Claims

1. A robot (2) for underwater monitoring and maintenance of a ship's hull (1) when the ship is underway, where the robot (2) comprises
a main body (5) having a front part and a rear end connected with a middle part,
a connector (21) for connecting the robot (2) to a cable (3) for towing the robot (2) is arranged to the front part of the main body (5),
a resting base (13) adapted to rest against the ship's hull (1) and being arranged along the full length of the main body (5),
one or more hydrofoil(s) (6, 7) arranged perpendicular to the length axis of the main body (5) arranged to force the resting base (13) of the robot (2) towards the ship's hull (1),
a rudder (8) arranged at the front part of the main body (5),
perpendicular to the length axis of the main body (5) and the hydrofoil(s) (6, 7),
characterised in that the main body (5) is a straight and elongated body having a length to width ratio of 5 or more, where the length of the hydrofoil(s) (6, 7) as seen perpendicular to the main body (5), is / are longer than the width of the main body (5), and where the connector (21) for the cable (3) is arranged at one end of a hydrofoil (6), or at an arm extending parallel with the one or more hydrofoil(s).

2. The robot (2) according to claim 1, wherein a front hydrofoil (6) is arranged at the front part and a rear hydrofoil (7) is arranged at the rear end of the main body (5), and the hydrofoils (6,7) being arranged parallel to each other and parallel to the plane defined by the resting base.

3. The robot (2) according to claim 1 or 2, wherein a fixed stabilizing fin (9) is arranged at the aft end of the main body (5), perpendicular thereto and to the hydrofoil(s) (6, 7).

4. The robot (2) according to claim 3, wherein the fixed stabilizing fin (9) is an integrated part of the main body (5).

5. The robot (2) according to any of the preceding claims, wherein the connector (21) for connecting the cable (3) is arranged close to an outer end of the front hydrofoil (6).

6. The robot (2) according to claim 5, wherein a foot (10) for resting against the ship's hull is arranged at the same end of the front hydrofoil (6) as the connector (21) for the cable (3).

7. The robot (2) according to claim 6, wherein the front hydrofoil (6) is asymmetrically arranged about the main body (5), and where the part of the front hydrofoil (6) to which the cable (3) is fastened is longer than the part at the opposite side of the main body.

8. The robot (2) according to any of the preceding claims, wherein an outer surface of the resting base (13) comprises one or more fixed brushes, hard rollers, scrapes and/or abrasive materials.

9. The robot (2) according to any of the claims 1-8, wherein the resting base (13), or elements thereof, is / are interchangeable.

10. The robot (2) according to any of the preceding claims, wherein one or more sensor(s), camera(s), and testing devices with data acquisition is/are arranged on the robot (2).

11. A method for underwater monitoring and maintenance of a ship's hull (1) when the ship is underway, the method comprising the steps of:

    a. deploying a robot according to any of the claims 1 to 10, and allowing the robot (2) to set onto the ship's hull (1),

    b. adjusting a length of the cable (3) to adjust a longitudinal position of the robot (2) along the ship's hull (1),

    c. adjusting the rudder (8) to adjust a depth of the robot (2) to allow the robot (2) to travel across the ship's (1) direction of travel once or more,

    d. adjusting the length of the cable (3) to adjust the longitudinal

position of the robot (2),

e. repeating steps c) and d) until a predetermined area of the ship’s hull (1) is monitored and/or maintained.