No. 815,746. PATENTED MAR. 20, 1906.

A. C. SAVAGE.

FUSE CLAMPING TERMINAL.

APPLICATION FILED JULY 20, 1904.

Fig. 1

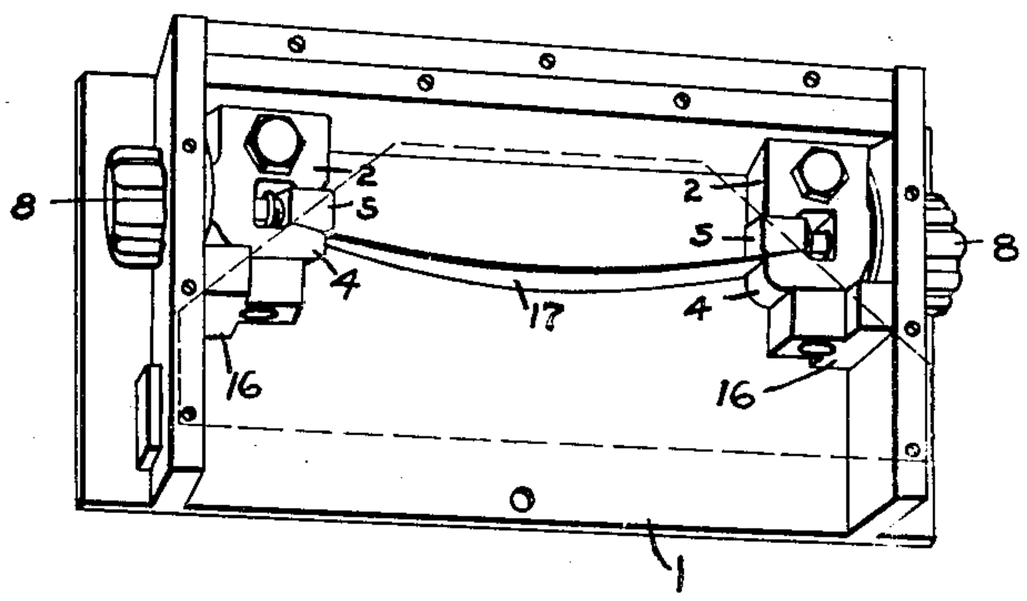
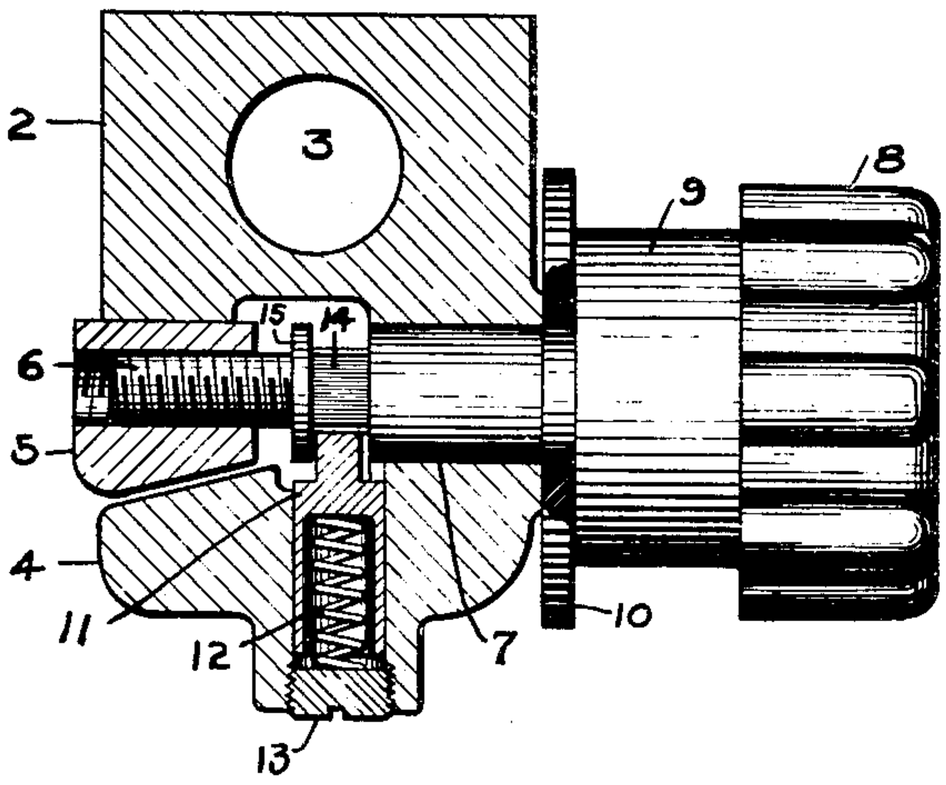


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE

ARTHUR C. SAVAGE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

FUSE-CLAMPING TERMINAL.

No. 815,746. Specification of Letters Patent. Patented March 20, 1906.

Application filed July 20, 1904. Serial No. 217,324.

To all whom it may concern:

Be it known that I, ARTHUR C. SAVAGE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Fuse-Clamping Terminals, of which the following is a specification.

This invention relates to thermal cut-outs, and especially to the fuse-boxes used on electric-railway cars. Its object is to provide an improved terminal clamp for holding the end of the fuse, one which is compact, strong, and inexpensive, which enables the fuse to be quickly replaced without moving the cover of the box, and is located well back in the field of the blow-out magnet to insure the extinguishment of the arc in case the fuse should burn up entirely.

In the accompanying drawings, Figure 1 is a perspective view of a fuse-box with the cover removed, showing my improved terminal clamps; and Fig. 2 is a section of one of said clamps.

The box 1 is made of sheets and strips of insulation, such as fiber suitably fastened together. Its bottom is open to permit the escape of the arc when the fuse blows. At each end of the box in the upper corner is secured a terminal clamp consisting of a block 2, having a transverse hole 3 to receive the conducting-lead and cut away at one side to form jaws 4, which coöperate with a wedge 5, operated, preferably, by a screw 6. The wedge preferably constitutes the nut with which the screw meshes, the screw having a smooth shank 7, rotatable in a bearing in the block. A handle 8, of insulation, is secured to the shank outside of the box and has a large cylindrical body 9, rotatable in a somewhat larger opening in the end of the box. A loose washer 10, of insulation, surrounds the shank 7 between the body 9 and the block 2. A detent is provided to prevent the screw from becoming accidentally loosened. This is preferably a plunger 11, sliding radially to the screw in a socket in the lower part of the block. The plunger is bored out to receive a helical spring 12, which abuts against a screw-plug 13, forming the bottom of the socket. The head of the plunger is square to engage with flattened faces 14 on the shank of the screw. A fixed collar 15 on the screw stands inside of the plunger and prevents the screw from moving outwardly when the wedge is being backed out of the jaws.

Below each block 2 is a guard of insulation 16, fastened to the end of the box and covering the lower end of the block. This guard assists in supporting the block and also protects the block and the screw-plug in case of an excessive arc.

The fuse 17 is a strip of copper or the like whose ends are inserted between the lower jaw and the wedge and clamped tightly by turning the handles so as to draw the wedge into the jaws.

When a fuse blows, the magnetic field bends its ends backward and downward. If the fuse burns clear to the terminal, the arc will then be in a strong field and short-circuiting is prevented. The position of the pole-piece on the cover is indicated by dotted lines in Fig. 1. A new fuse can be inserted without taking off the cover of the box, since the wedges are operated from outside the box. This enables the cover to be permanently fastened on in the shop, so that the joint between the box and its cover can be made tight enough to prevent the escape of an arc through said joint, a precaution which is necessary in using heavy currents to prevent short-circuiting.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a fuse-box of insulation, of two clamping-terminals, each comprising a block of metal having jaws, a wedge coöperating therewith, an operating device for said wedge extending to the outside of the box, and locking means for said operating device.

2. A clamping-terminal for a fuse, comprising a metal block provided with jaws, a wedge entering between said jaws, a screw engaging with said wedge and having a smooth shank rotatable in a bearing in said block, a shoulder on said screw, and a projection carried by the block adapted to engage said shoulder.

3. A clamping-terminal for a fuse, comprising a metal block provided with jaws, a wedge entering between said jaws, a screw engaging with said wedge and having a smooth shank rotatable in a bearing in said block, and a detent engaging with said screw.

4. A clamping-terminal for a fuse, comprising a metal block provided with jaws, a wedge entering between said jaws, a screw engaging

with said wedge and having a smooth shank rotatable in a bearing in said block, flattened faces on said screw, and a spring-plunger engaging with said faces.

5. A clamping-terminal for a fuse, comprising a metal block provided with jaws and a socket, a wedge coöperating with said jaws and constituting a nut, a screw meshing with said nut and having a collar and flattened faces, a plunger in said socket, and a spring urging the head of said plunger into engagement with said faces behind said collar.

In witness whereof I have hereunto set my hand this 19th day of July, 1904.

ARTHUR C. SAVAGE.

Witnesses:

BENJAMIN B. HULL,

HELEN ORFORD.