

No. 731,005.

PATENTED JUNE 16, 1903.

H. C. WIRT.  
PLUG FUSE.

APPLICATION FILED MAR. 24, 1902.

NO MODEL.

Fig. 1.

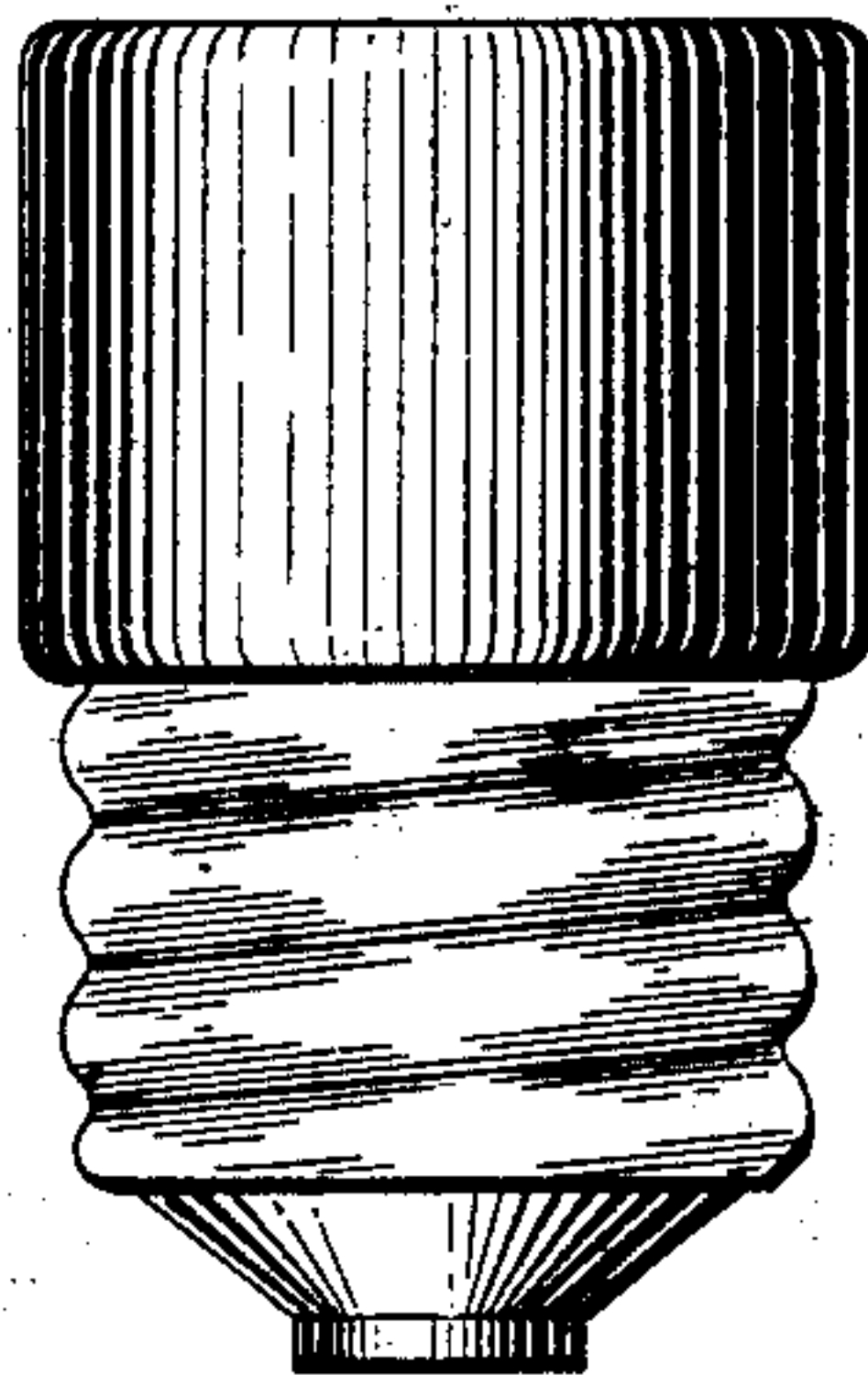


Fig. 2.

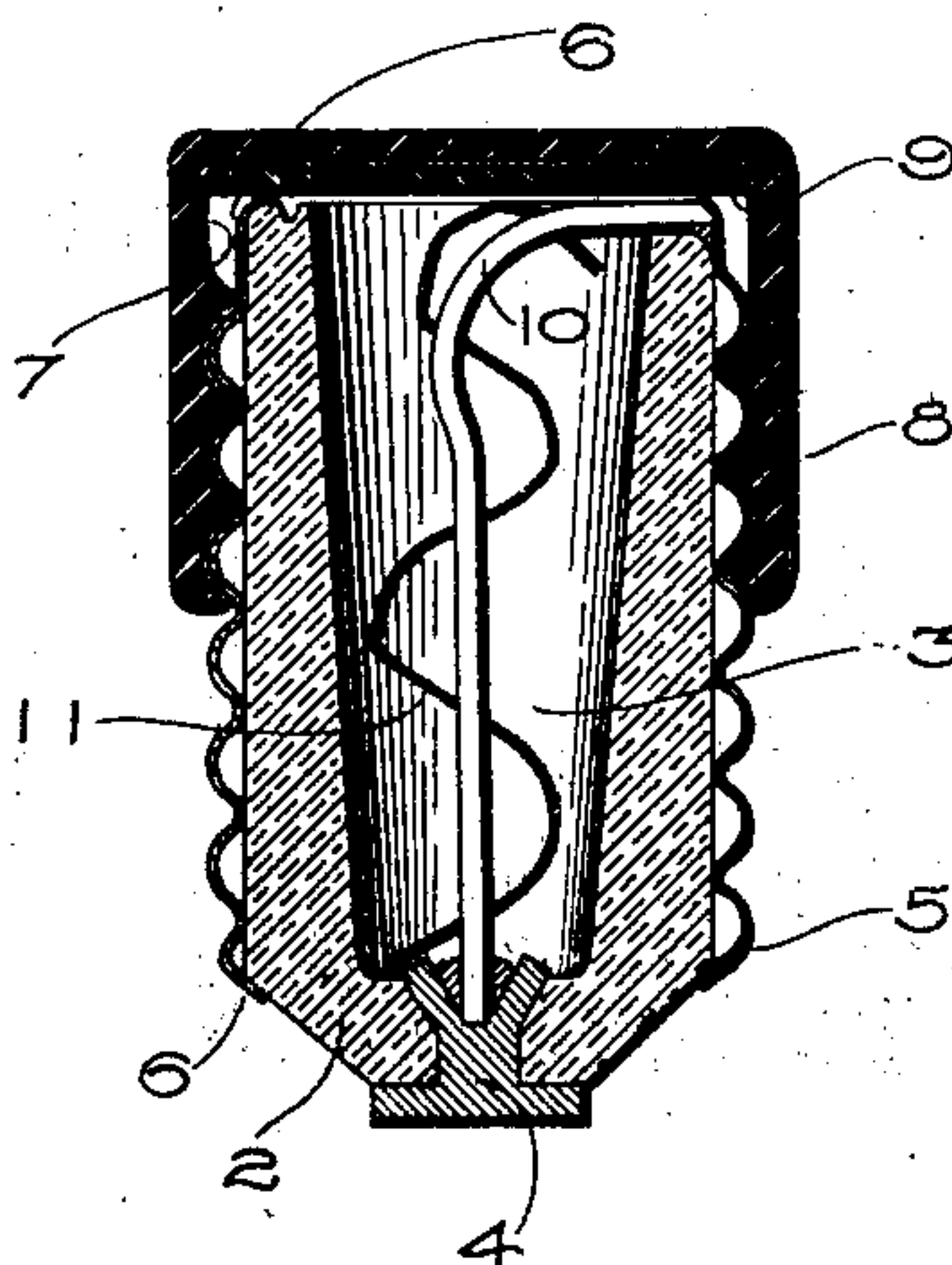


Fig. 3.



WITNESSES:

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Att'y.

# UNITED STATES PATENT OFFICE.

HERBERT C. WIRT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## PLUG-FUSE.

SPECIFICATION forming part of Letters Patent No. 731,005, dated June 16, 1903.

Application filed March 24, 1902. Serial No. 99,659. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT C. WIRT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Plug-Fuses, of which the following is a specification.

The object of this invention is to provide a plug-fuse for electric circuits carrying comparatively large currents which shall be compact, easily and economically constructed and which at the same time may be readily taken apart for the purpose of renewing the fuse and when in use shall be substantially proof against disruption by the gases generated within the same upon the burning out or blowing of the fuse-link.

My invention consists of a metallic shell closed at one end by a cap, which may be either removably or permanently connected thereto and the other end adapted to receive and hold securely therein a piece of insulating material provided at its center with an aperture, whereby the fuse or a part making contact with the fuse may be centered and held out of electrical contact with the sides of the metallic shell. The exterior of the metallic shell is adapted for insertion into a receptacle and the current closed through the shell, its cap, and the fuse to the center contact of the receptacle.

The invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is an elevation of a fuse-plug embodying my invention. Fig. 2 is a vertical section thereof, and Fig. 3 is a detail of a portion of the fibrous sustaining-tape for the fuse-link.

In the modification shown in the drawings the base or lining 2 is, as usual, of porcelain or other vitreous insulating material and is made cylindrical in shape, with a frusto-conical end and with a central cavity or recess 3, extending from the upper end to near the lower end, and in the center of the wall thus formed, between the bottom of the cavity and the lower end of the base, a hole is made through which the bolt 4 is passed and fastened in place, with its head in contact with

the lower end of the base, by suitable fastening means on the inside of the said wall. As shown, this fastening means consists in upsetting the inner end of the bolt; but it is apparent that any of the usual means now in use may be employed instead of that shown. The metallic shell or sleeve 5 is provided with a thread or spiral corrugation throughout the greater part of its length and is adapted to fit snugly upon the cylindrical portion of the base 2 and has end flanges 6, which are bent over the corners or edges of the ends of the base, to thereby secure the said parts together. This long threaded sleeve or shell 5 provides means at its lower end for making contact with the usual threaded cup contact with which these plug-fuses are used, and the upper end provides means for connecting and making contact with the cap or cover 7. The cap or cover 7 is of sheet or spun metal and has a threaded flange adapted to fit and make contact with the thread of the sleeve or shell 5 and has its outside provided with a covering of insulating material 8, either pressed or cemented thereon. A disk of insulation 9 may be inserted in the inner end of the cap or cover 7; but I do not consider this essential in every case, and it will of course be omitted in those cases where the cap or cover is to make contact with the fuse proper. The fuse-link 10 shown consists of a strip or filament of fusible metal connecting at its lower end with the inner end of the bolt 4 and at its upper end with the upper end of the shell or sleeve 5 and is held from coming in contact with the inner wall of the base or casing 2 when weakened by excessive current by a tape 11 of fibrous insulation provided with a series of holes 12 and through which the fuse-link 10 is threaded after the tape has been crimped or accordion plaited.

While the fuse-link shown and described has been found to give very satisfactory results and is very cheap, yet I wish it understood that my invention is not restricted to the particular fuse shown and that most of the fuses now in use may be used instead thereof without departure from my invention.

What I claim as new, and desire to secure by Letters Patent of the United States, is—



1. A plug-fuse comprising a hollow base of insulating material closed at one end, a contact-bolt extending through said closed end, a metallic sleeve or shell surrounding said base, and a metallic cover removably engaging one end of said sleeve or shell.
  2. A plug-fuse comprising a hollow base of insulating material closed at one end, a contact-bolt extending through said closed end, a metallic sleeve or shell surrounding said base and provided with a screw-thread and a metallic cover for the open end of the base, and provided with a screw-threaded flange adapted to engage the thread of said sleeve or shell.
  3. A fuse-plug comprising a hollow base of insulating material closed at one end, a contact-bolt extending through said closed end, a metallic sleeve or shell surrounding said base and provided with a screw-thread throughout the greater portion of its length, and a metallic cover for the open end of said base and provided with a screw-threaded flange adapted to engage a portion of the thread of said sleeve or shell.
  4. A fuse-plug comprising a hollow base of insulating material, closed at one end, a contact-bolt extending through said closed end, a metallic shell or casing surrounding said base and provided with end flanges adapted to engage the edges or corners at the ends of said base, and a cover for the open end of said base adapted to engage said sleeve or shell.
  5. A plug-fuse comprising a hollow cylindrical base of insulating material having one end closed, a metallic bolt extending centrally through said closed end, a cylindrical metallic sleeve or shell surrounding said base and provided with a screw-thread and end flanges which engage the ends of said base, and a metallic cover for the open end of said base provided with a threaded flange for engaging the thread of the sleeve or shell and having its entire exterior surface covered with insulating material.
  6. A fuse-plug comprising a metallic shell having one end engaged and closed by a metallic cover and carrying at its other end a piece of insulation provided with a central aperture.
  7. A fuse-plug comprising a metallic shell having one end engaged and closed by a metallic cover secured thereto and carrying at its other end a centrally-apertured piece of insulating material.
- In witness whereof I have hereunto set my hand this 22d day of March, 1902.
- HERBERT C. WIRT.
- Witnesses:  
BENJAMIN B. HULL,  
HELEN ORFORD.