

(No Model.)

G. T. VOORHEES.
MULTIPLE FUSE BLOCK.

No. 499,614.

Patented June 13, 1893.

Fig. 1.

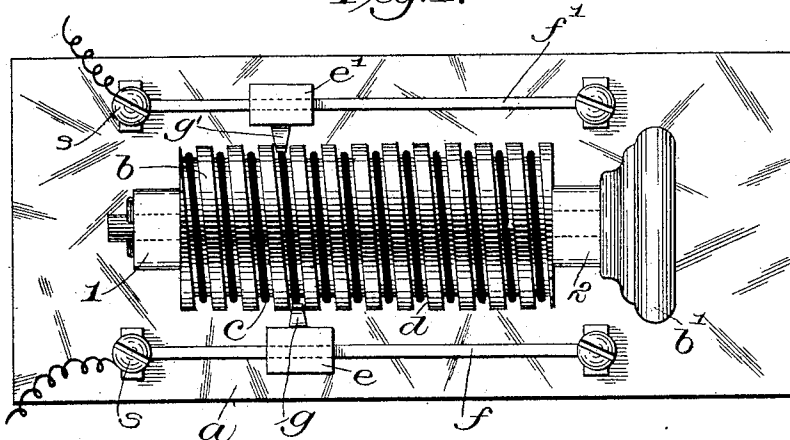


Fig. 2.

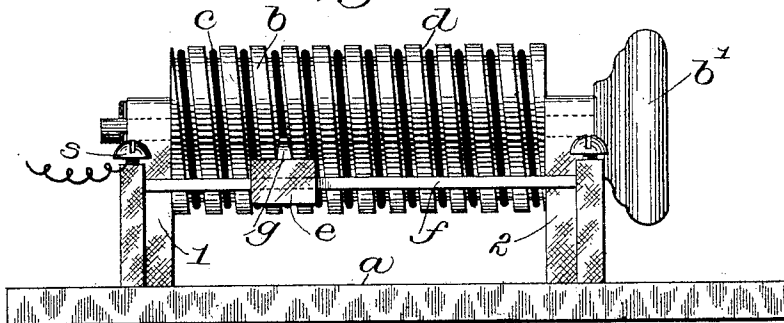
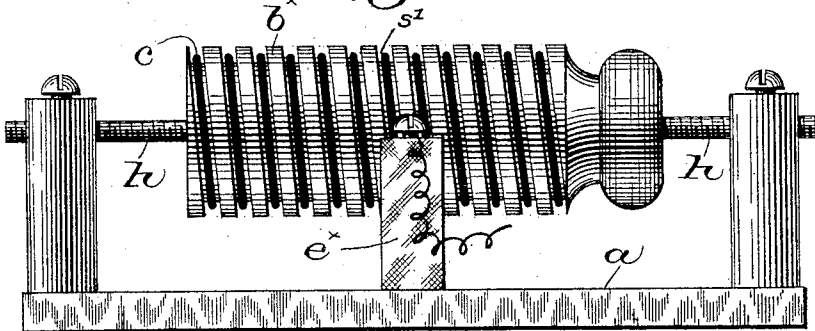


Fig. 3.



Witnesses,

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UNITED STATES PATENT OFFICE.

GARDNER T. VOORHEES, OF BOSTON, ASSIGNOR TO JAMES E. MAYNADIER,
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MULTIPLE-FUSE BLOCK.

SPECIFICATION forming part of Letters Patent No. 499,614, dated June 13, 1893.

Application filed September 1, 1892. Serial No. 444,731. (No model.)

To all whom it may concern:

Be it known that I, GARDNER T. VOORHEES, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Multiple-Fuse Blocks, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of an electric fuse-block, and is an improvement on the fuse-block shown and described in another application, Serial No. 443,909, filed by me the 23d day of August, 1892, the gist of this invention consisting in the helical arrangement of the fuse upon a carrier, combined with terminal contacts adapted to be brought into engagement with successive sections of the fuse, substantially as will be described.

Figure 1 is a plan view of a fuse-block embodying my invention. Fig. 2 is a side elevation thereof, and Fig. 3 is a modification, to be described.

In Fig. 1 I have represented a base *a* of insulating material, having suitable standards 1, 2, to form bearings for a fuse carrier, herein shown as a helically grooved cylinder *b* of porcelain or other suitable incombustible, non-conducting material, a knob or head *b'* attached to one end of its supporting shaft furnishing already means for rotating the carrier. The fuse wire or ribbon *c* in this instance is secured in the bottom of the helical groove *d*, and may be either continuous or in slightly separated pieces or sections. Suitable line terminals *e*, *e'* are shown as free to move longitudinally upon guides *f*, *f'* arranged parallel to the carrier, said terminals being provided with suitable contacts *g*, *g'* which enter the groove of the carrier, preferably rectangular in cross section, as shown in Figs. 1 and 2, and contact with the fuse therein. The guides *f*, *f'* are provided with suitable binding screws *s*.

It is obvious that rotation of the carrier will, by the engagement of the helical groove and contacts, cause the terminals to move in unison from one to the other end of the guides, successive sections of the fuse being

thus brought between and in electrical engagement with the contacts.

The sections of fuse may be of any desired length so long as any single section will electrically connect the contacts.

When a section of fuse is blown out from any cause a new one is at once brought into place by rotating the carrier until a new section of fuse is brought between the contacts.

In Fig. 3 I have shown a modified form of block, in which the carrier *b'* is supported on a threaded rod *h*, the fuse sections being arranged helically upon the carrier, and terminals *e'* are secured to the base *a*. The pitch of the thread or rod *h* and the spiral fuse sections on the carrier being the same, rotation of the carrier will move it longitudinally upon the rod, bringing successive sections of the fuse between the contacts of the terminals. The terminals are provided with suitable binding screws *s'* for the line wires.

The fuse-block herein shown and described is very compact, has few parts, and is rapid in operation, and is very cheap to construct.

Owing to its simplicity my improved fuse-block is not liable to get out of order, and careless handling will not damage it.

By making the carrier of some substance capable of being molded the fuse can be firmly embedded therein, only the upper surface thereof being exposed, and by such construction the use of screws or other similar devices for securing the fuse to the carrier is obviated, thus greatly cheapening the construction. Recesses, as by saw cuts, may be made in the carrier, if desired, and the fuse forced thereinto.

The ridge formed by the material of the carrier between two adjacent helices constitutes a bridge, protecting the adjacent fuse when any portion is blown out.

I claim—

1. A fuse-carrier, and a fuse helically arranged thereon, combined with terminal contacts, relative movement of said carrier and terminals bringing successive portions of the fuse into electrical engagement with said contacts, substantially as described.

2. A fuse-carrier, and a series of separated fuse sections helically arranged thereon, com-

bined with terminal contacts, relative movement of the fuse-carrier and contacts bringing successive sections of fuse into electrical engagement with said contacts, substantially as described.

3. A fuse-carrier composed of incombustible non-conducting material, and a fuse embedded therein with its upper surface exposed throughout its length, combined with terminal contacts independent of said carrier and adapted to be brought into contact with different parts of the fuse, substantially as described.

4. An electric fuse consisting of a non-electric-conducting and incombustible carrier, and a strip of fusible material rigidly attached thereto, combined with contact terminals supported independently of said carrier and

adapted to be brought into contact with different portions of the fuse, to thereby complete the circuit between said terminals, substantially as described.

5. A fuse-carrier composed of incombustible non-conducting material, and a series of fuses embedded therein with their upper surfaces exposed, combined with terminal contacts independent of said carrier and adapted to be brought into contact with different fuses of the series, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GARDNER T. VOORHEES.

Witnesses:

GEO. W. GREGORY,
JOHN C. EDWARDS.