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R. C. COLE.  
RENEWABLE INCLOSED ELECTRIC FUSE.  
FILED APR. 27, 1921.

Fig. 1.

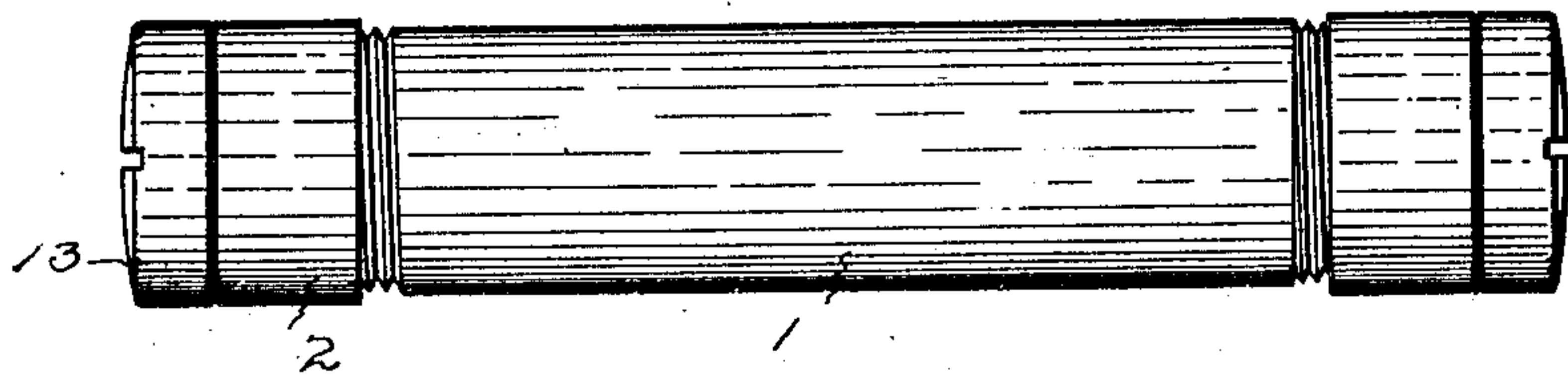


Fig. 2.

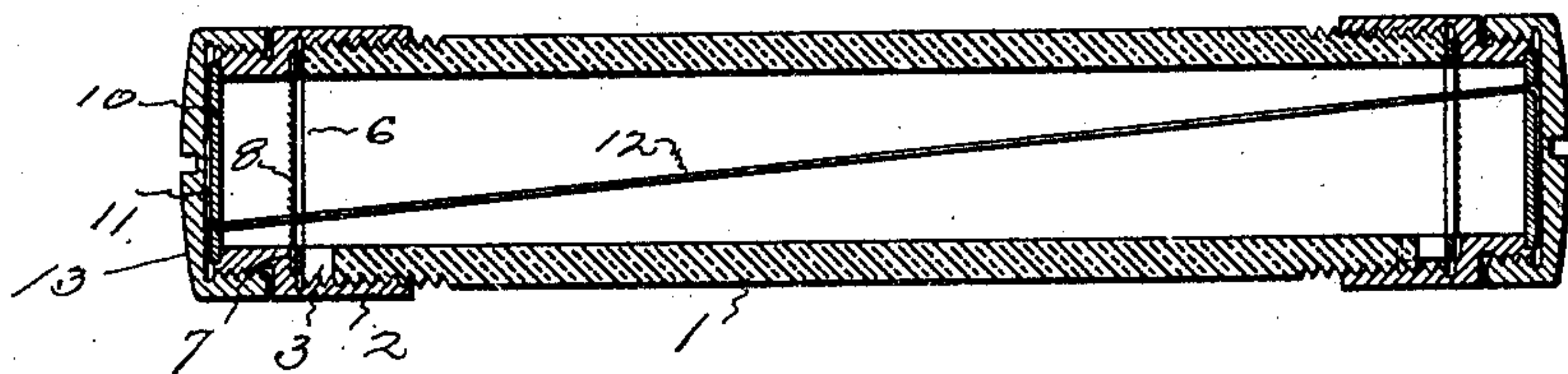


Fig. 3.

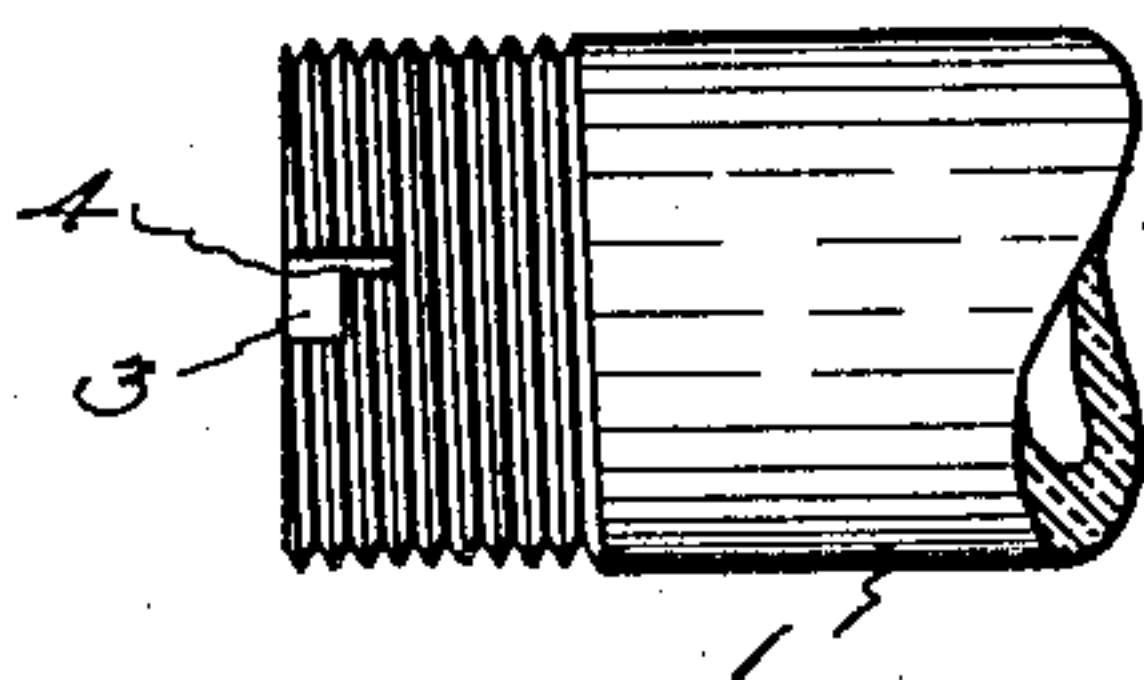


Fig. 4.

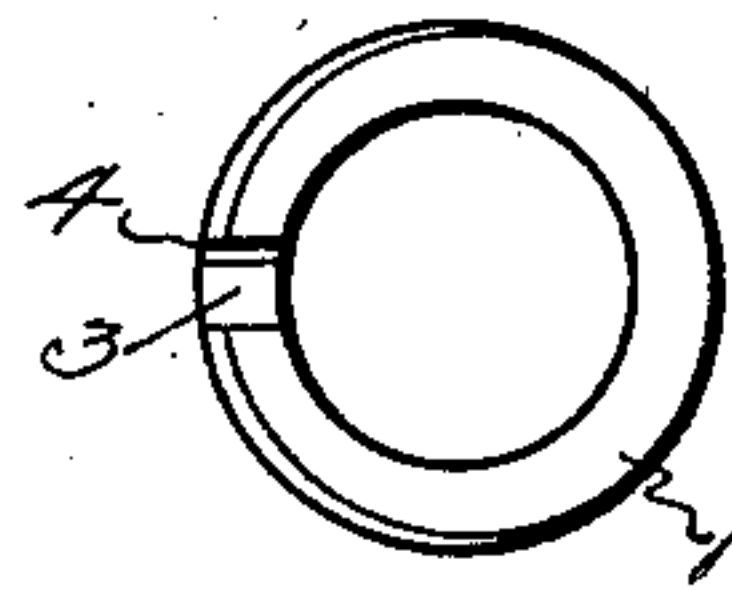


Fig. 5.

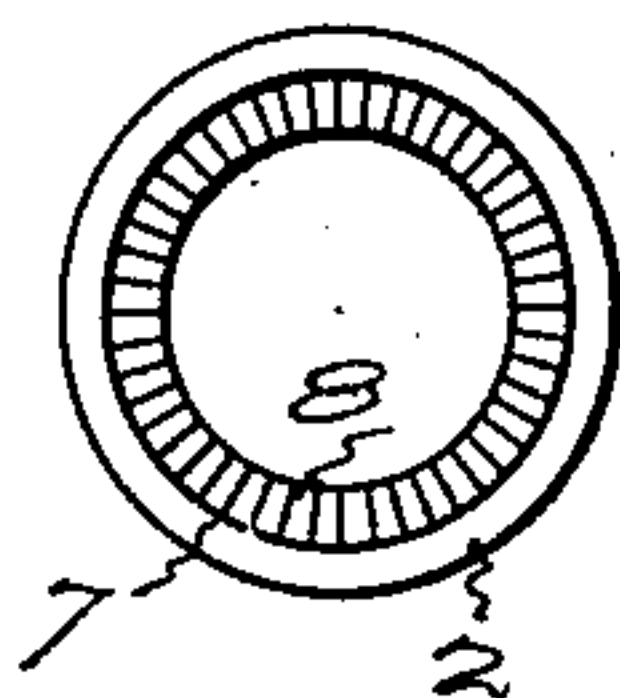
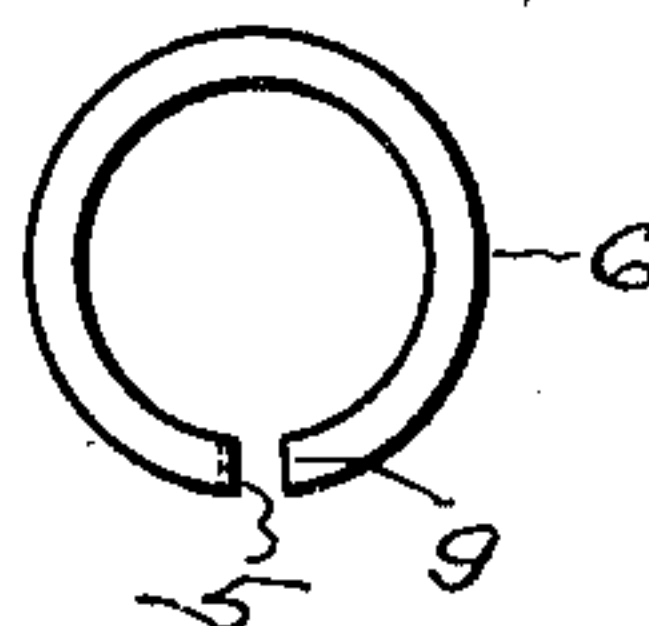


Fig. 6.



Fig. 7.



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## UNITED STATES PATENT OFFICE.

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## RENEWABLE INCLOSED ELECTRIC FUSE.

Application filed April 27, 1921. Serial No. 464,815.

*To all whom it may concern:*

Be it known that I, ROBERT C. COLE, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Renewable Inclosed Electric Fuses, of which the following is a specification.

This invention relates to the construction of the ferrule contact type of the renewable class of inclosed electric fuses and more particularly to such fuses as are designed to permit the pressure of the gas generated in the interior by the blowing of the fusible links to escape by passing around the threads which are provided for securing the ferrules to the ends of the insulating casing. To permit the escape of gas in this manner there is of necessity not a very close fit between the threads on the casing and the threads in the ferrules.

The object of this invention is to provide a simple and cheap construction by means of which the parts can without shutting off the gas escape be readily assembled and the ferrules securely locked on the casing on which they are screwed so that they will not become loosened and turned should the casing shrink or as the end caps are unscrewed and replaced when a new fusible link is substituted for one that has been blown.

This object is attained by securing the ferrules on the ends of the insulating casing with spring rings arranged between them in such manner that the ferrules can be freely screwed on but when once in place cannot be unscrewed, the spring rings locking the ferrules in place so that the end caps may be screwed on and unscrewed without turning the ferrules which are loosely screwed on the casing.

In the accompanying drawings Fig. 1 shows a side view of a fuse which embodies the invention. Fig. 2 shows the central longitudinal section of the fuse. Fig. 3 shows a side view of one end of the insulating tubular casing. Fig. 4 shows an end view of the casing. Fig. 5 is a view looking into one of the ferrules. Fig. 6 is a side view of one of the locking rings. Fig. 7 is a plan of the locking ring.

The casing 1 of this fuse is a section of

insulating material, usually fiber, with exterior threads formed on its ends. Screwed somewhat loosely on the ends of the casing are ferrules 2 commonly made of brass. In the ends of the casing are notches 3 which permit the escape of gas pressure from the interior of the casing to the threads which secure the ferrules to the casing. Extending in from the notches are slots 4 designed to receive the turned down ends 5 of the spring locking rings 6 which are arranged between the ends of the casing and shoulder 7 in the ferrules. The faces of these shoulders in the ferrules are desirably pressed so as to form ratchet teeth 8 that are engaged by the ends 9 of the spring rings. Slotted washers 10 are set into the outer ends of the ferrules and the ends 11 of the fusible link 12 are thrust through the slots and bent over on the outside of the washers, after which the end caps 13 are screwed upon the ferrules so as to clamp the ends of the link against the washers.

With this construction there is a metal to metal contact between the ends of the link and the ferrules. The end caps can be easily screwed on and off the ferrules and yet the ferrules while they can be readily screwed upon the ends of the casing with the desired looseness cannot be turned backward when the end caps are unscrewed.

The invention claimed is:

1. An inclosed fuse comprising an insulating casing, ferrules screwed upon the casing, annular spring pawls between the ends of the casing and the ferrules, said pawls being independent of the casing and ferrules but having their opposite ends engaging therewith whereby the ferrules may be freely screwed upon the casing but not unscrewed from the casing, metal washers located at the ends of the ferrules, a fusible link with its ends extending through said washers, and end caps screwed upon the ferrules and clamping the ends of the link to the washers.

2. An inclosed fuse comprising an insulating casing, a ferrule screwed upon each end of the casing, a spring locking ring arranged between the casing and ferrule at each end with one end of the ring engaging a notch in the end of the casing and the other end of the ring engaging a toothed shoulder in



the ferrule, metal washers located in the ends of the ferrules, a fusible link with its ends extending through said washers, and end caps screwed upon the ferrules and  
5 clamping the ends of the link to the washers.

3. The combination of a tubular insulating fuse casing, a metal ferrule screwed upon the

end of the casing and an independent locking washer located between the end of the casing and a shoulder in the ferrule and having its ends engaging the respective parts  
10 to prevent relative rotation of one to the other in one direction.

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