Claims

1. A device (2) for demagnetizing and for measuring the magnetic signature of a stationary hull (4) and for simulating a magnetic field (20a, 20b, 20c), comprising a demagnetization coil assembly (8), a magnetic field sensor assembly (10) and a simulation coil assembly (12a, 12b, 12c),
   wherein
   the device (2) can be positioned horizontally next to the hull (4) on one side in the longitudinal direction of the hull (4),
   the demagnetization coil assembly (8) having a single demagnetization coil (8), the cross-sectional area of said demagnetization coil extending at least across the entire length of the hull (4) and the surface normal of said demagnetization coil being oriented orthogonally to the longitudinal direction of the hull (4), a stationary alternating magnetic field thus being producible outside the demagnetization coil (8), or the demagnetization coil assembly having at least two demagnetization coils (8), the cross-sectional areas of said demagnetization coils being disposed next to one another in the longitudinal direction of the hull (4) and the surface normals of said demagnetization coils being oriented orthogonally to the longitudinal direction of the hull (4), an alternating magnetic field (30a, 30b) progressing in the longitudinal direction of the hull (4) thus being producible outside the demagnetization coils (8).

2. The device according to claim 1, wherein the progressing alternating magnetic field (30a, 30b) has a horizontal transverse component (30b) and a longitudinal component (30a) in relation to the longitudinal direction of the hull (4).

3. The device according to claim 1, wherein the cross-sectional areas of the simulation coils (12a, 12b, 12c) are disposed next to one another in the longitudinal direction of the hull (4) and wherein their surface normals are oriented in a horizontal manner, a stationary simulated magnetic field (20a, 20b, 20c) which comprises a vertical component (20a), a transverse component (20b) and a longitudinal component (20c) in relation to the longitudinal direction of the hull (4) thus being producible outside the simulation coils (12a, 12b, 12c).

4. The device according to claim 3, wherein the simulation coil assembly (12a, 12b, 12c) has at least five simulation coils (12a, 12b, 12c), at least two opposite simulation coils (12a) being used for producing the vertical component (20a), at least one simulation coil (12b) being used for producing the transverse component (20b) and at least two counteracting simulation coils (12c) being used for producing the longitudinal component (20c) of the simulated magnetic field (20a, 20b, 20c).

5. The device according to claim 1, wherein the magnetic field sensor assembly (10) has magnetic field sensors (10) which are disposed in a plane of the respective cross-sectional areas of the demagnetization coils (8) and/or simulation coils.

6. A use of the device (2) according to claim 1, wherein the device is fixed to a non-magnetic jetty (6) or to a quay wall.

7. The use of the device (2) according to claim 6, wherein the device is fixed in a height-adjustable manner.

8. A first enhanced device (5) for demagnetizing and for measuring the magnetic signature of a stationary hull (4) and for simulating a magnetic field (20a, 20b, 20c), comprising two devices (2) according to claim 1 which can be positioned in a horizontal manner on opposite sides of the hull (4) in its longitudinal direction.

9. A use of the first enhanced device according to claim 8, wherein the first enhanced device is fixed in a non-magnetic floating dock or dry dock.

10. A second enhanced device for demagnetizing and for measuring the magnetic signature of a stationary hull (4) and for simulating a magnetic field (20a, 20b, 20c), comprising three devices (2) according to claim 1 which can be positioned in a horizontal manner on opposite sides of the hull (4) and below the hull (4) in its longitudinal direction.

11. A use of the second enhanced device according to claim 10, wherein the second enhanced device is fixed in a non-magnetic floating dock or dry dock.

12. A third enhanced device for demagnetizing and for

measuring the magnetic signature of a stationary hull (4) and for simulating a magnetic field (20a, 20b, 20c), comprising
one device according to claim 1 or two devices (2) according to claim 1 which can be positioned in a horizontal manner on opposite sides in the longitudinal direction of the hull (4), and an additional demagnetization coil assembly which can be positioned below the hull (4) and which has a single demagnetization coil (8), the cross-sectional area of said demagnetization coil extending at least across the entire length of the hull (4) and the surface normal of said demagnetization coil being oriented orthogonally to the longitudinal direction of the hull (4), a stationary alternating magnetic field thus being producible outside the demagnetization coil (8), or which has at least two demagnetization coils (8), the cross-sectional areas of said demagnetization coils being disposed next to one another in the longitudinal direction of the hull (4) and the surface normals of said demagnetization coils being oriented in a horizontal manner orthogonally to the longitudinal direction of the hull (4), an alternating magnetic field (30a, 30b) progressing in the longitudinal direction of the hull (4) thus being producible outside the demagnetization coils (8).

13. A use of the third enhanced device according to claim 12, wherein the third enhanced device is fixed in a non-magnetic floating dock or dry dock.