

G. W. FRAZIER.
 ELECTRIC CARTRIDGE FUSE.
 APPLICATION FILED DEC. 23, 1912.

1,067,648.

Patented July 15, 1913.

Fig. 1.

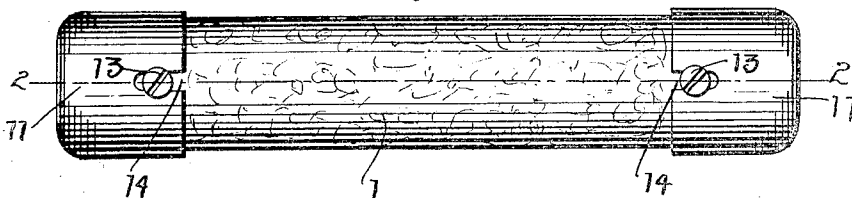


Fig. 2.

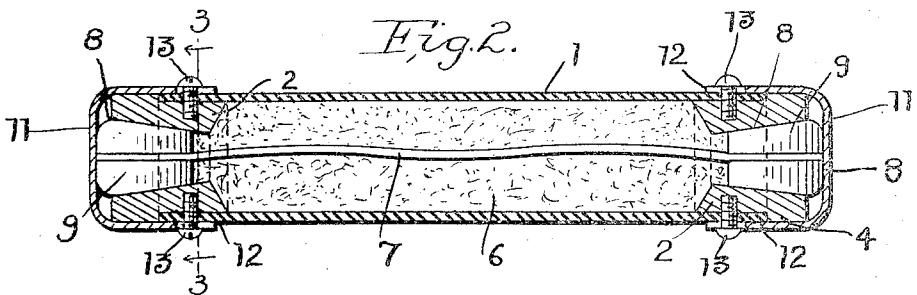


Fig. 4.

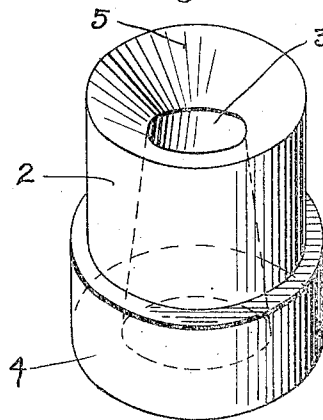
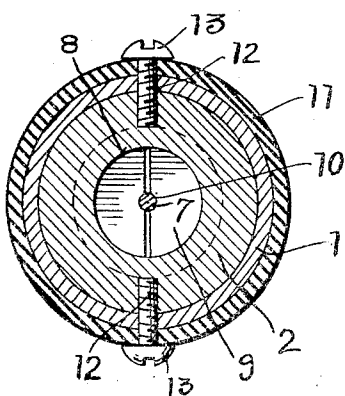


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ELECTRIC CARTRIDGE-FUSE.

1,067,648.

Specification of Letters Patent.

Patented July 15, 1913.

Application filed December 23, 1912. Serial No. 738,324.

To all whom it may concern:

Be it known that I, GEORGE W. FRAZIER, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Electric Cartridge-Fuses, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in electric fuses, and has for its primary object to provide an electric cartridge fuse which will be of simple construction and highly efficient in use.

Another object is to provide a device of this character having a sectional tapered plug at each end with a correspondingly tapered sleeve to receive the same, and a cap to inclose the plug and sleeve in the end of the cartridge tube.

With the above and other objects in view, as shall become more apparent as the description proceeds, the invention consists in certain constructions, combinations, and arrangements of parts as I shall hereinafter fully describe and claim.

For a full understanding of my invention, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a plan view of the complete device. Fig. 2 is a longitudinal section therethrough. Fig. 3 is an enlarged cross sectional view on the line 3—3, looking in the direction indicated by the arrow. Fig. 4 is a detail perspective view of the sleeve forming a seat for the ring.

Referring more particularly to the drawings, in which similar reference characters designate corresponding parts throughout the several views, the numeral 1 indicates the tubular body which is preferably formed of fiber and has positioned in either end the sleeve 2, having a tapered central bore 3 and a circumferential flange 4. The flange 4 engages against the end of the tube 1, thus limiting the inward movement of the sleeve. The sleeve 2 is also provided with a concave inner end 5 for engagement against the filling 6, said filling being preferably chalk, although any suitable filling may be employed. The sleeves 2 may also be formed of any suitable non-conducting material such as wood. The fuse wire 7 extends through the filling 6 and has its opposite ends secured to the plugs 8. Each plug 8

is formed in halves 9, as clearly shown in Fig. 3, each half having a semi-circular groove extending its full length and in its flat side to receive the end of the fuse wire 7, as shown at 10. The semi-circular grooves are of such size that when the wire 7 is positioned therein, the halves 9 are spaced from one another, thus causing them to grip the wire and securely hold the same. It will be understood that the outer faces of the halves 9 are tapered to correspond with the tapered central bore 3 of the sleeves 2, and when in position, the flattened outer ends of the plugs project for a short distance beyond the outer ends of the sleeves 2.

The caps 11 are positioned over the ends of the body 1, inclosing the outer ends of the sleeves 2 and plugs 8. The caps 11 are preferably constructed of pressed brass or other suitable metal and are held in place upon the ends of the body 1 by means of screws 12 extending through the sides of the body 1 near the opposite ends thereof and into the sleeves 2, the heads 13 of the screws pressing against the outer faces of the caps 11. The caps 11 are slotted for a short distance from their edges, as shown at 14, to receive the shanks of the screws 12, as the caps slide into position, it being understood that the screws are loosened and again tightened after the caps are in place.

Should the fuse wire 7 burn out, it may be readily replaced by first removing the caps, then the plugs, and emptying the body 1 of the filling 6. After the new fuse wire 7 is in position and one of the plugs 8 forced in place, the filling may then be restored to its position in the body 1, or a second plug forced in place and the caps 11 secured in position. To remove or replace the caps 11, it is simply necessary to loosen the screws 12.

Owing to the construction of this electric cartridge fuse, it will be highly efficient in use and should any of the parts become worn or damaged, they may be readily and cheaply replaced.

What I claim is:—

1. A device of the class described comprising a body member, a filling in said member, a sleeve in the end of said member and having a tapering bore, a fuse wire projecting through the filling, means within the tapering bore sleeve for holding the end of the fuse wire, said fuse wire holding means being tapered to correspond with the bore and having wedging engagement therein,

means for retaining the sleeve in position, and a cap covering the sleeve and engaged against the wire fuse holding member and retained in position by the sleeve holding means.

2. A cartridge fuse comprising a body member, a filling in said member, a fuse wire extending through the filling, a sleeve in either end of the body member and having a tapered central bore, sleeve holding means carried by the body member, tapered plugs for holding the ends of the fuse wire, said plugs being engaged in the central bores of the sleeves, and caps engaged over the ends of the body member and against the outer ends of the plugs and retained in position by the sleeve holding means.

3. An electric cartridge fuse comprising

a body member, a fuse wire extending through the body member, a filling within the body member and around the fuse wire, sectional plugs for holding the opposite ends of the fuse wire, means within the opposite ends of the body member for forming seats for the plugs, caps engaged over the ends of the body member and against the plugs to retain the latter in position, and means for securing the caps and plug seats in position.

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

GEORGE W. FRAZIER.

Witnesses:

H. H. NEWHALL,
F. W. ALT, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."