CLAIMS

1. A rotation device comprising:

an output shaft supported in rotatable state so that an axis line of said output shaft is in parallel to a horizontal direction that is perpendicular to the gravity direction;

at least one rotatable rotary plate member arranged so that rotation axis of said at least one rotary plate member and the axis line of said output shaft are coaxial;

at least one weight member fixed respectively to said at least one rotary plate member, for biasing position of the center of gravity from the rotation axis of said at least one rotary plate member; and

at least one clutch mechanism arranged between said at least one rotary plate member and said output shaft, and capable of separating said at least one rotary plate member and said output shaft with each other at a predetermined rotation angle,

said at least one clutch mechanism being adapted, during rotation of said at least one rotary plate member, to connect said at least one rotary plate member with said output shaft when the center of gravity of said at least one weight member descends, and to separate said at least one rotary plate member from said output shaft when the center of gravity of said at least one weight member rises.

2. The rotation device as claimed in claim 1, wherein said at least one clutch mechanism includes a gear transmission mechanism fixed to said at least one rotary plate member and provided with a plurality of planetary gear, a cam plate fixed to a bearing for supporting said output shaft and provided with an eccentric circular groove on its one side surface and a via hole at the center of said cam plate for passing said output shaft there through, and a cam follower coupled to one of the plurality of planetary gears to move along said eccentric circular groove, and wherein, in one planetary gear coupled to said cam follower, a gear-rotation restraint means capable of limiting rotation of said one planetary gear depending upon displacement of said cam follower is arranged so that said at least one rotary plate member and said output shaft are connected with each other when the rotation of said one planetary gear is limited by said gear-rotation restraint means.

3. The rotation device as claimed in claim 1, wherein said at least one clutch mechanism is adapted, during rotation of said at least one rotary plate member, to connect said at least one rotary plate member with said output shaft when said at least one weight member rotates to a first angle position where the center of gravity of said at least one weight member passes by a predetermined angle from the position directly above the center of rotation, and to separate said at least

one rotary plate member from said output shaft when said at least one weight member rotates to a second angle position where the center of gravity of said at least one weight member passes by 180 degrees from the first angle position.

4. The rotation device as claimed in claim 1, wherein said rotation device further comprises at least one auxiliary driving mechanism for assisting the rotation of said at least one rotary plate member and said at least one weight member when the center of gravity of at least one weight member at least rises.

5. The rotation device as claimed in claim 1, wherein said at least one rotatable rotary plate member is a plurality of rotatable rotary plate members arranged so that rotation axes of said rotary plate members and the axis line of said output shaft are coaxial, said at least one weight member is a plurality of weight members fixed respectively to said rotary plate members, for biasing positions of the center of gravity from the rotation axis of said rotary plate members, and said at least one clutch mechanism is a plurality of clutch mechanisms arranged respectively between said rotary plate members and said output shaft, and capable of separating said rotary plate members and said output shaft with each other at a predetermined rotation angle, and wherein said weight members are arranged so that positions of the center of

gravity of said weight members have an equal angle interval with each other.

6. A power supply system comprising:

a rotation device including an output shaft supported in rotatable state so that an axis line of said output shaft is in parallel to a horizontal direction that is perpendicular to the gravity direction, at least one rotatable rotary plate member arranged so that rotation axis of said at least one rotary plate member and the axis line of said output shaft are coaxial, at least one weight member fixed respectively to said at least one rotary plate member, for biasing position of the center of gravity from the rotation axis of said at least one rotary plate member, and at least one clutch mechanism arranged between said at least one rotary plate member and said output shaft and capable of separating said at least one rotary plate member and said output shaft with each other at a predetermined rotation angle, said at least one clutch mechanism being adapted, during rotation of said at least one rotary plate member, to connect said at least one rotary plate member with said output shaft when the center of gravity of said at least one weight member descends, and to separate said at least one rotary plate member from said output shaft when the center of

gravity of said at least one weight member rises;

a generator coupled to said output shaft of said rotation device;

a solar light power generation device; and

an electrical storage device for storing electrical power generated by said generator and said solar light power generation device,

said power supply system being capable of providing an electrical power to said rotation device from said electrical storage device or a commercial power supply system, and also capable of providing an electrical power from said electrical storage device to outside.

7. The power supply system as claimed in claim 6, wherein said at least one clutch mechanism of said rotation device includes a gear transmission mechanism fixed to said at least one rotary plate member and provided with a plurality of planetary gear, a cam plate fixed to a bearing for supporting said output shaft and provided with an eccentric circular groove on its one side surface and a via hole at the center of said cam plate for passing said output shaft there through, and a cam follower coupled to one of the plurality of planetary gears to move along said eccentric circular groove, and wherein, in one planetary gear coupled to said cam follower, a gear-rotation restraint means capable of limiting rotation of said one planetary gear depending upon

displacement of said cam follower is arranged so that said at least one rotary plate member and said output shaft are connected with each other when the rotation of said one planetary gear is limited by said gear-rotation restraint means.

8. The power supply system as claimed in claim 6, wherein said at least one clutch mechanism of said rotation device is adapted, during rotation of said at least one rotary plate member, to connect said at least one rotary plate member with said output shaft when said at least one weight member rotates to a first angle position where the center of gravity of said at least one weight member passes by a predetermined angle from the position directly above the center of rotation, and to separate said at least one rotary plate member from said output shaft when said at least one weight member rotates to a second angle position where the center of gravity of said at least one weight member passes by 180 degrees from the first angle position.

9. The power supply system as claimed in claim 6, wherein said rotation device further comprises at least one auxiliary driving mechanism for assisting the rotation of said at least one rotary plate member and said at least one weight member when the center of gravity of at least one weight member at least rises.

10. The power supply system as claimed in claim 6, wherein said at least one rotatable rotary plate member of said rotation device is a plurality of rotatable rotary plate members arranged so that rotation axes of said rotary plate members and the axis line of said output shaft are coaxial, said at least one weight member is a plurality of weight members fixed respectively to said rotary plate members, for biasing positions of the center of gravity from the rotation axis of said rotary plate members, and said at least one clutch mechanism is a plurality of clutch mechanisms arranged respectively between said rotary plate members and said output shaft and capable of separating said rotary plate members and said output shaft with each other at a predetermined rotation angle, and wherein said weight members of said rotation device are arranged so that positions of the center of gravity of said weight members have an equal angle interval with each other.