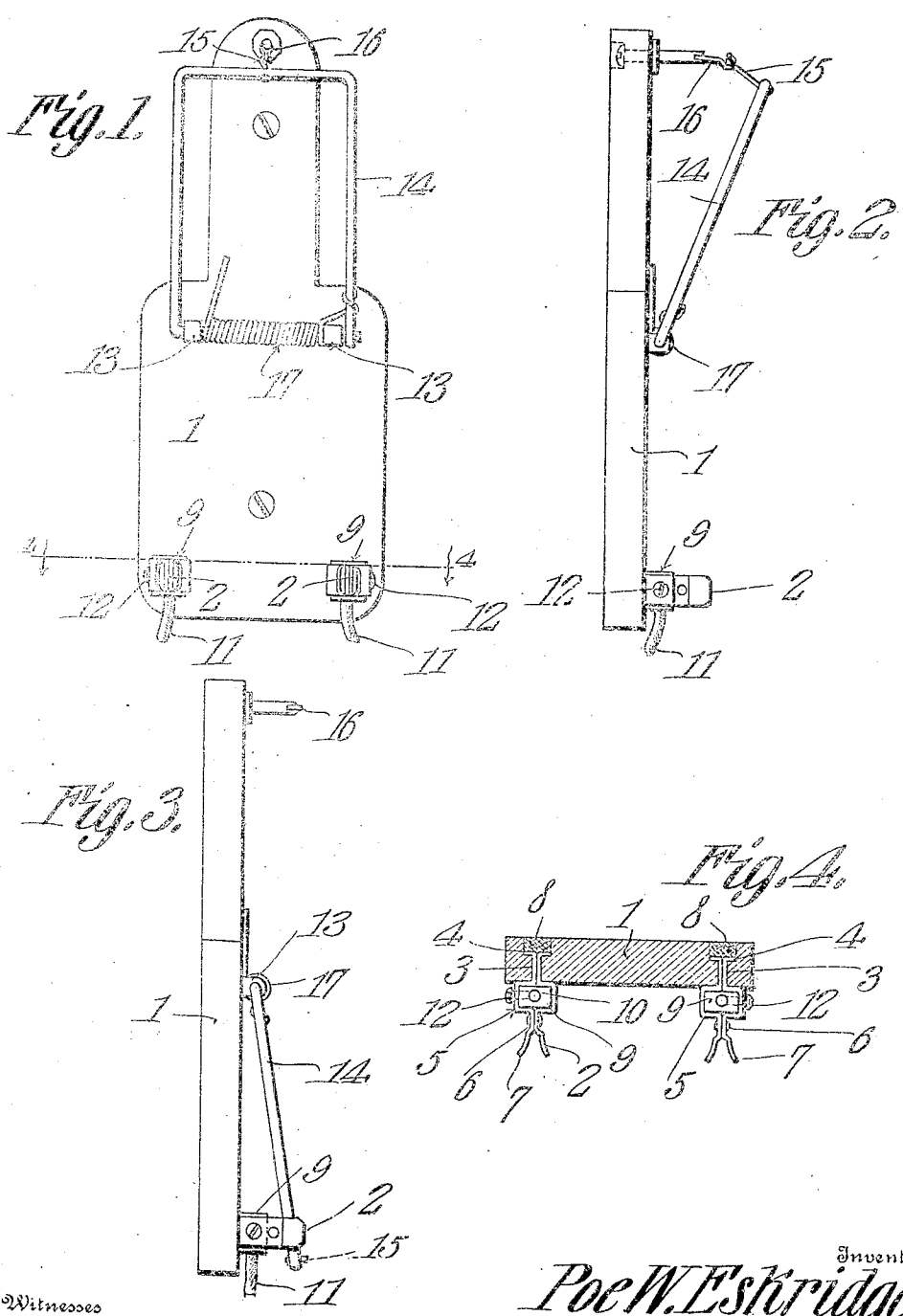


P. W. ESKRIDGE.
 FIRE ALARM SWITCH.
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972,353.

Patented Oct. 11, 1910.



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UNITED STATES PATENT OFFICE.

POE W. ESKRIDGE, OF RUTHERFORDTON, NORTH CAROLINA.

FIRE-ALARM SWITCH.

972,353.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, POE W. ESKRIDGE, a citizen of the United States, residing at Rutherfordton, in the county of Rutherford and State of North Carolina, have invented a new and useful Fire-Alarm Switch, of which the following is a specification.

The object of this invention is to produce a device of simple construction which will automatically close an electric circuit in a fire alarm telegraph line so as to give an alarm when a fire occurs in an apartment equipped with the device.

With this object in view the invention consists in a swinging frame normally held in a raised position and arranged to move into engagement with a pair of contacts forming part of a fire alarm system, all of which will be hereinafter first fully described, and the novel features subsequently claimed.

In the annexed drawings, which fully illustrate my invention, Figure 1 is a front elevation of my improved circuit closer. Fig. 2 is an edge view of the same showing the device in its normal position. Fig. 3 is a similar view showing the device in the circuit-closing position. Fig. 4 is a sectional view, taken on the line 4-4 of Fig. 1.

In carrying out my invention, I employ a base 1 of porcelain or other insulating material which may be of any desired shape and is secured to the wall or ceiling or other part of a room. At one end this base is formed with slits in which contact members 2 are fitted, the said contact members consisting of a pair of metal plates having a securing portion 3, at the inner end of which is a short lip 4 disposed substantially at a right angle to the said securing portion 3 and adapted to rest in a socket formed in the base at the inner or rear end of the slit in the same. At the outer end of the securing portion 3 each plate is shaped to provide a U-shaped off-set 5 from the outer end of which extends a short straight neck 6 and from the outer end of said neck projects a laterally curved arm 7. The two members thus constructed are placed together, as shown most clearly in Fig. 4, so that the retaining portions 3 will bear against each other and the lips 4 will rest against the base of the socket in the base plate 1, the said socket being filled with a plug 8 of cement or other insulating material so as to secure the contact member firmly and permanently in place. The off-set portions 5 of the members, together present an

angular box in which a block 9 of copper or other conducting material is held, being clamped in the said box by having the necks 6 of the members riveted together, as shown in Fig. 4, while the laterally flared arms 7 constitute a seat for the circuit closing frame presently described.

It will be seen from the foregoing description, that the portions 3 of the metal plates are held together by the base plate 1 and the necks 6 of the said metal plates are firmly riveted together so that the block 9 will be firmly secured. The said block 9 is provided with a central opening 10 adapted to receive the end of the line wire 11, and a binding screw 12 is mounted in the side of the block and adapted to be turned home against the line wire 11 so as to secure the same firmly within the block and in intimate contact with the walls of the central opening therein. At an intermediate point of the base plate I provide the bearings 13 in which is journaled a circuit closing frame 14 consisting of a copper wire bent to present a continuous open frame having one end extending through and journaled in the said bearings 13, and its ends fitted together at the outer side of one of said bearings. The opposite or outer end of the frame 14 is equipped with a hook 15 of some material which will melt at a low temperature, the said hook being adapted to engage a similar hook or arm 16 carried by the end of the base plate 1. Around the journaled end of the frame 14 I coil a spring 17 having one end bearing upon and secured to the base plate 1, and its other end attached to one of the side bars of the frame so that should the hooks 15 and 16 become disengaged the circuit closing frame will at once be swung over and into engagement with the contact members 2 so as to complete a circuit through the line wires and thereby sound an alarm in the usual manner.

The normal position of the parts is shown in Figs. 1 and 2, in which figures the circuit-closing frame 14 is held raised by means of the hooks 15 and 16 the circuit is broken and no current is passing. Should a fire break out in the room where the device is placed, the hooks 15 and 16 will be melted so that the circuit closing frame 14 will be released and the spring 17 will at once swing the said frame around upon its journaled connection with the base plate so that the outer free end or cross bar of the said frame will be carried

over the contact members and the side bars of the frame will be forced into engagement with the said contact members, as shown in Fig. 3 and the circuit will be closed, the current passing through the frame between the contact members.

It will be observed that the device is extremely simple in its construction, and the contact members 2 are so formed as to provide a flared mouth to receive the side bars of the circuit-closing frame and guide them into positive engagement with the contact members. The formation of the mouths of the contact members, together with the action of the spring 17, causes an intimate contact between the members 2 and the circuit-closing frame so that the circuit will be positively closed and the alarm given. The construction of the circuit-closing frame is such that the side arms or active portions thereof are maintained at the proper distance apart at all times and are prevented from being bent so as to be incapable of engaging the contact members 2, while at the same time the said circuit closing frame is very light and consequently will be easily operated by the spring bearing thereon, and can be manufactured and placed in position at a trifling cost. The manner of fitting the contact

members 2 in the base plate also effectually resists any tendency of the said members to move laterally or twist out of their proper operative positions so that the usefulness of the device is effectually maintained.

Having thus described my invention, what I claim is:

The combination of a pair of contact members forming part of a fire alarm telegraph, a circuit closing member consisting of a wire bent to form an integral open continuous frame having one side suitably journaled at a point distant from the contact members, a spring coiled around the said journaled side and attached to one of the meeting sides of the said frame whereby to cause the free side of said frame to engage and bridge the contact members, and a fusible retaining device carried by the free side of said frame and holding the frame normally out of engagement with the contact members.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

POE W. ESKRIDGE.

Witnesses:

P. C. ROLLINS,
E. B. HARRIS.