

ILLUMINATOR FOR AQUARIUM TANK

This invention relates to an illuminator set in place on the top surface of an aquarium tank for illuminating the interior of the aquarium tank and capable of being supported aslant at the same place for facilitating operations in the illuminated interior for the maintenance of the aquarium tank.

An aquarium tank is generally provided on the front side of its top surface with an illuminator and on the rear side thereof with a filter device. The illuminator comprises a laterally long frame and a fluorescent lamp disposed inside the frame for illuminating the interior of the aquarium tank, as disclosed in Japanese Utility Model Public Disclosure No. 63-167866, for example.

In cleaning the interior of the aquarium tank, introducing new hydrophytes, ornaments and fish and/or changing the hydrophytes, ornaments and fish, and conducting other such operations for the maintaining the aquarium tank, the prior art illuminator is required to be removed from the top surface of the aquarium tank. This removal is very cumbersome and makes the interior of the aquarium dark, making it difficult to carry out the maintenance work.

For this reason, there is a demand for illuminators which do not required to be removed from the top surface of the aquarium tank when conducting maintenance operations and which enable the maintenance operations to be conducted with the interior of the aquarium tank illuminated.

The main object of this invention is to provide an illuminator for an aquarium tank eliminating the drawbacks of conventional types and satisfying the aforesaid demand.

To attain the object, according to this invention there is provided an
5 illuminator for an aquarium tank, set in place on the top surface of said tank and comprising a laterally long frame which includes a front opening portion, a lid for openably closing the opening portion and a rear illumination portion incorporating illuminating means therein,

said illuminator being characterised in that the frame is provided with
10 a pair of support leg members disposed on the opposite sides of the lower portion of the frame and having their respective one ends pivoted on the opposite sides of the frame and their respective other ends arranged in use to support the illuminator aslant on the top surface of the aquarium tank when abutted on the upper edge of the aquarium tank.

When the support leg members are disposed along the lower opposite sides of the illumination portion, i.e. at the first position, the illuminator can be set on the top surface of an aquarium tank. When they are rotated to the second position at which their respective free ends engage with the upper edge of the aquarium tank, the illuminator can be supported aslant on the top surface of the aquarium tank.

The above and other objects, features and advantages of this invention will become more apparent to those skilled in the art from the description of the invention given hereinbelow with reference to the accompanying drawings in which:

Figure 1 is an explanatory side view illustrating one embodiment of an aquarium tank illuminator according to this invention, with the principal part thereof sectioned;

Figure 2 is an explanatory side view illustrating the illuminator supported aslant, with the principal part thereof sectioned;

Figure 3 is a partially cutaway top plan view of the illuminator;

Figure 4 is a bottom plan view of the illuminator;

Figure 5 is a side view of the illuminator, with the principal part thereof enlarged and sectioned; and

Figure 6 is an exploded perspective view of the principal part of the illuminator.

This invention will now be described with reference to the illustrated embodiment.

In this embodiment, an illuminator 1 comprises a laterally long frame 2 having a rear illumination portion 3 and a front opening portion 4. The illumination portion 3 has a transparent bottom plate 6 and a front surface 7 and accommodates therein illuminating means 5 comprising fluorescent lamps and extending in the longitudinal direction. The opening portion 4 comprises a frame member 8 extending integrally from the lower opposite ends of the front surface 7 of the illumination portion 3 and can be opened and closed by a lid 9 having its opposite side ends pivoted on the frame member 8.

The frame 2 is provided on the opposite sides thereof with a pair of swingable support leg members 10 pivoted each on L-shaped support frame members 12 attached to support cylinders 11 formed on the front lower ends of the opposite sides of the front surface 7 and open at the top and bottom. The support frame members 12 each comprise a bifurcated resilient vertical portion 13, a hollow lateral portion 14 open at the free end and bottom, and a hollow portion 15 connecting the vertical and lateral portions 13 and 14 and having apertures 16 formed in the opposite side surfaces thereof. The support leg members 10 each have projections 18 formed on the opposite sides of the base end 17 thereof and are each swingably supported by fitting the projections 18 into the apertures 16 of the hollow portion 15. The hollow lateral portion 14 has a pair of stoppers 19 formed inside on the free end side thereof for receiving the support leg member 10 thereon. The base end 17 of the support leg member 10 is bifurcated and has resiliency. The vertical portion 13 of the L-shaped support frame member 12 is fitted from below into the support cylinder 11 utilizing its own resiliency to detachably mount the support frame member 12 on the front surface 7 of the illumination portion 3. The base end 17 of the support leg member 10 is fitted from below

into the hollow portion 15 of the support frame member 12 utilizing its resiliency and the projections 18 of the support leg member 10 are inserted into the apertures 16 of the hollow portion 15 to detachably and swingably mount the support leg member 10 on the support frame member 12.

As illustrated in Figure 1 and Figure 2, the illuminator 1 of the aforementioned construction is disposed on the top surface of an aquarium tank a on the front side thereof, with its opening portion 4 located on the front side. On the rear side of the top surface of the aquarium tank a is disposed a filter device 20. In normal use, the support leg members 10 are accommodated in the lateral portions 14 of the support frame members 12 and supported on the stoppers 19 of the lateral portions 14 so as to extend along the opposite lower sides of the illumination portion 3 of the frame 2. In this first position, therefore, the support leg members 10 do not constitute any obstacle to use of the aquarium tank a.

In supplying food into the aquarium tank a or removing or introducing fish from or into the aquarium tank a, the lid 9 is rotated upward to open the opening portion 4 of the frame 2.

However, the opening portion 4 is too small for use in cleaning the interior of the aquarium tank a, introducing fresh hydrophytes, ornaments and fish into the aquarium tank a and/or changing the hydrophytes, ornaments and fish. Therefore, the first position of the support leg members 10 is changed to the second position by swinging them downward about the projections 18 to be detached from the lateral portions 14 of the support frame members 12 and abutted on an upper frame b provided on the upper edge of the aquarium tank a. As a result, the illuminator 1 is supported aslant on the top surface of the aquarium tank a and, therefore, the front side of the top surface of the aquarium tank a is opened wide to facilitate the operations for maintenance of the aquarium tank a and enable the operations to be conducted with the interior of the aquarium

tank a illuminated by the illuminating means 5. The illuminator 1 can be returned to the original position by swinging the support leg members 10 backward and accommodating them in the lateral portions 14 of the L-shaped support frame members 12.

The present invention has been described with reference to one embodiment shown in the drawings. However, it is not limited to the embodiment, but may be modified within the scope of the appended claims.

As has been described in the foregoing, since the illuminator according to the present invention comprises a laterally long frame which includes a front opening portion openably closed by a lid and a rear illumination portion and a pair of support leg members pivotally disposed on the opposite sides of the illumination portion, it is possible by a simple operation to change the state of the illuminator between one set in place on the upper surface of an aquarium tank and another disposed aslant to greatly open the upper surface of the aquarium tank. Thus, the illuminator according to the present invention is advantageous in that it does not have to be removed from the upper surface of the aquarium tank, that it enables the manual conduct the operations for maintenance of the interior of the aquarium tank to be conducted with ease, and enables the maintenance operations to be conducted with the interior of the aquarium tank illuminated. Therefore, the illuminator according to the present invention is advantageously applicable particularly to a household aquarium tank.



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CLAIMS:

1. An illuminator for an aquarium tank, set in place on the top surface of an aquarium tank and comprising a laterally long frame which includes a front opening portion, a lid for openably closing the opening portion and a rear illumination portion incorporating illuminating means therein,
5 said illuminator being characterised in that the frame is provided with a pair of support leg members disposed on the opposite sides of the lower portion of the frame and having their respective one ends pivoted on the opposite sides of the frame and their respective other ends arranged in use
10 to support the illuminator aslant on the top surface of the aquarium tank when abutted on the upper edge of the aquarium tank.
2. An illuminator for an aquarium tank substantially as hereinbefore
15 described with reference to and as shown in the accompanying drawings.