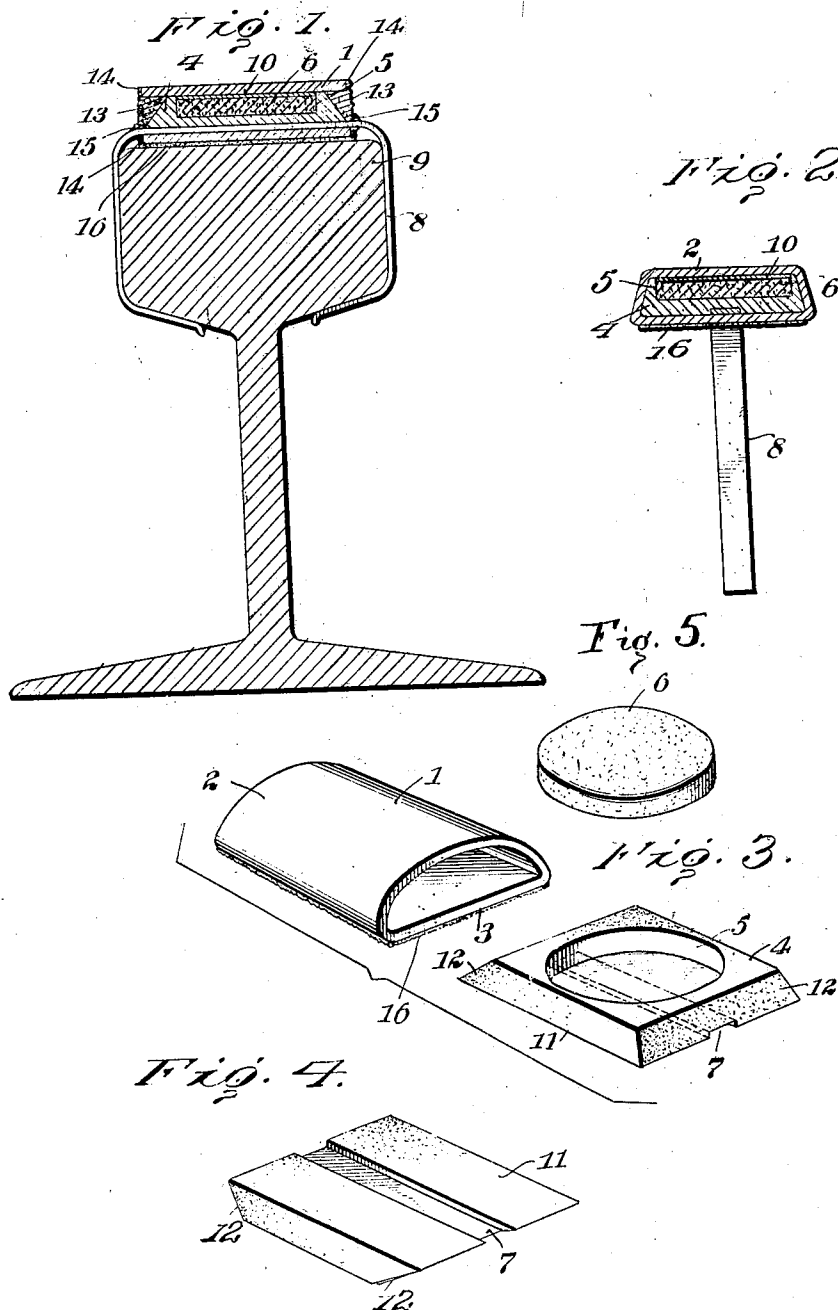


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RAILWAY TORPEDO.
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938,465.

Patented Nov. 2, 1909.



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RAILWAY-TORPEDO.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK DUTCHER, a citizen of the United States, residing at Versailles, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Torpedoes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in railway torpedoes, and comprises a torpedo having an outer fibrous inclosing case, and an inner explosive carrying member which consists of plaster of paris or other substance having characteristics to effect the purpose hereinafter set forth.

The primary object of the present invention is to construct a torpedo so that when it explodes the members carrying the explosive mixture are of such material that they will not fly in a manner to injure any one, and to make a water-proof construction.

In the accompanying drawings; Figure 1 is a longitudinal sectional view of a torpedo embodying my improvement, showing it attached to a railroad rail. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a perspective view of the inclosing case and the explosive carrying members showing them detached. Fig. 4 is an inverted perspective view of the explosive carrying member. Fig. 5 is a detached perspective view of the explosive tablet.

Referring now to the drawings, 1 is a tubular open-ended outer fibrous case. This case, as shown, preferably has a round top 2, and a flat base 3, as clearly shown in Fig. 3. An explosive carrying member 4, is made of plaster of paris, or of any material which has the porous and light characteristics of plaster of paris, so that when the torpedo explodes the member will be practically reduced to a powder or so small and light that it would not inflict injury to persons who might happen to be in the path thereof. As shown this member 4 is approximately right angular in plan view and has in its top face a recess 5, in which the explosive mixture 6 is placed. The opposite face or bottom of the member 4 is provided with a strap receiving groove 7, which extends in a direction longitudinally of the outer tube 1, and the rail-engaging strap 8, is located therein with its ends extending to engage the tread of the rail 9, as shown in Fig. 1. The inclosing case 2, is treated to a water-proofing

compound in any well-known way, and to further protect the explosive from dampness and water a water-proof disk 10 is placed in the recess 5, on top of the explosive mixture 6, as shown in Figs. 1 and 2. The outer face 11 of the base of the member 4 is to be of the length, or approximately the length of the inclosing tube 1, so that when placed therein, it will be readily centrally positioned in respect to the inclosing tube or case.

In order to form pockets at the end of the inclosing case to receive a water-proof filling for closing the ends thereof, the ends 12, of the member 4, are tapered inwardly from the face 11 of the base of the member 4, as shown, and a suitable water-proof filling 13 is placed in the pockets formed thereby and tightly closes the ends of the inclosing case. Preferably this water-proof compound is spread or extends over the ends of the outer case 1, as shown at 14, and thus protects the ends of the material of which the case is formed. The water-proof compound preferably extends or spreads around the rail-engaging strap 8, as shown at 15 thus serving to cement or hold the strap in position against endwise movement.

To prevent the torpedo slipping on the tread of the rail 9, when struck by the wheel of the engine, it may be provided with a suitable granular coating 16.

The explosive mixture 6, is preferably first cast into tablets which will fit in the recesses 5, though it may be placed therein when in plastic form, or may be placed therein in the form of a powder without departing from the spirit of the present improvement, so far as the other features of the invention are concerned.

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

1. An improved railway torpedo comprising an open ended tubular inclosing case, an inner member therefor, having an explosive receiving recess, an explosive in the recess, and a water-proof closure for the ends of the inclosing case.

2. An improved railway torpedo comprising a fibrous open ended tubular inclosing case, an explosive receiving member within the case consisting of a substance light and porous as plaster of paris, and a water-proof closure for the ends of the inclosing case.

3. An improved railway torpedo comprising a tubular open ended fibrous inclosing

case, an explosive receiving member containing an explosive mixture placed within the case and having tapered ends to form pockets at the ends of the inclosing case, and a water-proof compound within the said pockets.

4. An improved railway torpedo comprising a fibrous open ended tubular inclosing case, an approximately rectangular member within the case having an explosive receiving recess with a closed bottom and sides and open top, an explosive therein, and a water-proof inclosure for the ends of the inclosing case.

5. An improved railway torpedo comprising a fibrous open ended tubular inclosing case, an approximately rectangular member within the case having an explosive receiving recess with a closed bottom and sides and an open top, an explosive mixture in the recess, a disk closing the opening of the recess outside of the explosive mixture, and a water-

proof filling for the ends of the inclosing case.

6. An improved railway torpedo comprising a fibrous open ended tubular inclosing case, a member within the case having an explosive receiving recess on one side and a strap receiving groove at the opposite side, a strap within the groove and having extended ends, an explosive within the recess and a water-proof closure for the ends of the inclosing case.

7. An improved railway torpedo comprising a fibrous open ended tubular inclosing case, a tablet of explosive mixture within the case, and a water-proof closure for the ends of the case.

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

FRANK DUTCHER.

Witnesses:

H. P. PRICE,
S. I. PRICE.