PLANT CULTIVATION APPARATUS

BACKGROUND

1. Technical Field

[0001] The present disclosure relates to a plant cultivation apparatus that performs cultivation of a plant using light which is emitted from a plurality of light sources.

2. Description of the Related Art

[0002] A plant cultivation apparatus is disclosed, for example, in Japanese Patent Unexamined Publication No. 2015-119660 (PLT 1).

SUMMARY

[0002A] According to a first aspect, a plant cultivation apparatus comprising:

a plurality of artificial light sources that includes a first artificial light source and a second artificial light source, being disposed adjacent to each other along a longitudinal direction, and that each emits light for plant cultivation; and

a light guide member disposed covering the first artificial light source and the second artificial light source, wherein

the light guide member includes a first light receiver, a light emitter, and a second light receiver, disposed connected to each other along the longitudinal direction of the artificial light source,

the first light receiver receives first light emitted from the first artificial light source and then refracts the first light to allow the first light to pass through the first light receiver toward the light emitter,

the second light receiver receives second light emitted from the second artificial light source, and then refracts the second light to allow the second light to pass through the second light receiver toward the light emitter,

the light emitter receives the first light and the second light that are allowed to pass through the first light receiver and the second light receiver after being received and refracted by the first light receiver and the second light receiver, respectively, and then refracts and emits the first light and the second light toward

a plant cultivation space facing a non-light emitting portion between an end portion of the first artificial light source and an end portion of the second artificial light source, adjacent to the end portion of the first artificial light source,
the plurality of artificial light sources are each a fluorescent lamp, and
the light guide member is installed directly above the plurality of artificial light sources, and includes the first light receiver having a shape tapering toward the light emitter

[0003] A plant cultivation apparatus includes an illuminator, and a light guide member.

[0004] The illuminator includes a first light source and a second light source which are arranged in series.

[0005] The light guide member includes a first light receiver, a light emitter, and a second light receiver, and is disposed to cover at least a portion of a non-light emitting portion between the first light source and the second light source.

[0006] In the light guide member, the first light receiver, the light emitter, and the second light receiver are disposed in this order.

[0007] The first light receiver receives a first light which is emitted from the first light source, refracts and outputs the first light toward the light emitter.

[0008] The second light receiver receives a second light which is emitted

Claims

1. A plant cultivation apparatus comprising:
a plurality of artificial light sources that includes a first artificial light source and a second artificial light source, being disposed adjacent to each other along a longitudinal direction, and that each emits light for plant cultivation; and
a light guide member disposed covering the first artificial light source and the second artificial light source, wherein
the light guide member includes a first light receiver, a light emitter, and a second light receiver, disposed connected to each other along the longitudinal direction of the artificial light source,
the first light receiver receives first light emitted from the first artificial light source and then refracts the first light to allow the first light to pass through the first light receiver toward the light emitter,
the second light receiver receives second light emitted from the second artificial light source, and then refracts the second light to allow the second light to pass through the second light receiver toward the light emitter,
the light emitter receives the first light and the second light that are allowed to pass through the first light receiver and the second light receiver after being received and refracted by the first light receiver and the second light receiver, respectively, and then refracts and emits the first light and the second light toward a plant cultivation space facing a non-light emitting portion between an end portion of the first artificial light source and an end portion of the second artificial light source, adjacent to the end portion of the first artificial light source,
the plurality of artificial light sources are each a fluorescent lamp, and
the light guide member is installed directly above the plurality of artificial light sources, and includes the first light receiver having a shape tapering toward the light emitter.

2. The plant cultivation apparatus according to claim 1, wherein
the light guide member is installed directly above a portion from a central portion of the first artificial light source to a central portion of the second artificial light source,
the light emitter is disposed between end portions of the first artificial light source and the second artificial light source, the end portions facing each other,

the first light receiver has a shape tapering from the central portion of the first artificial light source toward the end portion of the first artificial light source, and the second light receiver has a shape tapering from the central portion of the second artificial light source toward the end portion of the second artificial light source.