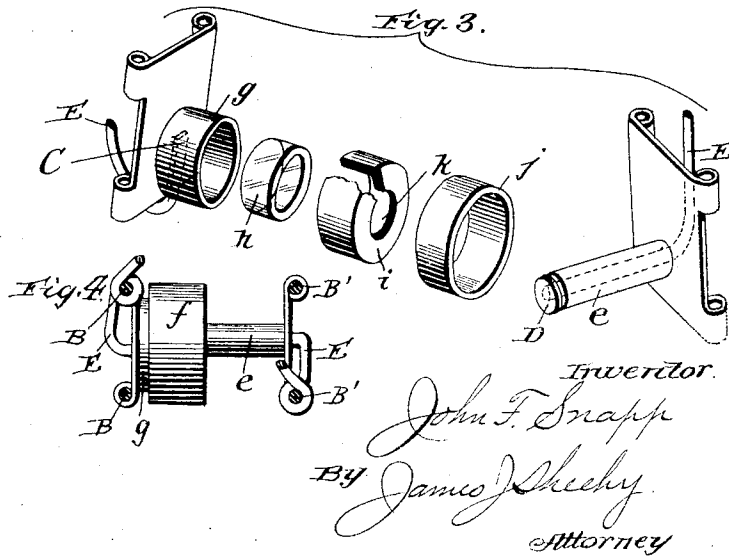
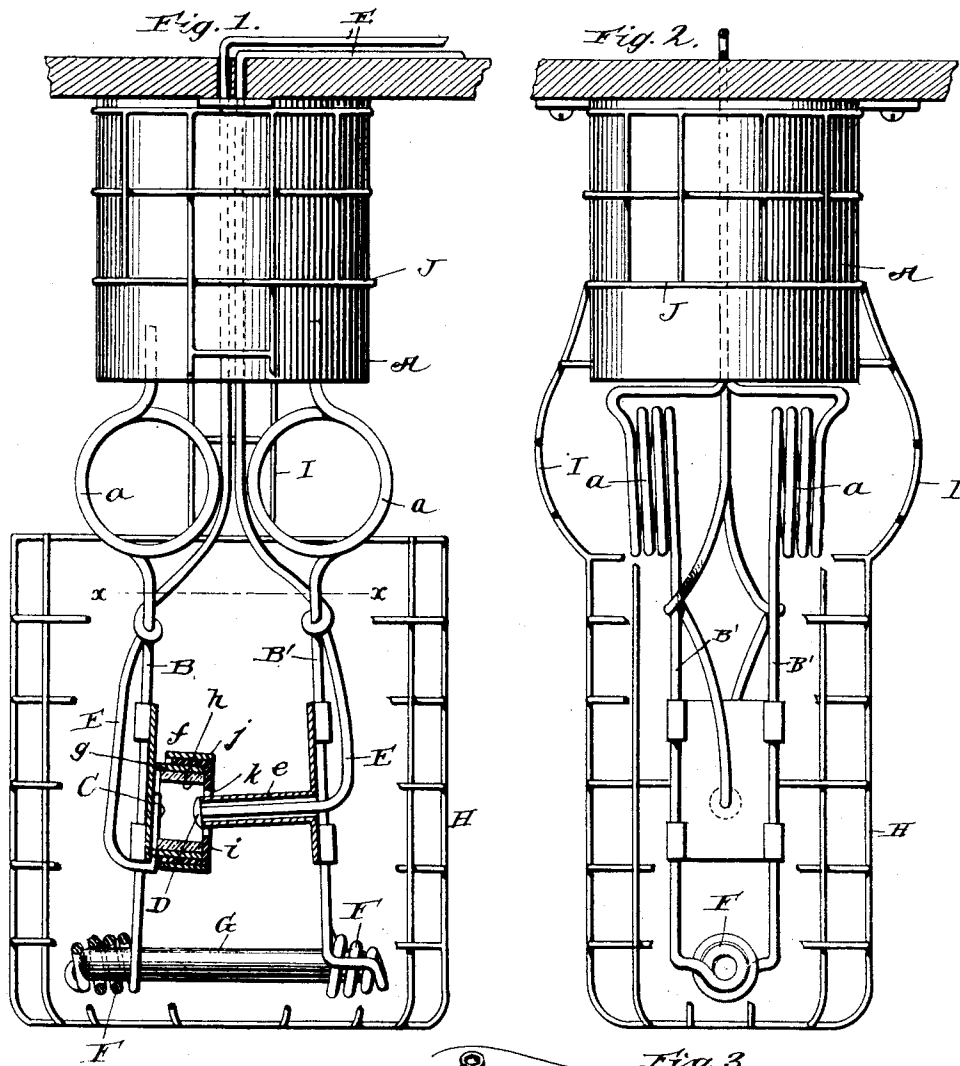


(No Model.)

J. F. SNAPP.  
FIRE ALARM DEVICE.

No. 542,783.

Patented July 16, 1895.



Witnesses:  
*Chas. Reader*  
*Thomas C. Turpin*

Inventor.  
*John F. Snapp*  
By *James J. Sheehy*  
Attorney

# UNITED STATES PATENT OFFICE.

JOHN F. SNAPP, OF FRICHTON, INDIANA.

## FIRE-ALARM DEVICE.

SPECIFICATION forming part of Letters Patent No. 542,783, dated July 16, 1895.

Application filed April 13, 1895. Serial No. 545,603. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN F. SNAPP, a citizen of the United States, residing at Frichton, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Fire-Alarm Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in that class of fire-alarm devices which are adapted, when subjected to the action of a high heat, to automatically close an electrical circuit and thereby actuate an electric bell or other alarm arranged in such circuit, and its novelty will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a front elevation, partly in section, of my improved device with a portion of the inclosing and protecting cage broken away. Fig. 2 is a side elevation of the device. Fig. 3 comprises perspective views of several of the parts separated, and Fig. 4 is a detail section taken in the plane indicated by the line *xx* of Fig. 1.

Referring by letter to said drawings, A indicates the body of the device, which is designed to be attached to a wall or other support and is preferably of a circular form in cross-section, as shown, although it may be of any other suitable form, and B B' indicate the spring-arms which are connected to one end to the body A, as shown. These spring-arms B B' may be formed of any suitable material and backed by springs or may be formed of resilient material; but I prefer in practice to form them of wire and to coil such wire, as indicated by *a*, so that the arms will, when released, tend to spring toward each other for a purpose presently described. Said arms B B' are provided with contacts C D, respectively, which are designed to be connected by suitable insulated wires E with an electrical generator and with a suitably-situated electric bell or other alarm (not illustrated) and one adapted when they contact to close the electrical circuit, so as to actuate the bell or other alarm. The arms B B' are also provided at their free ends with sockets F, which

are preferably formed by twisting the wire of which the arms are composed, as illustrated, and are designed and adapted to receive and hold the ends of the bar G, the function of which is to normally hold the arms and, consequently, the contacts C D apart. Said bar G is formed of celluloid or equivalent material, and it will therefore be seen that when the temperature of the room in which the device is placed reaches a dangerously-high point or flames break out the rigidity of the bar will be destroyed, so as to permit the arms B B' to press the contacts C D together and sound an alarm.

It is highly important in this class of devices to keep the contacts free from dust and dirt, so as to insure a completion of the electrical circuit when they come together, and I have therefore arranged the contact D at the end of a tube *e*, extending inwardly from the arm B', and have arranged the contact C in an inclosure *f*, carried by the arm B, as shown. The said inclosure *f* comprises a wall *g*, which is connected to the arm B, a glass or other non-conducting lining *h*, arranged on the inside of said wall, and a cover *i*, of rubber or other suitable non-conducting material, which is secured over the outer end of the wall *g* by a collar *j* and is provided with a central aperture *k* for the passage of the tube *e*, as illustrated. The said tube *e* in the normal position of the parts extends through the aperture *k* of the inclosure cover, and both of the contacts C and D rest within the inclosure, and it will therefore be seen that dust, dirt, &c., will be excluded from the contacts and that, therefore, when the arms B B' are released the electrical circuit will undoubtedly be closed or completed for the purpose before described.

H indicates a wire cage, which is designed to receive the arms B B' and their appurtenances and protect the same from injury or from being interfered with. This cage H is of about the proportional length illustrated, and it is provided at its upper end with the diametrically-opposite arms I, to the upper ends of which the securing-collar J is connected, as illustrated. The said securing-collar J, which is preferably formed of wire-netting similar to that composing the cage H, is designed and adapted to surround the body

A of the device, so as to hold the cage in its proper position, as shown in Figs. 1 and 2.

In the practice of the invention the device is suitably secured on a wall or other support in a room, and the wires E, connected to its contacts, are connected with an electric generator and with an electric bell or other alarm situated at any suitable point. Now it will be seen that should a fire break out in the room the high heat would consume or destroy the rigidity of the bar G, and the arms B B', being released, would carry the contacts C D together and close the electric circuit, and consequently actuate the electric bell or other alarm, so as to give prompt notice of the fire while it is still in its incipency.

It will be readily seen from the foregoing description, taken in conjunction with the drawings, that with all of its advantages and its effectiveness my improved device is very cheap and simple, is easily placed in position and electrically connected, and does not embody any parts which are likely to get out of order or fail to work.

Having described my invention, what I claim is—

1. An automatic fire alarm device comprising the body, spring arms B, B', connected at one end to the body and having sockets at their free ends, a rigid bar of combustible material having its ends seated in the sockets of the spring arms so as to hold said arms apart, an inclosure carried by the arm B, and having an opening in one of its end walls, a contact C, arranged in said inclosure and adapted to be electrically connected with a generator and an electrical signal, a portion connected to the arm B', and extending through the opening in the wall of the inclosure, a contact D, carried by said portion of the arm B', and arranged in the inclosure and adapted to be electrically connected with

the same generator and electrical signal as the contact C, and the wire cage connected with the body and surrounding the spring arms and their appurtenances, substantially as specified.

2. In an automatic fire alarm device, the combination of an inclosure comprising the wall *g*, having a non-conducting lining, and a non-conducting cover having a central aperture, a contact arranged in said inclosure and adapted to be electrically connected with a generator and an electrical signal, a spring arm having a projecting portion extending through the aperture of the inclosure cover, a contact at the end of said projecting portion adapted to be electrically connected with a generator and a signal and means for normally holding the contacts apart, substantially as specified.

3. In an automatic fire alarm device the combination of an inclosure having an opening in one of its end walls, a contact C, arranged in said inclosure and adapted to be electrically connected with a generator and an electrical signal, a piece *e*, extending through and occupying the opening in the wall of the inclosure, a contact D, carried by said piece *e*, and adapted to be electrically connected with the same generator and electrical signal as the contact C, a combustible device adapted to normally hold the piece *e*, so as to hold the contacts apart, and means for moving said piece *e* inwardly when released so as to bring the contacts C, D, together, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. SNAPP.

Witnesses:

DANIEL J. PHILLIPS,  
ORLANDO H. COBB.