Feb. 2, 1926. 1,571,507

E. S. R. BRANDT

TORPEDO

Filed Oct. 17, 1923

Fig. 1.

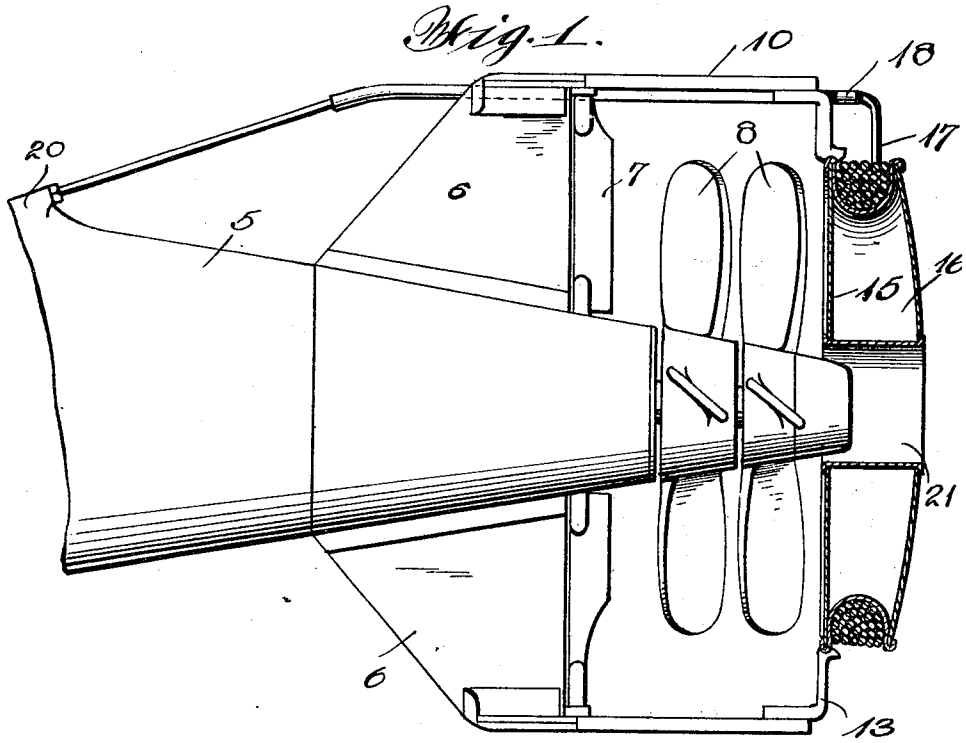
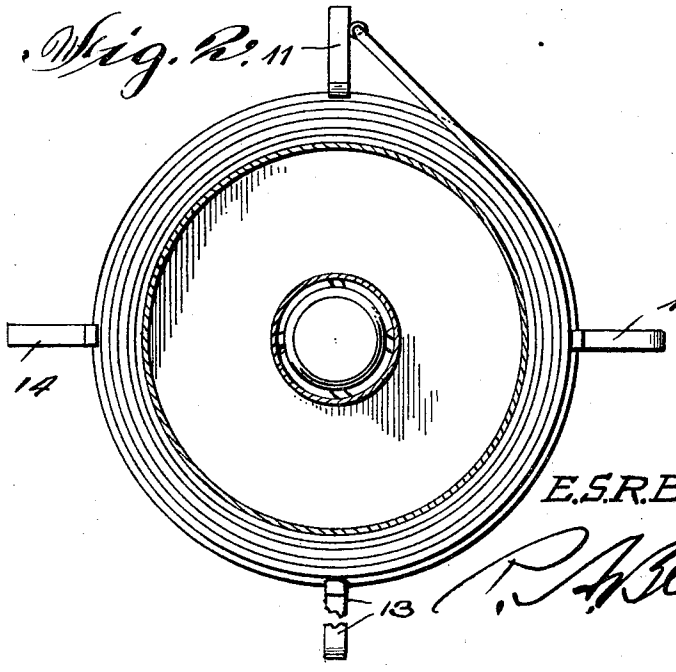


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDMUND S. R. BRANDT, OF NEWPORT, RHODE ISLAND, ASSIGNOR TO THE GOVERNMENT OF THE UNITED STATES, REPRESENTED BY THE SECRETARY OF THE NAVY.

TORPEDO.

Application filed October 17, 1923. Serial No. 668,985.

To all whom it may concern:

Be it known that I, EDMUND S. R. BRANDT, a citizen of the United States, residing at Newport, Rhode Island, have invented new and useful Improvements in Torpedoes, of which the following is a specification.

This invention relates to improvements in torpedoes and more particularly to torpedoes carrying antenna adapted to be controlled from a distant point by wireless.

One of the objects of the present invention is to provide an improved torpedo of the above character provided with a coiled antenna whereby the same may be conveniently launched from a torpedo tube and subsequently automatically place the antenna in operative position.

A further object is to provide a torpedo of the above general character of simple, practical and reliable construction in which the antenna can be automatically released after launching and assume the position with respect to the torpedo whereby the antenna will uncoil from the reel as the torpedo moves on its course.

Other objects will be in part obvious and in part hereinafter pointed out in connection with the accompanying sheets of drawings illustrating one of various possible embodiments of the invention and in which drawings corresponding parts are indicated by similar reference characters.

In these drawings Figure 1 is a side elevation, partly in section, of the after-body of a torpedo with the antenna reel applied thereto in position of rest.

Figure 2 is a rear end view partly in section of the torpedo and antenna reel.

Referring now to the drawings in detail, 5 indicates the after-body or tail of the torpedo provided with vanes preferably disposed at right angles and carrying the usual control rudders, the vertical ones 7 being shown. Immediately aft of these rudders are propellers 8 for driving the torpedo.

Secured to each of the four vanes are rearwardly extending arms 10 each provided with a hook 11, 12, 13 and 14 for engaging inner flange 15 of the antenna reel 16. These hooks which are of flexible or resilient material engage the periphery of the reel with sufficient firmness to hold it in position shown in Figure 1 when at rest but automatically permit its release when the torpedo is launched due to the resistance of the water. The antenna comprises a wire 17 of the desired strength, flexibility and material which passes through a tube 18 mounted on the upper bracket 10 and extends forwardly to a suitable securing means 20 on the after-body of the torpedo. The reel 16 is also provided with a relatively large opening 21 which accomplishes two purposes, first, it permits the exhaust of the products of combustion of the torpedo through the tail and, second, it permits an equalization of pressure of the discharging means on opposite sides of the reel.

It will also be noted at this point that the hook 11 is materially stronger or has a firmer engagement with the periphery of the flange 15 than have the hooks 12, 13 and 14, the engagement with the lower hook 13 being particularly light. The purpose of this is to permit the reel to more easily assume a horizontal position in the wake of the torpedo after it is launched thereby allowing the antenna to unreel freely therefrom.

In operation the apparatus functions as follows:—The torpedo is, of course, placed in the usual tube and the propelling means admitted or fired for discharging the torpedo therefrom. If compressed air is used the pressure is equalized on opposite sides of the reel but as soon as the torpedo enters the water the pressure on the forward side will, of course, be greater, first dislodging the reel from the lower hook 13 which engages the water first when the torpedo is launched and then from the upper hook 11. Thus the reel occupies a substantially horizontal position in the water at the stern of the torpedo and the antenna 17 unwinds therefrom as the torpedo proceeds.

In this manner the strain on the antenna is materially reduced due to a decrease in the resistance offered by the side of the reel and there is therefore less danger of its breaking also by reason of the brackets 10 and tube 18 there is no danger of the antenna becoming fouled with the propellers.

It will thus be seen that the present invention provides a simple and practical apparatus of the character herein described well adapted to accomplish, among others, all of the objects and advantages herein set forth.

What I claim is:—

1. In a torpedo of the character described,

in combination, an antenna reel and supports therefor mounted on the after-body of the torpedo, holding said reel in vertical position whereby it is released on launching of the torpedo.

2. In a torpedo of the character described, in combination, an antenna reel and a plurality of flexible securing means mounted on the after-body of the torpedo for holding said reel in vertical position until the torpedo is launched, whereby it is automatically released when the torpedo is launched.

3. In a torpedo of the character described, in combination, an antenna reel and a plurality of securing means mounted on the after-body of the torpedo for holding said reel in place until the torpedo is launched, said securing means having different degrees of strength in engagement with the antenna reel whereby some of said securing means release before the others.

4. In a torpedo of the character described, an antenna reel, an antenna carried thereby adapted to be secured to the after-body of the torpedo and a plurality of hooks co-acting with said antenna reel of various strengths whereby some of said hooks release prior to others.

5. In a torpedo of the character described, a plurality of vanes secured to the after-body of the torpedo, hooks carried thereby, a reel carrying the antenna supported by said hooks and having a large central opening whereby the pressure of the propelling charge is equalized on the opposite sides of the reel at the moment of firing.

6. In a torpedo of the character described, a plurality of vanes secured to the after-body of the torpedo, hooks carried thereby, a reel carrying the antenna supported by said hooks and having a large central opening whereby the pressure of the propelling charge is equalized on the opposite sides of the reel at the moment of firing, some of said hooks having a firmer engagement with the antenna reel than others whereby the reel will assume a horizontal position after launching.

Signed at Boston, Mass., this 28th day of August, 1923.

E. S. R. BRANDT.