A. L. EUSTICE.

FUSE.

APPLICATION FILED MAY 4, 1918.

1,335,229. Patented Mar. 30, 1920.

Fig. 1.

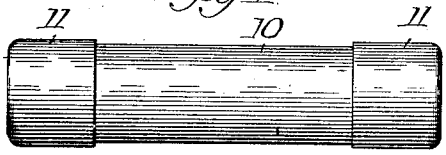


Fig. 2.

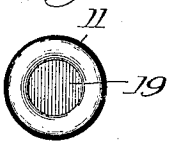


Fig. 3.

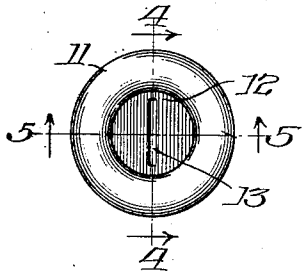


Fig. 4.

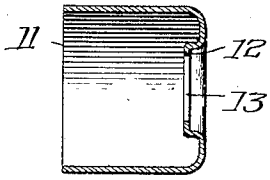


Fig. 5.

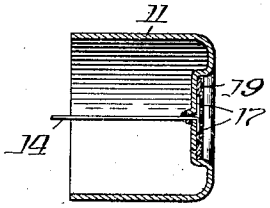


Fig. 6.

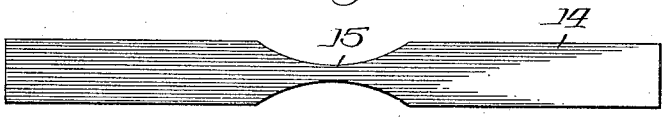


Fig. 7.

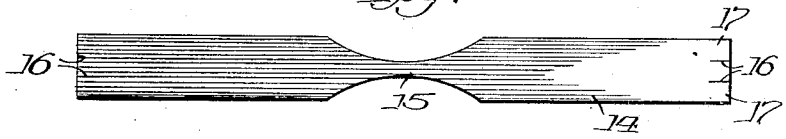


Fig. 8.

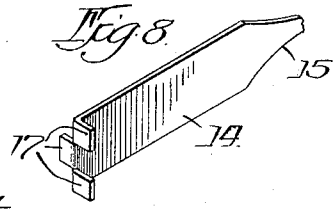
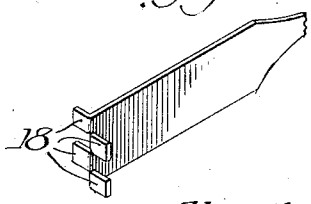


Fig. 9.



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UNITED STATES PATENT OFFICE.

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FUSE.

1,335,229. Specification of Letters Patent. Patented Mar. 30, 1920.

Application filed May 4, 1918. Serial No. 232,484.

To all whom it may concern:

Be it known that I, ALFRED L. EUSTICE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fuses, of which the following is a specification.

This invention relates to a fuse and the method of making same.

One object of this invention is to simplify and improve fuses and the method of making same.

Another object is to provide a fuse wherein the conductivity of the joints is improved and the fuse given a smooth finished appearance.

These and other objects are accomplished by means of the arrangement disclosed in the accompanying sheet of drawings, in which—

Figure 1 is a side elevation and Fig. 2 an end elevation of the completed fuse;

Fig. 3 is an end view of the fuse cap having a depressed or pocket portion provided with an aperture therein;

Fig. 4 is a sectional view, taken in the plane of line 4—4 of Fig. 3;

Fig. 5 is a sectional view taken in the plane of line 5—5 of Fig. 3, and in addition showing the fusible element soldered to the depressed portion of the cap;

Fig. 6 is a plan view of the fusible element before the ends are cut preparatory to bending portions of the end;

Fig. 7 is a plan view of the same fusible element after the ends have been cut;

Fig. 8 is a fragmentary perspective view of the fusible element after the fingers formed by cutting the ends of the fusible element have been bent laterally; and

Fig. 9 is a fragmentary perspective view of another fusible element having four fingers instead of three, as shown in Fig. 8.

The various novel features of the invention will be apparent from the following description and drawings and will be particularly pointed out in the appended claim.

In making my improved fuse, I first provide a cylindrical shell 10 of non-conducting material, such as fiber or the like, and also provide two metal caps 11, one to fit over each end of the shell or cartridge 10. Each cap 11 has a depression or pocket 12 formed in the end thereof with an aperture 13 extending therethrough. A fusible element 14 is then provided which has a narrow neck portion 15, forming the melting point of the fusible element. This fusible element at the ends thereof is provided with a plurality of cuts 16 to form fingers 17. The cut ends of the fusible element are extended through the aperture 13 of each of the caps and the fingers 17 bent laterally in opposite directions, whereupon the fingers lie flat against the outer lower surface of the pocket 12. If desired, the fusible element may have four fingers 18, as shown in Fig. 9, or the number may be further varied.

To make a good electrical contact between the fusible element and the electrical conducting caps 11, the fingers of the fusible element are soldered or otherwise permanently secured to the metal forming the pocket 12 of each of the caps, thereby making not only a good electrical connection, but a good mechanical connection. The solder is shown at 19 in Figs. 2 and 5. In making the soldered joint between the fusible element and the cap, the cap and link may be heated and hot solder applied to the fingers in the pocket to completely cover the same, or the cap and fusible element may be cold with a piece of cold solder placed in the pocket and a hot soldering iron applied. In any event, the electrical joint between the fusible element and the cap is made firm and of high conductivity. The solder preferably is spun after applied to the pocket in the cap, thereby giving the same a finished appearance. The capacity of the fuse also may be indicated by marking the solder in the cap by a suitable die. By means of this arrangement also there is no tendency for the fusible element to become deflected or warped.

In assembling the parts, the fusible element is extended through the shell 10 and one end inserted through the aperture in one cap and then the other end inserted through the aperture in the other cap, the fingers of the fusible element then being bent over and the solder applied.

By means of this fuse and the method of making the same a simple and effective fuse may be made in a maner to meet the requirements for successful commercial usage.

It is my intention to cover all modifica-

tions of the invention falling within the spirit and scope of the following claim.

I claim:

A fuse comprising a shell, a cap therefor having a pocket formed in the end thereof with an aperture therein, a fusible member extending therethrough and having fingers formed on the end of the fusible element bent over into engagement with the metal forming the pocket, said fingers being soldered to the cap within the pocket portion thereof.

Signed at Chicago, Illinois, this 30th day of April, 1918.

ALFRED L. EUSTICE.

Witnesses:

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