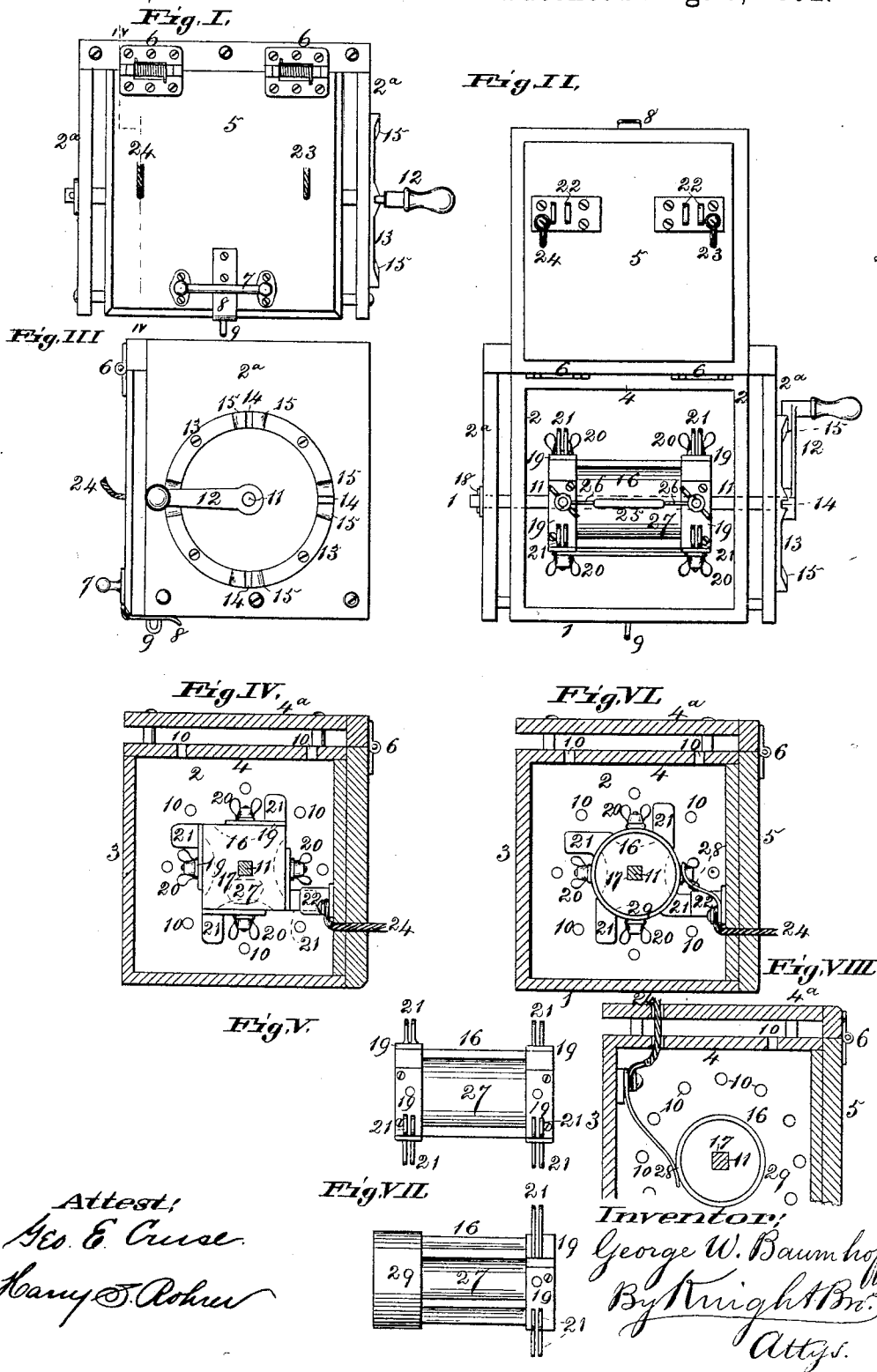


(No Model.)

G. W. BAUMHOFF.
ELECTRIC FUSE BOX.

No. 480,651.

Patented Aug. 9, 1892.



UNITED STATES PATENT OFFICE.

GEORGE W. BAUMHOFF, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF
TO GEORGE D. CAPEN, OF SAME PLACE.

ELECTRIC-FUSE BOX.

SPECIFICATION forming part of Letters Patent No. 480,651, dated August 9, 1892.

Application filed December 16, 1891. Serial No. 415,269. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BAUMHOFF, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Electric-Fuse Boxes for Street-Cars, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

It has been customary to provide a piece of fusible wire in the electric conductor between the line-wire and the car-motor to protect the motor from undue strain. This fusible piece or "fuse" is secured in position by screws or other suitable means adapted to allow the removal of the remains of a burned-out fuse and application of another fuse in its place. This, however, often causes much delay, owing to the melted metal of the fuse running over the screw or other means of attachment and soldering the parts together.

The principal part of my invention consists in interposing pieces of non-fusible wires between the fuse and the means of attachment, so that the latter are not rendered inoperative by the melted metal.

My invention comprises other features relative to the revoluble fuse-block and the fuse-box, as will be hereinafter fully described, and set forth in the claims.

Figure I is a front elevation of the fuse-box with the shutter or door closed, and Fig. II is a front view with the door open. Fig. III is a side elevation with door closed. Fig. IV is a vertical section taken at IV IV, Fig. I. Fig. V is a side elevation of the fuse block or drum. Fig. VI is a vertical section, taken at IV IV, Fig. I, showing a modification of the fuse block or roller. Fig. VII is a side view of a fuse block or drum of modified form. Fig. VIII is a detail vertical section showing a modification of fuse block or drum and electric connection.

The box has a bottom 1, sides 2^a, back 3, top 4 4^a, and front door or shutter 5, connected to the top by spring-hinges 6, acting to close the door.

7 is a handle, and 8 a hasp or keeper engaging over a staple 9. I prefer to make the hasp to spring onto the staple as the door is

closed. The purpose of the spring-hinges is to prevent the door being left open and of the spring-hasps to hold it shut.

The sides 2 and top 4 of the box have perforations 10 to allow the free escape of heat and smoke on the melting of a fuse. The perforate sides 2 and top 4 of the box or case are covered by outer boards 2^a and 4^a, respectively, so as to prevent the entrance of rain, snow, or dust.

11 is a shaft having journal-bearings in the side boards 2^a.

12 is a handle by which the shaft may be turned. 13 is a metal ring or plate having notches 14, adapted to engage the handle and hold the shaft 11 and the fuse-block thereon in any one of two or more positions, (four positions being shown.) At the sides of the notches 14 are inclines 15, that serve to spring out the handle as it is turned, the elasticity of the handle carrying it down into the notch and holding it therein until it is drawn out by hand preparatory to turning the shaft.

16 is the fuse block or roller, having a square hole 17 passing axially through it (or through its ends) to receive a square part of the shaft 11, so that the block turns with the shaft. The shaft may be drawn out of the block, when it is desired to change a block, should the same be worn out or in any manner destroyed. The shaft may be held in the box by a key 18, passing through it, or by other means. The form of fuse-block and connections shown in Figs. I to V will be described first.

The fuse block or drum is square at the ends, and upon each of the flat sides is a metal bracket 19, having a binding-screw 20 for one end of the fuse and electric contact-tongues 21. The position of the tongues 21 is such that the tongues, in connection with the opposite ends of a fuse, are embraced by the metal contact-clips 22 upon the door when the door is closed. (See Fig. IV.) The opening of the door pulls the clips from the tongues (see Fig. II) and breaks the circuit from the trolley to the motor. 23 and 24 are conducting-wires leading, respectively, to the trolley and to the motor, and each of them in electric contact with one of the pair of clips 22. It will be

seen that when the door is closed the motor will be in connection with the trolley through wire 23, clips 22, tongues 21, and the fuse. The fuse has a fusible piece 25, forming the fuse proper, connected at each end with the binding-screw 20 by a piece 26 of copper or other non-fusible wire, that is connected to the fuse in any proper manner. It may be soldered to the fuse or passed through a hole in the fuse, or the fuse may be molded upon it. The brackets 19 are all insulated from each other except where connected by the fuses. In order for this insulation, the fuse-block may be made of wood and covered with shellac or asphaltum varnish, if desired. Opposite to each fuse the block has a recess 27 to avoid the charring of the block by heat resulting from the burning out of the fuses. The recesses are preferably coated or covered with asbestos or other non-combustible material.

The fuse-block shown in Figs. VI, VII, and VIII is in the main cylindrical, but has recesses 27 adjacent to the fuses for the purpose before described. In the form shown in Fig. VI there is a brush 28 in place of one of the clips 22, said brush rubbing a contact-ring 29 on the ends of the block, the brush being in connection with the motor by the wire 24. In the modification shown in Fig. VIII the brush 28 is fixed to the box or case, so that it is always in contact with the ring 29, the current being only broken at the clip 22 when the door is opened, the clip 22 being connected with the trolley.

I claim as new and of my invention—

1. A fuse-box having inner perforate sides, as 2, protected by outer imperforate sides, as 2^a, set a distance asunder, allowing the escape of heat and smoke through the inner sides

and between the inner and outer sides, as shown and described.

2. The combination, in a fuse-box, of a revoluble drum or block with attachments for two or more fuses, tongues in electric connection with the ends of the fuses, and a door to the box, having contact-clips brought in contact with the tongues by the closing of the door, substantially as and for the purpose set forth.

3. The combination, in a fuse-box, of a longitudinally-recessed revoluble block having a shaft journaled in the sides of the box, whereby it may be turned, contacts at the ends of the block, and conducting-wires connected with the contacts and running along the recesses and provided with fuses, substantially as shown and described.

4. The combination, in a fuse-box, of a revoluble drum or block carrying two or more fuses, with connections insulated from each other and each adapted to be brought into the electric current singly by turning the block, the block-shaft 11, a handle 12, and a ring or plate 13, having notches 14 to arrest the motion of the block, for the purpose set forth.

5. The described combination, in a fuse-box, of a hinged lid, the contact-clips 22, attached to the lid, the wires 23 24, connected to the clips, the revoluble fuse block or drum carrying fuses connected to brackets 19, carrying contact-tongues, the shaft carrying the fuse-block, a handle 12 on the shaft, and the ring or plate 13, having notches engaging the handle, for the purpose set forth.

GEORGE W. BAUMHOFF.

Witnesses:

SAML. KNIGHT,
J. M. MAROT.