A. C. HOUGH.

SHADE APPLIANCE.

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1,397,215. Patented Nov. 15, 1921.

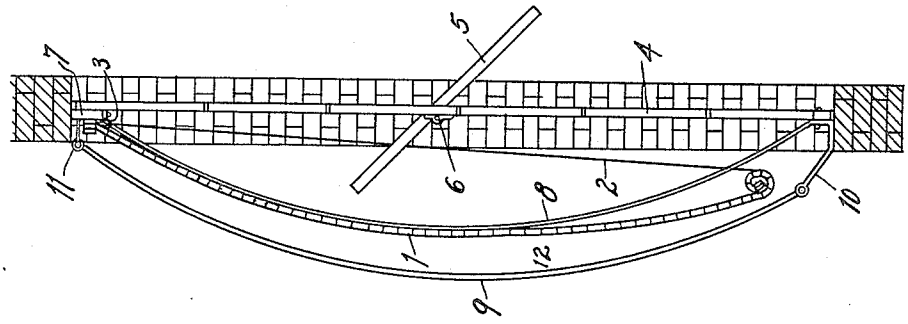


FIG. 2.

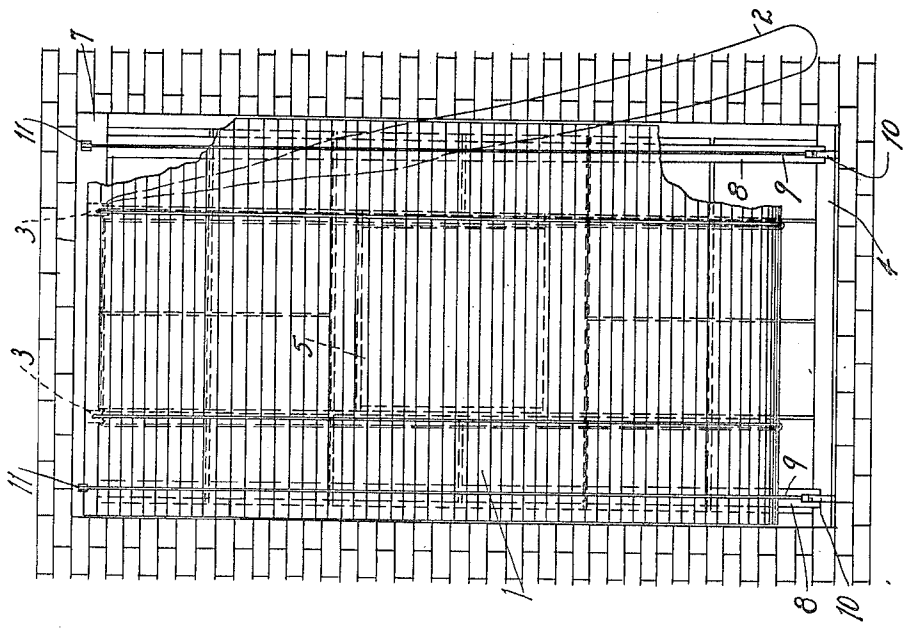


FIG. 1.

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SHADE APPLIANCE.

1,397,215. Specification of Letters Patent. Patented Nov. 15, 1921.

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To all whom it may concern:

Be it known that I, AZEL C. HOUGH, a citizen of the United States of America, and a resident of Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Shade Appliance, of which the following is a specification.

My invention relates to improvements in devices for use in connection with shades, and more especially those of the wood-slat porch-shade type, when such shades are located inside of buildings in the walls of which are set metallic window sashes provided with hinged or pivoted ventilating sections or ventilators, and consists essentially of certain peculiar guiding and restraining means for the shades while the same are being rolled up or unrolled, and while in unrolled or partially unrolled condition, there being two or more of these devices for the shade for each window, all as hereinafter set forth.

The primary object of my invention is to provide guiding and restraining means for shades on the inside of windows having metallic sashes provided with ventilating sections which open into the room, said sashes being set in brick or cement walls, which means cause the shades to clear the ventilating sections so as not to interfere with the opening and closing of said sections, and at the same time enable said shades to assume the position necessary to exclude the light. These means or this appliance is comparatively simple and inexpensive in construction, and can be installed readily. Shades guided and positioned with the aid of these appliances in front of windows can be rolled up and unrolled in such a manner as to permit the ventilating sections, with which such windows are provided, to be opened for the purpose of obtaining air from the outside, without interfering with the shades or with the use of the same, yet when the shades are let down the required distance they exclude the light at the bottom as well as above.

A further object is to provide an appliance of such a character that the shade supported or restrained thereby is prevented from being blown about by the wind, when the ventilating section of the window is open.

Another object of my invention is to afford means for guiding the shade in an arcuate path so that said shade can be completely rolled up, partially rolled up, or completely unrolled, without coming into contact with the adjacent ventilating section, when the same is wholly or partially open. This is an important advantage because it prevents the shade from contacting with the ventilator and being abraded, cut, or otherwise injured thereon. Furthermore, the aforesaid arcuate path is so arranged as automatically to carry the shade at the bottom toward the window sash in such a manner that complete protection from the sun's rays is secured. It is to be understood, of course, that the appliance not only guides the shade in a path which is clear of the open ventilator, but restrains said shade when wholly or partially let down and at rest in such path against the action of drafts of air from the building, through the opening uncovered by the ventilator in the window, and prevents the shade from being dashed against the ventilator, or, in other words, the shade is prevented from being dashed against the ventilator by currents of air passing outwardly through the ventilator opening in the window.

Other objects and advantages will appear in the course of the following description.

I attain the objects and secure the advantages of my invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a shade appliance (there being actually two of the individual devices), which embodies a practical form of my invention, showing the same connected with a window sash, and an unrolled shade held in place by the appliance, fragments of such shade being broken out to show in full the parts behind, and, Fig. 2, an end elevation of said appliance and the other elements shown in the first view.

Similar reference characters designate similar parts throughout the several views.

In the following description the terms front and rear, and inside and outside, or equivalent expressions, as applied to the elements illustrated in the drawings, indicate respectively the side of such elements that is toward the center of the room in which they are located, and the side of such elements that is next to the adjacent wall of said room and the window or sash set therein.

In the drawings, a shade is represented at

1, and the same is shown unrolled practically to its full extent, and in position completely to screen the room from the sun's rays through the window in connection with which the shade is employed. A roll-up cord for the shade is represented at 2, and fixtures for such cord are represented at 3. There is also represented a steel or other metallic sash 4, of a window, which sash is provided in the center with a ventilating section or ventilator 5. The ventilator 5 at each end is pivotally connected, as at 6, with an adjacent vertical rail of the sash. The axial line of the pivots, by means of which the ventilator 5 is connected with the window sash or with two of the rails thereof, is near the horizontal center of said ventilator, so that the latter can be tilted inwardly at the top and outwardly at the bottom for the admission of air, or it might be tilted in the opposite direction, if constructed with that end in view. The appliance is adapted for use also in connection with a window having a ventilating section which is hinged at the top, bottom, or side.

Sashes having pivotally-connected ventilating sections, such as I have described above, are commonly used in the construction of concrete and brick buildings wherein no wood is employed.

Ordinarily one of my appliances adjacent to each end of a shade is sufficient, but in case the width of the sash is such as to require a shade of unusual width one or more intermediate appliances may be provided.

The shade 1 may be supported at the top in any suitable manner and by any suitable means, but in the present case I have shown the same as being supported from or attached to a strip 7, which strip in turn is secured to the top of the sash 4 on the inside.

Each individual appliance comprises a rear guide 8 and a front guide 9.

Each guide 8 consists of a comparatively narrow strip of sheet-metal, or other comparatively rigid material, is arcuate in shape, and has its upper terminal secured to a fixed support, as the strip 7, and its lower terminal secured to a fixed support also, as the bottom of the sash 4. Said guide is adjacent or contiguous to one or the other of the sides of the openings in the wall for the sash 4, and the chord of the arc formed by said guide is the adjacent part of said sash. This guide has an angular formation at the base from the forward edge of which projects upwardly and inwardly a short arm 10. The depth of the arcuate path or of the arcuate form of the shade 1, when the latter is in front of two of the guides 8 attached to the sash 4 at opposite sides thereof, is sufficient to enable the ventilator 5 to be opened to the extent desired without coming into contact with said shade.

Each guide 9 consists of a cord, wire, or other similar and suitable element, which is attached at the lower terminal to the free end of one of the arms 10, and at the upper terminal to the foremost end of a horizontal pin or equivalent member, as 11, having its rear end set in the strip 7.

It is now clear that the guides 8 and 9 in each case are spaced apart so that a passage, as 12, is formed for the shade 1 between said guides. The shade 1 is attached to the strip 7 below each of the pins 11, and between the guides 8 and 9 in each set or pair. Each passage 12 starts at the top from the strip 7 and extends downwardly in a generally arcuate course which conforms approximately to the shape of the passage-forming guide 8, to end at the base of said guide. Although the guide 9 which assists in forming each of the passages 12 is more or less flexible, said guide is of sufficient length and such a character as to enable the same to assume approximately a curvature that is in conformity with the curvature of the companion guide 8.

When the shade 1 is unrolled, it travels downwardly through the arcuate passages 12, and so avoids the ventilator 5 when the same is open. In traveling downwardly the shade 1 is guided away from the ventilator 5, (and after being let down said shade is held away from said ventilator), by the members 8, while the shade is prevented by the members 9 from leaving its course, and caused to move inwardly toward the sash 4, after the shade passes below the horizontal centers of the passages 12, consequently, by the time the shade is let down to the full extent, the bottom, like the top, thereof is in quite close proximity to said sash. If the lower portion of the shade 1, when the latter is unrolled, were to drop straight down, the shade would fail to exclude the sunlight at the bottom, and the efficiency of said shade would, therefore, be very materially decreased or lessened.

Another object in causing the shade 1 to be guided rearwardly at the bottom, toward the wall or the sash 4 at or adjacent to the bottom of said sash, and there supported, is so that the lower portion of the unwound shade will be held out of the way of a passerby.

The shade 1 is usually of sufficient length so that it does not entirely unroll when let down. Thus the nucleus of a roll is always present at the bottom of the unrolled shade to facilitate the rolling-up operation at the start. This bottom roll and the fixtures 3 are on the side of the shade which is toward the window.

When the shade 1 is rolled up, what may be termed the permanent roll, of which mention has just been made, starts from a point in or adjacent to the bottoms of the pas-

sages 12, to ascend and increase in size, and continues upwardly through said passages until the full or complete roll arrives at the upper ends of said passages, unless it be desired to leave the shade partway down, since in rolling up or unrolling the shade the roll can be left at any desired intermediate point or elevation.

The members 8 and 9 afford ample means for guiding the shade in both the rolling-up and unrolling operations, and they so support the shade that there is always room for the manipulation of the ventilator.

Being more or less rigid and fairly stiff the guides 8 hold the shade 1 in place, when said shade is unrolled, against the force of currents of air blowing out of the room through the open ventilator, which currents otherwise would dash said shade against the ventilator and cause the shade to be injured and eventually destroyed.

The roll-up cord 2 is manipulated in the customary manner for rolling the shade and permitting the same to unroll.

The thickness of the shade 1 and that of some of the other parts and members may appear somewhat exaggerated in the drawings, but it will be understood that, in practice, all of the parts and members are so proportioned to each other as to enable said shade to be rolled up and unrolled within the spaces provided by the appliances.

Obviously the diameter of the arc formed by any rear guide (8) will be longer or shorter accordingly as the sash (4) is shorter or longer, inasmuch as the length of the chord of such arc is decreased or increased with the length of such sash. From this it follows that the arcuate path for a shade which is associated with a long or high window or sash is more nearly straight or much less abrupt than is such path for a shade associated with a short or low window, assuming that in each instance there is involved the same amount of clearance or depth for the ventilator.

More or less change in the shape, size, construction, and arrangement of some or all of the parts of this invention may be made without departing from the spirit of said invention or exceeding the scope of what is claimed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A shade appliance comprising guiding means for the respective lateral edges of a shade, which means for each of such edge portions is open on both sides and arcuate throughout its entire length.

2. A shade appliance comprising front and rear guiding members for the respective lateral edges of a shade, which members for each of such edge portions are without side connections and arcuate throughout substantially their entire length.

3. A shade appliance comprising front and back guiding members for the respective lateral edges of a shade, which members are arcuate throughout approximately their entire length, and form passages for such edge portions of the shade, each of which passages is open on both sides.

4. In a shade appliance, of the class described, a window-sash-ventilating section, a shade supported above said section when open, and adapted to be let down in front of the same, said section being mounted to swing toward said shade when let down, and means to receive the respective lateral edges of said shade and guide the same when the shade is raised and lowered, said means for each of said edge portions of the shade being open on both sides, and bowed to cause the shade to clear the open section, and to retain the shade when lowered with its bottom beneath said open section.

5. The combination, with a sash provided with a ventilator, and a shade supported in proximity to the top of said sash, and adapted to be let down in front of the same, said ventilator being mounted to swing toward said shade when let down, of a shade appliance comprising back and front guiding members having their top and bottom terminals in proximity to the top and bottom of said sash, and forming arcuate paths for the respective lateral edges of said shade, whereby the latter when raised and lowered is caused to clear said ventilator when open, the space between each pair of said guide members being open on both sides.

6. In a shade appliance, a sash provided with a ventilator, a shade supported in proximity to said sash at the top, a guide having a permanent arcuate form, the terminals of such guide being in proximity to the top and bottom of said sash, and a guide supported in front of said first-named guide, the space between said guides being open on both sides, and one of the lateral edges of a shade being receivable in such space and adapted to operate between said guides.

7. In an appliance, of the class described, a sash provided with a movable ventilator, a shade supported in proximity to the top of such sash, a guide having a permanent arcuate shape, arranged with its terminals in proximity to the top and bottom of said sash, and provided with an upwardly- and forwardly-extending arm, a supporting member above said shade, and a guide extending between said arm and said supporting member, in front of said first-named guide, said shade being receivable and operating between said guides.

AZEL C. HOUGH.

Witnesses:
CRYSTAL E. SNYDER,
HAZEL T. WEIRICK.