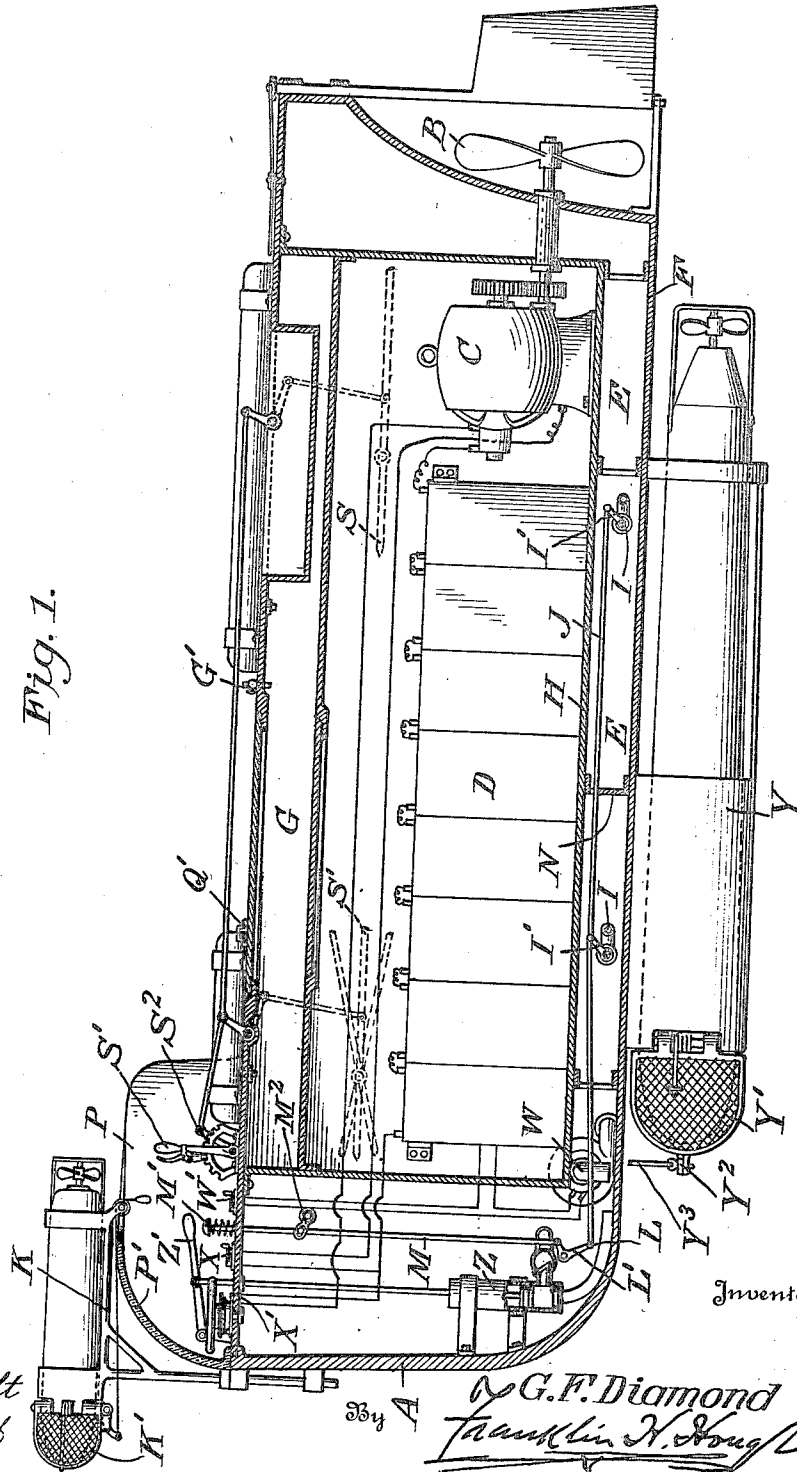


1,232,241.

G. F. DIAMOND.
ONE MAN, DECK CONTROLLED SUBMARINE CRAFT.
APPLICATION FILED FEB. 19, 1917.

Patented July 3, 1917.
2 SHEETS—SHEET 1.

Fig. 1.



Witness

Fenton S. Belt
W. Sherwood

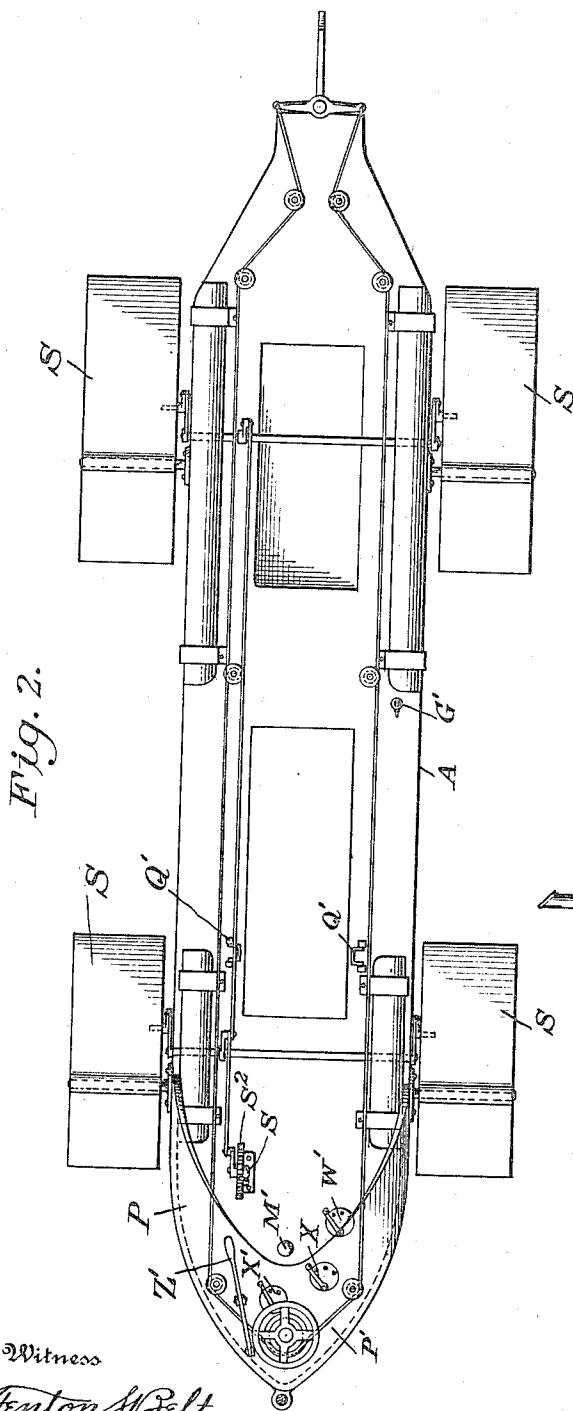
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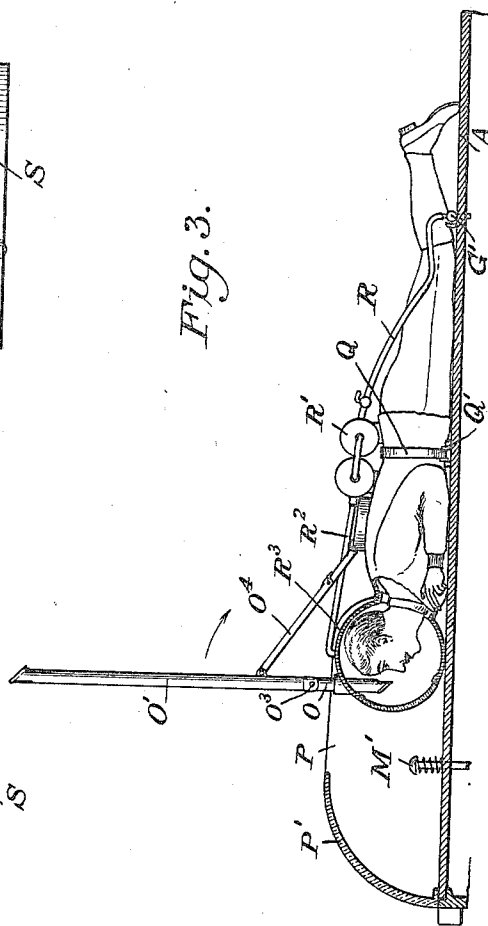
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Witness
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J. W. Sherwood



By

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UNITED STATES PATENT OFFICE.

GEORGE FREDERICK DIAMOND, OF KINGSTON, NEW YORK.

ONE-MAN, DECK-CONTROLLED SUBMARINE CRAFT.

1,232,241.

Specification of Letters Patent.

Patented July 3, 1917.

Application filed February 19, 1917. Serial No. 149,510.

To all whom it may concern:

Be it known that I, GEORGE F. DIAMOND, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented certain new and useful Improvements in One-Man, Deck-Controlled Submarine Crafts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in light draft, one man, deck-controlled submarine craft and consists of a simple and efficient device of this nature having various details of construction, combinations and arrangements of parts which will be hereinafter fully described, shown in the accompanying drawings and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a central vertical sectional view longitudinally through the submarine, parts being shown in section.

Fig. 2 is a top plan view.

Fig. 3 is an enlarged detail in elevation showing the operator in position with helmet and periscope attached.

Reference now being had to the details of the drawings by letter, A designates the hull of the boat which may be of any suitable size and shape and provided with an electrically driven propeller B driven by a motor C with current generated from the batteries D. A water space E is formed intermediate the bottom F and the flooring H of the battery containing compartment and into which water is allowed to enter through the valve regulated ports I when it is desired to sink the boat below the surface of the water. The ports I are regulated by any suitable valve mechanism controlled by the arms I' and to which the longitudinally movable rod J is fastened, the latter being guided in the eyes of the supporting rods N rising from the bottom of the boat. The forward end of the rod J is pivotally connected at L to one arm of the lever L' which in turn has pivotally connected thereto a rod M, the upper end of which has a head

M' rising above the deck and within convenient reach of the operator who, in operating the craft, is adapted to be fastened to the deck by means of a suitable strap Q passed about his body and secured to the keepers Q'.

A storage tank, designated by letter G, is formed in the craft and in which oxygen is adapted to be stored and which may be conveyed through the nipples G' to a tube R passing to the supply tanks R' which are adapted to be fastened to the back of the operator, and a pipe R² leads from the tanks R' and adapted to convey the gas to the interior of the helmet R³ which is to be placed over the head of the operator.

The forward portion of the submarine has a shield P with glass front P' through which the operator may have a vision straight ahead, and a periscope, made up of two parts O and O' pivoted together at O³, is connected by the folding braces O⁴ to the helmet when it is designed to hold the same in a horizontal position. Tilting planes, arranged in pairs and designated respectively by letters S, are mounted upon the opposite sides of the craft and are connected by rods to the control lever S', having a pawl adapted to engage the teeth of the segment S² and affording means whereby the planes may be moved simultaneously in order to guide the movements of the craft.

The control for starting and stopping the engine is shown in top plan view and designated by letter X, and X' designates a control for reversing the engine, so located as to be within convenient reach of the operator. A hand pump is designated by letter Z and is controlled through the medium of the lever Z', conveniently located upon the forward portion of the deck.

In the drawings, I have shown different means for carrying torpedoes, one of which is designated by letter Y and consists of straps underneath the keel for supporting the torpedo and guiding the same and at its forward end is a hinged cage Y', spring-actuated and which, when the catch Y² is released through the medium of the rod Y³ within convenient reach of the operator upon the deck, will be thrown open to allow the torpedo to be launched. A second torpedo device is shown above the shield and is designated by letter K and is of similar construction to the one above described and

has means whereby the cap K' will be released when it is desired to release the torpedo.

5 An electric pump W is provided with control W' on the deck within convenient reach of the operator and whereby water, which may have been taken into the craft for the purpose of sinking the same, may be pumped out.

10 By the provision of an apparatus embodying the construction shown and described, it will be noted that a simple and efficient, one-man, shallow draft, deck-controlled submarine is afforded whereby the operator
15 equipped with a helmet with a folding periscope may direct the movements of the craft while strapped to the deck and who may have at all times under control the operative parts of the apparatus and so direct
20 the craft as to come upon the object against which it is desired to cause the torpedo to explode. By the provision of the mechanism shown, it will be noted that the craft may be raised and lowered in the water and
25 directed, while underneath the surface, the periscope serving as a vision for guiding the craft in its forward or reverse movements.

What I claim to be new is:—

30 1. A one-man, deck-controlled submarine

boat having a water tank with valve controlled openings, a shield over the forward part of the deck of the craft, a pump and control convenient to said shield and a helmet back of the shield upon the deck underneath which the head of the operator is adapted to be positioned, and guiding planes with control mechanism for actuating the same. 35

2. A one-man, deck-controlled submarine 40 craft having a water compartment with openings therein, valves to the latter, a pump for the compartment, a shield over the forward part of the deck, control means adjacent to the shield for operating said 45 pump and valves, pivotally mounted guiding planes mounted in pairs upon the opposite sides of the craft, control mechanism adjacent to the shield for operating the same, oxygen tanks within the craft and 50 from which a supply of gas may be conveyed to the operator, and means upon the deck for fastening the operator thereto.

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

GEORGE FREDERICK DIAMOND.

Witnesses:

JOSEPH J. GLEASON,
HELEN HASBROUCK.