T. E. MURRAY.

ELECTRIC FUSE.

APPLICATION FILED FEB. 8, 1909.

943,698. Patented Dec. 21, 1909.

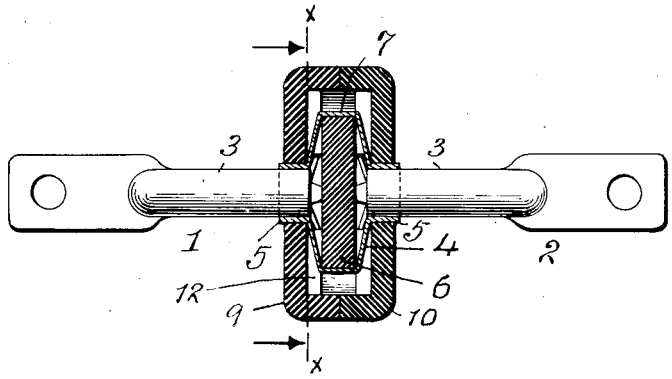

Fig. 1.

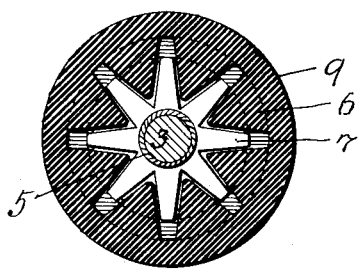

Fig. 2.

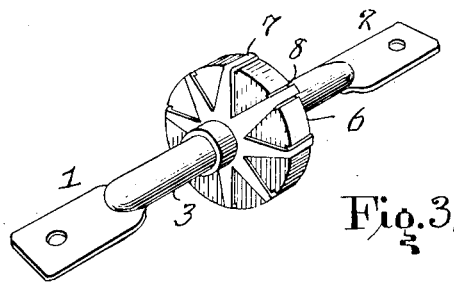

Fig. 3.

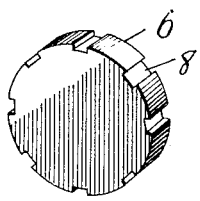

Fig. 4.

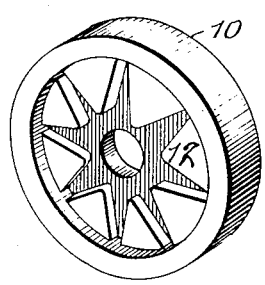

Fig. 5.

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UNITED STATES PATENT OFFICE.

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ELECTRIC FUSE.

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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 invention relates to electric fuses and consists in the construction of the fuse, preferably of thin metal, in the form of two sleeves with strips extending between them and radiating from each, whereby a cage is formed wherein is disposed a partition of insulating material which lies between the circuit terminals on which said sleeves are placed. After blowing of the fuse strips, said partition remains in place and forms a barrier to the jumping of sparks between the circuit terminals.

The invention consists more particularly in the combinations recited in the claims.

In the accompanying drawings—Figure 1 is a top view showing my improved fuse in cross section. Fig. 2 is a section on the line x, x, of Fig. 1. Fig. 3 is a perspective view of the complete device. Fig. 4 shows the partition of insulating material, and Fig. 5 one of the covers, separately and in perspective.

Similar numbers of reference indicate like parts.

1 and 2 are metal terminals to which the circuit wires are to be connected: each terminal comprising a flat plate and a cylindrical rod 3 projecting therefrom. The fuse 4 may be made of sheet metal, such as copper, and if desired, in one piece. It comprises two sleeves 5, constructed to fit closely on the ends of the rods 3, from which sleeves radiate strips 7 extending continuously from sleeve to sleeve. Between the ends of the rods 3 is interposed a circular partition disk 6, preferably of porcelain or other fictile insulating material, in the circumferential edge of which are made grooves 8 to receive the radiating fuse strips 7. Said fuse strips lie preferably flat against the faces of the partition and in the bottom of the grooves, and hence form a sort of cage which retains the partition in place between the ends of the terminal rods.

9 and 10 are flanged circular covers, also preferably of porcelain, having central openings so as to be received upon the sleeves 5. When in place, the edges of the flanges on the covers meet so that in this way the fuse and partition become completely inclosed in said covers. On the inside of each cover are formed V-shaped projections 12 which, when the covers are in place, come between the fuse strips 7 and so form partitions separating the several radiating strips from one another.

In case of overload on the circuit, resulting in blowing the fuse strips and consequent interruption of their continuity, the partition disk 6 still remains between the ends of the rods 3, being there still held by the broken strips, and because it so remains, it forms a bar to passage of current between said ends. The cross sectional area of the fuse strips may be varied to adjust the blowing of the fuse to any given overload, and to provide for the blowing of all the individual strips at once or successively as may be desired. In the latter case, the cross sectional areas of the strips may be different. Where the arrangement is such that the fuse strips under a given overload blow successively, it is obvious that the total period of explosion may be lengthened and the consequent shock which is distributed over the several strips, thus reduced in intensity.

The covers 9 and 10 can readily be pushed back on the rods 3 so as to permit of examination of the fuse strips, or where it is preferred to leave the strips exposed, they can be omitted altogether.

I claim:

1. In combination with two separated members constituting circuit terminals, a loose partition of insulating material disposed between said members, and a plurality of strips connected at their ends to and radially diverging from each of said members and extending over the peripheral edge of and forming a cage inclosing and supporting said partition.

2. In combination with two separated members constituting circuit terminals, a loose partition of insulating material in disk-form disposed between said members and having recesses in its circumferential periphery, and a plurality of strips, connected at their ends to and radially diverging from each of said members, disposed in said recesses and forming a cage inclosing and supporting said partition.

3. In combination with two separated members constituting circuit terminals, a loose partition of insulating material in

disk-form disposed between said members and having recesses in its circumferential periphery, a plurality of strips connected at their ends to and radially diverging from each of said members and disposed in said recesses, and bodies of insulating material disposed on opposite sides of said partition and having projections on their opposing faces entering the intervals between said radiating strips.

4. In combination with two separated circuit terminals, an interposed partition of insulating material and of greater area than the opposed face of either terminal, a fuse strip extending between said terminals, and a cover inclosing said fuse strip and partition and formed in two parts respectively supported on said terminals.

5. The combination of an electric fuse comprising two sleeves of metal and strips radially diverging from said sleeves and extending between them, and two flanged covers unitedly inclosing said fuse strips and having central openings receiving said sleeves.

6. The combination of an electric fuse comprising two sleeves of metal and strips radially diverging from said sleeves and extending between them, a partition of insulating material inclosed by said strips and two flanged covers unitedly inclosing said fuse strips and partition and having central openings receiving said sleeves: each of said covers having radial projections constructed to make contact with the face of the partition between the radiating fuse strips when said covers are in place on said sleeves.

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

THOMAS E. MURRAY.

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