F. DUTCHER.

FIBER CASE RAILWAY SIGNAL TORPEDO.

APPLICATION FILED AUG. 25, 1910.

1,015,153. Patented Jan. 16, 1912.

Fig. 2.

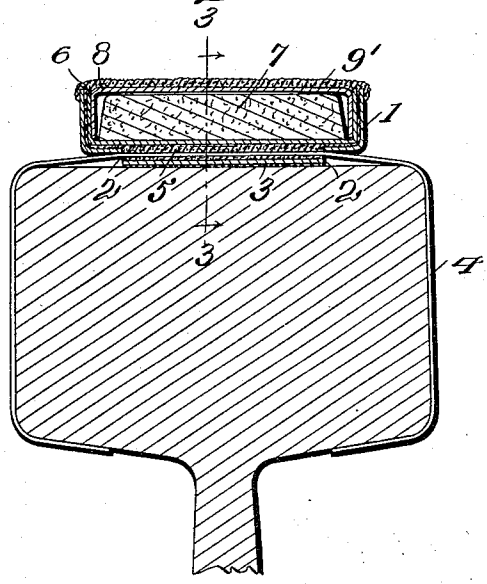


Fig. 1.

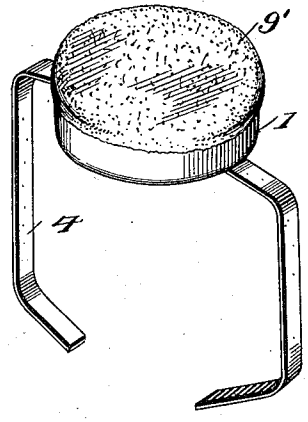


Fig. 3.

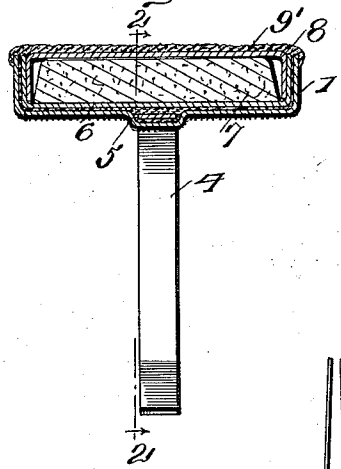


Fig. 4.

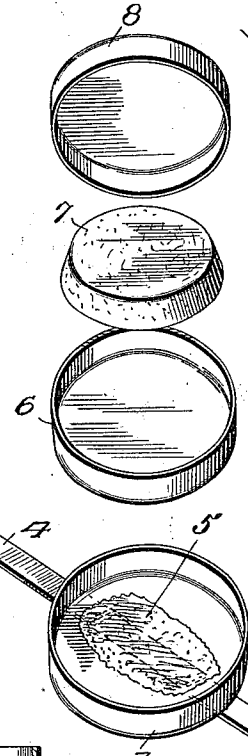
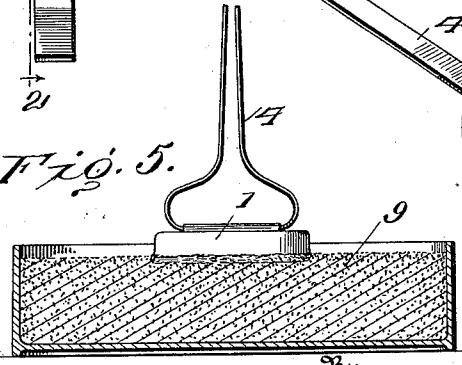


Fig. 5.



Witnesses

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FIBER-CASE RAILWAY SIGNAL-TORPEDO.

1,015,153. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed August 25, 1910. Serial No. 578,981.

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

This invention relates to improvements in fiber case railway signal torpedoes, which comprise telescoping fiber cup-shaped members and a combined sealing and strengthening top cement disk completely covering the top of the torpedo, and combining with this top cement disk a cement strengthening disk for the bottom of the fiber case.

The object of my present improvement is first to provide a circular fiber torpedo which is flat in cross-section and composed of telescoping fiber cup-shaped members, with a strengthening and sealing cement disk which is applied to and completely covers the top of the torpedo, thus sealing the joints of the telescoping members and forming substantially a rigid top to strengthen the case and to prevent the top from being collapsed when being shipped in bulk, or when handled, but which will disintegrate under explosion into particles so small as to prevent any injury to persons by flying particles; secondly, to combine with the fiber case having the combined sealing and cement top a strengthening disk or thick coating of combined sealing and strengthening cement at the bottom of the case.

In the accompanying drawing—Figure 1 is a perspective view of a fiber torpedo embodying my invention. Fig. 2 is a vertical sectional view taken longitudinal the rail attaching strap. Fig. 3 is a sectional view at right angles to Fig. 2. Fig. 4 is a detached perspective view of the parts constituting the torpedo, shown in separated relation. Fig. 5 is a view showing the manner of combining sand with the sealing and strengthening compound.

In carrying out my present improvement, the torpedo case is made up of telescoped cup-shaped fiber members. This of itself is not novel. Fiber torpedoes so constructed have been manufactured and sold under my supervision, but heretofore the flat portion of the top of the case has not been strengthened to prevent its being depressed when shipped in bulk, or when being handled, and as a consequence, the explosive compound therein has been subject to more or less agitation by reason of the flexibility of the case. My present improvement is to overcome this objection, and I produce a torpedo having a fiber case which will not inflict injury to persons by reason of flying particles thereof when exploded.

Referring now to the drawings, 1 indicates a cup-shaped fiber outer member which is provided in its bottom with rail-strap receiving openings 2, and a bulged portion 3. A rail-engaging strap 4 is passed through these openings and inside of the bulged portion 3. To seal these openings 2, and secure the strap 4 to the member 1, I provide a combined sealing and strengthening disk 5 of cement, which consists of a compound of beeswax, resin and plaster of Paris. This compound is applied in a melted condition and flows into and seals the strap opening 2, covers the strap and cements it in position. When the disk 5 has cooled, it is of a stiff character and strengthens that part of the member 1 which constitutes the bottom of the case and prevents it from being collapsed or depressed when shipped in bulk or while being handled. Preferably, I combine with this member 1, a second cup-shaped member 6, which is of a size to fit within the member 1, and it is placed in telescoped position therein with its bottom against the disk 5 and parallel with the bottom of the member 1. This member 6 is placed in the above mentioned position, while the cement 5 is a hot fluid or plastic, and in this way the members 1 and 6 are cemented together. The explosive compound 7, is placed within the member 6 and a cup-shaped fiber member 8 is telescoped within the member 6, in an inverted position, thus inclosing the explosive compound 7, as shown in Figs. 2 and 3. The case or torpedo is then provided with a top combined sealing and strengthening cement disk by dipping the top of the torpedo into a cement composed of the compound mentioned, and while this is in a plastic condition the torpedo is forced downward into a mass of sand 9, thus forcing the sand into the plastic compound which is combined therewith into substantially a homogeneous mass by reason of the pressure. The contact of the sand with the plastic compound at once chills and

hardens to such an extent that the torpedo is completed and can be at once further handled in the factory without misshaping or displacing either the combined sealing and strengthening compound or the sand embodied therein.

The sand 9′ which is combined with the composition is fine grained, so that when the torpedo is disintegrated by explosion, the flying particles of sand are of such size that injury to persons will not result, as is well established in the use of fiber torpedoes, all of which include an explosive compound having sand of the same gage or size as that embodied in the sealing and strengthening compound.

It will be observed from the foregoing description and illustration that a fiber torpedo is provided in which the top is so strengthened and stiffened that it will not be subject to compression in shipping and handling and yet contain all of the known advantages of a fiber torpedo.

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

1. A fiber case torpedo having a thick strengthening disk of cement completely covering its top, and sand incorporated therein throughout the thickness of the cement disk, substantially as and for the purpose described.

2. A fiber case torpedo, consisting of telescoped cup-shaped members, one of said members having a strap opening, a strap passing through said opening with its ends projecting beyond the case, and a cement disk applied to the inner side of the member having the opening, and closing the opening, holding the strap, and uniting the cement engaging members of the case together.

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

FRANK DUTCHER.

Witnesses:
GERTRUDE DAVIDSON,
SIMON F. LOEB.