Jan. 4, 1944. A. R. FERRER 2,338,322

TORPEDO

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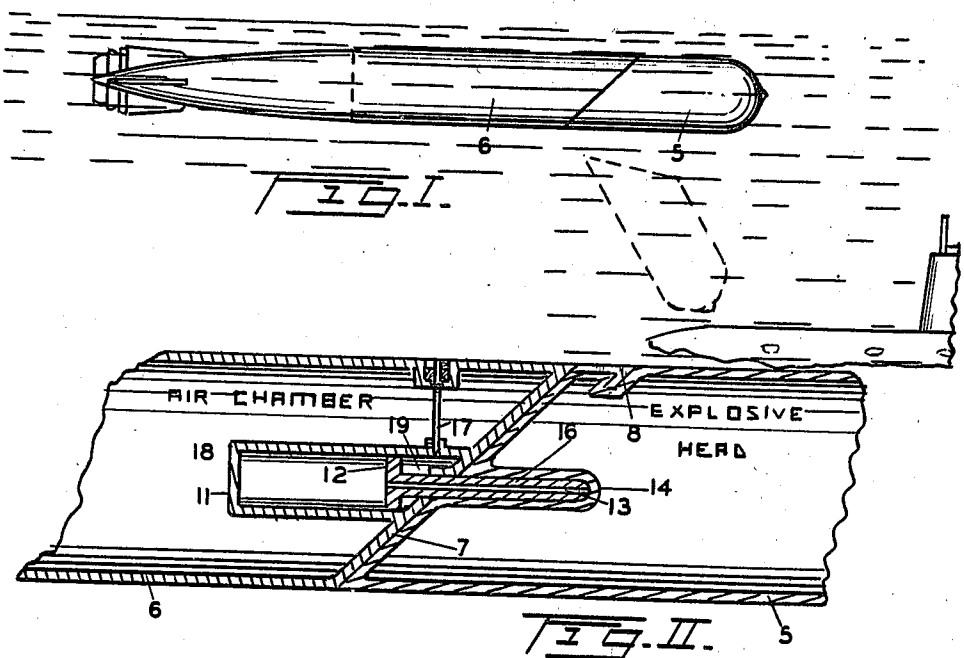


FIG. I.

FIG. II.

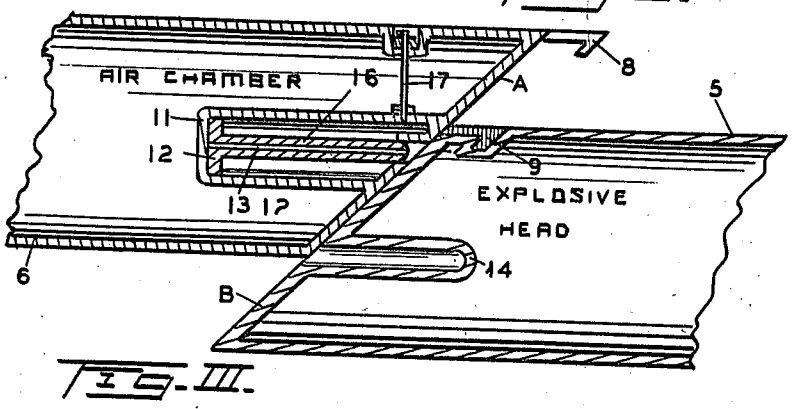


FIG. III.

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TORPEDO

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1 Claim. (Cl. 114—20)

This invention relates to improvements in explosive devices and has particular reference to a combined torpedo and depth bomb.

The principal object of this invention is to produce a torpedo which will have all of the characteristics of a torpedo together with the added feature of a separable head which will act as a depth bomb if the torpedo fails to reach its mark within a predetermined time.

A further object is to produce a torpedo of this character which may be discharged from a torpedo tube in the customary manner.

A further object is to produce a device which is economical to manufacture and which will automatically drop its head in a given direction.

A still further object is to provide means whereby after the head has been dropped the torpedo body may be recovered and will not remain a menace as does the present-day type of torpedo if it fails to contact its mark.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. I is a diagrammatic view showing a torpedo constructed in accordance with my invention and in dotted lines the manner in which the explosive head may drop to become a depth bomb.

Fig. II is an enlarged fragmentary cross sectional view showing the separating mechanism.

Fig. III is a similar view showing the explosive head being dropped.

The ordinary torpedo is an elongated explosive device integrally constructed and having therein an explosive chamber, an air chamber, a motor chamber and the necessary steering and depth submersion mechanism.

It is my intention to reconstruct such a torpedo by providing a separable explosion chamber or explosive head, which head is connected to the body of the torpedo in such a manner that after the torpedo has been discharged and has gone a predetermined distance, then if the torpedo does not strike its target, the head will become separated from the body and will drop in a manner similar to the so called depth bomb.

In the accompanying drawing wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the explosive head and the numeral 6 the body in which is located the air chamber, and driving and controlling mechanism.

The contour of the body and the explosive head is identical with that of the ordinary torpedo.

My invention consists in forming the explosive head 5 separable from the body 6, the abutting portions being constructed on a diagonal line with respect to the horizontal axis of the torpedo. This dividing line is shown at 7 in Fig. II, thus producing the abutting surfaces A and B of the body and head respectively.

Any desired means may be employed for detachably connecting the head and the body, but as a matter of illustration, I have shown a hook 8 on the body which engages a socket 9 in the head.

In the body I have provided an air cylinder 11 in which is mounted a piston 12 having a plunger 13 which is adapted to normally lie within a tubular recess 14 formed in the head 5. This plunger 13 has a port 16 extending therethrough.

A needle valve is shown at 17 which may be adjusted from the outside of the body and when rotated a predetermined distance air will be admitted from the air chamber 18 into the chamber 19 in front of the piston 12.

As a result of this construction, assuming that it is desired to discharge the torpedo toward an object a predetermined, estimated distance, the needle valve 17 will be opened a given amount and the torpedo discharged in the customary manner, and the torpedo will travel under water also in the customary manner until it reaches a point at which the torpedo should strike its target.

Assuming that the torpedo is discharged toward a submarine and that the submarine dives before the torpedo reaches its mark, then when the torpedo has traveled its estimated distance, the leakage of air past the needle valve 17 will have moved the piston 12 from the position of Fig. II to that of Fig. III, thus withdrawing the plunger 13 from the tubular recess 14 in the head, and then the camming action between the surfaces A and B will force the explosive head downwardly and away from the body of the torpedo as indicated in Fig. III. The head will now drop to a given depth where it will explode presumably within an effective area, which would cripple or otherwise damage a submarine within a considerable radius.

Due to the fact that a torpedo head carries a very much greater explosive charge than the ordiary depth bomb, the explosive force would cover a much larger area than is covered by the customary depth bomb and consequently the chances

of the escape of a submarine would be greatly reduced.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

A torpedo formed of two sections, the abutting surfaces of said sections being diagonally arranged with relation to the longitudinal axis of said torpedo, one of said sections being the body and driving end and the other of said sections forming the head; means for connecting the diagonal pushing surfaces of said body to the diagonal push receiving surfaces of said head during discharge and for a predetermined time, and means for releasing said head from said body whereby the diagonal surfaces will cam on each other to effect a separation of said body and said head.

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