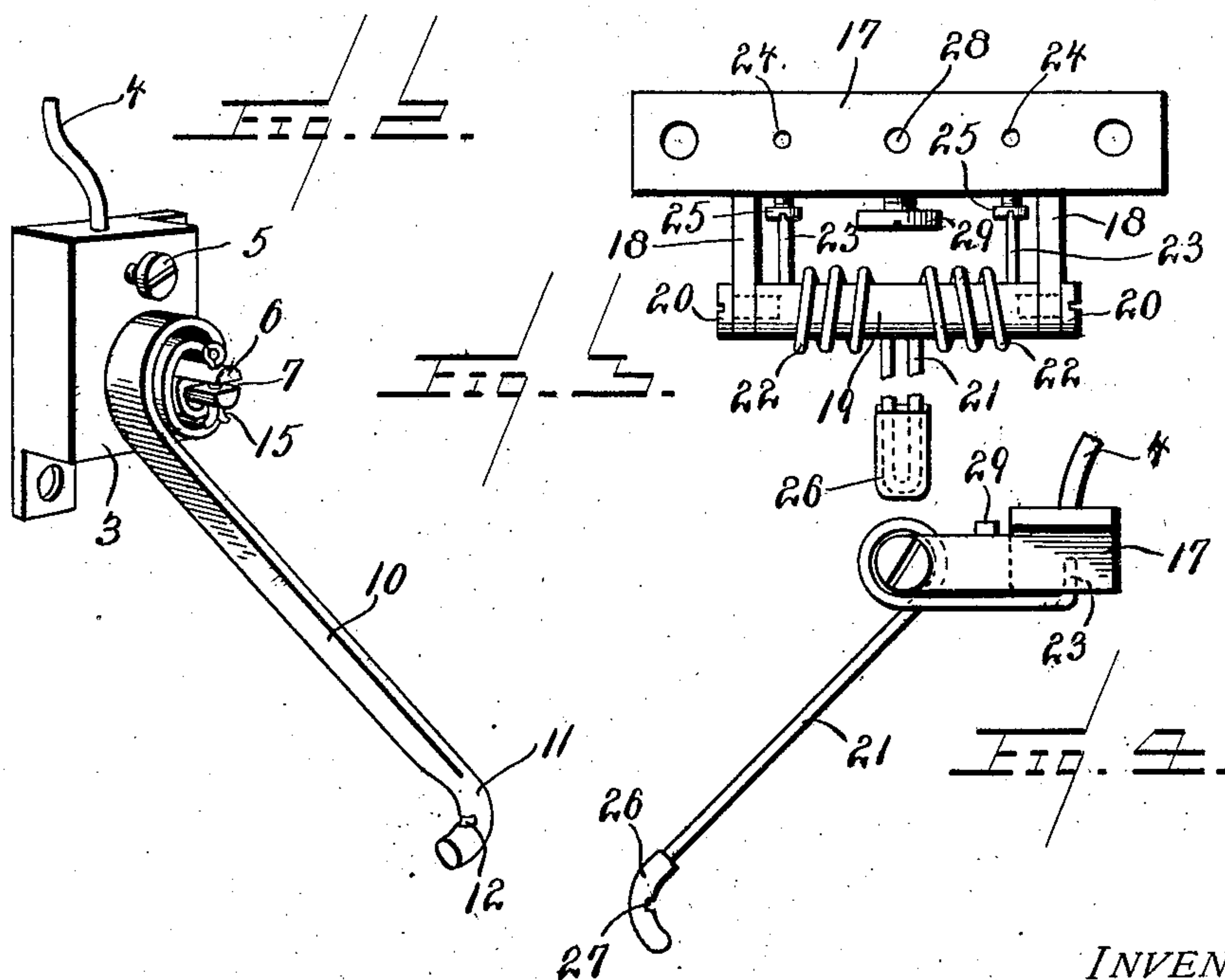
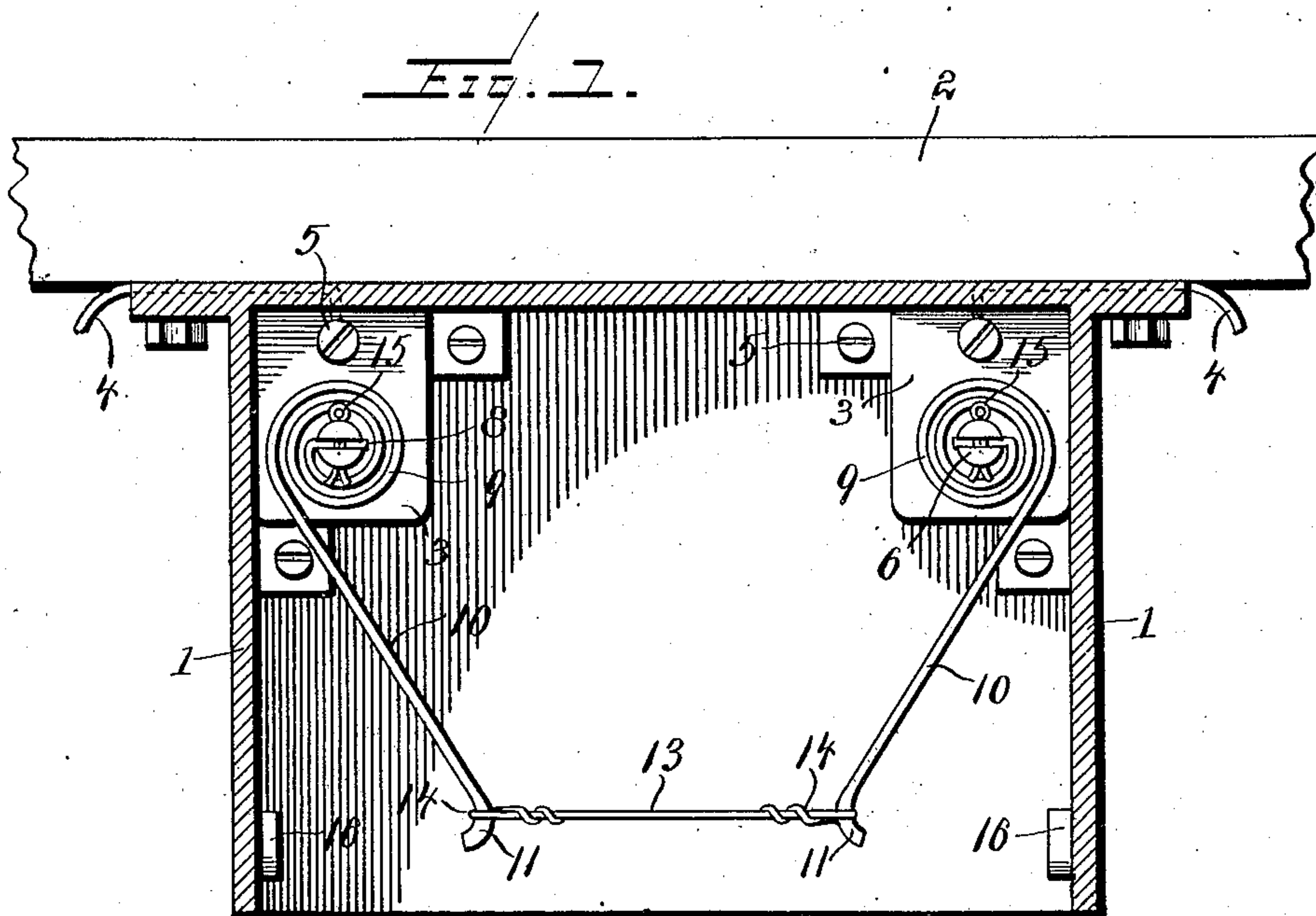


No. 819,608.

PATENTED MAY 1, 1906.

E. SHERWOOD.  
FUSE BOX.

APPLIOATION FILED JUNE 16, 1905.



*WITNESSES:*

Wm. F. Kyle.  
Albert B. Lee.

INVENTOR

*Earl Sherwood,*

By

By *Perceval M. Smith,*

*Attorney*



# UNITED STATES PATENT OFFICE.

EARL SHERWOOD, OF HONESDALE, PENNSYLVANIA.

## FUSE-BOX.

No. 819,608.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed June 16, 1905. Serial No. 265,594.

*To all whom it may concern:*

Be it known that I, EARL SHERWOOD, a citizen of the United States, residing at Honesdale, in the county of Wayne and State of Pennsylvania, have invented a certain new and useful Fuse-Box, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to thermal cut-outs or fuse-boxes, and the invention has for its object to provide means for instantly separating or moving apart the terminals upon the breakage or burning out of the fuse-wire, the terminals being thrown apart to such an extent as to prevent the possibility of an arc being formed between the terminals, thus doing away with the so-called "explosion" and "flash" incident to the destruction of a fuse-wire.

In carrying out the present invention the fuse-holders also constitute the terminals of the conductor or feed-wire, and a further object of the invention is to provide a novel construction and arrangement of fuse-holder which will enable said holder in case of breakage or injury to be readily removed and quickly replaced by a new holder, this being accomplished by the motorman or conductor without the aid of special tools.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as herein fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a sectional elevation of a thermal cut-out or fuse-box embodying the present invention. Fig. 2 is a perspective view of one of the base-blocks and one of the fuse-holders, showing the manner of connecting said parts. Fig. 3 is a plan view of a modified form of base-block and fuse-holder. Fig. 4 is a side or edge view of the same.

Referring to the drawings, 1 designates the casing of the fuse-box which may be of any suitable size and material and which is bolted or otherwise secured to the bottom or body of a car or other framework, a portion of which is shown at 2.

The bottom of the box is preferably left open for a considerable portion of its area for the purpose of allowing the broken fragments of the fuse-wire or their holders to escape when they become broken, thus preventing the formation of an arc. In each upper cor-

ner of the box or casing is arranged a base-block 3, provided in the top with a hole to receive one of the ends of the feed-wire or conductor 4, such end being secured by means of a binding-screw 5. Extending outward from the block 3 is a pin or stud 6, which is slotted, as shown at 7, to receive and retain the inner diametrically-disposed extremity 8 of a spring-coil 9, which encircles the stud and is then extended to form an elongated arm 10, which may be either straight or curved and which is provided at its extremity with a hook 11, preferably thickened, as shown, and formed on the inner side of the hook with a notch 12.

The combined spring, arm, and hook form a fuse-holder, and in the normal operative position of the two holders the arms 10 converge toward their hooked extremities, being so held by the fuse-wire 13, which is provided at its opposite ends with eyes or loops 14, adapted to be slipped over the hooks 11 and to engage in the retaining-notches 12. A cotter-pin 15 is removably inserted through the end of each stud 6 and holds the fuse-holder against displacement.

16 represents bumpers or cushions to receive the impact of the fuse-holders as the latter are thrown outward by the action of the spring-coils 9.

In operation when the fuse-wire 13 is destroyed the arms 10, which form the terminals of the feed-wire, spring apart or away from each other, thus drawing apart the fragments of the fuse-wire to such an extent as to prevent the formation of an arc. The fragments of the fuse-wire detach themselves from the fuse-holders and drop through the open bottom of the box. It is only necessary to substitute a new fuse-wire by placing the loops or eyes 14 over the hooks 11, said hooks exerting the necessary tension on the fuse-wire to hold the latter in place and maintain perfect electrical contact. Should one of the spring fuse-holders become broken, a portion thereof will drop through the bottom of the box. The remaining portion may then be removed by taking out the cotter-pin 15 and sliding the coiled portion of the holder off the stud 6. A new fuse-holder may then be quickly substituted and the cotter-pin replaced in position. It is thus extremely easy to repair the fuse-box, which may be done by any motorman without aid of special appliances.

Another form of fuse-holder and base-



block is shown in Figs. 3 and 4, in which the base-block 17 is provided with projecting arms 18, between which is mounted a rod or shaft 19, held in place at its opposite ends by means of screws 20, removably inserted through the arms 18 into the extremities of the rod or shaft 19. The arm 21 of the fuse-holder consists of a piece of wire bent upon itself and then coiled in opposite directions, as shown at 22, the coiled portions encircling the rod or shaft 19 and the extremities 23 being bent and inserted in holes 24 in the base-block, where they are held by means of binding-screws 25. The extremity of the arm 21 is preferably provided with a thickened tip 26 to provide for the necessary wear, and said tip is preferably notched, as shown in 27, to engage the fuse-wire. The block 17 is provided with a hole 28 to receive the feed-wire 4, the latter being held by means of a binding-screw 29. The fuse-holder may be detached when broken by removing the screws 20 and rod or shaft 19 and loosening the screws 25. In like manner a new fuse-holder may be substituted.

While both forms hereinabove described embody the same principle, the form shown in Figs. 1 and 2 is preferred on account of its simplicity and ease of repair.

Having thus described the invention, what I claim as new is—

A fuse-box having an open unobstructed bottom, in combination with oppositely-acting downwardly-extending spring-arms having a tendency to move away from each other and constituting circuit-terminals, contact-tips at the extremities of said arms located at or near the open bottom of the box and having notched seats for the looped ends of the fuse-wire, said tips being adapted to throw off the fragments of the fuse-wire, and stops which arrest the outward movement of the spring-arms.

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

EARL SHERWOOD.

Witnesses:

FRANK C. HALL,  
JAMES A. MORAN.