

DESCRIPTION**Title of Invention: SHIELD DEVICE AND ROLL SCREEN****Technical Field**

[0001]

The present invention relates to a shield device capable of opening and closing a shield material, and a roll screen.

Background Art

[0002]

Among conventional shield devices capable of opening and closing a shield material are roll screens, horizontal blinds, roll-up curtains, pleated screens, and the like.

[0003]

For example, a roll screen is configured as follows: a frame supports a winding shaft; the upper end of a screen is mounted on the winding shaft so that the screen is hung from the winding shaft; and the lower edge of a shield material (screen) is provided with a weight member. Thus, the amount of daylight brought indoors can be controlled by winding or unwinding the screen around or from the winding shaft.

[0004]

To prevent the gap between the winding shaft around which the screen is wound and the lower surface of the frame that supports the winding shaft, there are disclosed techniques that provide a gap prevention member whose base edge is rotatably supported by the lower surface of the frame and that is hung on the circumferential surface of the winding shaft (for example, see Patent Literature 1).

Citation List**Patent Literature**

[0005]

Patent Literature 1: Japanese Examined Utility Model Registration Application Publication No. 4-48316

Summary of Invention**Technical Problem**

[0006]

The technique disclosed in Patent Literature 1 is able to fill the gap between the winding shaft and the lower surface of the frame (e.g., a mounting frame in a roll screen) using the gap prevention member. Thus, this technique is able to significantly increase the light-shielding effect of the screen which is lowered and is shielding against light.

[0007]

However, the gap prevention member mounted on the lower surface of the frame according to the technique disclosed in Patent Literature 1 may be broken when a weight member (weight bar) collides therewith and therefore has room for improvement. Also, if a screen formed of a relatively hard material contacts the gap prevention member, the contact sound may make the operator feel uncomfortable and therefore this technique has room for improvement.

[0008]

Also, the technique disclosed in Patent Literature 1 needs to mount the base edge of the gap prevention member having the light-shielding function (hereafter referred to as “light-shielding fin”) on the lower surface of the frame of the shield device (e.g., a mounting frame in a roll screen). Since it is not easy to mount the light-shielding fin on the frame of the shield device, this technique has room for improvement in terms of mountability.

[0009]

Also, a further contrivance is needed to prevent impairment of the design or operability of the shield device and maintain the quality thereof even if the light-shielding fin is mounted on the frame of the shield device.

[0010]

In particular, to allow the same light-shielding fin to be mounted on the frames of various shield devices, it is desirable to form a light-shielding fin having a shape that does not affect the operability, quality, or design of the shield devices.

[0011]

Also, if a predetermined textile is mounted on the light-shielding fin by pasting or the like, there occur problems such as impairment of the design due to distortion and how to facilitate the mounting.

[0012]

Also, mounting of a roll screen on the wall according to the conventional technique has a problem that it is difficult to mount the light-shielding fin on the roll screen.

[0013]

In view of the above problems, an object of the present invention is to provide a shield device including a light-shielding fin that has improved design or operability and on which a predetermined textile can be easily mounted.

[0014]

Another object of the present invention is to provide a roll screen that can be mounted on the wall and includes a light-shielding fin.

Solution to Problem

[0015]

A shield device of a first aspect of the present invention is a shield device capable of opening and closing a shield material. The shield device includes support means configured to support the shield material such that the shield material can be opened and closed, a frame configured to support the support means, and a light-shielding fin configured to shield against outside light coming in from between the frame and the support means. The frame is provided with a locking part configured to lock the light-shielding fin. The light-shielding fin includes elastically deformable grasping means configured to grasp an upper end of a predetermined textile.

[0016]

In the shield device of the first aspect of the present invention, the light-shielding fin is configured to, when a part of the grasping means is deformed, grasp the upper end of the predetermined textile.

[0017]

In the shield device of the first aspect of the present invention, parts of left and right ends of the grasping means are provided with at least one or more of a pressing part involving permanent deformation, a detachable, elastically deformable pressing member, and a pressing portion that can be elastically deformed when pressed from outside, the pressing part, the pressing member, and the pressing portion aiming to press the predetermined textile.

[0018]

A shield device of a second aspect of the present invention is a shield device capable of opening and closing a shield material. The shield device includes support means configured to support the shield material such that the shield material can be opened and closed, a frame configured to support the support means, and a light-shielding fin configured to shield against outside light coming in from between the frame and the support means. The frame is provided with a locking part configured to lock the light-shielding fin. The light-shielding fin includes grasping means configured to grasp an upper end of a predetermined textile. The grasping means is configured to, when a part thereof is permanently deformed, grasp the upper end of the predetermined textile.

[0019]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin has a recess that suppresses fluttering of and does not clamp a lower end of the predetermined textile when the grasping means grasps the upper end of the predetermined textile.

[0020]

In the shield devices of the first and second aspects of the present invention, the

grasping means is configured to, when the predetermined textile is inserted from front or side thereof, be able to hold the predetermined textile.

[0021]

In the shield devices of the first and second aspects of the present invention, the grasping means includes a claw configured to sandwich the predetermined textile.

[0022]

In the shield devices of the first and second aspects of the present invention, the frame is fixed to a wall with a fixing fitting therebetween.

[0023]

In the shield devices of the first and second aspects of the present invention, the fixing fitting is configured to include a predetermined gap between the shield device and a wall on which the shield device is to be mounted.

[0024]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin is locked to the locking part such that the light-shielding fin rotates when contacting the shield material or a weight member mounted on the shield material.

[0025]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin is locked to the locking part in a range in which the light-shielding fin does not contact the shield material or a weight member mounted on the shield material.

[0026]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin is rotatably locked to the locking part, and a movable range of the light-shielding fin is regulated so as to become a range in which the light-shielding fin does not contact the shield material or a weight member mounted on the shield material.

[0027]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin is rotatably locked to the locking part, and a movable range of the light-shielding fin is regulated so as to become a range in which the light-shielding fin does not contact a bracket used to mount the frame on a mounting surface, or the mounting surface.

[0028]

In the shield devices of the first and second aspects of the present invention, an operation cord used to open and close the shield material is provided with a movement restriction member, and the light-shielding fin and a weight member mounted on the

light-shielding fin are regulated so as not to contact each other.

[0029]

In the shield devices of the first and second aspects of the present invention, the light-shielding fin has an approximately L cross-sectional shape as a whole so that a predetermined expansion gap is provided between the light-shielding fin and the shield material having a maximum diameter in a left-right direction of the shield material or a weight member mounted on the shield material.

[0030]

In the shield devices of the first and second aspects of the present invention, a lower end of the light-shielding fin is shaped such that the lower end is warped in a direction in which the lower end becomes far from the shield material.

[0031]

A roll screen according to the present invention is a roll screen that allows a screen to be wound around a winding pipe supported by a frame with a predetermined support member therebetween. The roll screen includes a fin configured to cover a gap between the winding pipe and the frame. The roll screen is fixed to a wall with a fixing fitting therebetween while the frame supports the winding pipe located under the frame.

[0032]

In the roll screen according to the present invention, the fixing fitting is configured to include a predetermined gap between the roll screen and the wall.

[0033]

In the roll screen according to the present invention, the fixing fitting is configured to support the frame using a bracket.

[0034]

In the roll screen according to the present invention, the fin is rotatably or non-rotatably supported by one of the frame, a predetermined support member connected to the frame, the fixing fitting, the bracket, and a predetermined suspension/support member fixed to the fixing fitting.

[0035]

In the roll screen according to the present invention, the frame is provided with a bearing, and the fin is supported by the bearing.

[0036]

In the roll screen according to the present invention, the bearing is formed so as to extend in a left-right direction of the frame.

[0037]

In the roll screen according to the present invention, the fin is directly or indirectly supported by the frame so as to extend in a left-right direction of the frame.

[0038]

In the roll screen according to the present invention, the fin includes a support plate that protrudes forward from the frame so as to allow thick winding of the screen around the winding pipe and a shield plate that extends downward from the support plate.

[0039]

In the roll screen according to the present invention, when the fin is taking a predetermined basic posture, the fin is directly or indirectly supported by the frame such that the shield plate is approximately parallel with the wall.

Advantageous Effects of Invention

[0040]

According to the present invention, there can be formed a shield device including a light-shielding fin that has improved design and operability and on which a predetermined textile can be easily mounted. Also, even if the light-shielding fin according to the present invention is mounted on a roll screen including a screen formed of a relatively hard material, the screen does not contact the light-shielding fin. Even if the screen contacts the light-shielding fin, the contact load is reduced and thus the adverse effect such as the contact sound can be removed or reduced.

[0041]

Also, according to the present invention, use of the fixing fitting allows the shield device including the light-shielding fin to be mounted on the wall. In particular, the roll screen according to the present invention mounted on the wall prevents accumulation of dust on the wound screen using the fin that covers the gap between the winding pipe and frame. Thus, scattering of dust can be prevented during use of the roll screen. Also, it is possible to reliably prevent light from being directly shed on the screen near the frame and thus to improve the color fastness of the screen.

Brief Description of the Drawings

[0042]

Fig. 1 is a front view showing a schematic configuration of a roll screen serving as a shield device according to one embodiment of the present invention.

Fig. 2 is a side perspective view showing a schematic configuration of the roll screen serving as a shield device according to one embodiment of the present invention.

Fig. 3 is a side view showing the configuration of a light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Fig. 4 is an exploded perspective view showing a schematic configuration of the light-shielding fin of one example and its vicinity in the roll screen serving as a shield device according to one embodiment of the present invention.

Figs. 5(a) and 5(b) are side views showing the operation of the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Figs. 6(a) and 6(b) are side views showing a structure related to mounting of a textile on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention and a comparative example thereof.

Figs. 7(a), 7(b), and 7(c) are side views showing an example of a method for mounting the textile on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Figs. 8(a), 8(b), and 8(c) are side views showing example operations of the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Figs. 9(a) and 9(b) are side views showing an example in which the roll screen serving as a shield device according to one embodiment of the present invention is mounted on the wall and a comparative example thereof.

Figs. 10(a) and 10(b) are side views showing an example in which a roll screen serving as a shield device according to a modification of the present invention is mounted on the wall.

Figs. 11(a), 11(b), and 11(c) are side views showing a structure in which a light-shielding fin according to one example of the present invention is applied to a roll screen serving as a shield device according to another embodiment and the operation of the light-shielding fin.

Fig. 12 is a partial perspective view showing an example related to prevention of a lateral displacement of the textile mounted on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Figs. 13(a) and 13(b) are partial perspective views showing a mounting method of another example related to prevention of a lateral displacement of the textile mounted on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention and a state after the mounting.

Figs. 14(a) and 14(b) are partial perspective views showing another example related to mounting of the textile on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention and a mounting method thereof.

Figs. 15(a), 15(b), and 15(c) are side views showing example configurations of typical light-shielding fins in various shield devices according to the present invention.

Figs. 16(a) and 16(b) are perspective views showing two example structures related to mounting of the textile on the light-shielding fin of one example in the roll screen serving as a shield device according to one embodiment of the present invention.

Description of Embodiments

[0043]

Now, a roll screen 1 serving as a shield device of one embodiment of the present invention will be described with reference to the drawings. In the present specification, the upper side and lower side of a front view of the roll screen 1 shown in Fig. 1 are referred to as the upper side and lower side of the roll screen 1, respectively, in accordance with the suspension direction of a screen 4, and the left side and right side of the front view as the left side and right side, respectively, of the roll screen 1. Also, in examples described below, the viewer side of the front view of the roll screen 1 shown in Fig. 1 is referred to as the front side of the roll screen 1 (or the indoor side), and the side opposite thereto as the rear side of the roll screen 1 (or the outdoor side). The front-rear direction of the roll screen 1 refers to a direction perpendicular to the surface of the front view in Fig. 1.

[0044]

Overall Configuration

First, the configuration of the roll screen 1 serving as a shield device of one embodiment of the present invention will be described with reference to Figs. 1 and 2. Fig. 1 is a front view showing a schematic configuration of the roll screen 1 according to the present invention. Fig. 2 is a side perspective view of the roll screen 1 according to the present invention.

[0045]

In the roll screen 1 shown in Fig. 1, support members 2a, 2b are fixed to both ends of a mounting frame 2, and shaft members 11 are fixed to the support members 2a, 2b. A cylindrical winding pipe 3 is rotatably supported by fixed shafts (not shown) extending from the shaft members 11 between the support members 2a, 2b. The mounting frame 2 is fixed to the mounting surface by brackets 6. The support members 2a, 2b are contained in side covers 10. Thus, the design of the roll screen 1 and functionality related to the rotation of a light-shielding fin 9 are improved. This will be described later.

[0046]

An operation pulley 8 is disposed on the right end of the winding pipe 3, and an endless operation cord 7 is hooked on the operation pulley 8 and suspended. In this example, the operation cord 7 consists of a ball chain, and the surface of the operation pulley 8 on which the ball chain is hooked has recesses and protrusions shaped so as to adapt to the balls of the ball chain. The winding pipe 3 is allowed to rotate on the

basis of operation of the operation cord 7. The operation cord 7 consisting of the ball chain is endless since the ends of the cord are coupled together by a cord coupling member 7a. Note that the operation cord 7 may be formed of a string and the surface of the operation pulley 8 on which the operation cord 7 is hooked may be a high frictional surface.

[0047]

One end of the screen 4 is mounted on the winding pipe 3 and thus the screen 4 is suspended from and supported by the winding pipe 3 such that it can be wound or unwound therearound or therefrom. The other end of the screen 4 is mounted on a weight bar 5 serving as a weight member and thus the screen 4 is stretched on the basis of the weight of the weight bar 5. In the example of the present embodiment, the screen 4 is suspended from the outdoor side of the winding pipe 3 (see Fig. 2).

[0048]

By operating the operation cord 7 and thus rotating the winding pipe 3 in the screen winding direction, the weight bar 5 is raised; by operating the operation cord 7 and thus rotating the winding pipe 3 in the screen unwinding direction, the weight bar 5 is lowered. Note that a movement restriction member 12 may be mounted on the operation cord 7 consisting of the ball chain. The movement restriction member 12 can stop rotation of the operation pulley 8 or the like by contacting the operation pulley 8 or the like and thus stops the weight bar 5 at the upper limit position.

[0049]

A spring motor that reduces the operation force during winding of the screen 4 (not shown) is contained in a portion close to the left end, of the winding pipe 3. A stopper device or the like that prevents self-weight fall of the screen 4 (not shown) is contained in a portion close to the right end thereof.

[0050]

In the roll screen 1 according to the present invention, the light-shielding fin 9 having a structure on which a predetermined textile 13 can be easily mounted is mounted on the front surface of the mounting frame 2 and effectively shields against light leaking from the gap between the winding pipe 3 and mounting frame 2. As shown in Fig. 2, a shaft 91 of the light-shielding fin 9 is engaged with a bearing 20 disposed on the front surface of the mounting frame 2 (details will be described later), and the light-shielding fin 9 is supported by the bearing 20 such that it can rotate within a predetermined range on the front side of the mounting frame 2. A light-shielding fin 9 of one example will be described in detail below.

[0051]

Configuration of Light-Shielding Fin

Fig. 3 shows the configuration of the light-shielding fin 9 of one example in the

roll screen 1 of the present embodiment. Fig. 4 is an exploded perspective view showing a schematic configuration of the light-shielding fin 9 of one example and its vicinity in the roll screen 1 of the present embodiment.

[0052]

Referring to Figs. 3 and 4, the light-shielding fin 9 has an approximately “L” cross-sectional shape as a whole and is rotatably locked to the front surface of the mounting frame 2. While the light-shielding fin 9 is preferably formed of a synthetic resin having a high light-shielding effect, aluminum, or the like, it may be formed of a transparent or semi-transparent synthetic resin if the textile 13 is mounted thereon as in this example.

[0053]

The width in the left-right direction of the light-shielding fin 9 is slightly shorter than the width in the left-right direction of the mounting frame 2. Thus, for example, even if the light-shielding fin 9 is formed of a synthetic resin and the width in left-right direction thereof is changed due to thermal expansion or the like, it is smoothly rotatably locked.

[0054]

The bearing 20 has an approximately “C” cross-sectional shape and extends in the length direction of the mounting frame 2 under the front surface of the mounting frame 2. The shaft 91 of the light-shielding fin 9 is engaged with the bearing 20, and thus the light-shielding fin 9 is rotatably supported on the front side of the mounting frame 2. The support members 2a, 2b are mounted on both ends in the length direction of the mounting frame 2.

[0055]

The support members 2a, 2b are in the same shape and are provided with notches 23 sized so as to approximately match the approximately “C” cross-sectional shape of the bearing 20 of the mounting frame 2, as shown in Fig. 4. After fixing the support members 2a, 2b to the mounting frame 2, the shaft 91 of the light-shielding fin 9 is inserted into the bearing 20 through one of the notches 23 by sliding the shaft 91 in the left-right direction. Thus, the light-shielding fin 9 is supported by the bearing 20. The light-shielding fin 9 is also configured that it can be removed by sliding it and cannot be removed otherwise. Thus, the light-shielding fin 9 is not removed from the mounting frame 2 even if an external force is applied thereto.

[0056]

The support members 2a, 2b also have, in multiple positions, screw holes 21 used to fix the mounting frame 2 using mounting screws and screw holes 22 used to fix the shaft members 11 (see Fig. 1) including fixed shafts (not shown) that rotatably support the winding pipe 3. That is, even after the support members 2a, 2b are fixed to

the mounting frame 2 with the winding pipe 3 supported by the support members 2a, 2b, the shaft 91 of the light-shielding fin 9 can be inserted into the bearing 20 by sliding it in the left-right direction. Thus, the light-shielding fin 9 can be easily mounted.

[0057]

The side covers 10 are mounted on the support members 2a, 2b for the purpose of preventing the mounting screws in the screw holes 21 of the support members 2a, 2b from being visually recognized from outside and thus improving the design of the support members 2a, 2b. The side covers 10 also have an effect of improving functionality related to the rotation of the light-shielding fin 9.

[0058]

That is, to allow the light-shielding fin 9 to smoothly rotate, the side covers 10 are provided with walls 10a having heights such that the portions of both ends in the left-right direction of the light-shielding fin 9 are regulated in the rotation range of the light-shielding fin 9. The heights of the walls 10a are sufficient heights to accommodate the thicknesses of the support members 2a, 2b. The side covers 10 are formed of a synthetic resin and can be mounted on the support members 2a, 2b formed of a metal material by pressing the support members 2a, 2b along the outside shapes thereof. The walls 10a are provided with inwardly protruding claws 10b that are able to grab the support members 2a, 2b. the walls 10a have the heights such that the claws 10b or notches 23 do not interfere with rotation of the light-shielding fin 9.

[0059]

That is, the left and right ends of the light-shielding fin 9 contact the walls 10a of the side covers 10 before contacting the support members 2a, 2b, and the locking positions of the light-shielding fin 9 are regulated such that the light-shielding fin 9 can rotate. By regulating both ends in the left-right direction of the light-shielding fin 9, it is possible to secure the design thereof and to prevent a rotation failure while increasing the light leakage effect. While, in this example, the width in the left-right direction of the light-shielding fin 9 is slightly shorter than the width in the left-right direction of the mounting frame 2 and the light-shielding fin 9 is rotatably regulated by the walls 10a of the side covers 10, the light-shielding fin 9 may avoid contacting the support members 2a, 2b or side covers 10 using the shape thereof.

[0060]

As shown in Fig. 3, the bearing 20 extending in the length direction of the mounting frame 2 and having an approximately "C" cross-sectional shape is formed under the front surface of the mounting frame 2. More specifically, the bearing 20 has a curved shaft 20f on an end of a rotation regulation piece 20a extending upward from the bottom of the mounting frame 2 and thus is able to support the shaft 91 of the

light-shielding fin 9. The rotation regulation piece 20a has a function of regulating downward rotation of the light-shielding fin 9. A rotation regulation piece 20b that regulates upward rotation of the light-shielding fin 9 is formed over the bearing 20 on the front side of the mounting frame 2. In an example shown in Fig. 3, the rotation regulation piece 20a is in an approximately C shape protruding forward from the front surface of the mounting frame 2, and the rotation regulation piece 20b is in an approximately plate shape protruding backward. While the shaft 91 of the light-shielding fin 9 is locked to the bearing 20, upward/downward rotation of the light-shielding fin 9 is regulated and the light-shielding fin 9 does not come off the bearing 20 backward no matter how it is rotated.

[0061]

The light-shielding fin 9 roughly includes a support plate 93 that has the approximately C-shaped shaft 91 on an end thereof and is bent and protrudes forward from the front surface of the mounting frame 2 with a length a and a shield plate 94 that extends downward from the support plate 93 with a length b. Thus, the light-shielding fin 9 has an approximately “L” cross-sectional shape as a whole. The light-shielding fin 9 is formed of a member having multiple curved surfaces (may be a single member or composite member) so that a collision force or contact sound is avoided or reduced when the screen 4 [or weight bar 5 (to be discussed later)] interferes with the light-shielding fin 9.

[0062]

More specifically, the support plate 93 has an approximately “L” bent shape and has the approximately C-shaped shaft 91 on the end thereof. The shaft 91 is a part that is rotatably locked by the curved shaft 20f of the bearing 20. An end of the shaft 91 is in an acutely bent, approximately hooked shape, and the shaft 91 is engaged with bearing 20 with a spatial allowance. Thus, the light-shielding fin 9 is made less likely to come off the bearing 20, and the degree of freedom of rotation of the light-shielding fin 9 is increased.

[0063]

On the other hand, if the shaft 91 of the light-shielding fin 9 having the increased degree of freedom of rotation is locked to the bearing 20, an uncomfortable interference sound (contact sound) occurs due to the interference with rotation of the light-shielding fin 9 by the rotation regulation piece 20b. For this reason, the shaft 91 includes a bend 92 having a varying thickness in the rotation range.

[0064]

A contact part 97 is formed near the base of the shaft 91 disposed on the end of the support plate 93. The contact part 97 is a part that contacts the rotation regulation piece 20b and thus regulates upward rotation of the light-shielding fin 9

(details will be described later).

[0065]

Such a shape of the shaft 91 makes the light-shielding fin 9 less likely to come off the bearing 20, as well as suppresses rattling of the light-shielding fin 9. Thus, the light-shielding fin 9 is allowed to rotate with the interference sound reduced. Also, the uncomfortable sound (contact sound) attributable to the interference with rotation of the contact part 97 by the rotation regulation piece 20b can be reduced to a negligible level.

[0066]

A protrusion 98 is formed below the shaft 91 disposed on the end of the support plate 93. The protrusion 98 protrudes from the support plate 93 beside the shaft 91. The protrusion 98 is a part that regulates downward rotation of the light-shielding fin 9 in the position in which it contacts the rotation regulation piece 20a of the bearing 20 of the mounting frame 2 (details will be described later). In particular, the end of the protrusion 98 is shaped so as to have recesses and protrusions as shown in Fig. 3 and has the effect of reducing a contact sound or collision force when contacting the rotation regulation piece 20a. While the protrusion 98 of this example is formed so as to extend in the left-right direction of the support plate 93 and protrude, it may protrude in the left-right direction of the support plate 93.

[0067]

An interference reduction part 95 having a surface-curved shape is formed on the lower end of the shield plate 94 extending downward from the support plate 93. The interference reduction part 95 is shaped such that even when it contacts the screen 4 (or, the weight bar 5 in an embodiment to be discussed later), it is warped in a direction in which it becomes far from the screen 4 (or weight bar 5), so as to reduce the contact sound or collision force.

[0068]

The upper and lower ends of the front surface of the shield plate 94 are provided with protruding pieces 96a, 96b that have approximately hooked cross-sectional shapes and form recesses that engage with the upper and lower ends of the textile 13. In particular, a claw 99 is formed inside the protruding piece 96a at the upper end of the front surface of the shield plate 94. The protruding piece 96a and claw 99 form grasping means serving as a textile holder. On the other hand, the protruding piece 96b at the lower end of the front surface of the shield plate 94 is a part that suppresses fluttering of the textile 13, and forms a recess that suppresses fluttering of the textile 13 and is not pressure-welded. Detailed description on mounting of the textile 13 will be made later.

[0069]

Lower- and Upper-Side Rotation Regulation Structures of Light-Shielding Fin

Figs. 5(a) and 5(b) are side views showing the operation of the light-shielding fin 9 of one example in the roll screen 1 of the present embodiment. Specifically, Fig. 5(a) is a drawing related to lower-side rotation regulation of the light-shielding fin 9, and Fig. 5(b) is a drawing related to the upper-side rotation regulation of the light-shielding fin 9.

[0070]

As shown in Fig. 5(a), the protrusion 98 is formed below the shaft 91 disposed on the end of the support plate 93. The protrusion 98 protrudes from the support plate 93 beside the shaft 91. The shaft 91 of the light-shielding fin 9 is rotatably locked by the curved shaft 20f of the bearing 20. The protrusion 98 disposed on the light-shielding fin 9 has a function of regulating downward rotation of the light-shielding fin 9 in the position in which it contacts the rotation regulation piece 20a of the bearing 20 of the mounting frame 2. In this case, the protrusion 98 regulates the light-shielding fin 9 such that the light-shielding fin 9 takes a basic posture in which the length direction of the shield plate 94 of the light-shielding fin 9 is approximately perpendicular to the front-rear direction of the mounting frame 2 (the shield plate 94 droops vertically). As seen above, when the light-shielding fin 9 is mounted on the mounting frame 2 of the roll screen 1, it takes the basic posture in which the length direction of the shield plate 94 thereof is approximately perpendicular to the front-rear direction of the mounting frame 2 (the shield plate 94 droops vertically). Thus, the design thereof is improved.

[0071]

Also, as shown in Fig. 5(b), the contact part 97 is formed near the base of the shaft 91 disposed on the light-shielding fin 9. The contact part 97 is a part that when the light-shielding fin 9 rotates in the basic posture, contacts the rotation regulation piece 20b and thus regulates upward rotation of the light-shielding fin 9. Thus, it prevents the light-shielding fin 9 from contacting the brackets 6 or the mounting surface thereof. Thus, when the light-shielding fin 9 is mounted on the mounting frame 2 of the roll screen 1, the quality thereof can be maintained without losing operability.

[0072]

Method for Mounting Textile on Light-Shielding Fin

Fig. 6(a) is a side view showing a structure related to mounting of the textile 13 on the light-shielding fin 9 of one example in the roll screen 1 of the present embodiment. Fig. 6(b) shows a comparative example thereof. Figs. 7(a), 7(b), and 7(c) show one example of a method for mounting the textile 13 on the light-shielding fin 9 of one example in the roll screen 1 of the present embodiment.

[0073]

First, as shown in Fig. 6(a), in the light-shielding fin 9 according to this example, the upper and lower ends of the front surface of the shield plate 94 are provided with the protruding pieces 96a, 96b that have approximately hooked cross-sectional shapes and form recesses that engage the upper and lower ends of the textile 13. In particular, the claw 99 is formed inside the protruding piece 96a at the upper end of the front surface of the shield plate 94, and the protruding piece 96a and claw 99 form grasping means serving as a textile holder. On the other hand, the protruding piece 96b at the lower end of the front surface of the shield plate 94 is a part that suppresses fluttering of the textile 13, and forms a recess that suppresses fluttering of the textile 13 and is not pressure-welded.

[0074]

When mounting the textile 13 on the light-shielding fin 9 according to this example, for example, it may be mounted by inserting it into the light-shielding fin 9 from the left or right end thereof. However, the textile 13 can be more easily mounted by inserting it into the light-shielding fin 9 from the front side thereof. For example, as shown in Figs. 7(a), 7(b), and 7(c), first, the upper end of the textile 13 is engaged with the protruding piece 96a and claw 99 [see Fig. 7(a)] and then the lower end of the textile 13 is inserted into the recess formed by the protruding piece 96b [see Fig. 7(b)]. Thus, the textile 13 can be easily mounted on the light-shielding fin 9. Also, the light-shielding fin 9 according to this example is structured such that only the upper end of the textile 13 is engaged therewith. Thus, the textile 13 can be prevented from being distorted, and the design thereof can be improved. Even if the textile 13 is displaced in the upward/downward direction due to rotation of the light-shielding fin 9, the protruding pieces 96a, 96b at the upper and lower ends of the front surface of the shield plate 94 prevent the textile 13 from losing the function and design thereof.

[0075]

If the textile 13 is mounted on the light-shielding fin 9 by means of pasting or the like or if another grasping means serving as a textile holder is formed by disposing a claw 99 on the lower end of the front surface of the shield plate 94, as shown in Fig. 6(b), distortion occurs in the textile 13, and mounting the textile 13 so as to eliminate this distortion increases the work load. For this reason, it is preferred to structure a light-shielding fin such that only the upper end of the textile 13 is engaged therewith, as seen in the light-shielding fin 9 according to this example. Thus, the textile 13 can be easily mounted without distorting it.

[0076]

Operation and Multi-Purpose Adaptability of Light-Shielding Fin

Figs. 8(a), 8(b), and 8(c) are side views showing example operations of the light-

shielding fin 9 of one example in the roll screen 1 of the present embodiment.

[0077]

As shown in Fig. 8(a), the light-shielding fin 9 of this example roughly includes the support plate 93 that is bent and protrudes forward from the front surface of the mounting frame 2 with the length a and the shield plate 94 that extends downward from the support plate 93 with the length b and thus has an approximately "L" cross-sectional shape as a whole.

[0078]

The length b of the shield plate 94 is a length such that light is prevented from leaking from the gap between the mounting frame 2 and winding pipe 3. The length a of the support plate 93 is set in a range in which the support plate 93 does not affect the operation of the operation cord 7. Even if the operation cord 7 is operated such that the operation cord 7 contacts the light-shielding fin 9 of this example, the light-shielding fin 9 rotates and therefore an operation load does not occur.

[0079]

As shown in Fig. 8(b), if the light-shielding fin 9 of this example is applied to a roll screen 1 where the maximum winding diameter S of a screen 4 is relatively small, the screen 4 and light-shielding fin 9 do not contact each other. The light-shielding fin 9 can maintain the light-shielding effect while keeping the basic posture in which the length direction of the shield plate 94 of the light-shielding fin 9 is approximately perpendicular to the front-back direction of the mounting frame 2 (the shield plate 94 droops vertically).

[0080]

As shown in Fig. 8(c), even if the light-shielding fin 9 of this example is applied to a roll screen 1 where the maximum winding diameter S of the screen 4 is relatively large and the screen 4 and light-shielding fin 9 contact each other, the light-shielding fin 9 can be rotated in accordance with the wound and thickened screen 4 and thus can maintain the light-shielding effect.

[0081]

Mounting a roll screen 1 on the wall in accordance with the conventional technique disadvantageously has difficulty in mounting the light-shielding fin 9 on the roll screen 1.

[0082]

Fig. 9(a) shows an example in which the roll screen 1 of the present embodiment is mounted on the wall (e.g., side wall) W, and Fig. 9(b) shows a comparative example thereof.

[0083]

As shown in Fig. 9(a), use of fixing fittings 61 (in this example, L-shaped fittings)

allows the roll screen 1 of the present embodiment including the light-shielding fin 9 to be mounted on the wall W. The brackets 6 are fixed to the fixing fittings 61 by fastening mounting screws to the brackets 6 through first mounting holes 61a of the fixed fittings 61 and then mounted on the wall W by fastening mounting screws to the wall W through second mounting holes 61b of the fixing fittings 61. Thus, the mounting frame 2 of the roll screen 1 of the present embodiment can be mounted on the brackets 6 fixed to the wall W using the fixing fittings 61.

[0084]

In particular, the fixing fittings 61 allow the roll screen 1 of the present embodiment to be mounted on the wall W with a predetermined gap therebetween. Thus, when the screen 4 is wound up and the weight bar 5 is raised to the upper limit position, the weight bar 5 can be prevented from colliding with the wall W.

[0085]

As shown in Fig. 9(b), if the roll screen 1 is mounted on the wall W in accordance with the conventional technique, it is difficult to mount the light-shielding fin 9 of this example the roll screen 1. On the other hand, use of the fixing fittings 61 (in this example, L-shaped fittings) allows the roll screen 1 of the present embodiment including the light-shielding fin 9 to be mounted on the wall W.

[0086]

Also, if the roll screen 1 of the present embodiment is mounted on the wall W, the light-shielding fin 9 prevents accumulation of dust on the wound screen 4, producing an effect of preventing scattering of dust during use of the roll screen 1.

[0087]

If the wound screen 4 is left alone for a long time, the colors of the screen 4 may be degraded or made uneven due to direct outside light. However, if the roll screen 1 of the present embodiment is mounted on the wall W, the light-shielding fin 9 can reliably prevent light from being directly shed on the screen 4 near the mounting frame 2, improving the color fastness of the screen 4.

[0088]

Also, in the roll screen shown in Fig. 9(a), the light-shielding fin 9 is rotatably supported by the bearing 20 disposed on the mounting frame 2. Thus, the design in a front view can be improved as in the case in which the mounting frame 2 is fixed to the ceiling.

[0089]

Also, in the roll screen shown in Fig. 9(a), the bearing 20 is formed so as to extend in the left-right direction of the mounting frame 2 in connection therewith, as described with reference to Fig. 4. Thus, the bearing 20 does not easily come off even if outside interference or the like occurs.

[0090]

The following configuration may be employed as a modification of the embodiment shown in Fig. 9(a): when mounting the roll screen 1 on the wall W with the brackets 6 therebetween using the fixing fittings 61 (in this example, L-shaped fittings), the light-shielding fin 9 is deformed and the deformed light-shielding fin 9 is supported by the brackets 6 or fixing fittings 61 (in this example, L-shaped fittings) rather than supporting the light-shielding fin 9 using the bearing 20 of the mounting frame 2.

[0091]

Figs. 10(a) and 10(b) show examples in which roll screens 1 as shield devices according to modifications of the present invention are mounted on the wall. Note that in Figs. 10(a) and 10(b), elements similar to those in the above embodiment are given the same reference signs.

[0092]

First, unlike the light-shielding fin 9 shown in Fig. 3 where the approximately C-shaped shaft 91 is disposed at the end of the support plate 93, a light-shielding fin 9 of the modification shown in Fig. 10(a) includes a part 93a extending upward from an end of a support plate 93 and a part 93b extending backward from an end of the part 93a and thus has an “L” bent shape. In terms of design, the part 93a is preferably a shielded, plate-shaped object extending along the almost entire length in the left-right direction of the roll screen 1, but is not limited thereto. The part 93b is a part that is fixed to fixing fittings 61 (in this example, L-shaped fittings) along with brackets 6. The part 93b may be a plate-shaped piece that can be fixed to the fixing fittings 61, or an approximately shielded, plate-shaped object that is provided with notches that allow for fixing to the fixing fittings 61 and extends along the almost entire length in the left-right direction of the roll screen 1.

[0093]

The light-shielding fin 9 of the modification shown in Fig. 10(a) is formed as a non-rotatable light-shielding fin, unlike the light-shielding fin 9 shown in Fig. 3. However, the light-shielding fin 9 shown in Fig. 10(a) has functions similar to those of the light-shielding fin 9 shown in Fig. 3 since the support plate 93 is bent and protrudes forward from the main body of the roll screen 1 and is connected to a shield plate 94. Also, this light-shielding fin 9 allows a predetermined amount of thick winding of the screen 4 and can avoid or reduce a collision force or contact sound due to interference from the screen 4 [or weight bar 5 (to be discussed later)].

[0094]

On the other hand, the light-shielding fin 9 of the modification shown in Fig. 10(b) includes a shaft 91 obtained by deforming the approximately C-shaped shaft 91 at the end of the support plate 93 of the light-shielding fin 9 shown in Fig. 3 and a

suspension/support member 62 that the shaft 91 is suspended from and supported by.
[0095]

The suspension/support member 62 includes a bearing 62c at the lower end thereof, a part 62a extending upward from the bearing 62c, and a part 62b extending backward from the part 62a and thus has an “L” bent shape. The bearing 62c has functions similar to those of the bearing 20 disposed on the front side of the mounting frame 2 to support the light-shielding fin 9 shown in Fig. 3. In terms of design, the part 62a of this example is also preferably a shielded, plate-shaped object that extends along the almost entire length in the left-right direction of the roll screen 1, but is not limited thereto. The part 62b is a part that is fixed to fixing fittings 61 (in this example, L-shaped fittings) along with brackets 6. The part 62b may be a plate-shaped piece that can be fixed to the fixing fittings 61, or an approximately shielded, plate-shaped object that is provided with notches that allow for fixing to the fixing fittings 61 and extends along the almost entire length in the left-right direction of the roll screen 1.

[0096]

The light-shielding fin 9 of the modification shown in Fig. 10(b) is formed as a rotatable light-shielding fin, as with the light-shielding fin 9 shown in Fig. 3, and has all functions of the light-shielding fin 9 shown in Fig. 3.

[0097]

As another modification, a light-shielding fin 9 may be rotatably or non-rotatably supported by deformed brackets 6 or fixing fittings 61. As seen above, the light-shielding fin 9 may be directly supported by the mounting frame 2, brackets 6, or fixing fittings 61, or may be indirectly supported by these elements using the suspension/support member 62 that is deformed appropriately in accordance with the purpose.

[0098]

Rather than for the purpose of shielding against outside light, the light-shielding fin 9 may be formed for the purpose of blocking ventilation and, in this case, may be formed of a translucent material. For this reason, the simple term “fin” in the present specification includes various support forms such as shapes shown in Figs. 9(a), 10(a), and 10(b) and refers to shield members for various purposes such as light shielding and ventilation blocking.

[0099]

As seen above, use of the fixing fittings 61 (in this example, L-shaped fittings) allows the roll screen 1 of the present embodiment including any of the above fins to be mounted on the wall W. Further, use of any of the above fins allows for prevention of scattering of dust, as well as improvement of the color fastness of the screen 4.

[0100]

Figs. 11(a), 11(b), and 11(c) show configurations in which the light-shielding fin 9 of this example are applied to roll screen 1s of other embodiments.

[0101]

In the configuration shown in Fig. 11(a) a screen 4 is hung from a winding pipe 3 near the light-shielding fin 9 of this example, and a weight bar 5 is located between the light-shielding fin 9 and winding pipe 3. Since the light-shielding fin 9 of this example has the interference reduction part 95 having a surface-curved shape on the lower end of the shield plate 94 extending downward from the support plate 93, the light-shielding fin 9 is prevented from being caught on the weight bar 5 when the weight bar 5 interferes with the light-shielding fin 9.

[0102]

As shown in Fig. 11(b), even if the upper limit position of a weight bar 5 is set to the position in which the weight bar 5 contacts the mounting frame 2, the weight bar 5 smoothly moves from the interference reduction part 95 to the shield plate 94 of the light-shielding fin 9 and thus the light-shielding fin 9 rotates. Accordingly, the operability thereof is not impaired. As described with reference to Fig. 5(b), the contact part 97 is formed near the base of the shaft 91 disposed on the light-shielding fin 9. When the light-shielding fin 9 rotates in the basic posture, the contact part 97 contacts a rotation regulation piece 20b and thus regulates upward rotation of the light-shielding fin 9. Thus, the light-shielding fin 9 is prevented from contacting the brackets 6 or mounting surface thereof, as well as is prevented from being broken due to the collision with the weight bar 5. Accordingly, when the light-shielding fin 9 is mounted on the mounting frame 2 of the roll screen 1, the quality thereof can be maintained without losing operability.

[0103]

As shown in Fig. 11(c), if it is desired to always keep the basic posture in which the length direction of the shield plate 94 of the light-shielding fin 9 is approximately perpendicular to the front-back direction of the mounting frame 2 (the shield plate 94 droops vertically), the position of a movement restriction member 12 mounted on an operation cord 7 is adjusted, then the rotation of an operation pulley 8 or the like is stopped by contacting the movement restriction member 12 with the operation pulley 8 or the like, and the upper limit position of the weight bar 5 is determined. Thus, the light-shielding fin 9 is prevented from contacting brackets 6 or mounting surface thereof, as well as is prevented from being broken due to the collision with the weight bar 5. The light-shielding fin 9 is able to keep the basic posture in which the length direction of the shield plate 94 thereof is approximately perpendicular to the front-back direction of the mounting frame 2 (the shield plate 94 droops vertically) and thus to maintain the design and quality thereof.

[0104]

As shown in Figs. 8 to 11, the light-shielding fin 9 of this example can be mounted on the mounting frames 2 of various roll screens 1, and the operability, quality, or design thereof is not impaired.

[0105]

Modification Related to Mounting of Textile on Light-Shielding Fin

As described with reference to Figs. 6A to 7C, regarding mounting of the textile 13, the light-shielding fin 9 of the above example has the protruding pieces 96a, 96b having approximately hooked cross-sectional shapes on the upper and lower ends, respectively, of the front surface of the shield plate 94, and the protruding piece 96a and claw 99 form the grasping means serving as a textile holder. Thus, even if the textile 13 is displaced in the upward/downward direction due to rotation of the light-shielding fin 9, the protruding pieces 96a, 96b prevent impairment of the function and design thereof.

[0106]

However, if the textile 13 is displaced in the left-right direction due to rotation of the light-shielding fin 9, for example, when the textile 13 is a thin textile, the design thereof may be impaired. For this reason, as shown in Fig. 12, it is preferred to dispose pressing parts 100 involving permanent deformation above the claw 99 at the left and right ends of the shield plate 94 of the light-shielding fin 9. Specifically, as described with reference to Figs. 6 and 7, the pressing parts 100 are formed by mounting the textile 13 on the light-shielding fin 9 and then crimping the shield plate 94 using a jig such as pliers and thus permanently deforming it. By disposing the pressing parts 100 involving permanent deformation, a displacement in the left-right direction of the textile 13 can be suppressed.

[0107]

Instead of disposing the pressing parts 100 involving permanent deformation, the textile 13 may be pressed by mounting the textile 13 on the light-shielding fin 9 and then mounting pressing members 101 having a predetermined shape (in this example, a U-shape) formed of a rubber material or synthetic resin on portions above the claw 99 at the left and right ends of the shield plate 94 of the light-shielding fin 9, as shown in Fig. 13(a). By disposing the detachable, elastically deformable pressing members 101, a displacement in the left-right direction of the textile 13 can be suppressed.

[0108]

Instead of disposing the pressing parts 100 or pressing members 101, pressing portions 102 may be disposed on the left and right ends of the shield plate 94 of the light-shielding fin 9 in advance. For example, holes 102a having elastically deformable

pressing portions 102 are provided at the left and right ends of the shield plate 94 in advance as shown in Fig. 14(a); the pressing portions 102 are elastically deformed by pressing them through the holes 102a as shown in Fig. 14(b); and the textile 13 is pressed as shown in Fig. 14(c). By disposing the pressing portions 102 that can be elastically deformed when pressed from outside, a displacement in the left-right direction of the textile 13 can be suppressed.

[0109]

Example Configurations of Light-Shielding Fin

Figs. 15(a), 15(b), and 15(c) show example configurations of typical light-shielding fins 9 in various shield devices (including those other than the roll screen 1). Fig. 15(a) shows the configuration of the light-shielding fin 9 of one example described with reference to Fig. 3 and the like.

[0110]

Fig. 15(b) is an example of a light-shielding fin 9 that does not include a protruding piece 96b, unlike that shown in Fig. 15(a), and the other elements are the same. Specifically, in the example shown in Fig. 15(b), a protruding piece 96b is not provided and therefore a protruding piece 96a and a claw 99 form grasping means serving as a textile holder, and a textile 13 is engaged with the grasping means and hung down therefrom. Thus, although the textile 13 may flutter, for example, by rotation of the light-shielding fin 9, all the other effects of the light-shielding fin 9 of one embodiment in Fig. 15(a) described with reference to Fig. 3 and the like can be obtained, and modifications thereof can also be used.

[0111]

Fig. 15(c) shows a typical example a light-shielding fin 9 that need not be rotated, unlike that shown in Fig. 15(a). Specifically, a shaft 91 has a shape that can be fixed to a mounting frame 2. Also, a shield plate 94 is short in length, and a textile 13 has a light-shielding function. As seen above, the light-shielding fin 9 can selectively employ the characteristic elements of the present invention as necessary and can be deformed in accordance with the application.

[0112]

Figs. 16(a) and 16(b) are perspective views showing two example structures related to mounting of the textile 13 on the light-shielding fin 9 of one example in the roll screen 1 of the present embodiment.

[0113]

Fig. 16(a) shows a detailed drawing when a relatively thick textile 13 is grasped by the protruding piece 96a and claw 99 forming grasping means in the light-shielding fin 9 shown in Fig. 3. When the relatively thick textile 13 is grasped by the protruding piece 96a and claw 99, the protruding piece 96a is elastically deformed, and B-B'

showing the length direction of the protruding piece 96a becomes non-parallel with A-A' showing the length direction of the shield plate 94. If it is desired to improve the non-parallelism of the protruding piece 96a with the shield plate 94 in terms of design, means for grasping the textile 13 using the light-shielding fin 9 may have a structure as shown in Fig. 16(b).

[0114]

In an example shown in Fig. 16(b), means for grasping a textile 13 using a light-shielding fin 9 does not include a claw 99 and consists of a protruding piece 96a and pressing parts 100 shown in Fig. 12. In this case, the protruding piece 96a is formed of an elastically non-deformable rigid object. The pressing parts 100 are formed by mounting the textile 13 on the light-shielding fin 9 and then crimping portions at the left and right ends of the shield plate 94 of the light-shielding fin 9 using a jig such as pliers and thus permanently deforming the portions. Thus, even a relatively thick textile 13 can be mounted on the light-shielding fin 9 such that B-B' showing the length direction of the protruding piece 96a becomes approximately parallel with A-A' showing the length direction of the shield plate 94.

[0115]

While the present invention has been described using the examples of the specific embodiment, the present invention is not limited to the examples of the embodiment. Various changes can be made thereto without departing from the technical idea of the invention. In particular, the shape and structure of the shaft 91 of the light-shielding fin 9 and the method for locking the shaft 91 are illustrative only. For example, the shaft 91 of the light-shielding fin 9 may be in the shape of a round shaft or the like. For example, in the case of a roll screen, the shaft 91 of the light-shielding fin 9 may be supported by the support members 2a, 2b rather than the mounting frame 2 serving as a frame. The shaft 91 of the light-shielding fin 9 may be locked to the mounting frame 2 on the rear surface or bottom surface of the mounting frame 2 rather than the front surface of the mounting frame 2. Among applications of the light-shielding fin 9 are roll screens, as well as horizontal blinds, roll-up curtains, and pleated screens.

Industrial Applicability

[0116]

According to the present invention, there can be formed a shield device including a light-shielding fin that has improved design and operability and on which a predetermined textile can be easily mounted. This shield device is useful as applications of a shield device that can use a light-shielding fin.

Reference Signs List

[0117]

1 roll screen
2 mounting frame
2a, 2b support member
3 winding pipe
4 screen
5 weight bar
6 bracket
9 light-shielding fin
10 side cover
20 bearing
20a, 20b rotation regulation piece
61 fixing fitting
62 suspension/support member
91 shaft
92 bend
93 support plate
94 shield plate
95 interference reduction part

Claims

We claim:

1. A shield device capable of opening and closing a shield material, comprising:
 - support means configured to support the shield material such that the shield material can be opened and closed;
 - a frame configured to support the support means; and
 - a light-shielding fin configured to shield against outside light coming in from between the frame and the support means, wherein
 - the frame is provided with a locking part configured to lock the light-shielding fin, and
 - the light-shielding fin comprises elastically deformable grasping means configured to grasp an upper end of a predetermined textile.
2. The shield device of Claim 1, wherein the light-shielding fin is configured to, when a part of the grasping means is deformed, grasp the upper end of the predetermined textile.
3. The shield device of Claim 1 or 2, wherein parts of left and right ends of the grasping means are provided with at least one or more of a pressing part involving permanent deformation, a detachable, elastically deformable pressing member, and a pressing portion that can be elastically deformed when pressed from outside, the pressing part, the pressing member, and the pressing portion aiming to press the predetermined textile.
4. A shield device capable of opening and closing a shield material, comprising:
 - support means configured to support the shield material such that the shield material can be opened and closed;
 - a frame configured to support the support means; and
 - a light-shielding fin configured to shield against outside light coming in from between the frame and the support means, wherein
 - the frame is provided with a locking part configured to lock the light-shielding fin,
 - the light-shielding fin comprises grasping means configured to grasp an upper end of a predetermined textile, and
 - the grasping means is configured to, when a part thereof is permanently deformed, grasp the upper end of the predetermined textile.

5. The shield device of any one of Claims 1 to 4, wherein the light-shielding fin has a recess that suppresses fluttering of and does not clamp a lower end of the predetermined textile when the grasping means grasps the upper end of the predetermined textile.

6. The shield device of any one of Claims 1 to 5, wherein the grasping means is configured to, when the predetermined textile is inserted from front or side thereof, be able to hold the predetermined textile.

7. The shield device of any one of Claims 1 to 6, wherein the grasping means comprises a claw configured to sandwich the predetermined textile.

8. The shield device of any one of Claims 1 to 7, wherein the frame is fixed to a wall with a fixing fitting therebetween.

9. The shield device of Claim 8, wherein the fixing fitting is configured to include a predetermined gap between the shield device and a wall on which the shield device is to be mounted.

10. The shield device of any one of Claims 1 to 9, wherein the light-shielding fin is locked to the locking part such that the light-shielding fin rotates when contacting the shield material or a weight member mounted on the shield material.

11. The shield device of any one of Claims 1 to 10, wherein the light-shielding fin is locked to the locking part in a range in which the light-shielding fin does not contact the shield material or a weight member mounted on the shield material.

12. The shield device of any one of Claims 1 to 11, wherein
the light-shielding fin is rotatably locked to the locking part, and
a movable range of the light-shielding fin is regulated so as to become a range in which the light-shielding fin does not contact the shield material or a weight member mounted on the shield material.

13. The shield device of any one of Claims 1 to 12, wherein
the light-shielding fin is rotatably locked to the locking part, and
a movable range of the light-shielding fin is regulated so as to become a range in which the light-shielding fin does not contact a bracket used to mount the frame on a

mounting surface, or the mounting surface.

14. The shield device of any one of Claims 1 to 13, wherein

an operation cord used to open and close the shield material is provided with a movement restriction member, and

the light-shielding fin and a weight member mounted on the light-shielding fin are regulated so as not to contact each other.

15. The shield device of any one of Claims 1 to 14, wherein the light-shielding fin has an approximately L cross-sectional shape as a whole so that a predetermined expansion gap is provided between the light-shielding fin and the shield material having a maximum diameter in a left-right direction of the shield material or a weight member mounted on the shield material.

16. The shield device of any one of Claims 1 to 15, wherein a lower end of the light-shielding fin is shaped such that the lower end is warped in a direction in which the lower end becomes far from the shield material.

17. A roll screen that allows a screen to be wound around a winding pipe supported by a frame with a predetermined support member therebetween, the roll screen comprising

a fin configured to cover a gap between the winding pipe and the frame, wherein the roll screen is fixed to a wall with a fixing fitting therebetween while the frame supports the winding pipe located under the frame.

18. The roll screen of Claim 17, wherein the fixing fitting is configured to include a predetermined gap between the roll screen and the wall.

19. The roll screen of Claim 17 or 18, wherein the fixing fitting is configured to support the frame using a bracket.

20. The roll screen of any one of Claims 17 to 19, wherein

the fin is rotatably or non-rotatably supported by one of the frame, a predetermined support member connected to the frame, the fixing fitting, the bracket, and a predetermined suspension/support member fixed to the fixing fitting.

21. The roll screen of any one of Claims 17 to 20, wherein

the frame is provided with a bearing, and

the fin is supported by the bearing.

22. The roll screen of Claim 21, wherein the bearing is formed so as to extend in a left-right direction of the frame.

23. The roll screen of any one of Claims 17 to 20, wherein the fin is directly or indirectly supported by the frame so as to extend in a left-right direction of the frame.

24. The roll screen of any one of Claims 17 to 23, wherein

the fin comprises:

a support plate that protrudes forward from the frame so as to allow thick winding of the screen around the winding pipe; and

a shield plate that extends downward from the support plate.

25. The roll screen of Claim 24, wherein when the fin is taking a predetermined basic posture, the fin is directly or indirectly supported by the frame such that the shield plate is approximately parallel with the wall.