F. C. CURTIS.

VENTILATED FUSE PLUG.

APPLICATION FILED JAN. 19, 1911.

**1,003,586.** Patented Sept. 19, 1911.

Fig. 1.

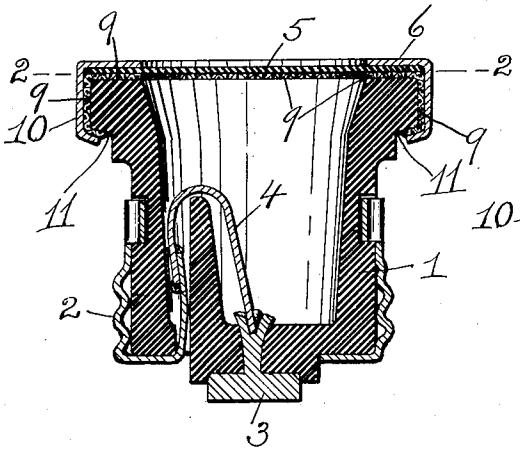



Fig. 2.

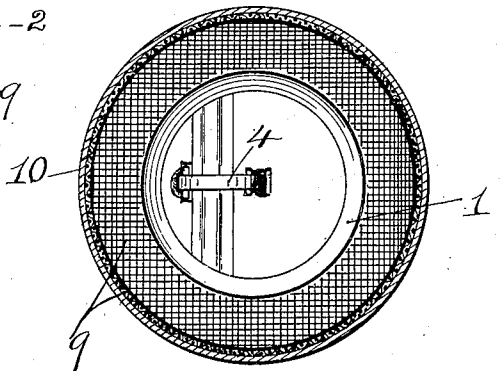



Fig. 3.

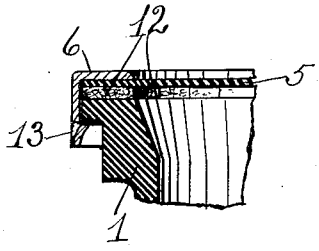
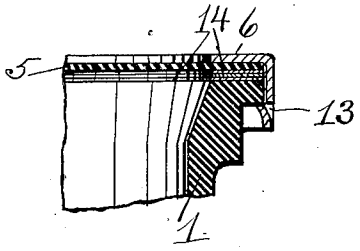



Fig. 4.




WITNESSES:

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## VENTILATED FUSE-PLUG.

1,003,586. Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed January 19, 1911. Serial No. 603,433.

*To all whom it may concern:*

Be it known that I, FRANK C. CURTIS, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Ventilated Fuse-Plugs, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in cross-section taken through the axis of a fuse-plug embodying my invention. Fig. 2 is a horizontal cross-section taken on the broken line 2—2 in Fig. 1. Fig. 3 is a section similar to Fig. 1, showing a portion of a fuse-plug provided with another form of ventilating packing. Fig. 4 is a similar view showing still another form of ventilating packing.

The principal object of the invention is to so ventilate a fuse-plug that upon the distribution of the fuse the resultant gases under pressure will be permitted to escape from the plug by a large number of minute channels, whereby the escaping gases will be so subdivided and reduced in temperature that they issue from the plug in a safe condition.

Other objects will appear in connection with the following description.

In carrying out my invention, I interpose between the cap and body of the plug a ventilating packing of incombustible material pervious to the passage of gases, affording a great number of minute channels for the escape of gases, whereby the body of gas is greatly subdivided in its escape from the plug.

Referring to the drawings wherein the invention is shown in preferred form, 1, represents the body of the plug made of insulating material, such as porcelain, having mounted thereon the exterior screw-shell, 2, and center contact, 3, connected together by the inclosed fuse 4.

The plug is closed by a cap comprising a mica disk, 5, and a metal rim 6.

As shown in Fig. 1, I interpose between the cap and body of the plug a ventilating packing, 9, formed of a woven wire fabric, which packing is preferably of angle form in cross-section, whereby it is formed with a peripheral flange adapted to lie between the outer side of the body of the plug and the inclosing flange, 10, of the cap-rim. The cap and packing are secured in position by inturning edge-portions of the flange, 10, 11, on the body of the plug. The ventilating packing is preferably made of the same extent as the flange, 10, of the cap-rim, the outer edge of the packing being bent under the shoulder, 11, by the inturning of the edge of the cap-flange 10. As thus constructed gases generated within the plug are afforded numerous minute channels of escape above and beneath the wires of the packing, whereby the body of gas is broken up and so subdivided that its temperature is largely reduced by the time it is permitted to escape along the inturned edge of the cap-flange, 10; and, in the construction shown in Fig. 1, the gases so escaping are directed inward against the smaller portion of the body of the plug, whereby their temperature is further reduced before they can come in contact with surrounding inflammable material.

This invention is applicable to various types of fuse-plugs; and, for certain purposes of the invention, the manner in which the plug is mounted in its socket, the manner in which fuse is mounted in the plug, and the manner of attaching the cap are immaterial.

In Fig. 3, I have shown the ventilating packing in the form of a washer, 12, formed of loosely arranged incombustible fibrous material such as asbestos, pervious to gases and adapted to finally subdivide a body of gas escaping from the plug under pressure to accomplish the desired object.

In Fig. 4, I have shown the ventilating packing in the form of a plurality of thin sheets of incombustible material, 14, such as sheet asbestos, which packing is pervious to the passage of gases between said sheets, as well as between the bottom sheet and the body of the plug, and between the top sheet and the mica disk.

In the construction shown in Figs. 3 and 4, the cap-rim may be secured to the body of the plug by introverting portions of the rim of the cap into suitable openings formed

in the exterior of the body of the plug, as shown at 13.

In making the ventilating packing of woven wire fabric, as shown in Fig. 1, I have found a woven wire fabric such as is used for finely meshed window-screens, to produce a satisfactory result.

The mesh of the screen as well as the gage of the wire can be varied, however, to meet different conditions in use; and, for certain purposes of the invention, a woven fabric of other incombustible material than wire may be employed for the ventilating packing.

What I claim as new and desire to secure by Letters Patent is—

1. In a ventilated fuse-plug, and in combination with the body of the plug and a cap secured thereto, a ventilating packing of incombustible material pervious to the passage of gases interposed between said body and cap.

2. In a ventilated fuse-plug, and in combination with the body of the plug and a cap secured thereto, a ventilating packing interposed between said cap and body, and having numerous minute channels for the escape of gases generated within the plug.

3. In a ventilated fuse-plug, and in combination with the body of the plug and a cap secured thereto, a ventilating packing formed of woven wire interposed between said cap and body.

4. In a ventilated fuse-plug, and in combination with the body of the plug, and a cap having a peripheral flange inclosing the body of the plug and secured thereto, a ventilating packing of woven wire interposed between said cap and body, and having a peripheral flange interposed between said body and the peripheral flange of the cap.

5. In a ventilated fuse-plug, and in combination with the body of the plug having a peripheral shoulder, and a cap having a peripheral flange inclosing the shouldered portion of the body, and having its edge inturned beneath said shoulder, a ventilating packing of woven wire interposed between said cap and body, and having a peripheral flange interposed between the shouldered portion of the body and the peripheral flange of the cap, and inturned along its edge between said shoulder and the inturned edge of the cap-flange.

In testimony whereof, I have hereunto set my hand this 16th day of January, 1911.

FRANK C. CURTIS.

Witnesses:
ROSE A. LEDUC,
J. E. DONSBACH.