CLAIMS

1. A carbon dioxide gas fixation method comprising:

electrolyzing seawater;

separating anodic electrolyzed water and cathodic electrolyzed water produced by electrolysis of the seawater;

inputting alkaline material into the anodic electrolyzed water to adjust pH;

blowing carbon dioxide gas into the cathodic electrolyzed water to fix the carbon dioxide gas as carbonate; and

intermixing the anodic electrolyzed water after pH adjustment and the cathodic electrolyzed water after carbonate fixation and discharging the intermixed water in a state where a pH of the intermixed water is identical to a pH of the seawater,

wherein iron, which is a soluble metal, is used in an anode-side electrode to cause dissolution of ferric ions in the anodic electrolyzed water in the seawater electrolysis process.

2. The carbon dioxide gas fixation method according to claim 1, wherein the alkaline material is waste concrete.

~~3. The carbon dioxide gas fixation method according to claim 1, wherein iron, which is a soluble metal, is used in an anode-side electrode to cause dissolution of ferric ions in the anodic electrolyzed water in the seawater electrolysis process.~~

34. A carbon dioxide gas fixation apparatus, comprising:

an electrolysis tank which has an anode and a cathode;

a barrier membrane which partitions an interior of the electrolysis tank into an anode-side region containing the anode, and a cathode-side region containing the cathode;

a first treatment tank which stores anodic electrolyzed water produced in the anode-side region;

a second treatment tank which stores cathodic electrolyzed water produced in the cathode-side region;

a power-supply unit which supplies power to the anode and the cathode;

an alkaline material input device which inputs alkaline material into the first treatment tank; and

a carbon dioxide gas blower which blows carbon dioxide gas into the second treatment tank,

wherein wastewater from the first treatment tank and wastewater from the second treatment tank are able to intermix~~ed~~, and discharge~~d~~,

wherein the anode contains iron as a consumable electrode, and the consumable electrode dissolves ferric ions.

4~~5~~. The carbon dioxide gas fixation apparatus according to claim 3~~4~~, wherein the power-supply unit has at least one of photovoltaic cell, fuel cell, wind power generator, wave power generator, ocean thermal energy generator, and solar thermal power generator.

5~~6~~. The carbon dioxide gas fixation apparatus according to claim 3~~4~~, wherein the power-supply unit contains a fuel cell which uses hydrogen gas generated on the cathode-side region, and oxygen gas generated on the anode-side region.

6~~7~~. The carbon dioxide gas fixation apparatus according to claim 3~~4~~, wherein the alkaline material inputted from the alkaline material input device is waste concrete.

~~8. The carbon dioxide gas fixation apparatus according to claim 4, wherein the anode contains iron as a consumable electrode, and the consumable electrode dissolves ferric ions.~~