I. NIDITCH.

RAILWAY SIGNAL FUSEE.

APPLICATION FILED JULY 26, 1910. RENEWED OCT. 20, 1911.

1,015,062. Patented Jan. 16, 1912.

Fig. 1.

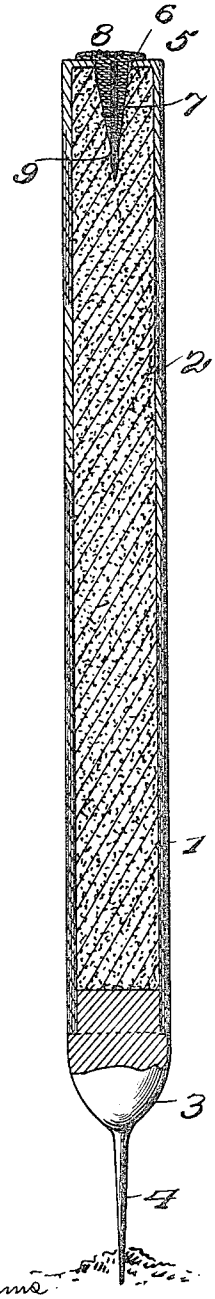
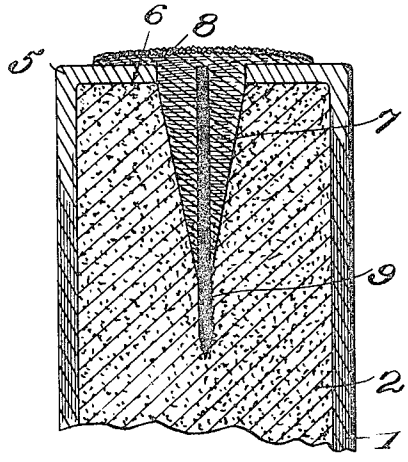


Fig. 2.



Witnesses

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RAILWAY SIGNAL-FUSEE.

1,015,062. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed July 26, 1910, Serial No. 574,006. Renewed October 20, 1911. Serial No. 655,749.

To all whom it may concern:

Be it known that I, ISADORE NIDITCH, a citizen of the United States, residing at Dorchester, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Railway Signal-Fusees, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in railway signal fusees, the object of which is to provide a signal fusee with means which insures the ignition of the signal compound from the lighting or priming head, under the severe weather conditions to which such signals are subjected in their practical use.

The present improvement is of practical utility with fusees having the usual burning compound which includes potassium chlorate, though it is particularly intended for use in that form of fusee compound and fusee disclosed and claimed in my Patents 954,330 dated April 5th 1910 and 955,671 dated April 19th 1910, in which potassium perchlorate is used. In this latter type of fusee, the signal compound is not so readily lighted as in the former, and in the latter my present invention is of especial utility.

In the accompanying drawing—Figure 1 is a longitudinal central sectional view of a fusee which embodies my present invention. Fig. 2 is an enlarged sectional view of the head or lighting end of the improved fusee.

Referring now to the drawing, 1 is the usual paper tube in which the signal combustible compound is placed. So far as my present improvement is concerned, this combustible compound may be of any suitable mixture, though the mixture here disclosed is composed essentially of a coloring ingredient, a metallic nitrate, combined with sulfur, a carbohydrate and potassium perchlorate. Connected with one end of the tube 1 is the usual plug 3, having the spike 4. As here shown the tube 1 has its lighting end 5 crimped or turned in as shown at 6, though this may be varied at will without affecting my present improvement. In this type of fusee there is a separating core 7 consisting chiefly of a perchlorate, though this is not essential to the present improvement. Surrounding this core 7 is a lighting stratum 8, and this core is united to the fusee compound by means of a peg 9, to bind the priming or lighting head to the signal compound 2 to prevent the priming head shooting or skyrocketing, which tendency is due to the very much more sensitive composition of which it is composed.

Thus far I have explained the form of fusee shown and described in my said Patent 955,671, and the usual form so far as a lighting head and binding peg is concerned. My present improvement consists in adding a function to this binding peg, by making it a means for insuring the igniting of the fusee compound from the lighting head, as well as a binding medium. This is accomplished by so chemically treating it, that after being lighted by the priming or lighting head, it will continue to burn even when submerged end first into snow, slush or water immediately after the fusee is lighted, thereby insuring the lighting of the signal compound, and preventing it from being extinguished under the most severe and adverse conditions. This result is accomplished by saturating the binding peg with saltpeter and lead nitrate, preferably 6 parts of the former to 5 of the latter, though these proportions may be varied to some extent. The peg is preferably treated by being boiled in a solution of said ingredients for about 12 hours, and then drained and dried.

The core 7 is placed in the lighting end of the fusee in plastic form, and when this core is practically dry the peg is driven through it and into the signal compound 2. The core 7 adheres firmly to the peg, making it for all practical purposes a solid body with the core, and thus unites the lighting head or core to the signal compound 2, and by reason of its chemical treatment as aforesaid insures the igniting of the signal compound under the most adverse conditions. The lighting stratum 8 is placed on the end of the core and peg after the latter is driven in position.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A signal fusee comprising a tube, a signal compound therein, a lighting stratum at one end of the fusee and a wood peg saturated with a combustible compound, the outer end of the wood peg united with the lighting stratum and its inner end united to the signal compound whereby the peg binds the lighting stratum to the signal

compound and conveys the fire from the lighting stratum to the signal compound.

2. A binding member for the lighting stratum and the signal compound of a signal fusee, consisting of a wood peg soaked and saturated with a combustible compound.

3. A binding member for the lighting stratum and signal compound of a signal fusee comprising a wood peg subjected to a hot compound consisting essentially of saltpeter and lead nitrate to saturate it with said solution for the purpose described.

4. A binding member for the lighting stratum and the signal compound of a signal fusee, consisting of a wood peg subjected to a hot compound comprising essentially saltpeter and lead nitrate until the peg is thoroughly saturated and impregnated throughout with the said compound.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ISADORE NIDITCH.

Witnesses:
D. B. OAKS,
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