May 29, 1945. F. M. RABUSE 2,377,181

OIL DISCHARGING TORPEDO

Filed Aug. 21, 1944

Fig 1

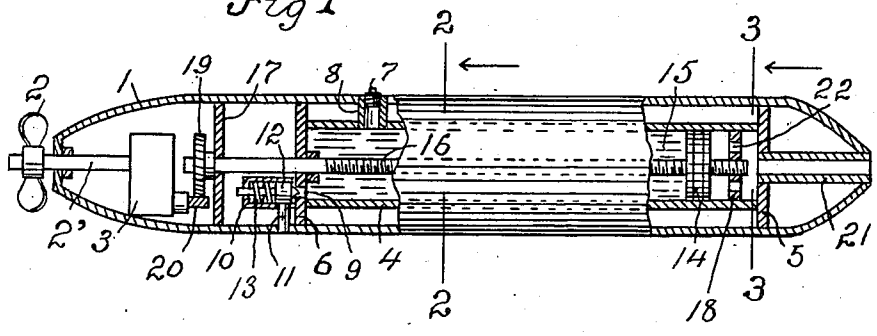


Fig 2

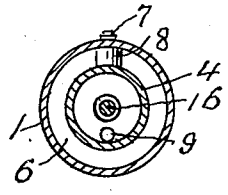


Fig 3

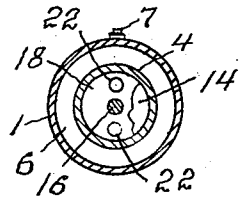
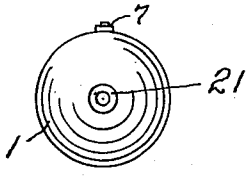


Fig 4



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OIL DISCHARGING TORPEDO

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4 Claims. (Cl. 114—232)

My invention relates to improvements in oil discharging torpedoes.

One of the objects of my invention is the provision of a novel oil discharging torpedo which, when discharged from a submarine will discharge oil into the water making an oil wake on the surface thereof, giving to attacking vessels or planes the impression that the submarine has been struck by a depth bomb, and is leaking oil.

The attacking vessels or planes will, therefore, naturally follow the course of the torpedo thinking it to be the course of a crippled submarine. In the meantime, the submarine will steer off in another course and escape the attackers.

Another object of my invention is the provision of a novel torpedo of the kind described, which is simple, strong and durable, not likely to get out of order, which is easily and quickly operated, and which is efficient in its operation.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing which illustrates the preferred embodiment of my invention,

Fig. 1 is a side view, partly in longitudinal vertical section and partly in elevation, of my improved torpedo, shown in operative condition for launching from the submarine, not shown.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a section on the line 3—3, partly broken away, of Fig. 1.

Fig. 4 is a front end view of the torpedo.

Similar reference characters designate similar parts in the different views.

1 designates the usual shaped torpedo body, 2 the usual rear propeller mounted on the usual propeller shaft 2' driven by a battery operated motor 3 in the body 1.

Means are provided in the body 1 for containing a quantity of oil, which as shown, comprises a longitudinal axial cylinder body 4 having at its front and rear ends respectively transverse heads 5 and 6, the peripheries of which are rigidly fastened to the inner perimeter of the torpedo body 1. Near its rear end the cylinder body 4 has extending from it to the outer side of the torpedo body 1, a filling tube for oil, the outer end of which is normally closed by a screw plug 7, the filling tube being designated by 8.

Means for discharging oil from the rear end of the cylinder body 4 is provided, which, as shown, comprises a hole 9 through the rear cylinder head 6, which communicates at its front end with the interior of the cylinder body 4, and at its rear end with a valve casing 10 fastened at its open front end to the rear side of the head 6. A discharge pipe 11 extends through one side of the valve casing 10 and the adjacent side of the torpedo body 1. A valve 12 in the casing 10 normally closes the hole 9 and the inner end of the pipe 11, being yieldingly held in the closed position, shown in Fig. 1, by a coil spring 13 in the valve casing 10.

In the cylinder body 4 is a piston 14 fitted for travel from its initial operative starting position adjacent to the front cylinder head 5 rearwardly toward the rear head 6, for forcing oil 15 in the cylinder body 4 at the rear of the piston 14 out of the oil discharge means, just described, into the outside water.

Means are provided by which, when the motor 3 is operated to propel the torpedo, the piston 14 will be forced rearwardly in the cylinder body 4 to force oil through the oil discharge means into the outside water. As shown in the drawing such means comprises the following described parts.

An axial screw shaft 16 extends longitudinally in the cylinder body 4 through an opening in the rear cylinder head, in which opening the screwshaft 16 is closely fitted. The rear end portion of the screw shaft 16 extends through and is rotatably mounted in a transverse circular bearing plate 17, between the motor 3 and the valve casing 10, the periphery of the bearing plate 17 being rigidly secure to the inner periphery of the torpedo body 1. The front end portion of the screw shaft 16 is rotatably mounted in a central hole of a transverse bearing plate 18, located between the front cylinder head 5 and the piston 14. The screw shaft 16 is threaded from its front end to a point adjacent the front side of the rear cylinder head 6. The screw extends centrally through the piston 14 with which it has threaded connection.

On the rear end of the screw shaft 16 is fastened a gear wheel 19, which meshes with a driving pinion 20 of the motor 3.

The lead of the thread of the screw shaft 16 is such, that when the motor 3 is operated to forwardly propel the torpedo, the screw shaft 16 will be rotated by the pinion 20 and gear wheel 19 in a direction such that, the screw shaft 16 will force the piston 14 rearwardly from the position shown in Fig. 1.

When the piston 14 moves rearwardly, the pressure produced against the oil 15 will open the valve 12, and oil will be discharged from the cylinder body 4 through the hole 8, valve casing

10 and discharge pipe 11 into the outside water, to the surface of which the oil will rise.

When it is desired to replace the oil discharged from the cylinder body 4 with outside water, to keep the torpedo from rising to the surface, the following described means is provided.

An axial tube 21 has its rear end tightly fastened in a central hole through the front cylinder head 5, the front end of the tube being tightly fitted in a hole in the front end of the torpedo body 1.

The screw shaft bearing plate 18, the periphery of which is fastened to the inner side of the cylinder body 4, has openings 22 transverse through it. When the piston 14 moves rearwardly outside water will pass inwardly through the tube 21 into the cylinder body 4 and through the openings 22 against the front end of the piston 14. When the cylinder has had the most of its oil discharged by the rearward movement of the piston 14, water will have displaced the discharged oil.

Sufficient air space is provided in the torpedo body outside of the cylinder containing the oil to keep the torpedo from sinking to the bottom, at least until enough oil has been discharged to effect the purpose desired, that of creating a wake of oil on the water surface to fool the attackers of the submarine. After the torpedo has been launched, its motor will operate and it will be driven in a given direction. The submarine will then pursue a different course, thus getting away from the enemy which will follow the oil wake, believing it to be oil discharged from a crippled submarine.

Many modifications of my invention may be made, within the scope of the appended claims, without departing from the spirit of my invention.

What I claim is:

1. In an oil discharging torpedo, in combination with a torpedo body, an outside propeller for said body, a motor in said body, and means for operating said propeller by said motor, of a cylinder in said body adapted to contain oil, normally closed means for discharging oil from said cylinder to the outside of said body, a piston fitted for travel in said cylinder endwise thereof toward said oil discharge means and when so moved forcing oil from said cylinder out through said oil discharge means under pressure, and means actuated by said motor when operated to operate said propeller for so moving said piston.

2. In an oil discharging torpedo, in combination with a torpedo body, an outside propeller for said body, a motor in said body, and means for operating said propeller by said motor, of a cylinder in said body adapted to contain oil, means for discharging oil from said cylinder to the outside of said body, a valve for closing said discharge means, means for normally closing said valve which yields to permit oil under pressure to open said valve, a piston fitted for travel in said cylinder endwise thereof toward said oil discharge means and when so moved forcing oil from said cylinder under pressure through said discharge means, and means actuated by said motor when operated to operate said propeller for so moving said piston.

3. In an oil discharge torpedo, in combination with a torpedo body, a motor in said body, and means actuated by said motor for propelling said body, of a cylinder in said body adapted to contain oil, means for discharging oil from said cylinder to the outside of said body, a valve for closing said discharge means, yielding means for normally closing said valve but permitting opening of said valve under pressure of oil in said cylinder, a piston fitted for travel in said cylinder endwise thereof toward said discharge means and when so moved forcing oil from said cylinder under pressure through said discharge means, a screw rotatably mounted in said cylinder and having threaded engagement with said piston and when rotated in one direction moving said piston toward said discharge means, and means actuated by said motor when operated to operate said propelling means for rotating said screw in said direction.

4. In an oil discharging torpedo, in combination with a torpedo body, a motor in said body, and means actuated by said motor for propelling said body, of a cylinder in said body, means for discharging oil from said cylinder to the outside of said body, means for receiving water from the outside of said body into said cylinder, a valve for closing said discharge means, yielding means for normally closing said valve but permitting opening of said valve under pressure in said cylinder, a piston fitted for travel in said cylinder endwise thereof between said water receiving means and said discharge means, said cylinder being adapted to contain oil between said piston and said discharge means, a screw rotatably mounted in said cylinder and having threaded engagement with said piston and when rotated in one direction moving said piston toward said discharge means, and means actuated by said motor when operated to operate said propelling means for rotating said screw in said direction.

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