

G. P. HELFRICH.
WATER JET MARKER FOR TORPEDOES.
APPLICATION FILED FEB. 16, 1910.

995,138.

Patented June 13, 1911.

Fig- 1.

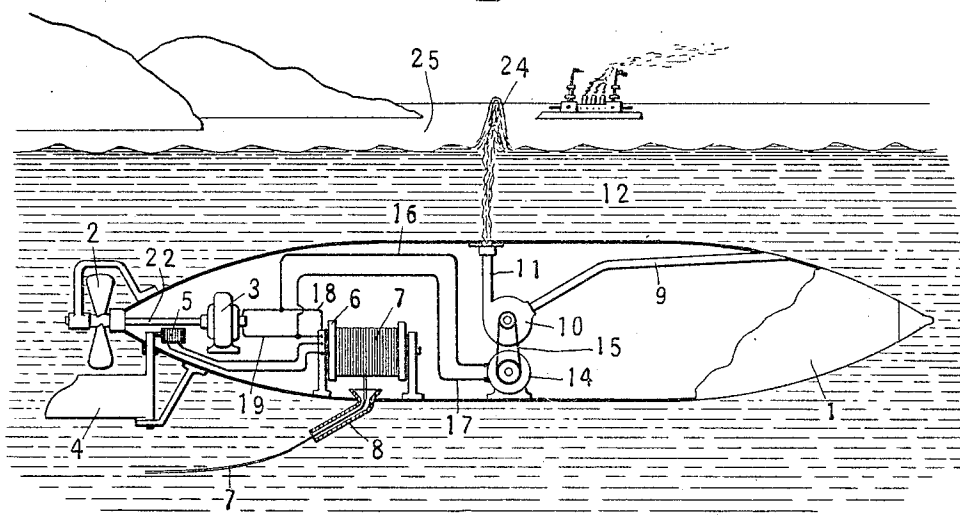
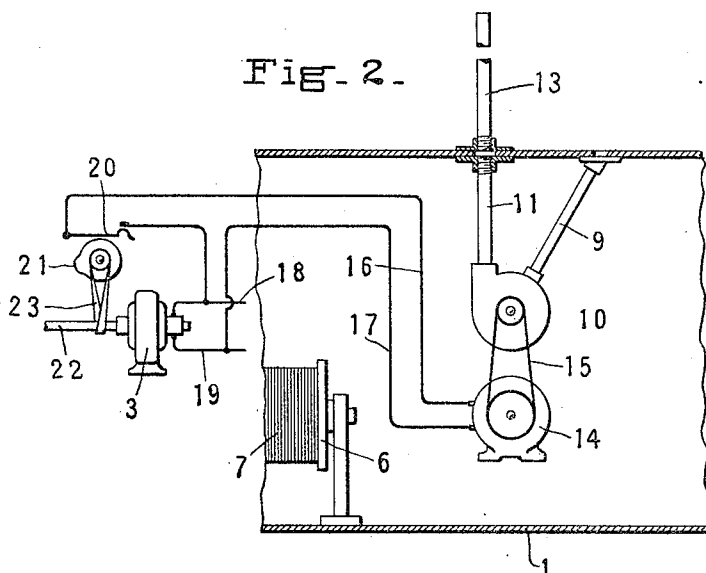


Fig- 2.



WITNESSES:
J. H. Kipley
R. Altman

INVENTOR
G. P. Helfrich.
BY
Ronald Day
ATTORNEY

UNITED STATES PATENT OFFICE

GUSTAV P. HELFRICH, OF NEW YORK, N. Y.

WATER-JET MARKER FOR TORPEDOES.

995,138.

Specification of Letters Patent. Patented June 13, 1911.

Application filed February 16, 1910. Serial No. 544,182.

To all whom it may concern:

Be it known that I, GUSTAV P. HELFRICH, a citizen of the United States, and a resident of the borough of Bronx, county, city, and State of New York, have invented certain new and useful Water-Jet Markers for Torpedoes, set forth in the following specification.

This invention relates to submarine boats and its object is to mark the location of a submarine boat by novel method so that the mark cannot be destroyed by gun fire and to provide suitable means for the practicing of this method.

The method of marking the locality of the submarine boat contemplated is that of forming an elevation in the water directly over the locality of the submerged boat. To cause this elevation in the water, the applicant contemplates discharging from the boat either continuously or at intervals an upwardly directed blast or jet of fluid.

In the preferred embodiment of the invention the applicant provides a force pump having a suitable intake conduit and an upwardly discharging conduit for forcing a jet of water upwardly from the submerged boat and above the surface of the submerging water.

More particularly it is an object to combine such means for marking location in a submarine torpedo boat which is arranged to be externally controlled.

The invention will be clearly understood from the following specification and will be more fully pointed out in the accompanying claims.

The specification should be read in connection with the accompanying drawings, which form a part of this application and in which,—

Figure 1 is a view of a body of water showing a submerged torpedo boat in vertical elevation and partly in diagram; and Fig. 2 is a fragmentary sectional elevation showing a modification.

In its preferred embodiment the invention is combined, as illustrated, with a torpedo boat construction.

The hull is indicated by 1 and is shown provided with a propeller 2 driven in any approved manner as by the electric motor 3. 4 indicates the rudder and 5 the controlling motor for the same.

In this type of submarine boat, it is common to provide a reel 6 having wound there-

on a sufficient length of multi-conductor cable 7 which unwinds with the progress of the boat and passes out through a water sealing guide 8. This cable supplies the electric current for operating the motors 3 and 5, it being understood that external control of these motors is effected in a well known manner but which forms no part of this invention. It is also well known that a multi-conductor cable such as that shown is employed for many other purposes besides supplying current for the driving of the motors and the steering of the boat. It is likewise serviceable in providing connection for all external apparatus with any of the usual indicating apparatus to be carried by a boat of this class, such as a depth indicator. An intake conduit 9 having its intake opening preferably forwardly directed connects with the force pump 10 in a suitable manner to supply water thereto, which is forced by the pump 10 through the discharge conduit 11 upwardly directed and opening into the submerging water 12.

In Fig. 1 the conduit 11 is shown terminating flush with the outer surface of the hull 1, although it may be provided with an upward extension 13 of any desired length as shown in Fig. 2. An electric motor 14 is connected by suitable means, shown in the form of a belt 15, to drive the force pump 10. The motor 14 receives its current from suitable leads 16 and 17 connected respectively to the leads 18 and 19 for motor 3.

In Fig. 2 the lead 17 is shown provided with a normally open circuit closer 20 intermittently closed at suitable intervals by the cam 21 driven from the propeller shaft 22 in any suitable manner, as by means of the belt 23.

For the apparatus as shown in Fig. 1, it is to be understood that the pump 10 is constantly driven by the motor 14 so as to cause an elevation or jet 24 above the general surface 25 of the submerging water 12. This elevation or jet of water serves as marker to indicate that the torpedo boat is directly beneath the same. It has the novel advantage of being absolutely indestructible by an enemy's gun fire.

Fig. 2 shows a circuit closer 20 in the circuit for the motor 14 by means of which the motor 14 is caused to be intermittently instead of continuously operated. The intermittent operation of motor 14 serves to cause an elevation such as 24 to appear above

the surface of the water 25 at intervals which should be sufficiently frequent to enable the general course of the torpedo to be determined by the person who may be controlling its progress from some external locality such as a war ship.

It is to be understood that the means illustrated for practicing this invention are merely illustrative and to show a preferred embodiment, although it is well understood that the invention is not limited to the illustrative embodiment shown.

What is claimed and what is desired to be secured by United States Letters Patent 15 is:—

1. Means for indicating the location of submarine boats comprising, an upwardly directed conduit and means for ejecting fluid therefrom to provide a visible elevation in the water at the surface over the boat to serve as a visible marker.

2. Means for indicating the location of submarine boats comprising, an upwardly directed conduit and means for intermittently ejecting fluid therefrom to provide a visible elevation in the water at the surface over the boat to serve as a visible marker.

3. Means for indicating the location of submarine boats comprising, an upwardly directed discharge conduit; an intake con-

duit; a force pump connected with said conduits; and a motor for operating said pump to eject water from said discharge conduit and form a visible jet above the surface of the submerging body of water to mark the location of said boat. 35

4. Means for indicating the location of submarine boats comprising, an upwardly directed discharge conduit; an intake conduit; a force pump connected with said conduits; a motor for operating said pump to eject water from said discharge conduit and form a visible jet above the surface of the submerging body of water to mark the location of said boat; and means for causing the operation of said motor to be intermittent. 40 45

5. In an externally controlled submarine torpedo boat, means for providing an indestructible location marker comprising, an upwardly discharging normally submerged conduit; and means for supplying and discharging a stream of fluid from said conduit. 50 55

In witness whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GUSTAV P. HELFRICH.

Witnesses:

CHRISTINE E. HANSELMANN,
L. ALTMAN.