K. SCHWARTZ.

NAVAL APPARATUS.

APPLICATION FILED DEC. 23, 1914.

1,166,404. Patented Dec. 28, 1915.

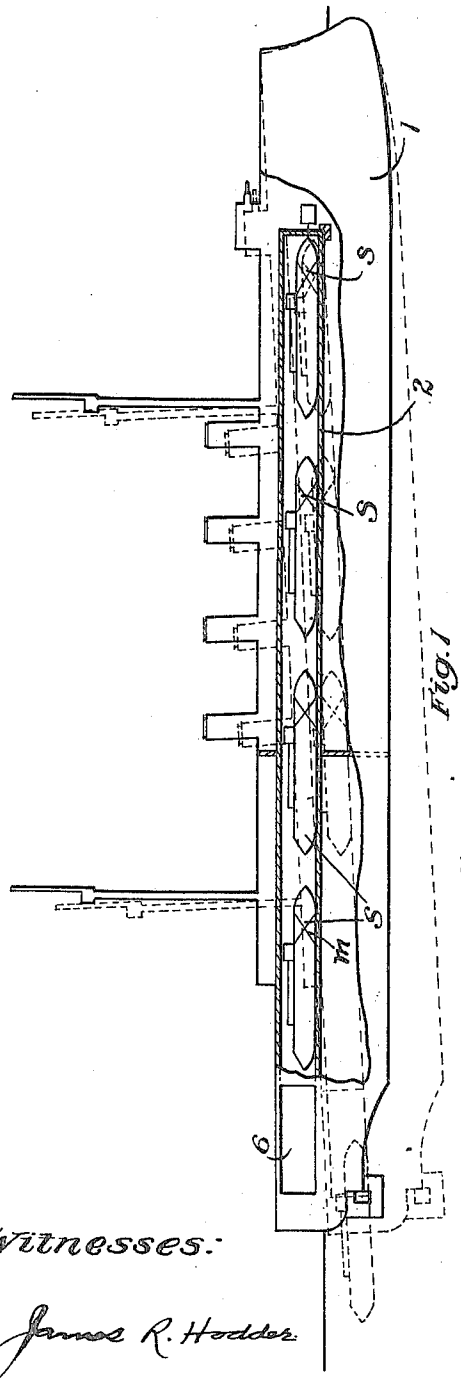


Fig. 1

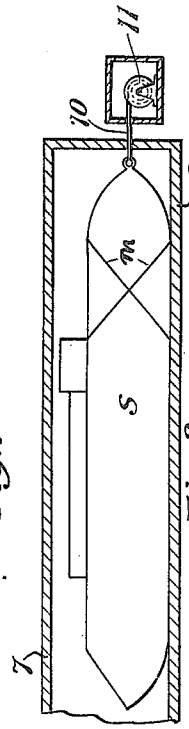


Fig. 2

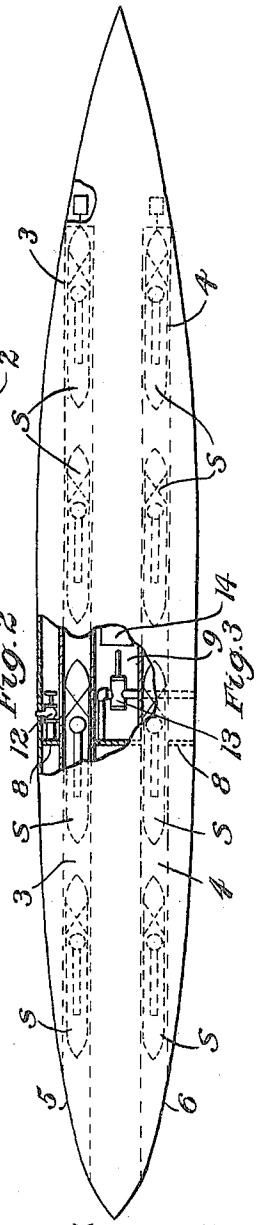


Fig. 3

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NAVAL APPARATUS.

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To all whom it may concern:

Be it known that I, KARL SCHWARTZ, a citizen of the United States, and resident of Syracuse, county of Onondaga, and State of New York, have invented an Improvement in Naval Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The modern warfare has demonstrated the superiority of submarines for successful naval attack, provided the base is sufficiently near the place of action. Heretofore, however, the last mentioned requirement has seriously limited the range of usefulness of submarines. Accordingly, my invention has for its object the removal of this limitation, so that submarines may be effectually employed to the best advantage at whatever point the enemy may be found.

Stated in general terms, my method resides in transferring a flotilla of submarines in a condition of constant readiness for service, but without using their own power or supplies, and then when the point of attack has been reached, instantly bringing each submarine into service at the precise point where it is needed and will be the most effective. As the most convenient apparatus for carrying out this method, I provide an armored carrier or cruiser having on its deck inclosed ways for normally maintaining the complement of submarines properly housed and held stationary, but yet in such position and condition as to be instantly discharged into and beneath the water when needed, this armored carrier having a well or caisson for the engines and other vitals of the cruiser, said caisson being surrounded by compartments in the after part of the ship which may be flooded when it is desired to lower the carrier or change its inclination or vertical position in the water, together with pumps, etc., for controlling these compartments, hoisting and lowering apparatus for manipulating the flotilla, and such other implements and machinery of warfare as may be desired or required under any given circumstances.

In the drawings I have illustrated my invention with sufficient fullness to make the same clearly apprehended, but it will be understood that in carrying the invention into use, the details will vary according to the exigencies of any given case, *i. e.*, according to the kind of submarines being handled, the conditions of armament, the requirements of the particular country or navy, and the probable distance, etc., which the vessel will be expected to serve.

In the drawings, Figure 1 illustrates in side elevation, partly broken away and sectioned, an armored cruiser or carrier provided with its complement of submarines and containing features which constitute my invention; Fig. 2 is an enlarged vertical sectional longitudinal detail of the upper end of the deck slide-ways, or carrier tube; and Fig. 3 is a plan view of the deck, partly broken out for clearness or illustration.

The cruiser or carrier may be of any suitable shape and size and will have the usual armor, being herein shown as consisting of a hull 1 on whose deck 2 are opposite slide-ways 3, 4 opening at the rear at 5, 6 and inclosed with a cover 7. A bulkhead or transverse partition 8 separates the rear end of the vessel from the forward end, and the driving engines and other machinery of the vessel are retained in the caisson 9 amidships. Housed within the slide-ways or tubes are submarines S. It will be understood that these are only graphically illustrated herein, without any attempt to give their correct proportions or construction. These submarines are suitably retained in their housing on the ways by any suitable means, as by lashing *m*, blocks, or other device which can be readily severed or tripped when the submarines are to be discharged. In Fig. 2 I have shown one of these submarines as held by a cable 10 and winch or windlass 11. This same winch or windlass could be made to assist in the discharge of the submarines by carrying the cable to the stern of the carrier boat, passing it through a block and attaching it to the stern of the submarine. Suitable pumping apparatus 12 and 13 is provided and the engine or source of power is indicated at 14.

In warfare, the armored carrier with its full complement of submarines will steam to the scene of conflict, and as soon as it has arrived within a safe distance, the after compartments will be flooded so as to change the level of the vessel from the full position, Fig. 1, to the dotted line position, and thereby bring the rear ends of the carrier tubes beneath the surface. Thereupon the submarines are tripped or released and permitted to discharge themselves by gravity

(or otherwise, as may be preferred) into the water, beneath the surface ready to depart instantly on their work of destruction among the fleet which they are to attack. In other words, by my invention I move the base right up to the fleet of the enemy. The disabled submarines and those not disabled, after the battle are taken aboard by being pulled up the slide-way and lashed in place. The flooded compartments are then pumped out and the carrier with its load of submarines is then ready to depart.

By providing a movable base the submarine cannot only serve its purpose with the highest efficiency, but it becomes unnecessary to provide the expensive, large submarines which are now required for long distance service. Also the element of surprise, which is the submarine's main feature of advantage, is made much more available by having a movable base or carrier capable of delivering the submarines beneath the surface of the water at a point sufficiently close to the enemy to enable the submarine to complete its work of destruction without being obliged to come to the surface.

Many further advantages of my invention will appear to those skilled in warfare.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A naval apparatus, consisting of a carrier vessel having a protected slide-way for submarines above the normal water-line of the carrier vessel, a complement of submarines therefor, adapted to be held in said slide-way and carried by said vessel, and means for varying the angle of the vessel to permit the convenient discharge of the submarines at sea.

2. A naval apparatus, consisting of a carrier vessel having a protected slide-way for submarines, a complement of submarines therefor, adapted to be held in said slide-way and carried by said vessel, said vessel having water compartments and means for filling and emptying them, for varying the line of flotation of the vessel to permit the convenient inclined discharge of the submarines at sea and at or below the water line.

3. A naval apparatus, consisting of a floating carrier having a plurality of slide-ways on its deck in balanced relation to each other at opposite sides of the vessel and each adapted to hold submarines in position for instant discharge when required, and means for lowering the discharge end of the vessel to a point which will permit the discharge of the submarines at an incline beneath the surface of the water, and means for thereafter restoring the vessel to normal position of flotation.

4. A naval apparatus, consisting of a floating carrier having a plurality of slide-ways on its deck in balanced relation to each other at opposite sides of the vessel and each adapted to hold submarines in position for instant discharge when required, and means for lowering the discharge end of the vessel to a point and at an angle which will permit the discharge of the submarines beneath the surface of the water, said carrier having a caisson surrounding the engines and propelling apparatus, and means for restoring the vessel to normal position of flotation.

5. A naval apparatus, consisting of a carrier vessel having a protected slide-way for submarines above the normal water-line of the carrier vessel, a complement of submarines therefor, adapted to be held in said slide-way and carried by said vessel, means for varying the angle of the vessel to permit the convenient discharge of the submarines at sea from said slide-way above the normal water-line of the carrier vessel directly beneath the surface of the water at said discharge point.

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

KARL SCHWARTZ.

Witnesses:
C. L. GRAY,
W. Y. FOOTE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."