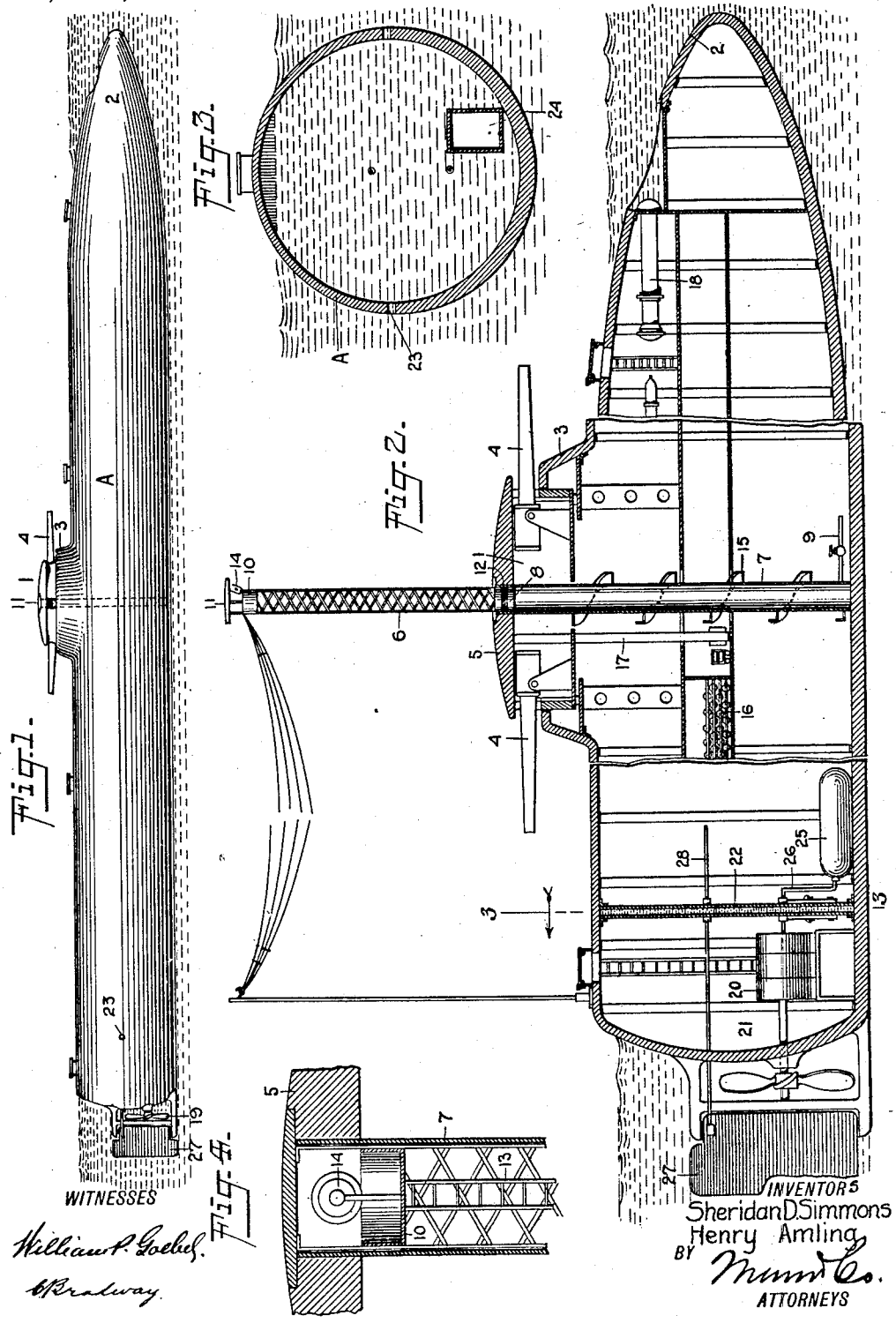
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SEMISUBMERSIBLE WAR SHIP.

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SEMISUBMERSIBLE WAR-SHIP.

1,164,415. Specification of Letters Patent. Patented Dec. 14, 1915.

Application filed February 16, 1915. Serial No. 8,445.

To all whom it may concern:

Be it known that we, SHERIDAN D. SIMMONS and HENRY AMLING, citizens of the United States, and residents of the city of New York, borough of the Bronx, in the county of Bronx and State of New York, have invented a new and Improved Semi-submersible War-Ship, of which the following is a full, clear, and exact description.

This invention relates to naval craft and in certain aspects is of the Monitor type, in that only the top of the hull and the gun turret are visible.

The invention has for one of its objects to improve the construction of the hull so as to be mine and shell-proof, due to its special shape and the thickness of the walls of the hull. In shape the hull is of circular cross section so that shells or torpedoes striking the same will be easily deflected and impart only a glancing blow, but even where the impact is radial, the thickness of the walls of the hull is such as to minimize the effect of the explosion. The hull is so constructed that at the keel portion it will be of maximum thickness so as to be protected from the explosion of mines, and the hull diminishes in thickness therefrom to the top. For instance, the keel portion may be two feet in thickness and the top or deck portion about one foot. The bow is pointed so as to not only reduce friction in passing through the water, but it will serve as an effective ram.

Another object of the invention is the provision of a turret amidship, and extending upwardly through the turret is an elevatable observation tower to be used in reconnoitering, and for raising and lowering this tower a pneumatic or other means may be employed in the form of a tube which normally constitutes a housing for the tower, and on the bottom of the tower is a piston having a working fit in the tube so that when air is supplied to the latter the piston is raised to effect the elevation of the conning tower.

Another feature of the invention is the provision of a water-cooled bulkhead between the engine room and the remainder of the hull, so that transmission of heat from the engine room is prevented.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, and wherein similar characters of reference indicate corresponding parts in all the views, Figure 1 is a side view of the boat; Fig. 2 is an enlarged longitudinal sectional view with intermediate portions broken away; Fig. 3 is a sectional view on the line 3—3, Fig. 2, through the water-cooled bulkhead; and Fig. 4 is an enlarged sectional view showing the top of the conning tower in the position it occupies when lowered.

Referring to the drawing, A designates the hull of the boat, which is so designed as to be largely submerged so that only the upper part of the hull and the gun turret 1 will be above the water level. In cross-section the hull is circular for the double purpose of strength and of shell and torpedo-proofness, as the curved surface acts to deflect shells or torpedoes, unless the impact be radial, and in this case the thickness of the hull is effective in minimizing the destructive force of the explosion. The hull is also mine-proof, because it is of considerable thickness at the bottom where contact with mines is more likely to occur. As shown in Fig. 3 the hull is of maximum thickness at the bottom, say about two feet thick, and the metal of the hull diminishes in thickness and is of minimum thickness at the top, say about one foot thick. The bow 2 is pointed so as to be used as a ram against an enemy's crafts. It will be understood that the hull will be made of layers of sheet metal riveted together but no attempt has been made to illustrate this construction.

The turret 1 is rotatably mounted in a circular coping 3 and is equipped with guns 4. This coping 3 is round, and being conical and of considerable thickness will effectively resist shells fired against it. The top 5 of the turret is rounded and of thick metal to resist the force of shells and bombs.

Coincident with the axis of the turret 1 is a conning tower 6 which is normally lowered and capable of being elevated in any suitable manner. In the present instance the tower is normally contained in a tube 7 and the bottom of the tower constitutes a piston 8, and by admitting air through a valve pipe 9 or equivalent means, the piston

will be raised and carry with it the conning tower, there being a platform 10 at the top of the tower. Over the platform is a cover 11, which, when the tower is lowered, closes the opening 12 in the turret top 5, as shown in Fig. 4. The platform can be reached by a ladder 13, as shown in Fig. 4, arranged within or on the tower, and searchlights 14 are provided for observation or other purposes. The tower tube 7 effectively forms a support for a helical staircase 15, whereby the various decks or floors can be reached.

The ammunition for the guns will be stored in suitable racks 16, and an elevator 17 of any approved type is employed for raising the ammunition and shells to the turret. In the stem portion of the boat a torpedo tube 18 will be arranged for firing torpedoes.

The boat is driven by one or more propellers 19 that are rotated by rotary gas turbines or other prime movers, one of which is shown at 20, the turbines being arranged in a compartment 21 at the stern, which compartment is separated from the rest of the hull by a water-cooled bulkhead 22, such bulkhead having openings 23, as shown in Fig. 3, so that sea water can circulate, and if desired, means for promoting circulation may be employed. Access to and from the engine room can be had through a suitable door 24 in the bulkhead. The fuel is contained in a suitable tank 25 isolated from the engine room, so that danger from explosion is minimized, and this tank is connected by a pipe 26 which extends through the bulkhead and is connected with the engine or turbine. The boat is guided by a stern rudder 27 equipped with a suitable steering gear including a rod 28.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while we have described the principle of operation, together with the structure which we now consider to be the best embodiment thereof, we desire to have it understood that the structure shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. A semi-submersible warship comprising a hull of circular cross-section and having a wall progressively increasing from the deck to the bottom and being devoid of a keel.

2. A naval craft comprising a hull, a gun turret, a coping on the hull and surrounding the turret, said turret having openings in its sides at points above the coping for cannon to project therethrough, the roof of the turret being of maximum thickness at the middle and tapering to the periphery, with the top surface convex, the top of the turret being of larger diameter than the body of the turret, whereby the peripheral portion of the top will overhang the openings in the walls to prevent projectiles entering the turret.

3. A naval craft of the partially submerged type comprising a hull, a gun turret, a conning tower elevatable through the turret, a tube normally inclosing the tower, a piston fitting the tube and connected with the bottom of the tower, and means for admitting fluid to the tube for raising the piston and thereby the tower.

4. A naval craft of the partially submerged type comprising a hull, a gun turret, a conning tower elevatable through the turret, a tube normally inclosing the tower, a piston fitting the tube and connected with the bottom of the tower, means for admitting fluid to the tube for raising the piston and thereby the tower, and a helical staircase surrounded by the tube.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

SHERIDAN D. SIMMONS.
HENRY AMLING.

Witnesses:
CHATTIN BRADWAY,
GEORGE H. EMSLIE.

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