

E. C. PFEIL.
PROTECTING CASE FOR FUSEES.
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995,174.

Patented June 13, 1911.

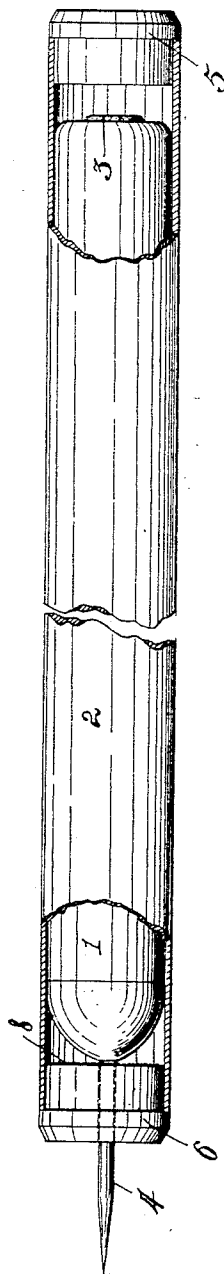


FIG. 1.

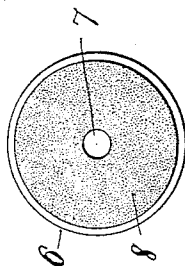


FIG. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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PROTECTING-CASE FOR FUSEES.

995,174.

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To all whom it may concern:

Be it known that I, ELMER C. PFEIL, a citizen of the United States, and a resident of Fostoria, in the county of Seneca and State of Ohio, have invented a certain new and useful Protecting-Case for Fusees; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to fusees of the type commonly used on railroad trains or the like to signal an approaching train of the close proximity of the former to avoid collision, but is not restricted to such use as it may be used in any connection for which it may be adapted or appropriated. In the use of devices of this class, it is of the utmost importance that the same be ready and in condition for use at all times, as the prompt lighting of a fusee may be the cause of averting a collision.

Numerous protecting means for the ignition ends of the fusees have been devised and employed, principal among them being the provision of a cap over the ignition end of a fusee tube which is secured thereon by a suitable seal capable of being quickly broken. This means, however, is objectionable and unsatisfactory due to the liability of the seals to become broken and the caps to work off the tubes due to the jar of the train; and also that a very large number of fusees are damaged due to trainmen breaking the cap seals thereof preparatory to use and then not using the same, thus rendering the caps liable to become easily removed by reason of the train jar when the fusees are replaced in tool boxes where they are usually carried. Further objections incident to the use of fusees of this class are, first, the liability of the same to become ineffective or dangerous when placed in damp places as the presence of moisture in the chemical within the tube creates an acidity which causes combustion, and, secondly, the proximity of what is called the "button" or "scratch" with the ignition end of the tube, as a frictional contact of these two parts effects the ignition.

The object of my invention is to obviate the objections above mentioned by the pro-

vision, in combination with any suitable form of fusee, of a simple and efficient form of protecting case therefor which is of a moisture proof character to maintain the fusee absolutely dry when not in use, is capable of repeated use without destroying its efficiency, and which carries the "button" or "scratch" at a point most remote from the ignition end of the tube and in a manner to protect its scratching surface from injury.

The invention is fully described in the following specification, and while in its broader aspect it is susceptible of embodiment in numerous forms, a preferred embodiment of the same is illustrated in the accompanying drawing, in which,—

Figure 1 is a side view of my invention incasing a fusee tube, with portions of the same broken away, and Fig. 2 is an inner end view of the "button" or "scratch."

Referring to the drawings, 1 designates a fusee of any suitable size and shape, and 2 the protecting shell or case therefor comprising my invention. The fusee 1 has the usual ignition chemical 3 at one end and the spike 4 projecting axially from its other end, which latter is intended to be stuck into the ground or a wooden tie to maintain the fusee tube upright while burning.

The protecting shell or case 2 is adapted to quite snugly receive the fusee tube to prevent a rattling or play of the latter therein, and has one end closed by a plug or other suitable form of closure member 5, which is preferably permanently fixed to the shell, and its other end closed by a removable closure member 6, which is preferably, but not necessarily, of the plug type, as shown. The member 6 is provided with an axial opening 7 therethrough to snugly receive the spike 4 of the fusee tube, which spike projects from the end of the shell when the fusee is incased thereby. The closure member 6 is intended to perform a double purpose, namely, of closing the end of the shell around the spike 4, and also serving as the "button" or "scratch" for the fusee. It is adapted for the latter purpose by reason of its inner or protected surface being coated with a chemical 8, which, when moved in frictional contact with the ignition end 3 of the fusee tube causes an ignition of the latter chemical, as is apparent in the art.

It is evident that the carrying of the scratch button on the spike of the fusee tube

maintains the same at a safe distance from the ignition end of the tube, and also provides a simple and efficient means for attaching the button to the tube whereby it is always at hand when needed, even though the protecting shell might become removed or lost therefrom.

The protecting shell 2 and its ends are preferably made of suitable moisture proof material or treated with a moisture proof composition to effectually exclude moisture from the interior thereof to keep the fusee in a perfectly dry state.

To remove a fusee from its case, it is only necessary to withdraw the closure member 6 from the end of the case as it fits sufficiently tight on the spike 4 to withdraw the fusee tube therewith from the case. This having been done, the fusee may be ignited by simply removing the closure member or scratch button 6 from the spike 4 and rubbing its chemical surface 8 on the chemical 3 of the tube, as is apparent from the foregoing.

Should the fusee not be used after taking it from its protecting shell it may be returned to the same and the closure 6 secured in position therein as before, thus entailing no injury to the fusee or lessening the protection to the same.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

Having thus described my invention, what

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

1. In association with a fusee tube having a spike projecting from an end thereof, a shell incasing such tube and having a removable end provided with an opening through which the tube spike projects, said end having a surface thereof provided with a scratch chemical for the ignition end of the tube.

2. The combination with a fusee tube having a spike projecting from the end thereof opposite to its ignition end, of a shell adapted to incase such tube and having one end closed, and a member having an opening for receiving the tube spike and adapted to serve both as a scratch button for the tube and as a closure member for the open end of the shell.

3. The combination with a fusee tube having a spike projecting from an end thereof, of a moisture proof shell adapted to incase the entire tube and having an end closed and a scratch button for the tube, said button having an opening for removably receiving the tube spike and adapted to close the open end of the shell when the tube is in position therein.

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

ELMER C. PFEIL.

Witnesses:

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D. C. LLOYD.