No. 634,940. Patented Oct. 17, 1899.

W. A. GUTHRIE & J. B. UNDERWOOD.

COMBINATION PUSH BUTTON AND FIRE ALARM.

(Application filed Jan. 21, 1898.)

(No Model.)

Fig. 1.

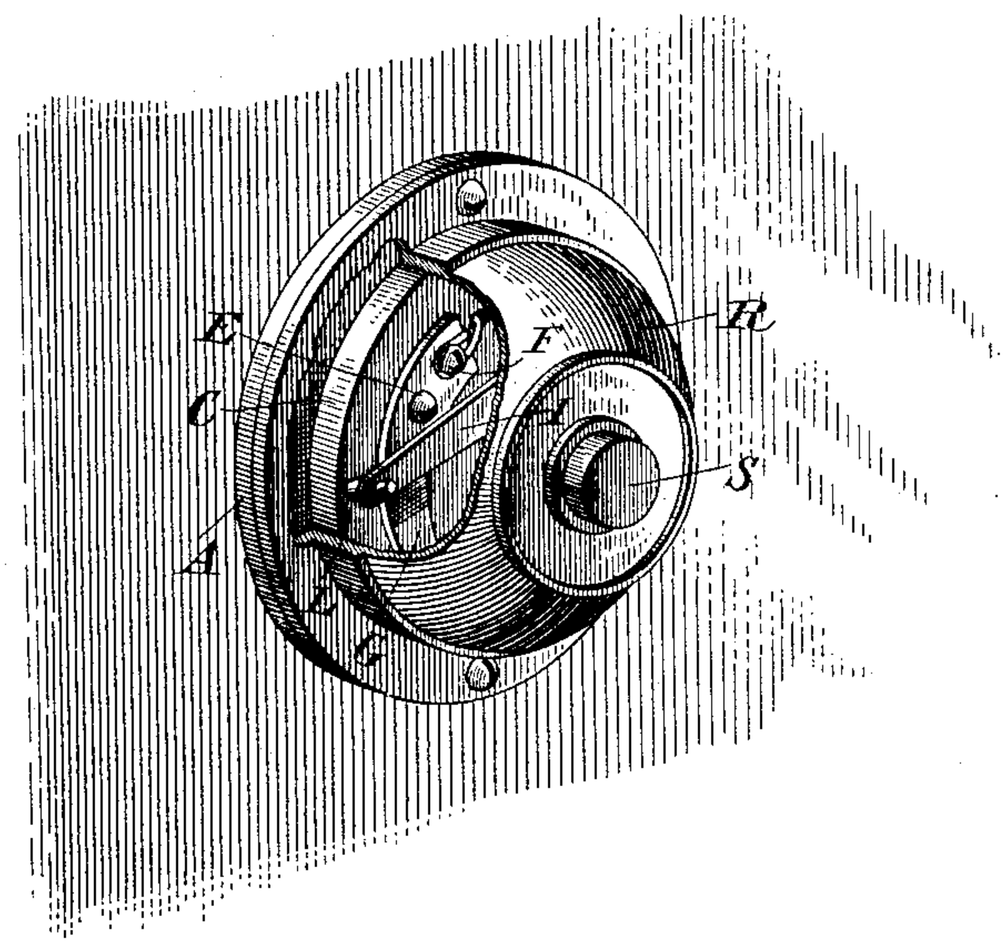


Fig. 2.

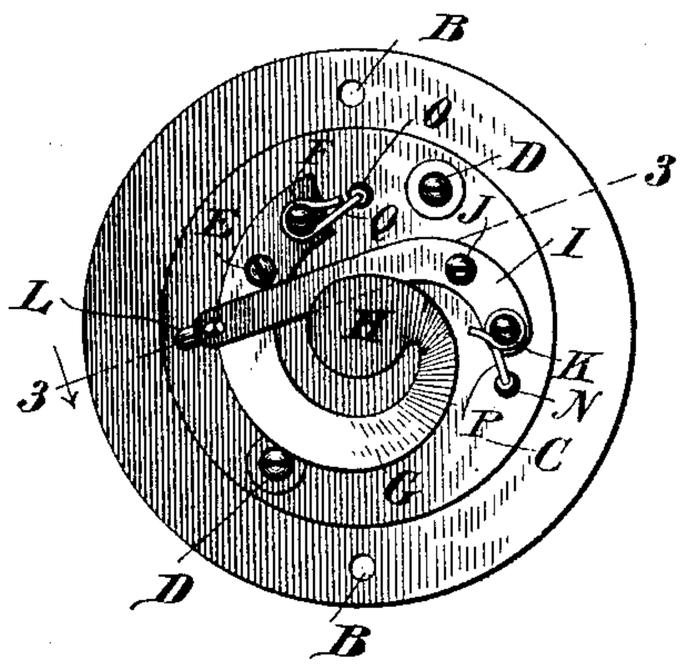
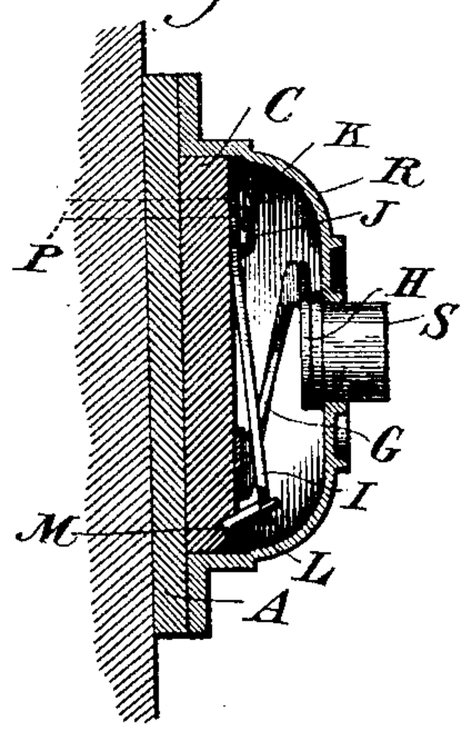


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. GUTHRIE, OF DURHAM, AND JOSEPH B. UNDERWOOD, OF FAYETTEVILLE, NORTH CAROLINA; SAID UNDERWOOD ASSIGNOR TO SAID GUTHRIE.

COMBINATION PUSH-BUTTON AND FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 634,940, dated October 17, 1899.

Application filed January 21, 1898. Serial No. 667,440. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. GUTHRIE, residing at Durham, in the county of Durham, and JOSEPH B. UNDERWOOD, residing at Fayetteville, in the county of Cumberland, State of North Carolina, have invented a new and useful Combination Push-Button and Fire-Alarm, of which the following is a specification.

This invention is in the nature of a device which is in appearance an ordinary push-button for closing an electric circuit, but which is provided with means whereby at the same time it acts as a thermostatic fire-alarm.

The object of the invention is to provide an economical and reliable device for giving a signal by closing an electric circuit to ring a bell, drop an annunciator, open or shut a valve, or operate other devices by pressing a button in the ordinary manner, such device being provided with mechanism whereby the same closing of the circuit effected by the push-button will be automatically effected when a predetermined degree of heat exists at the push-button.

With this object in view our invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which the invention most nearly appertains to make and use the same, we will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view illustrating a combined push-button and fire-alarm constructed in accordance with our invention, a portion of the outer casing being broken away. Fig. 2 is a top plan view of the device with the outer casing removed. Fig. 3 is a transverse section through the same on the line 3 3 of Fig. 2, looking in the direction of the arrow.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A indicates the base, of insulating material, which is illustrated as circular in shape, although its shape may be varied. Suitable screw-holes B are provided for securing the base in any desired position.

C indicates a circular plate secured to the base by means of screws D, the plate C being also of insulating material and of a diameter slightly less than that of the base.

Secured upon the face of the plate C by means of screws E and F is a metallic spring-plate G, the outer end H of which lies over the insulating-plate C and is raised some distance therefrom.

A spring-plate I is secured upon the surface of the plate C by means of screws J and K, extends across the plate C from side to side, and passes under the raised outer end H of the helical spring-plate G and over the main body thereof.

The plate I would normally lie upon and in contact with the plate G, but is held above the main body of that plate by means of a plug L, of fusible metal, upon which the outer end of the plate I rests and which is seated in a depression M in the upper surface of the plate C.

Holes N and O are bored through the plates C and A, and wires P and Q are passed through said holes from the rear of the plate A and secured in electrical contact with the plates I and G by means of screws K and F, which secure the contact-plates in position upon the plate C.

R indicates the cap or cover, which is secured in position to inclose the operative parts in the usual manner. The cap is provided with the usual central opening, through which is projected the push-button S, which is provided with an enlarged interior head which prevents its displacement from the hole through which it projects, which head when the parts are assembled together rests upon the end H of the helical spring-plate G.

The construction of our invention will be readily understood from the foregoing description and its operation may be described as follows: The device being secured in position, with the wires P and Q connected up

in an electric circuit to be used for any desired purpose, the circuit through such wires may be closed by pressing the push-button inward against one end H of the helical spring-plate G, which will contact with the spring-plate K immediately under the end H, and thus close the circuit through the wires and the spring-plate. When by reason of the breaking out of fire in the apartment in which the device is located the temperature is raised to a sufficient height to melt the fusible plug L, the support which holds the outer end of the spring-plate I out of contact with the main body of the helical spring-plate G will be removed, and this plate by reason of its resiliency will resume its normal position in contact with the upper surface of the main body of the spring-plate G, and thus automatically close the circuit through the same parts by which it is manually closed by pressing the push-button.

From the foregoing it will be apparent that we have produced a very simple and economical device for attaining the object of our invention, said device consisting of the smallest possible number of inexpensive parts arranged to be readily and easily assembled together and removed from position for renewal or repair.

While we have illustrated and described what we consider the best means for carrying out our invention, we do not wish to be understood as restricting ourselves to the exact construction shown, but hold that such slight changes as might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of our invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

A combined push-button and electric fire-alarm, comprising in its construction a base, a spring contact-plate secured to the face thereof, the end of said plate normally resting over, and at a slight distance from, the base, a second spring contact-plate secured to the base and passing across the surface thereof, under the normally-raised end of the first spring-plate and over the main body thereof, the normal tendency of the resiliency of the second plate being to hold it in contact with the upper surface of the main body of the first spring-plate, a plug of fusible metal, seated under the outer end of the second contact-plate, holding it out of contact with the main body of the first plate, a cap for inclosing the operative parts, perforated centrally, and a push-button, resting upon the outer end of the first spring-plate and projecting through the central perforation of the cap, substantially as described.

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