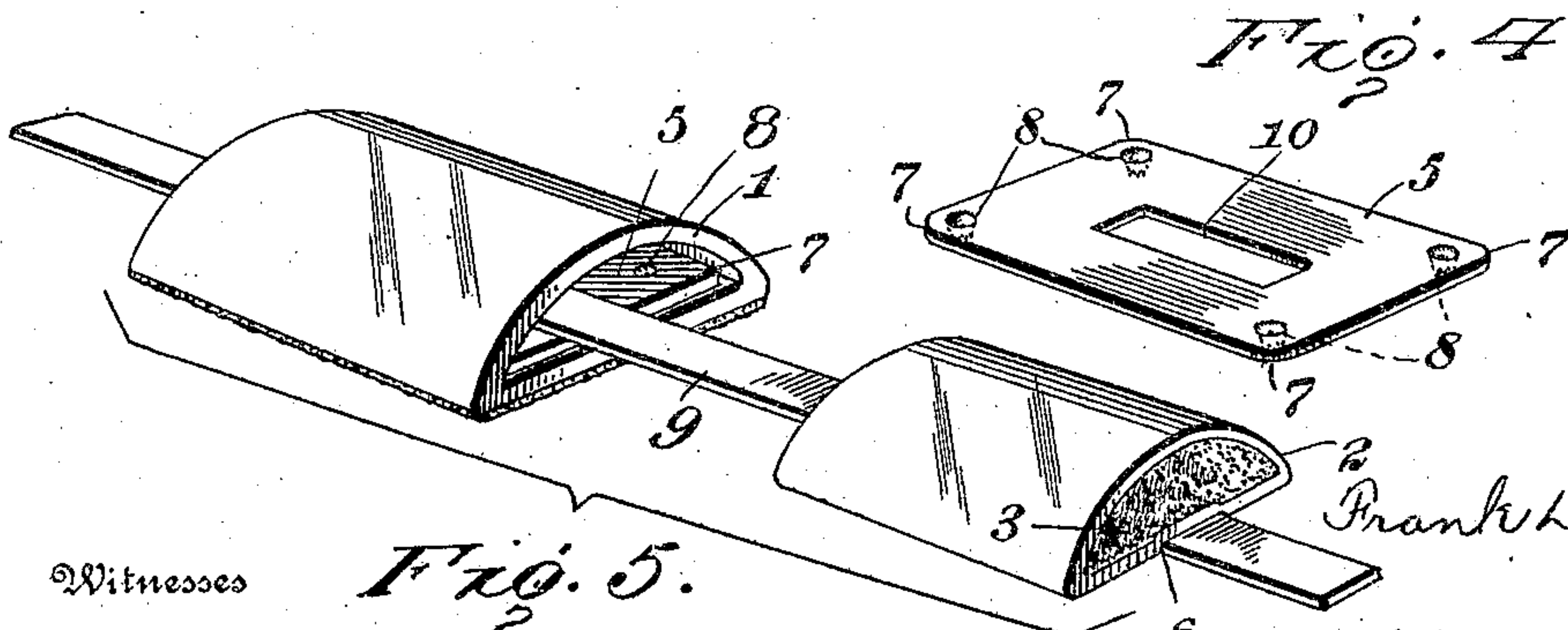
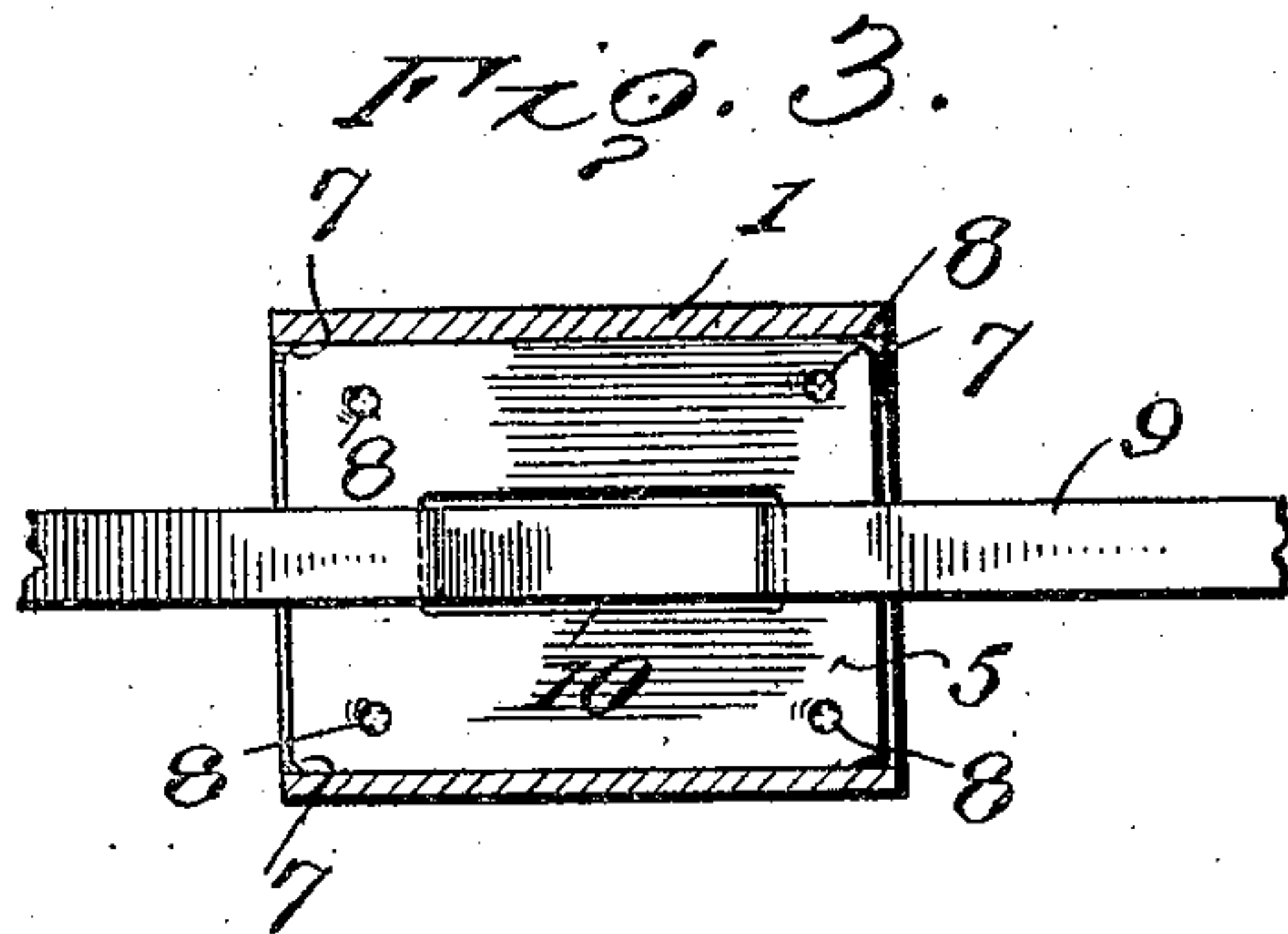
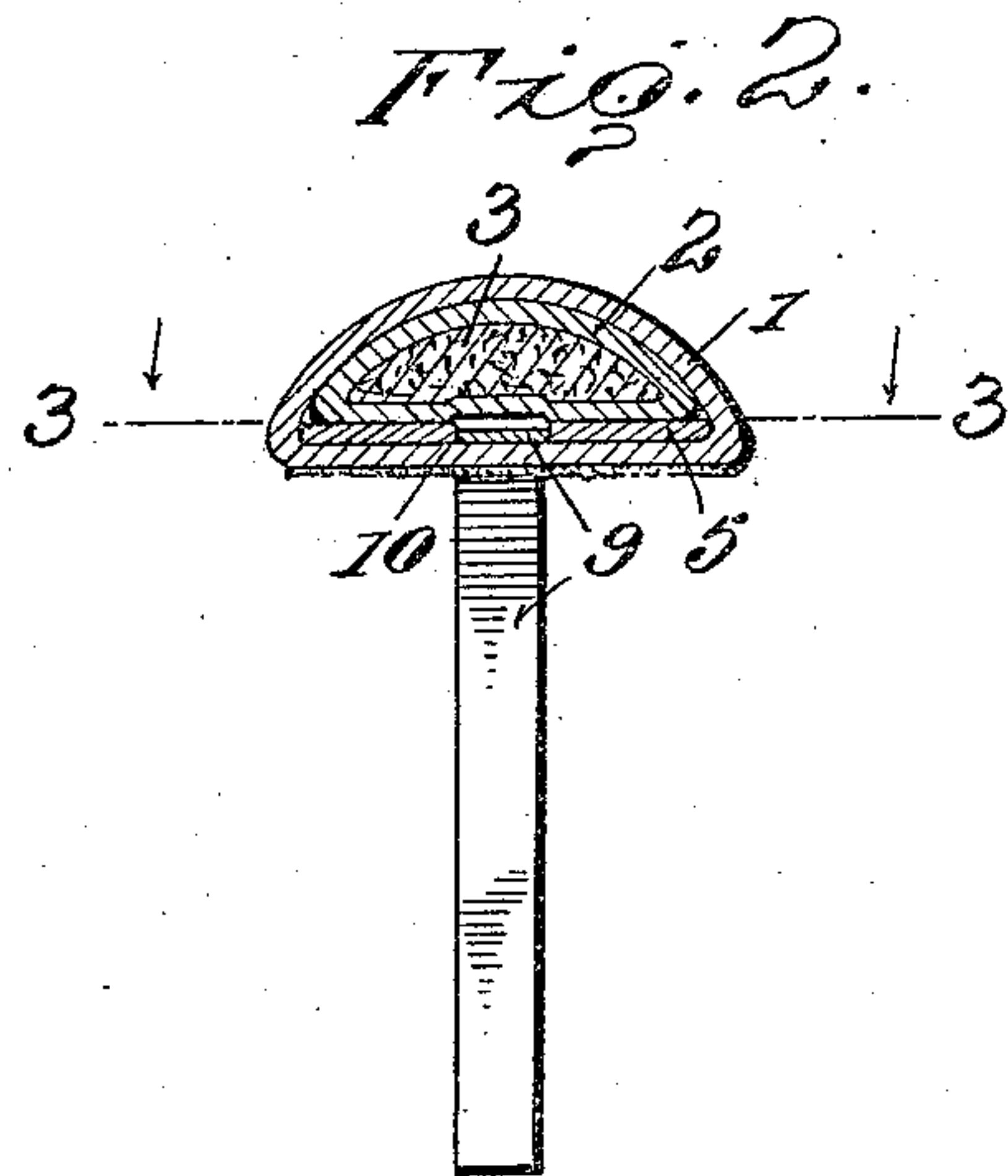
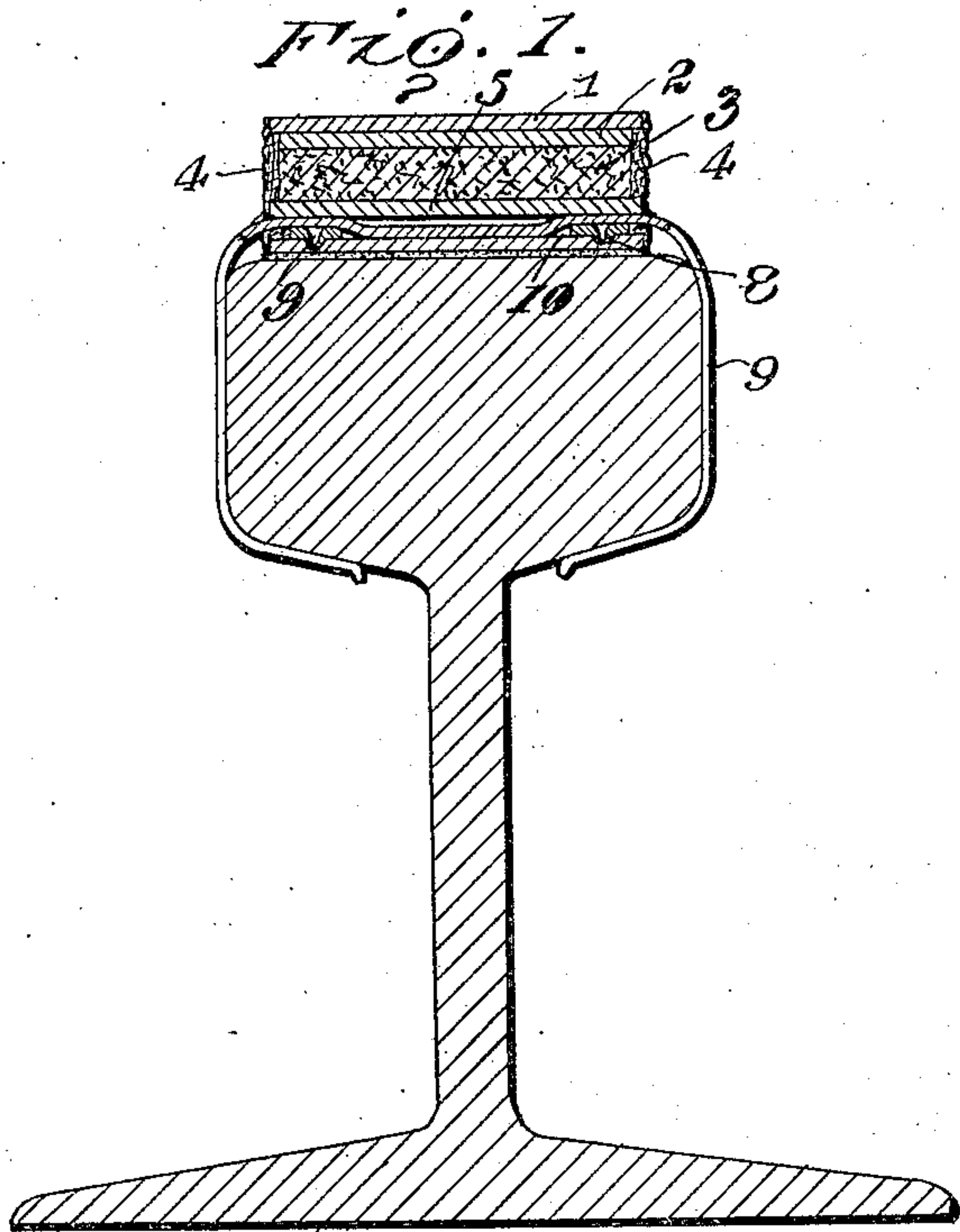


F. DUTCHER.
RAILWAY SIGNAL TORPEDO.
APPLICATION FILED MAY 1, 1909.

929,410.

Patented July 27, 1909.



Witnesses

W. A. Williams.
C. P. Wright, Jr.

Fig. 5.

By

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UNITED STATES PATENT OFFICE.

FRANK DUTCHER, OF VERSAILLES, PENNSYLVANIA.

RAILWAY SIGNAL-TORPEDO.

No. 929,410.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed May 1, 1909. Serial No. 493,329.

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 Signal-Torpedoes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in railway signal torpedoes, and the object of which is to provide an improved manner of attaching the rail-engaging strap to a torpedo which consists of inner and outer fibrous tubular cases.

In the accompanying drawing: Figure 1 is a longitudinal sectional view of a torpedo embodying the present improvement, showing it applied to a railroad rail. Fig. 2 is a transverse sectional view thereof. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2, looking in the direction indicated by arrows. Fig. 4 is a detached perspective view of the strap holding plate. Fig. 5 is a perspective view showing the outer and inner cases detached and the relative position of the rail-engaging strap.

The torpedo to which my present improvement is applied, consists of a paper or fibrous outer open ended tubular inclosing case 1, and an inner paper or fibrous open ended explosive receiving case 2, which is placed within the inclosing case 1, as shown in Figs. 1 and 2. The explosive mixture 3 is placed within the inner case 2 and also the inner case 2 is here shown as shorter than the outer case 1, thus forming pockets at the end to receive the closing water-proof compound 4. No claim is made herein to that construction, because it is claimed in a co-pending application filed by me May 1st, 1909, Serial No. 493,327.

The present improvement pertains particularly to the construction and location of a stiffening and strap retaining plate 5. This plate 5 is approximately rectangular in plan view, as shown in Figs. 3 and 4, and is placed between the bases of the inner and outer cases 1 and 2, the inner case being sufficiently smaller than the outer case to permit its reception between them. As shown in Fig. 5 the outer face of the inner case 2, is provided with a longitudinal strap receiving groove 6, and the strap is placed between the plate 5 and the base of the inner tube. To

facilitate the placing of the plate 5 within the outer tube, its corners 7 are rounded, as shown in Fig. 4, and the plate is attached to the outer tube and is held against longitudinal movement by means of ragged projections 8, formed in any desired manner, but as here shown by means of punching the plate.

In assembling the torpedo, the plate 5 is placed within the outer case and the plate placed on a suitable mandrel and the projections 8 driven into the inner wall of the base of the inclosing tube 1, by means of a hammer or other suitable implement. The inner tube having been filled with the explosive material is then placed within the outer tube with its base resting on the plate and the ends of the tubes then closed by suitable water-proofing compound 4. As is well understood by those skilled in this art, the rail-engaging strap 9 consists of soft lead or aluminium, and the strap when the parts are placed in position will to some extent be deflected into the opening 10 of the plate 5, as shown in Figs. 1 and 3, thus serving to lock the strap against longitudinal movement. This plate 5 serves the double function of stiffening the torpedo and of holding the strap in position, and is also so placed in relation to the explosive compound that it is forced downward against the rail, and by reason of the absence of any lateral flanges on the plate 5, there is no segregation of the plate to form flying pieces or particles and the plate is clamped against the rail by the engine wheel at the moment of collision.

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

1. An improved railway torpedo comprising telescoped inner and outer cases, an explosive compound within the inner case, a plate between the bases of the two cases and the rail-engaging strap between the base of the inner case and the said plate.

2. An improved torpedo comprising inner and outer fibrous cases, an explosive compound within the inner case, a plate between the bases of the inner and outer cases, the plate having an opening, and a rail-engaging strap passing longitudinally between the bases of the cases and over the opening in the plate.

3. An improved railway torpedo comprising inner and outer telescoped cases, an explosive mixture in the inner case, a stiffening

plate between the bases of the cases and a rail-engaging strap attached to the torpedo.

4. An improved railway torpedo comprising telescoped inner and outer cases, a plate
5 between the bases of the cases, said plate having outwardly extending projections for engaging the inner face of the base of the outer case, an explosive mixture in the inner case and a rail-engaging member carried by
10 the torpedo.

5. An improved railway torpedo comprising telescoped inner and outer cases, the inner case carrying an explosive mixture, a plate between the bases of the cases, the
15 outer face of the base of the inner case having

a longitudinal groove and a rail-engaging strap placed within said groove.

6. An improved railway torpedo comprising inner and outer telescoped open ended tubular cases, the inner case carrying an explosive mixture, a plate located between the bases of the cases and a water-proof closure for the ends of the two cases. 20

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

FRANK DUTCHER.

Witnesses:

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