CLAIMS

1. A bipolar-electrode electrolytic cell which includes a chassis, an electrode plate formed in a square shape and performing electrolysis in electrolyte solution and generating electrolyzed products, and a plate-shaped spacer having a concavity on which the electrode plate is disposed, and in which an unit cell, which is formed by connecting a plurality of spacers in which the electrode plate is disposed on the concavity so that one plate surface of the electrode plate is directed to one direction, is disposed inside the chassis, the cell comprising:

an engaged portion which is provided on the concavity of the spacer ; and

an engaging portion which is formed on the electrode plate,

wherein the engaging portion which is formed on the electrode plate is formed on a position deviated from a line bisecting an outer periphery of the concavity so as to be a line symmetry,

wherein the engaged portion and the engaging portion are positioned so as to correspond to each other, and are formed to dispose the electrode plate inside the concavity, when the one plate surface of the electrode plate is disposed on the concavity toward the one direction, and

wherein the engaged portion and the engaging portion are positioned so as not to correspond to each other, and are prevented from disposing the electrode plate inside the concavity, when the other plate surface of the electrode plate is disposed on the concavity toward the one direction.

2. The bipolar-electrode electrolytic cell according to claim 1,

wherein the engaged portion is a projecting wall or a projecting part formed on the concavity, and

wherein the engaging portion is a cut-out portion or a hole formed on the electrode plate.

3. The bipolar-electrode electrolytic cell according to claim 1 or 2,

wherein the spacer has a latching portion formed on the plate surface and a latched portion which latches the latching portion of another spacer and performs connection thereto.

4. The bipolar-electrode electrolytic cell according to claim 3,

wherein a fitting convex portion is formed on the one plate surface of the spacer, and

a fitting concave portion, which is fitted into the fitting convex portion of the one plate surface of the other spacer and holds the connection between spacers, is formed on the other plate surface of the spacer.

5. The bipolar-electrode electrolytic cell according to claim 1,

wherein the number of the engaging portion which is provided on the spacer is one, and the number of the engaged portion which is provided on the electrode plate is one.

6. The bipolar-electrode electrolytic cell according to claim 2,

wherein the concavity is provided in the periphery of the projecting part by rounding the circumference thereof so as to bypass the projecting part.

7. The bipolar-electrode electrolytic cell according to claim 1,

wherein the engaging portion is a cut-out portion which is formed such that an angle portion of the electrode plate is cut in a straight shape, and

two angles θ1 and θ2 of two angle portions formed on the electrode plate by the cutting are different from each other.

8. The bipolar-electrode electrolytic cell according to claim 1,

wherein the engaging portion is a cut-out portion which is formed in one end side of an outer periphery of the electrode plate such that a shape of the periphery of the cut-out portion has a substantially U shape.

9. The bipolar-electrode electrolytic cell according to claim 1,

wherein the engaging portion is a hole which is formed adjacent to one end side of an outer periphery of the electrode plate.

CLAIMS

1. A bipolar-electrode electrolytic cell which includes a chassis, an electrode plate formed in a square shape and performing electrolysis in electrolyte solution and generating electrolyzed products, and a plate-shaped spacer having a concavity on which the electrode plate is disposed, and in which an unit cell, which is formed by connecting a plurality of spacers in which the electrode plate is disposed on the concavity so that one plate of the electrode plate is directed to one direction, is disposed inside the chassis, the cell comprising:

one engaged portion which is provided on the concavity of the spacer; and

one engaging portion which is formed on the electrode plate,

wherein the engaged portion which is provided on the concavity of the spacer and the engaging portion which is formed on the electrode plate are formed on a position deviated from a line bisecting an outer periphery of the concavity so as to be a line symmetry,

wherein the engaged portion is a projecting wall formed on the concavity, and the engaging portion is a cut-out portion which is formed such that an angle portion of the electrode plate is cut in a straight shape, and two angles of two angle portions formed on the electrode plate by the cutting are different from each other,

wherein the engaged portion and the engaging portion are positioned so as to correspond to each other, and are formed to dispose the electrode plate inside the concavity, when the one plate of the electrode plate is disposed on the concavity toward the one direction, and

wherein the engaged portion and the engaging portion are positioned so as not to correspond to each other, and are prevented from disposing the electrode plate inside the concavity, when the other plate of the electrode plate is disposed on the concavity toward the one direction.

2. The bipolar-electrode electrolytic cell according to claim 1,

wherein the spacer has a latching portion formed on an one plate surface of the spacer and a latched portion which latches a latching portion of an another spacer and performs connection thereto.

3. The bipolar-electrode electrolytic cell according to claim 1,

wherein a fitting convex portion is formed on the one plate surface of the spacer, and

a fitting concave portion, which is fitted into a fitting convex portion of an one plate

surface of the another spacer and holds the connection between the spacer and the another spacer, is formed on the other plate surface of the spacer.