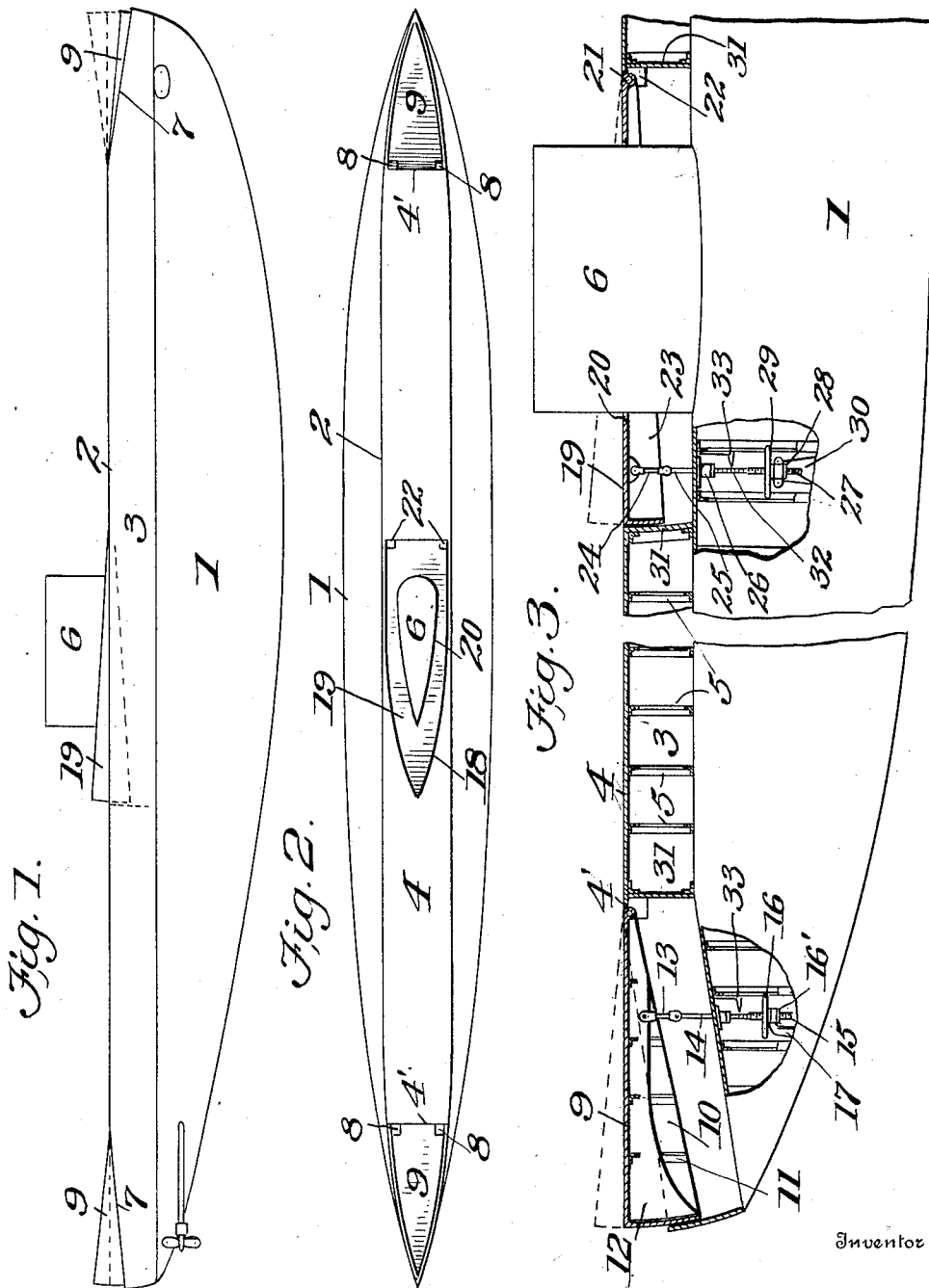


E. L. PEACOCK.
SUBMARINE OR SUBMERGIBLE BOAT.
APPLICATION FILED MAR. 13, 1911.

1,003,063.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 1.



Witnesses

H. G. Edwards.
R. F. Hill.

Edward L. Peacock

By *Mercer & Plandee*
Attorney

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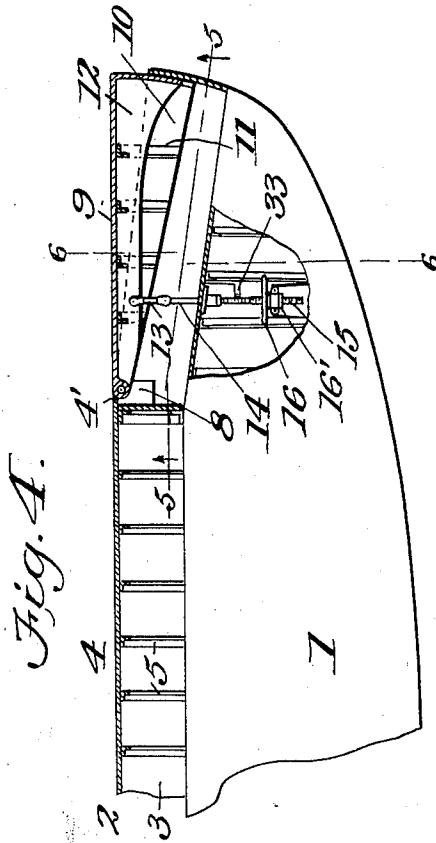


Fig. 4.

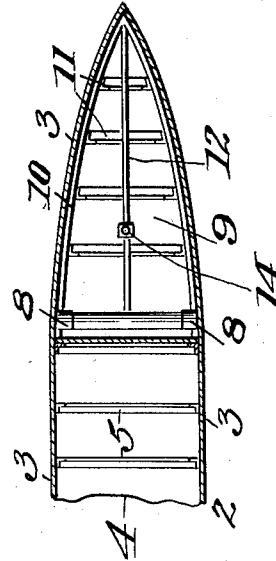


Fig. 5.

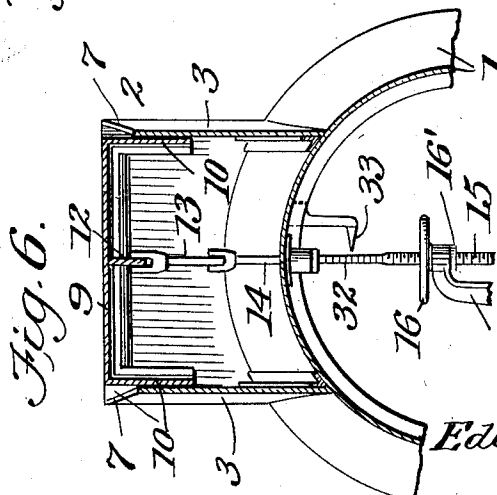


Fig. 6.

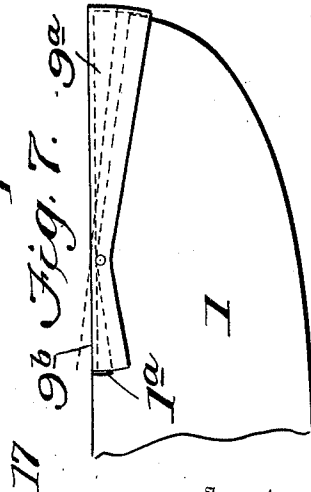


Fig. 7.

Witnesses

J. G. Conrad.
R. H. Hill.

Inventor

Edward L. Peacock.

By

Mercer D. Bondell
Attorney

UNITED STATES PATENT OFFICE.

EDWARD LASIUS PEACOCK, OF BRIDGEPORT, CONNECTICUT.

SUBMARINE OR SUBMERGIBLE BOAT.

1,003,063.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed March 13, 1911. Serial No. 614,115.

To all whom it may concern:

Be it known that I, EDWARD LASIUS PEACOCK, a subject of the King of Great Britain, at present residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Submarine or Submergible Boats, of which the following is a specification.

The object of the invention is to provide the deck of submarine or submergible boats with one or more adjustable sections that are capable of being adjusted vertically out of alinement with the deck so as to present inclined surfaces or planes to the passing water when the boat is under way to cause the boat to rise and sink as with the use of the horizontal rudders and hydroplanes now employed for this purpose on this class of boats, thereby dispensing with said rudders and hydroplanes and their connections and all external speed resisting surfaces and providing a smooth even hull whereby the speed of the boat may be increased with a relative amount of motive power, said sections being also adapted to provide greater freeboard when the boat is operating on the surface.

To this end the invention consists in certain peculiar features and novel combinations and arrangements of parts, and in means for controlling the positions of the adjustable sections, and means for indicating their degree of adjustment as will be hereinafter described and then claimed.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a diagrammatic side elevation of a submarine torpedo boat embodying my improvements. Fig. 2 is a similar view in plan. Fig. 3 is a diagrammatic sectional elevation of the amidships section and the after end of the boat. Fig. 4 is a similar view of the forward end of the boat. Fig. 5 is a horizontal section drawn on the line 5—5 of Fig. 4, looking in the direction indicated by the arrows. Fig. 6 is a transverse section on a larger scale drawn on the line 6—6 of Fig. 4. Fig. 7 is a side elevation of one end of the boat illustrating a slightly different form of adjustable sections.

1 designates the body or hull of a submarine torpedo boat having upon its top a superstructure 2 that is connected to the hull 1 in the usual manner. As shown, the super-

structure extends throughout the length of the hull, although it may be arranged only at the amidships section of the boat if desired and is constructed of sides 3 and a deck 4.

5 designates supporting arches or ribs for the superstructure.

6 designates the conning tower of the boat which extends upwardly from the hull 1 through the superstructure 2.

The sides 3 of the superstructure are preferably parallel throughout their major length with converging ends that terminate in sharp vertical edges to form a water cutting edge at the bow and to avoid the formation of dead water at the stern of the boat when the boat is under way thus tending to lessen the resistance to the speed of the boat. The ends of the deck 4 terminate some distance from the ends of the sides 3 as at 4' and the sides 3 are cut away from the ends 4' of the deck in downwardly inclined directions toward the ends of the boat as at 7, and journaled in suitable bearings 8 secured to the sides 3 adjacent to the ends 4' of the deck are adjustable deck sections 9 that form continuations of the deck 4 and which are of tapering form in plan to conform to the converging sides or ends of the superstructure. To the longitudinal edges of the deck sections 9 are connected side portions 10 that extend the full length of said deck sections to form continuations of the sides 3 when the deck sections 9 are arranged in longitudinal alinement with the deck 4 or have their free ends elevated above the deck thereby closing the openings formed by the cut away sections of the ends of the sides 3 to prevent the ingress of great quantities of water when the boat is running on the surface especially in rough weather and also to present an even unbroken surface to the sides when the boat is running submerged. The lower edges of the sides 10 converge toward the deck sections 9 from their outer ends toward their inner ends. The deck sections 9 and their sides 10 are braced by suitable ribs or arches 11 and if desired each may be provided with a central longitudinal rib 12 extending the full length of said sections.

To the undersides of the deck sections 9, intermediate their ends, are pivotally connected links 13 to the lower ends of which are connected vertically movable shafts 14 that extend downwardly through the skin

or plating of the hull 1 and through stuffing boxes surrounding the openings in the hull through which the shafts pass. The lower ends of the shafts 14 are threaded as at 15 to operate in threaded hubs 16' of hand operating wheels 16 revolubly held in brackets 17 arranged within the hull of the boat. By this arrangement it will be apparent that by revolving the wheels in one direction or the other the adjustable sections 9 will be correspondingly raised or lowered. As shown in the drawings the links 13 are pivotally connected to the longitudinal ribs 12 of the deck sections 9 but it will be understood that they may be connected to other portions of said sections and if desired the sections may be formed with or connected by lever arms extending from the pintle ends thereof and the links 13 or the shafts 14 connected to said arms.

At amidships the deck is formed with an opening 18, substantially cone-shape in horizontal section, which surrounds the conning-tower 6 with the widest part of the opening arranged forward of the conning-tower and its point arranged aft of the rear end of said tower, and at the forward end of the opening is journaled the forward end of an amidships adjustable deck section 19 which is of a shape to snugly fit within the opening 18 and which is formed with an opening 20 through which the conning-tower 6 passes. The pintle 21 of the section 19 is held in brackets 22 secured to the upper inner ends of the sides 3 of the superstructure. To the longitudinal edges of the deck section 19 are connected downwardly extending sides 23 which are of gradually increasing depth from the pintle end toward the rear pointed end of the deck section 19. The purpose of constructing the amidships section of substantially cone-shape in horizontal section it will be understood is also for the purpose of avoiding the formation of dead water at the after end of the section when it is elevated above the deck 4.

A link 24 is pivoted to the underside of the section 19 adjacent to its rear end and to this link is connected the upper outer end of a vertically movable shaft 25 whose lower end is extended into the hull of the boat and through a stuffing box 26 surrounding the opening in said hull and has its lower end formed with screw threads 27 which operate in threaded hubs 28 of a hand operating wheel 29 revolubly held in a bracket 30 mounted in the boat.

31 designates bulk-heads arranged in the space formed by the superstructure and the hull of the boat at the ends of the adjustable sections.

In order to indicate to those within the boat the degree of movement imparted to the adjustable deck sections, I provide the

inner ends of the shafts 14 and 25 with degree marks as at 32 which operate in conjunction with index pointers 33 held in any suitable manner adjacent the shafts whereby as the operating wheels are revolved in either direction the degree marks will be brought opposite the index pointers and thus indicate to the occupants of the boat the degree of movement imparted to the adjustable sections.

In operation, when it is desired to submerge the boat, water is first admitted into the ballast-tanks (not shown) of the boat in the usual manner until the deck of the boat is slightly below the surface of the water, the forward end of the adjustable bow deck section 9 is then lowered so that the plane of said section will lie at an angle to the deck 4 of the superstructure, while the rear ends of the stern deck section 9 and the amidships section 19 are elevated so that their planes will be correspondingly arranged at an angle to the deck 4, then as the boat is propelled through the water the water will engage the inclined surfaces or planes and force the boat under the water in the same manner as is now done with the horizontal rudders and hydroplanes used in this class of boats. When the desired depth of submergence has been reached and it is desired to remain at such depth, the adjustable sections are adjusted so as to decrease their degree of inclination and thus hold the boat on an even keel and at the desired depth. Now when it is desired to rise to the surface, the adjustable section 9 at the bow and the amidships section 19 are operated so that their planes will be arranged in alinement with the deck 4 so that as the boat is propelled the passing water will engage only the inclined plane 9 at the stern of the boat thus depressing the after end of the boat and elevating its forward end which will cause the boat to travel toward the surface as it is propelled through the water.

It will thus be seen that I provide an exceedingly simple and highly efficient construction for accomplishing the purposes stated by which the horizontal submerging and trimming rudders and hydroplanes and their connections are dispensed with, which enables me to construct the hulls of this class of boats with the fine lines and with smooth surfaces that are essential to speed. It will also be understood that in providing the deck of such boats with my improved submerging and trimming planes that the latter may be adjusted so that their free ends will be elevated to provide greater freeboard when the boat is operating on the surface.

I desire it understood that I do not limit myself to the details of construction or to the location of the adjustable sections as shown and described as they may be changed in construction and location without de-

parting from the scope of the invention. For example, the sections may be arranged upon and connected direct to the upper surface or deck of the hull of the boat when the latter is constructed without a superstructure, or when provided with a superstructure that does not extend the full length of the boat, and further an adjustable section may be arranged on the top of the conning-tower as effectively as in the deck of the superstructure or on the deck of the hull adjacent to or surrounding the conning-tower, and still further the sections may be operated hydraulically, electrically or by compressed air instead of by the means shown.

In Fig. 7 I show one end of the boat with the adjustable section 9^a journaled direct upon the deck or top of the hull 1 and in this construction also the adjustable section is shown as a balancing section, having a rearwardly extending portion 9^b projecting beyond the pintle of the section and in this construction in order to permit the elevation of the outer end of the section 9^a I provide the top or deck of the hull 1 with a recess 1^a to receive the inwardly extending end 9^b as will be readily understood.

What I claim is:—

1. A submarine or submergible boat, having a deck provided with an adjustable section that is adapted for adjustment whereby one end of said section may be elevated or lowered out of horizontal alinement with the fixed section of the deck to present inclined surfaces to the water when the boat is operating submerged.

2. A submarine or submergible boat, having an adjustable section arranged thereon, and means for operating said section to raise or lower one end thereof out of horizontal alinement with the deck of the boat to cause the boat to sink or rise while traveling below the surface of the water.

3. A submarine or submergible boat, having an adjustable section journaled in the deck thereof, and means for operating said section to incline its surface with respect to the deck of the boat to provide an inclined water contacting surface to cause the boat to sink or rise while traveling below the surface of the water.

4. A submarine or submergible boat, having an adjustable section arranged in the deck thereof, means for operating said section to incline its surface with respect to the deck as and for the purposes specified, and means for indicating the degree of movement imparted to said section.

5. A submarine or submergible boat, having adjustable deck sections arranged at the bow and at the stern of the deck of the boat, and means for raising and lowering the outer ends of said sections to incline their surfaces with respect to the deck of the boat

to cause the boat to sink or rise on an even keel while traveling below the surface of the water.

6. A submarine or submergible boat, having adjustable deck sections arranged at the bow and stern of the boat and at the amidships section thereof to cause the boat to sink or rise on an even keel while traveling below the surface of the water, and means for operating said sections to incline their surfaces with respect to the deck of the boat.

7. A submarine or submergible boat, having a superstructure provided with a deck, an adjustable deck section carried by the superstructure, and means for adjusting said section to provide an inclined plane on said superstructure to cause the boat to sink or rise while traveling below the surface of the water.

8. A submarine or submergible boat, having a superstructure provided with a deck, an adjustable section arranged at the end of the deck, and means for adjusting said section to provide an inclined plane at the end of the superstructure deck to cause the boat to sink or rise while operating below the surface of the water.

9. A submarine or submergible boat, having a superstructure arranged thereon provided with a deck, said superstructure having openings therein, adjustable deck sections journaled at the ends of the deck and in the openings formed in said deck, and means for operating said sections to incline their surfaces to said deck to cause the boat to sink or rise and to maintain the boat on an even keel while operating below the surface of the water.

10. A submarine or submergible boat, having a superstructure arranged thereon, said superstructure comprising side portions and a deck, said side portions being extended beyond the ends of the deck, adjustable deck sections arranged at the ends of the said deck, and means for adjusting said sections out of horizontal alinement with the deck of the superstructure.

11. A submarine or submergible boat, having a superstructure arranged thereon, said superstructure comprising a deck having an opening at the amidships section of the boat, and side portions that extend beyond the ends of the deck providing openings in said ends, adjustable deck sections arranged at the ends of the deck in said openings and in said amidships opening, and means for adjusting said sections to move one end thereof out of horizontal alinement with the deck of the superstructure.

12. A submarine or submergible boat, adjustable deck sections arranged at the ends and at the amidships section of the deck of the boat, means for adjusting said sections

to incline their surfaces with respect to the deck of the boat, and means arranged within the boat and operatively connected to said adjustable sections for indicating their degree of adjustment.

13. A submarine or submergible boat, having an adjustable deck section journaled at one end in the deck of the boat means for raising or lowering the free end of said section out of horizontal alinement with the deck of the boat, and means for indicating its degree of movement.

14. A submarine or submergible boat,

having a superstructure arranged thereon, adjustable deck sections carried by the boat, and means arranged within the boat and operatively connected to said sections for adjusting one end of said sections out of horizontal alinement with the deck of the boat.

In testimony whereof I have hereunto set my hand this 10th day of March, A. D. 1911.

EDWARD LASIUS PEACOCK.

Witnesses:

KATHLEEN B. BLIGHT,
ROBERT H. GOULD.

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