required.

[0008]

It is an object of the present invention to provide a plant growing apparatus capable of irradiating plants by switching white light from a white light source into light of a color of a specific wavelength by using a partition plate that partitions a light source placement space and a plant growing space.

Solution to Problem

[0009]

A plant growing apparatus according to the present invention includes: a white light source emitting white light and being provided so as to face plants to be grown; a housing facility including a light source placement space configured to place the white light source and a plant growing space configured to place the plants to be grown, and blocking entry of external light; ~~and~~ a partition plate being provided so as to extend in the housing facility in a horizontal direction, blocking at least one of temperature transfer and air circulation between the light source placement space and the plant growing space, and being arranged a filter configured to transmit light of a specific wavelength in the white light from the white light source~~.~~; and a horizontal movement device configured to move the filter horizontally.

As used herein, the term “light source emitting light of a specific wavelength” refers to a light source emitting

CLAIMS

[Claim 1]

A plant growing apparatus comprising:

a white light source emitting white light and being provided so as to face plants to be grown;

a housing facility including a light source placement space configured to place the white light source and a plant growing space configured to place the plants to be grown, and blocking entry of external light;

a partition plate being provided so as to extend in the housing facility in a horizontal direction, blocking at least one of temperature transfer and air circulation between the light source placement space and the plant growing space, and being arranged a filter configured to transmit light of a specific wavelength in the white light from the white light source~~.~~; and

a horizontal movement device configured to move the filter horizontally.

[Claim 2]

The plant growing apparatus according to Claim 1, wherein the partition plate includes a partition plate body and an attachment part where the filter is attached, and

the filter is provided so as to be attachable to and detachable from the attachment part.

[Claim 3]

The plant growing apparatus according to Claim 2, wherein the filter is provided so as to be attachable to and detachable from a light source placement space side of the partition plate.

[Claim 4]

The plant growing apparatus according to Claim 2 or 3, wherein the partition plate body transmits the white light.

[Claim 5]

The plant growing apparatus according to Claim 2 or 3, wherein in a case where the plants to be grown are classified and planted in each predetermined unit,

the plant growing apparatus comprises a plurality of different types of the filters corresponding to the predetermined unit.

~~[Claim 6]~~

~~The plant growing apparatus according to Claim 1, wherein the filter is provided integrally with the partition plate.~~

~~[Claim 7]~~

~~The plant growing apparatus according to any one of Claims 2 to 4, wherein the plant growing apparatus further includes a horizontal movement device moving the filter horizontally.~~

~~[Claim 8]~~

~~The plant growing apparatus according to Claim 7, wherein~~

~~the filter is provided so as to be attachable to and detachable from the light source placement space side of the partition plate.~~

~~[Claim 9]~~

~~The plant growing apparatus according to Claim 7 or 8, wherein~~

~~the partition plate transmits the white light.~~

~~[Claim 10]~~

~~The plant growing apparatus according to any one of Claims 7 to 9, wherein~~

~~in a case where the plants to be grown are classified and planted in each predetermined unit,~~

~~the plant growing apparatus comprises a plurality of different types of the filters corresponding to the predetermined unit.~~

[Claim ~~11~~6]

The plant growing apparatus according to any one of Claims 1 to ~~10~~5, wherein the plant growing apparatus further includes a light-condensing device condensing light to the plants to be grown.

[Claim ~~12~~7]

The plant growing apparatus according to Claim ~~11~~6, wherein the light-condensing device is disposed in the plant

growing space.

[Claim ~~13~~8]

The plant growing apparatus according to any one of Claims 1 to ~~12~~7, wherein the plant growing apparatus further includes a vertical movement device moving the partition plate vertically.