[CLAIMS]

[Claim 1]

An anti-biofouling method which suppresses biofouling in seawater, comprising:

a preparation step of using a copper alloy-made anti-biofouling object member immersed in the seawater as a cathode electrode, and immersing and arranging an anode electrode member serving as a counter electrode of the anti-biofouling object member in the seawater; and

a current supplying step of supplying DC current between the anti-biofouling object member and the anode electrode member, wherein

the anti-biofouling object member changes an area submerged in the seawater, and

in the current supplying step, during an anti-biofouling period, an amount of DC current to be supplied between the anti-biofouling object member and the anode electrode member is changed depending on ~~a change in~~ a submerged area of the anti-biofouling object member in order to keep a current density constant and after an elapse of the anti-biofouling period, the DC current is supplied with the current density of 5 A/m^2 or greater.

[Claim 2]

The anti-biofouling method according to claim 1, wherein

in the preparation step, a water level sensor which measures a position of a waterline is further arranged, and

in the current supplying step, a submerged area of the anti-biofouling object member under a waterline is obtained from a position of the waterline measured by the water level

sensor, and an amount of the DC current is changed depending on a change in the submerged area of the anti-biofouling object member.

[Claim 3]

The anti-biofouling method according to claim 1 or 2,

wherein

in the current supplying step, a current with a water electrolysis start current density or greater is supplied between the anti-biofouling object member and the anode electrode member.

[Claim 4]

The anti-biofouling method according to claim 3, wherein

in the current supplying step, during the anti-biofouling period, the current with a current density in a range of the water electrolysis start current density to 2.5 A/m^2 is supplied between the anti-biofouling object member and the anode electrode member.

[Claim 5]

The anti-biofouling method according to claim 3, wherein

the copper alloy contains aluminum, and

in the current supplying step, during the anti-biofouling period, the current with a current density in a range of the water electrolysis start current density to 20 A/m^2 is supplied between the anti-biofouling object member and the anode electrode member.

[Claim 6]

The anti-biofouling method according to any one of claims 3 to 5, wherein

in the current supplying step, during the anti-biofouling period, the current with a current density of 0.06 A/m^2 or greater is supplied.

[Claim 7]

The anti-biofouling method according to any one of

claims 3 to 5, wherein

in the current supplying step, during the anti-biofouling period, the current with a current density of 0.24 A/m^2 or greater is supplied.

[Claim 8]

The anti-biofouling method according to any one of claims 1 to 7, wherein the copper alloy is aluminum bronze.

[Claim 9]

The anti-biofouling method according to any one of claims 1 to 8, wherein the anti-biofouling object member is a ship propeller.

[Claim 10]

The anti-biofouling method according to claim 9, wherein

in the preparation step, additionally, a reference electrode is immersed and arranged in the seawater, and

in the current supplying step, the DC current is supplied between the ship propeller and the anode electrode member with a potential of the ship propeller kept constant relative to the reference electrode.

[Claim 11]

An anti-biofouling apparatus which suppresses biofouling in seawater, comprising:

an anode electrode member immersed in the seawater, serving as a counter electrode of a copper alloy-made anti-biofouling object member which serves as a cathode electrode;

a power supply electrically connected to the anti-biofouling object member and the anode electrode member; and

a controller which controls the power supply to supply DC current between the anti-biofouling object member and the anode electrode member, wherein

the anti-biofouling object member changes an area submerged in the seawater, and

the controller, during an anti-biofouling period,

changes an amount of the DC current depending on ~~a change in~~ a submerged area of the anti-biofouling object member in order to keep a current density

constant, and after an elapse of the anti-biofouling period, supplies the DC current with the current density of 5 A/m^2 or greater.

[Claim 12]

The anti-biofouling apparatus according to claim 11, further comprising:

a water level sensor which measures a position of a waterline, ~~and~~ wherein

the controller obtains a submerged area of the anti-biofouling object member under a waterline from a position of the waterline measured by the water level sensor, and changes an amount of the DC current depending on a change in the submerged area of the anti-biofouling object member.

[Claim 13]

The anti-biofouling apparatus according to claim 11 or 12, wherein

the controller controls the power supply to supply the current with a water electrolysis start current density or greater between the anti-biofouling object member and the anode electrode member.

[Claim 14]

The anti-biofouling apparatus according to any one of claims 11 to 13, wherein

the anti-biofouling object member is a ship propeller.

[Claim 15]

The anti-biofouling apparatus according to claim 14, wherein

the ship propeller is arranged on a stern side of a ship hull, and

the anode electrode members are provided to surround

the ship propeller in an arc from a ship width direction of the ship propeller to a stern direction of the ship propeller.

[Claim 16]

The anti-biofouling method according to claim 1, wherein

the anti-biofouling object member and the anode electrode member are disposed apart from each other.

[Claim 17]

The anti-biofouling apparatus according to claim 11, wherein

the anti-biofouling object member and the anode electrode member are disposed apart from each other.