H. BECKER.

AUTOMATIC FIRE ALARM.

APPLICATION FILED OCT. 21, 1910.

992,477. Patented May 16, 1911.

Fig. 1

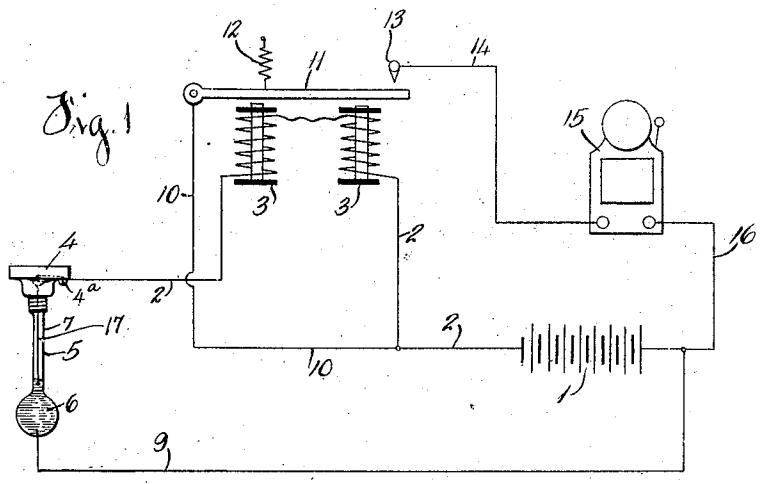
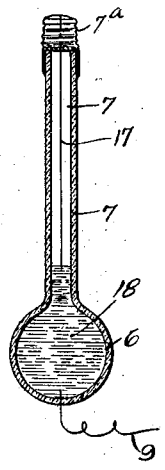


Fig. 2



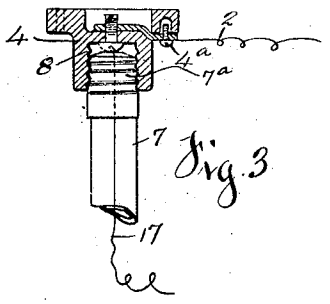


Fig. 3

Witnesses

Oliver Thorneau

Minna Dran

Inventor

Henry Becker

By James N. Ramsey

Attorney

UNITED STATES PATENT OFFICE.

HENRY BECKER, OF NEWPORT, KENTUCKY.

AUTOMATIC FIRE-ALARM.

992,477. Specification of Letters Patent. **Patented May 16, 1911.**

Application filed October 21, 1910. Serial No. 588,246.

To all whom it may concern:

Be it known that I, HENRY BECKER, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Automatic Fire-Alarms, of which the following is a specification.

My invention relates to automatic fire alarms, and its object is to provide a device which will be simple, inexpensive and efficient, and one which will automatically send in an alarm when the temperature rises to a predetermined degree.

My invention consists in a glass container comprising a bulb at the bottom with a neck extending upwardly therefrom, mercury placed in said container, a wire extending into the neck and contacting with the mercury, and another wire extending through the bulb and contacting with the mercury whereby the mercury forms a connection between the two wires for the purposes herein set forth.

My invention also consists in certain novel parts and combination of parts, as herein set forth and claimed.

In the drawing which serves to illustrate my invention: Figure 1. is a diagrammatic view showing my invention in use and connected properly in an electric circuit. Fig. 2 is a cross-section of my improved circuit breaker or fire alarm device. Fig. 3 is a detailed view showing a glass bulb having a neck shown in Fig. 2 attached to a socket which may be fastened in any desired manner.

In the embodiment of my invention, as illustrated, 1 represents a battery from which extends a wire 2, leading to a pair of magnets 3 and from said magnets 3 to terminal 4^a of socket 4, which socket may be placed at any desired location. A circuit breaker 5 is connected to said socket 4 and comprises a bulb 6 having a neck 7. The upper end of the neck 7 is provided with screw threads 7^a which engage the screw-threads 8 in the porcelain socket 4. Bulb 6 and neck 7 comprising the circuit breaker are made hollow to receive mercury 18 and is preferably constructed of glass or other non-conducting material. A wire 17 extends from the top of the receptacle or circuit breaker 5, downwardly in the neck into contact with the mercury 18. Another wire 9 extends through the bulb of the circuit breaker 5, the same being preferably placed in the container when it is blown or when the glass is hot, and a portion of the wire 9 extends inside the bulb 6 into contact with the mercury 18. The wire 9 extends from said bulb to the other side of the battery 1 and completes the circuit from the battery through the magnets 3 thence through the circuit breaker 5, and back to the battery 1.

As soon as the temperature in the room where the circuit breaker is located, rises to a degree which must be determined, the mercury in the circuit breaker 5 expands until it exerts sufficient pressure upon the glass of the circuit breaker 5 to break the same, thereby allowing the mercury to escape, and breaking the circuit there-through. As soon as said circuit is broken another circuit is immediately formed from the battery through wire 2, then through wire 10 to the arm 11 of the magnets 3. The magnets 3 being deënergized allow the bar of arm 11 to move away therefrom with the assistance of spring 12 until it engages the contact 13. A wire 14 extends from the contact 13 to a bell 15, and a wire 16 connects the other terminal of the bell with the battery 1. Therefore, a circuit is immediately formed from the battery 1 through the wire 10, arm 11, contact 13, wire 14, bell 15 and back to the battery 1, thereby ringing the bell. It is readily seen that as soon as the temperature rises to a certain degree that the circuit breaker will perform its duty, that is break the circuit of which it is a part thereby causing alarm 15 to respond.

My improved circuit breaker may be placed any where desired and may be protected by means of a wire cage which may be readily constructed and placed over said circuit breaker. The circuit breakers are preferably placed short distances apart systematically throughout the building in which they are used.

Modifications of my invention may be made especially in the details of construction without departing from its spirit and scope and I do not wish therefore, to be confined to the exact details shown.

What I claim as new and desire to secure by Letters Patent is:

A device of the character described, comprising a container made of non-conducting material, partly filled with mercury, a wire

extending from the upper end thereof, inside said container and contacting with the mercury therein, a wire extending through the bottom of said container and contacting with the mercury therein, and a screw-threaded cap placed upon the top of said container, and adapted to enter a socket, substantially as and for the purposes set forth.

HENRY BECKER.

Witnesses:
JAMES N. RAMSEY,
ROSE SCHOTT.