T. E. MURRAY.

ELECTRIC SAFETY FUSE.

APPLICATION FILED MAR. 11, 1909.

956,498. Patented Apr. 26, 1910.

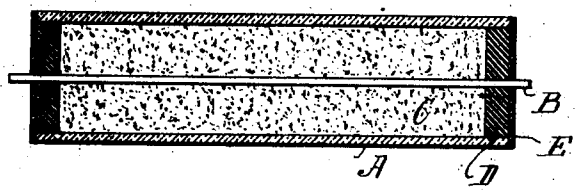

Fig. 1.

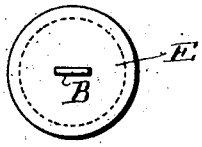

Fig. 2.

Witnesses:
C. H. Peathoff
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UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY, OF NEW YORK, N. Y.

ELECTRIC SAFETY-FUSE.

956,498. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed March 11, 1909. Serial No. 482,697.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Electric Safety-Fuses, of which the following is a specification.

The invention relates to electric safety fuses.

In U. S. Letters Patent No. 920,613, granted to me May 4, 1909, I have described and claimed an electric safety fuse comprising a tubular case integrally formed of porcelain or other fictile material, a fuse strip therein, and a filling of non-combustible material completely occupying the space within the case and protecting said case from the effects of explosion of the fuse, by mechanically dampening the shock of said explosion. I have found that where the ends of the case are closed by metallic caps or the like forming joints with the case, under certain conditions, moisture may enter said case through said joints and be retained by the comminuted filling material. In such event, the blowing of the fuse strip instantly converts said moisture into steam, with the result that the case may become ruptured, by the sudden pressure, even when competent to resist the shock of fuse explosion if the filling material be dry.

My invention has for its object to remove this difficulty, and consists in the construction hereinafter set forth, whereby the ends of the fuse case are closed by plugs of non-combustible material introduced in a plastic state and becoming hard by setting and simultaneously slightly expanding in volume, thus forming a perfectly close joint, the said plugs being also rendered impervious by coating their exposed faces with a material impervious to moisture.

In the accompanying drawings—Figure 1 is a longitudinal section of my electric fuse, and Fig. 2 is an end view.

Similar letters of reference indicate like parts.

A is the tubular case integrally formed of fictile material, preferably porcelain.

B is the fuse strip which extends through the case and is embedded in any non-combustible comminuted material C, such as plaster, which material completely fills the case and operates to protect the case from rupture on the blowing of the fuse by dampening the shock of the explosion. In the ends of the case I insert plugs D of, preferably, plaster of paris tempered with water to the plastic state, or any other plastic material which is non-combustible and which hardens by setting. I prefer plaster of paris because in setting it expands somewhat in volume and thus forms a tight joint with the case. Said plugs are rendered moisture proof by coating their exterior faces, after setting, with a layer E of shellac or other material impervious to moisture.

I claim:

1. In a safety fuse, a tubular case integrally formed of fictile material, end plugs of non-combustible material in said case introduced in plastic state and hardened in place by setting, a fuse strip extending between and through said plugs, and a body of non-combustible material completely filling the remaining space within said case and constructed to dampen or retard the vibrations due to sudden shock of explosion, and thereby prevent rupture of said case.

2. In a safety fuse, a tubular case integrally formed of fictile material, end plugs of non-combustible material in said case introduced in plastic state and hardened in place by setting, a moisture proof coating on the exposed faces of said plugs, a fuse strip extending between and through said plugs, and a body of non-combustible material completely filling the remaining space within said case and constructed to dampen or retard the vibrations due to sudden shock of explosion, and thereby prevent rupture of said case.

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

THOMAS E. MURRAY.

Witnesses:
MAY T. MCGARRY,
GERTRUDE T. PORTER.