No. 668,293. Patented Feb. 19, 1901.

J. F. LYONS.

FUSE BOX.

(Application filed Apr. 17, 1900.)

(No Model.)

Fig. 1.

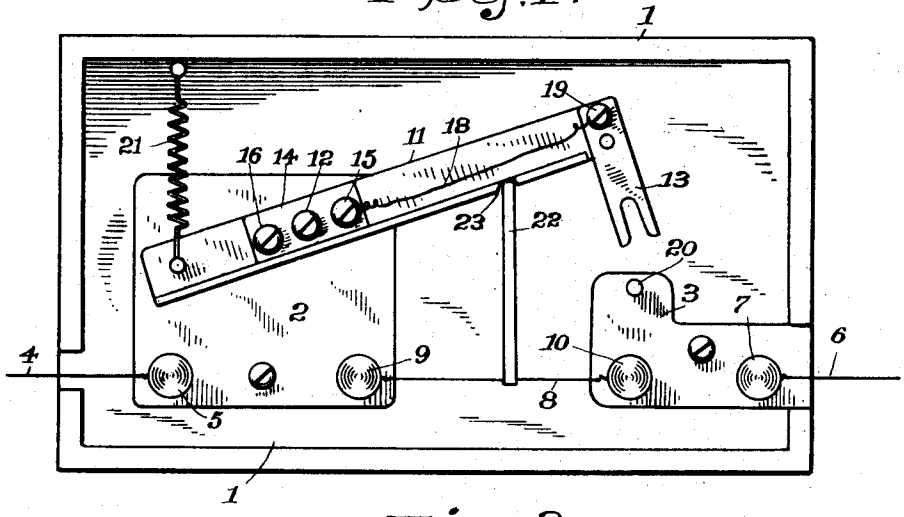


Fig. 2.

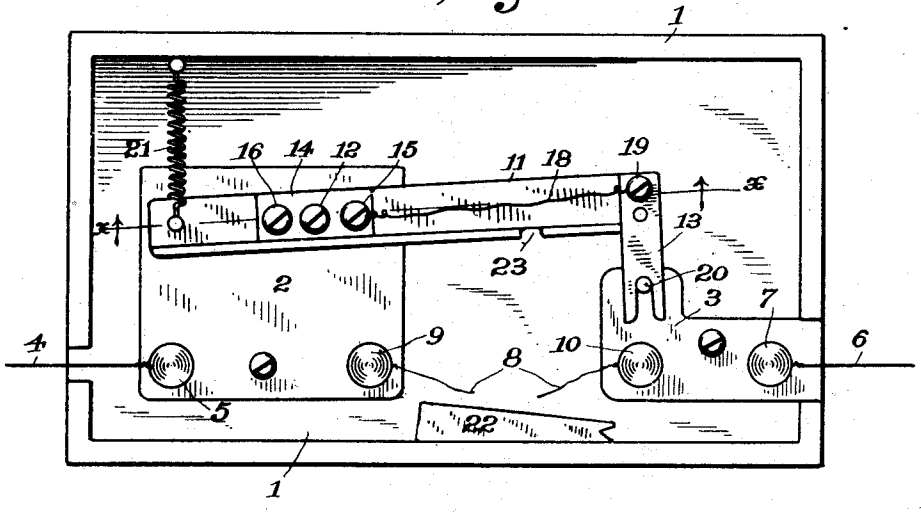
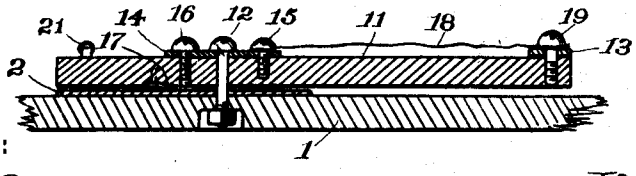


Fig. 3.



WITNESSES:

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FUSE-BOX.

SPECIFICATION forming part of Letters Patent No. 668,293, dated February 19, 1901.

Application filed April 17, 1900. Serial No. 13,236. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LYONS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Fuse-Boxes; and I do hereby 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 certain new and useful improvements in fuse-boxes, such as are used as safety appliances to prevent a very intense electric current from setting fire to inflammable material when the current is improperly insulated. In devices of this description a short section of wire is employed which is fusible at a comparatively low degree of temperature, so that whenever the current becomes too intense this wire will fuse and cause the circuit to become broken. While devices of this description are exceedingly useful and are, in fact, a necessity, owing to the stringent demands of fire-insurance authorities, nevertheless the breaking of the circuit by the fusing of the wire is quite annoying, especially where the electric current is utilized for the purposes of illumination.

The object of my invention is to provide a fuse-box in which the breaking of the circuit is almost instantly remedied by the closing of such circuit, so that with the exception of a moment or two of time the electric current is continuous.

With these ends in view my invention consists in certain details of construction and combination of parts, such as will be hereinafter fully set forth and then specifically be designated by the claims.

In the accompanying drawings, which form a part of this application, Figure 1 is a plan view of the interior of my improved fuse-box, showing the circuit closed in the ordinary manner by a fuse-wire; Fig. 2, a similar view showing the fuse-wire broken and the circuit closed by the auxiliary device which I employ, and Fig. 3 is a section at the line $x\,x$ of Fig. 2.

Similar numbers of reference denote like parts in the several figures of the drawings.

1 is the box, which is preferably made of wood or other suitable insulating material; 2, a metal conducting-plate secured to the bottom of this box, and 3 is also a conducting-plate secured to said box.

4 is the line-wire, which is connected with a post 5, secured to the plate 2.

6 is the service-wire, connected with the post 7, which is secured to the plate 3, and 8 is the fuse-wire, whose ends are connected to the posts 9 10, which posts are secured, respectively, to the plates 2 3.

From the foregoing it will be readily understood that the current comes in by the wire 4, passes through the plate 2 along the wire 8, and thence through the plate 3 onto the service-wire 6.

11 is a bar which is pivoted by means of the screw 12 to the floor of the box 1, and 13 is a metal contact secured to the outer end of this bar, which latter is made from any suitable insulating material.

14 is a metal plate secured upon the bar 11, and 15 is a binding-post secured to this plate at one end thereof.

16 is a metal screw which passes through the plate 14 in close contact therewith and which bears at its lower end against a metal spring 17, which is secured to the bottom of the bar 11, so as to force said spring in close contact with the plate 2.

18 is a wire which connects the post 15 with a post 19, which latter is secured to the contact-plate 13, and the lower extremity of this contact-plate is suitably constructed, so that when said plate is thrown downward it will be in close contact with a contact-spur 20, which rises from the plate 3.

21 is a coil-spring whose extremities are connected, respectively, with the wall of the box and with the rear end of the bar 11, the function of which spring is to normally hold the plate 13 in contact with the spur 20.

From the foregoing it will be readily understood that the contact-plate 13 is in metallic connection with the plate 2 and that when said plate 13 is in contact with the spur 20 the electric current may pass from the wire 4 through the plate 14 and thence along the wire 18 onto the service-wire 6.

22 is a spreader which is made from any suitable insulating material of a proper length and which is normally placed between the

bar 11 and the fuse-wire 8, said bar being notched, as shown at 23, to accommodate one end of this spreader, while I prefer to notch the other end of the spreader itself in order that it may properly engage with said wire.

In preparing my invention for use the bar 11 is forced away from the spur 20 against the resiliency of the spring 21 and the spreader 22 then inserted in position between said bar and the fuse-wire 8, so that it will be clear that the fuse-wire itself will sustain the bar against the force of this spring. The parts being in the position as shown at Fig. 1 when a very intense current comes along the line, the fuse-wire 8 will melt and the spring 21 will then instantly throw the contact-plate 13 into engagement with the spur 20, thus causing the circuit to be only broken momentarily.

The wire 18 is much heavier and harder than the fuse-wire 8, so that should the intense current continue for any length of time this wire 18 will not be likely to fuse, thus giving an attendant ample opportunity to inspect the box and make the necessary repairs without the annoyance of a broken circuit.

Of course it will be understood that my improvement simply prevents the circuit from being left open from the time of the fusing of the wire 8 up to the time when an attendant can make the necessary repairs, and it is a simple matter to switch in another fuse-box and to put a new fuse-wire in the box which is burned out.

My improvement is very simple and economical and is very ready and efficient in use and is not likely to get out of order, and the spreader may be instantly placed in position or removed entirely should the occasion so demand.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fuse-box, the combination with the fuse-wire, of the pivoted bar carrying at its extremity a circuit-closer which is in connection with the line-wire, a spring for normally forcing said closer in contact with the circuit-wire, and the spreader one of whose ends rests against the fuse-wire while the other end sustains said pivoted bar in elevated position against the action of said spring, whereby when the fuse-wire melts said bar will be thrown downwardly thus closing the circuit, substantially as set forth.

2. In a fuse-box, the combination of the insulated plates 2, 3, the line and service wires connected respectively to said plates, the fuse-wire having its ends connected with said plates, the pivoted bar carrying an insulated contact and metal plate, the wire connecting said contact and plate, the binding-screw driven through said plate, the spring secured to the bottom of said bar and maintained by said screw in contact with the plate 2, the spring 21 which normally forces said contact into engagement with the plate 3, and the spreader one end of which rests against the fuse-wire while the other end supports said bar in its elevated position, substantially as set forth.

3. A fuse-block comprising line-terminals adapted for connection of a fuse-wire therewith to bridge the terminals, a switch comprising contacts for engagement with the terminals, said contacts being insulated mutually and adapted for attachment of a fuse to bridge them, means for operating the switch, and means disposed to rest upon the fuse connecting the terminals, to hold the switch inoperative, substantially as set forth.

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

JOHN F. LYONS.

Witnesses:
F. W. SMITH, Jr.,
M. T. LONGDELL.