S. O. ABRAHAMSEN.

AUTOMATIC FIRE ALARM.

APPLICATION FILED AUG. 30, 1918.

1,344,471. **Patented June 22, 1920.**

Fig. 1.

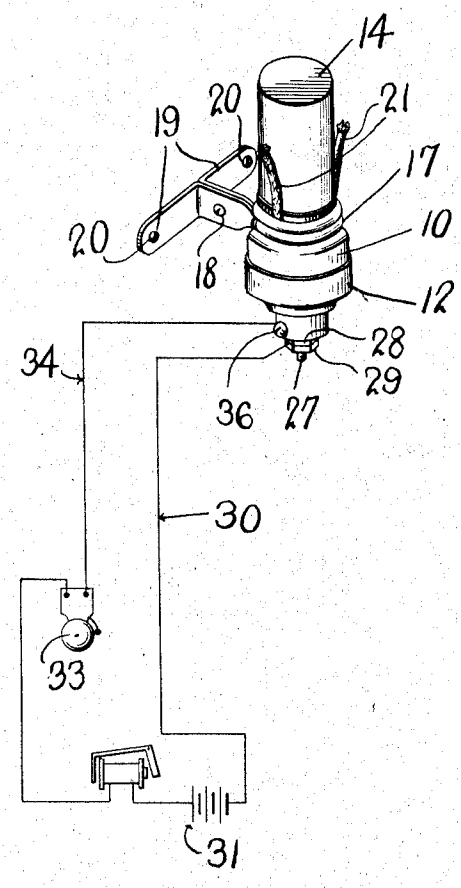


Fig. 2.

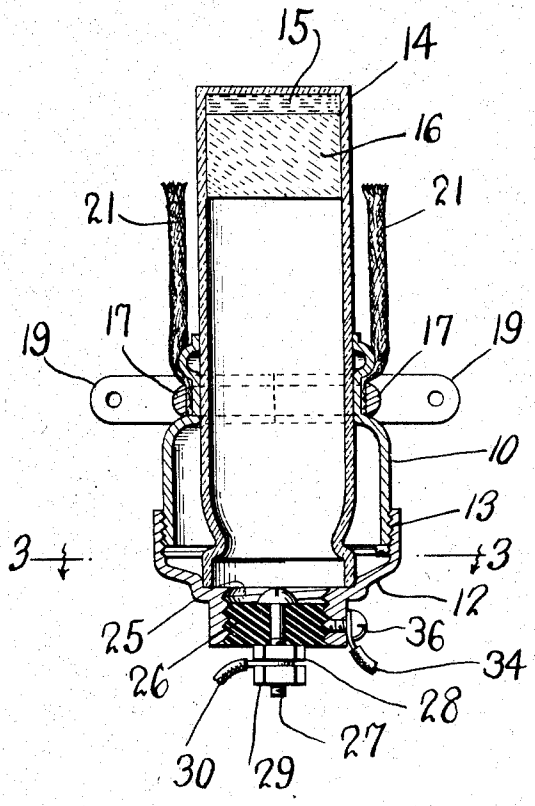
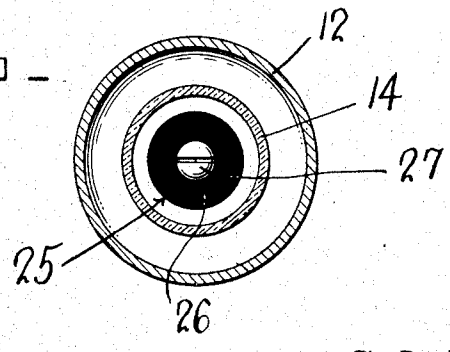


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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AUTOMATIC FIRE-ALARM.

1,344,471. Specification of Letters Patent. Patented June 22, 1920.

Application filed August 30, 1918. Serial No. 252,099.

To all whom it may concern:

Be it known that I, SIGURD OLAF ABRAHAMSEN, citizen of Norway, residing at Virginia, in the county of St. Louis and State of Minnesota, have invented new and useful Improvements in Automatic Fire-Alarms, of which the following is a specification.

This invention relates to automatic fire alarms, and the object is to provide a device of improved construction including a contact making element of fusible material adapted to be retained in a suitable casing, a portion of which is formed of transparent material, the fusible material upon melting allowing a metallic substance to fall into contact with certain normally spaced terminal members of an electric circuit.

An object of the invention is to provide a two-part metallic casing, one portion of which is adapted to be retained in position by a bracket secured to any suitable stationary element, said portion also carrying a tubular member of transparent material within the upper end of which a small portion of quicksilver is retained by a fusible substance, the lower portion of the casing having threaded or other detachable connection with the upper portion, and providing a plurality of terminal members normally spaced and having connection with an electric circuit, these terminals being connected electrically upon the melting of the fusible substance and the falling of the quicksilver into the lower part of the casing.

With the foregoing and other objects in view, the invention consists in the novel construction, combination, and arrangement of elements hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the device, with a diagrammatic view of the circuits; Fig. 2 is a vertical section, omitting the circuits; Fig. 3 is a transverse section on line 3—3 of Fig. 2.

The main casing comprises an upper section 10 and a lower section 12 having threaded connection at 13, the upper casing supporting a tubular member 14 of glass or suitable transparent material. Within the upper portion of the latter a small portion of quicksilver designated 15, is held by suitable fusible material 16, such as rosin or the like.

The upper casing member is surrounded by a clamping or holding device designated 17, portions of which are connected by an adjusting screw 18, the extreme portions of the device being deflected as shown at 19 thereby forming a bracket member adapted to be secured by means of screws 20, to the wall or any stationary object within the room or building to be protected.

Within the clamping member 17 a plurality of wicks 21 are supported, the upper ends of the wicks carrying, if desired, a readily inflammable substance which will become ignited by any flame in the vicinity. It is not necessary however that actual flame should be present in order to place the device in operation, as a predetermined degree of heat will melt the fusible substance 16 and will cause the quicksilver to fall into the lower portion of the casing, making contact as indicated below.

Casing member 12 is provided with an aperture 25 in its lower portion within which is a bushing 26 of insulating material. Passing through the bushing is a terminal member comprising a screw 27 carrying a washer 28 and a nut 29 permitting the end of a wire 30 to be secured. This wire 30 may lead from a battery 31, and through any suitable alarm circuit. It may include the bell 33 or an annunciator of any desired type. The opposite side 34 of the circuit is connected by a screw 36 with the lower casing member 12 in order to form a complete circuit when the mercury is released and falls to the bottom of the casing.

Any number of these devices may be placed within a building and within the various rooms thereof at points where fire is likely to originate, and these may be connected with any suitable alarm or annunciator, as indicated.

What is claimed is:

In a device of the class described, a two-part casing comprising an upper section and a lower section, said sections being detachably connected; an insulated terminal member carried by the lower section; a conductor in electrical connection with the lower section; a tubular member carried by the upper section; a metallic substance within the tubular member; a fusible substance for retaining the metallic substance out of contact with the terminal member and the lower section; a bracket for supporting the casing, including a clamping member; and an inflammable object retained in position by the clamping member.

In testimony whereof I affix my signature.

SIGURD OLAF ABRAHAMSEN.