as will be clearly understood by reference to Figs. 3 and 4 of the drawings.

The tubular section *d* lies partly within the recess *a'*, this arrangement of base and tube

being specially designed to protect the tube from accidental disarrangement or injury.

The cap *e* is perforated centrally to receive and support the outer end portion of a rod or tube *g*, that is slidably mounted within the tube *d*. The inner end of said rod *g* is formed with an enlargement or head *g'*.

The letter *h* indicates a spiral spring that is coiled loosely upon the rod *g*, one end of said spring abutting the head *g'* and the other end abutting the inner face of the cap *e*. (See Fig. 4.) The said spring acts with a constant tendency to expand, and thus force the rod *g* farther within the tube *d*—that is to say, toward the cap *e'*—and thus cause the headed end of the rod to contact with certain spurs *i*, of thin metal, (preferably copper,) secured to or formed as a part of the inner face of cap *e'*. The head *g'* is cupped, as at *g²*, so that when the rod is forced inward by the spring *h* the cap will inclose the said spurs and bend them toward each other, as seen in Fig. 5, thus providing a scraping connection that will insure a perfect contacting of the engaging metallic parts, even if said parts were corroded, greased, or otherwise coated by foreign substance.

In order to hold the rod *g* and spurs *i* apart, and thus maintain normally an open circuit, I secure upon the outwardly-projecting end of said rod, by means of readily-fusible solder, a cap or sleeve *k*, of thin metal, and, by preference, I perforate the circumferential shell of said sleeve *k*, as at *k'*, so that the solder may fill said holes, and thus serve, in effect, to rivet the sleeve to the rod and hold the parts securely together. The said perforations also enable a flame to reach the soldered joint and fuse the solder more readily and effectively than if a non-perforated cap or sleeve were used. So soon as the solder fuses and the sleeve *k* is loosened the spring *h* shoots the rod *g* inward and moves the cupped head *g'* into contact with the spurs *i*, thus closing the electric circuit and causing an alarm-bell to ring.

My described device is of simple and cheap construction and may be of such small size and pleasing design that it may be used in residences and the like places where the more elaborate and unsightly devices would be considered objectionable.

Having thus described my invention, I claim—

1. In an automatic fire-alarm, a base having upon one face a longitudinal channel, and

upon the opposite face having longitudinal and transverse intersecting channels, binding-posts, nuts and circuit-wires connected in the last-named channels, a tubular section of insulating material in the first-mentioned channel, caps on said section having feet held by said binding-posts, a fixed contact within said tubular section, a movable contact within said section, and fusible means for normally holding said contacts separated.

2. In an automatic fire-alarm, a tubular section of insulating material, a fixed contact therein, a spring-actuated contact in said section, a rod carrying said movable contact with one end extended through said section, and a perforated sleeve outside said section and receiving the extended end of said rod and held to the latter by fusible material filling said perforations.

3. In an automatic fire-alarm, a tubular section of insulating material, a fixed contact therein, a spring-actuated contact in said section, a rod carrying said movable contact with one end extended through said section, and a perforated sleeve outside said section and receiving the extended end of said rod and held to the latter by fusible material filling said perforations, said perforations being distributed about the said sleeve, and the sleeve bearing against the end of the tubular section.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W. GRIFFIN.

Witnesses:

C. F. HARRIS,
ALONZO R. WILLIAMS.