T. E. MURRAY.

ELECTRIC FUSE.

APPLICATION FILED NOV. 26, 1910.

991,007. **Patented May 2, 1911**

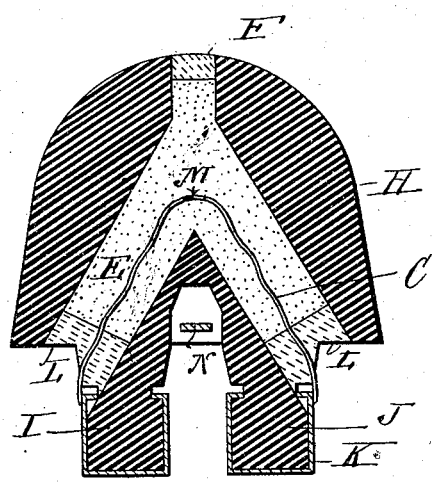

Fig. 1.

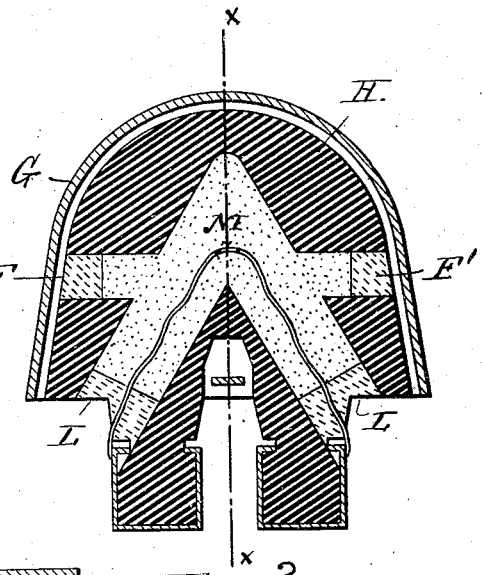

Fig. 2

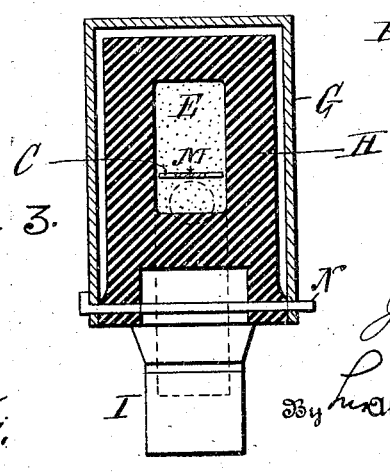

Fig. 3.

Witnesses:
Gertrude T. Porter
May T. McGarry.

Thomas E. Murray
Inventor
By his Attorney Paul Benjamin

UNITED STATES PATENT OFFICE.

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

ELECTRIC FUSE.

991,007. Specification of Letters Patent. **Patented May 2, 1911.**

Application filed November 26, 1910. Serial No. 594,275.

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 Fuses, of which the following is a specification.

The object of my invention is to prevent rupture of a fuse case by the blowing of the fuse. To this end, having localized the blowing point of the fuse strip by diminishing the width of said strip at said point, or in any other suitable way, I dispose said strip in a V-shaped chamber, formed in the fuse case, which is preferably made of porcelain or other refractory insulating material, so that the localized blowing point will lie near the apex of the angle of the V; and I form in the wall of said chamber a vent, or vents, in proximity to said localized blowing point. By this construction, the gases due to blowing of the fuse will be generated at the angle of the V-shaped chamber, and being there confined in a narrowing space, will escape more readily from the vent, or vents, which thus relieve the case from possible rupture. In order to prevent the filling which is placed in the V-shaped chamber from escaping therefrom, it is preferable to close the vent, or vents, with some material, such as plaster, which will be readily destroyed or blown out by the escaping gases.

In the accompanying drawings—Figures 1 and 2 are vertical sections of a fuse case embodying my invention. Fig. 3 is a section on the line x, x of Fig. 2.

Similar letters of reference indicate like parts.

H is a case of porcelain, or other refractory fictile material, having plug projections I, J, provided with the usual contact plates K. In the case is formed a passage in the shape of an inverted V, in which is disposed the fuse strip C, the ends of said strip being connected to said contact plates. The passage contains the usual filling E of comminuted refractory material, and its ends are closed by plugs L of cement. In Fig. 1, the relief vent is made at the angle of the V-shaped passage, and is closed by a plaster plug F. Said vent is placed as near as possible to the blowing point M of the fuse; said point being determined by reducing the width of the fuse strip, or in any other desired way. Hence on the blowing of the fuse, the plug F will become destroyed or blown out, while the plugs L, which, as stated, may be of cement much stronger than plaster and which are at a considerable distance from point M, will be unaffected. Where the fuse is to carry especially heavy currents, it may be desired, in order properly to relieve the gas pressure, to provide two vents instead of a single vent of large area. This construction is shown in Fig. 2, where the two vents closed respectively by the plaster plugs F and F′ are disposed on opposite sides of, though still in proximity to, the blowing point M.

The form shown in Fig. 1 is best adapted for use in situations where the escape of gas from the relief vent into the atmosphere is not objectionable—as, for instance, on the tops of poles. Where this is not desirable, I place over the case, the metal shell G which here conforms in shape to but is larger than the case, so that a chamber is formed between shell and case, into which the gas escaping from the vents may enter. The shell G is secured to the case by means of a headed bar N passing through openings in said shell and plug, as best shown in Fig. 3.

I claim:

1. A fuse plug of refractory insulating material having an internal V-shaped chamber, a fuse strip having a localized blowing point disposed at the angle of said chamber, and a filling in said chamber; the said plug having a vent in its wall in proximity to the blowing point of said fuse.

2. A fuse plug of refractory insulating material having an internal V-shaped chamber, a fuse strip having a localized blowing point disposed at the angle of said chamber, and a filling in said chamber; the said plug having a plurality of vents in its opposite walls and in proximity to the blowing point of said fuse.

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

THOMAS E. MURRAY.

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