March 2, 1937. T. W. HAYS 2,072,503

COMBINATION TORPEDO FUSEE

Filed Aug. 22, 1935

Fig. 1.

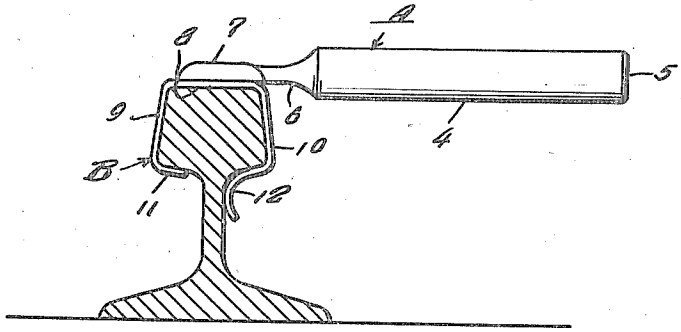


Fig. 3.

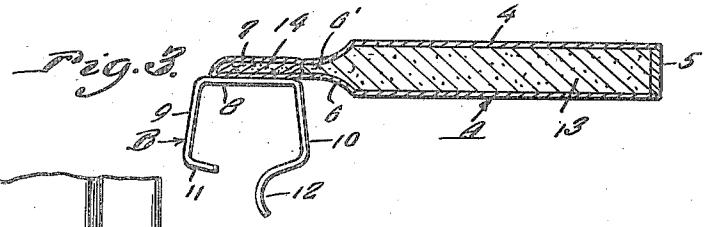
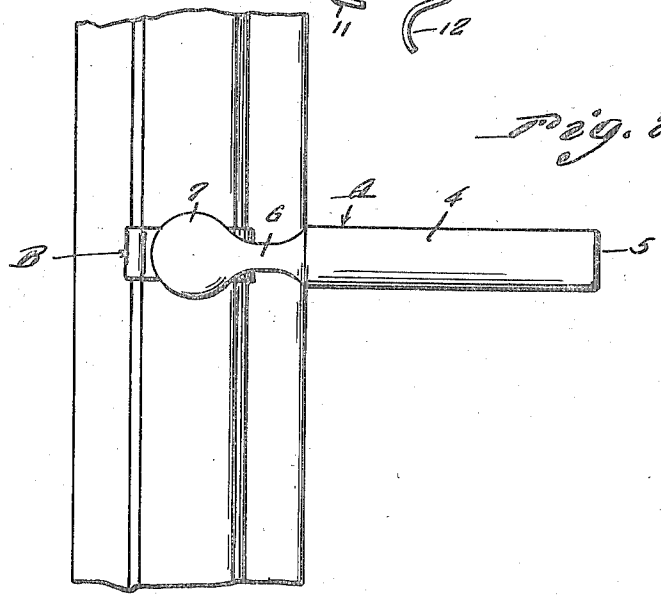


Fig. 2.



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COMBINATION TORPEDO FUSEE

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1 Claim. (Cl. 246—487)

This invention relates to a combination torpedo fusee.

In general railroad practice it is the custom for flagmen to place warning signals behind their train that has been stopped on the main line, to notify approaching trains to proceed with caution or stop as the exigency demands. When the train is stopped on the main line the flagman proceeds a considerable distance behind the standing train and places two torpedoes on the track two standard rail lengths apart. The two torpedoes placed two rail lengths apart make two explosive reports when an approaching train runs over them thereby notifying the engineer to proceed with caution. A single torpedo or a fusee is a stop signal. Having placed two torpedoes at a point farthest away from his standing train the flagman places a single torpedo at a point nearer the standing train than the point where the two torpedoes were placed as a safety measure to make the approaching train stop. The flagman then stands at this point where the single torpedo was placed until he is called to his standing train by his whistle signal from his locomotive. He then removes the single torpedo from the track, lights a flare of conventional character and proceeds to the standing train and upon his arrival signals the engineer to proceed.

The point where the single torpedo is placed is usually a considerable distance from the back end of the flagman's train and damaging wrecks often occur during the interval of time he leaves the point where the single torpedo has been removed and the time he reaches his standing train because approaching trains are only notified to proceed with caution by the double explosive and flares often fail in fair weather as well as inclement weather. The single torpedo would have brought the approaching train to a stop, but since the single torpedo has been removed when the flagman left the point of the track where it was attached, the approaching train continues moving under caution. To have left the single torpedo on the track, traffic would have been brought to a standstill. Moving under caution in fair weather is dangerous to a degree, and a potent hazard in inclement weather.

It is the object of the present invention to combine a fusee or flare with a torpedo both of which indicate stop signals to provide both a visible and audible stop signal that will remain effective for the interval of time required by the flagman to reach his standing train.

The fundamental purpose of the present invention is to combine in the same casing a fusee and a torpedo so that when the fusee has burned a predetermined time the torpedo will be consumed by combustion so as to eliminate the stopping of traffic and yet provide the maximum safety during the interval of time required for the flagman to return to the standing train.

Another object of the invention is to provide a combined torpedo and fusee on a spring metal clamp that embraces the ball of the track rail.

Further objects of the invention are to provide a device of the character referred to that is strong, compact and durable, thoroughly reliable for its intended purpose, easily attached to the track, and that is comparatively inexpensive to manufacture and operate.

With the foregoing and other objects in view the invention consists of a novel construction, combination and arrangement of parts as will be hereinafter more specifically described and illustrated in the accompanying drawing wherein is disclosed an embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to without departing from the spirit of the claim hereunto appended.

In the drawing wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a vertical section through a track rail showing the device in accordance with the present invention in side elevation and coupled to the track.

Figure 2 is a top plan view thereof.

Figure 3 is a longitudinal sectional view through the device removed from the track.

Referring to the drawing in detail, A indicates generally the casing for the combined torpedo and fusee which casing is preferably formed of cardboard or other combustible material. One end of the casing 4 is cylindrical in shape and on the free end of the cylindrical portion is the friction cap 5 that closes the end thereof. On an intermediate portion of the casing A is a reduced neck 6 formed with a passage 6'. At the outer end the neck 6 merges with the inner end of the cylindrical portion 4. On the inner end the neck merges with a hollow round portion 7, flat on its bottom face.

The clamp by which the combined torpedo and fusee is attached to the ball of the rail is indicated at B. This clamp is in the form of a yoke, the crown 8 thereof having the upper face secured to the flat face of the round portion 7 of the casing. Clamp B is formed integral of spring strap material and the opposite legs 9, 10 depend

from the crown 8. On the free ends of the legs 9, 10 are prongs 11, 12. When attached to the ball of the rail the crown 8 and legs 9, 10 grip the ball of the rail and the prongs 11, 12 grip the lower corners of the ball of the rail all of which is clearly shown in Figure 1 of the drawing.

In the cylindrical portion 4 and the neck 6 is packed a deflagrating material 13 such as the powders ordinarily used in making the red flame of a fusee or flare. In the round portion 7 of the casing is packed a detonating explosive 14 that explodes from the concussion of the wheels striking the round portion 7 which portion is carried on the ball of the rail because it is secured to the crown 8 of the clamp B. It will therefore be seen that since the deflagrating material 13 in the neck merges with the detonating explosive 14 in the portion 7 when the fusee burns through the passage 6' the detonating explosive will catch fire and be consumed by combustion. Any of the detonating explosives may be used that burn such as dynamite.

Having thus described the invention, what is claimed as new is:

A railway signal device comprising a detonating cap, means for securing the cap upon a rail, a fusee projecting from the cap and adapted to be manually ignited at its outer end, said fusee including a burning substance extending from its outer end to contact with the cap, so that the cap will be consumed in sequence to the burning of the fusee.

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