

May 21, 1940.

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2,201,356

WINDOW FIXTURE

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2 Sheets-Sheet 1

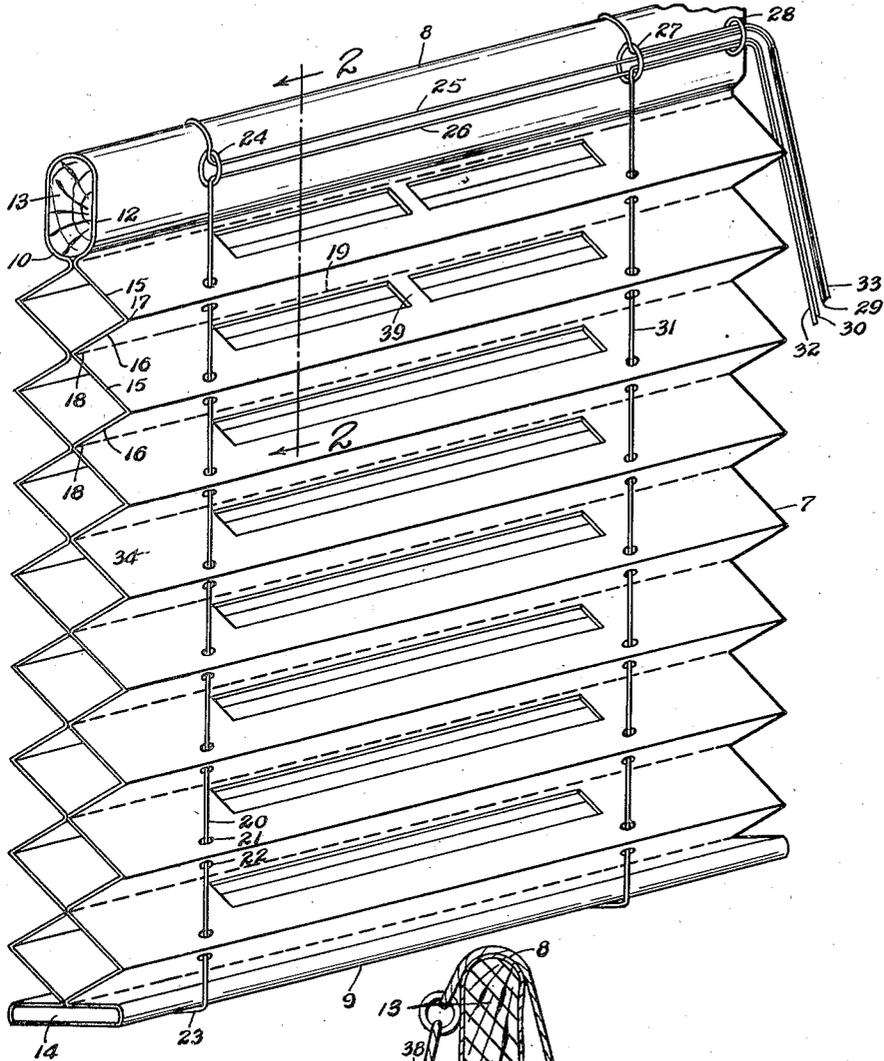


Fig. 1.

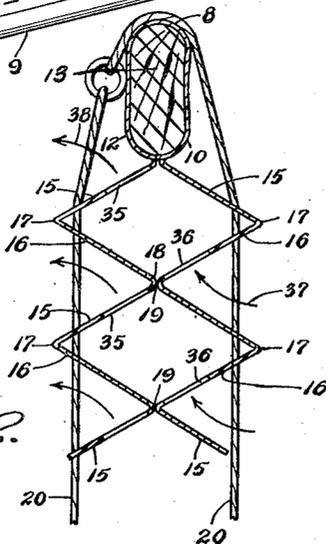


Fig. 2.

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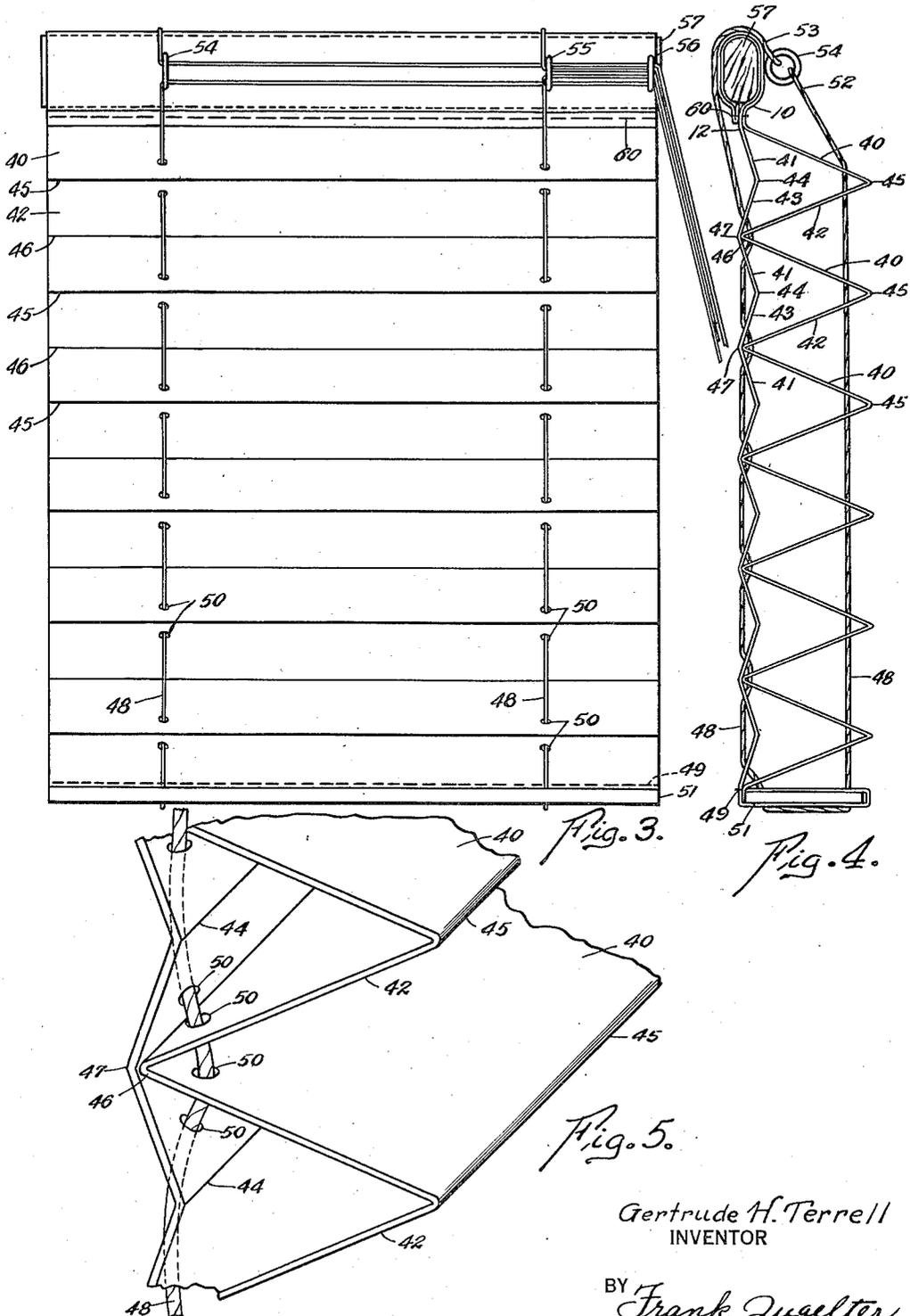
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2 Sheets-Sheet 2



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WINDOW FIXTURE

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Application November 21, 1938, Serial No. 241,626

3. Claims. (Cl. 156—16)

The present invention relates to a window fixture, and more specifically to shades and ventilators for windows and the like.

One object of the invention, among others, is to improve upon the type of device disclosed in the patent of R. Guyer, granted February 23, 1937, as No. 2,071,830.

Another object of the invention is to provide a shade or ventilator which in practice can be successfully made of paper or similar material.

A further object is to provide an improved shade or ventilator which is simple and inexpensive of manufacture, so that it has the advantage of mass production and sales.

Another object of the invention is to provide an improved shade or ventilator construction, wherein are obviated certain disadvantages and weaknesses inherent in such devices when constructed of paper stock or other flexible material of an inherently weak or flimsy character.

Another object is to improve the appearance and the durability of shades or ventilators of the general character above mentioned.

The foregoing and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is a perspective view of a ventilated shade, or a ventilator, embodying the present invention.

Fig. 2 is a fragmental cross-sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is an elevational view of a second form of shade, with the ventilating feature optionally omitted, embodying the present invention.

Fig. 4 is an end view of the Fig. 3 device, looking from left to right.

Fig. 5 is an enlarged fragmental perspective view of the device of Figs. 3 and 4, showing the construction in detail.

In the manufacture of window shades utilizing paper or other flimsy semi-rigid material, various problems are met in the attempt to overcome the disadvantages and difficulties resulting from the inherent weakness or lack of rigidity in the shade material. Any structural parts of such a shade or ventilator which are not adequately supported, will eventually lose their intended shape, usually by drooping, especially when subjected to moisture or a damp atmosphere.

It is therefore necessary to structurally compensate for the inherent weakness of the material, when constructing shades or ventilators of paper or the like, and even certain types of cloth or fabric, especially when the shades or ventilators are constructed in simulation of Venetian blinds.

One of the primary objects of the present invention is to improve the structural features of a paper or cloth shade manufactured in simulation of Venetian blinds or the like, so that such shades or ventilators may be offered on the market as a practical and satisfactory article of merchandise.

With reference to Fig. 1 of the accompanying drawings, the character 7 indicates generally the main body portion of a shade or ventilator embodying the present invention. The upper end of the structure is indicated at 8, and the lower end, at 9. One of the principal features of the device, and which should be particularly noted, is the provision of opposite sheets, these sheets making up the composite structure and forming the front and rear of the shade or ventilator. The sheets of Fig. 1 may be indicated by the characters 10 and 12 and in the form of the invention illustrated therein they may be of equal length, or substantially so. It is immaterial whether the sheets 10 and 12 be joined or formed integrally at the top of the shade or ventilator, it being clearly evident that the sheets may depend from opposite sides of the supporting bar 13 whether the sheets be actually joined or not along the upper edge of said rod 13. Throughout the disclosure, therefore, it is to be considered that sheets 10 and 12 may be joined together at the support 13 as shown, or they may be hung from the support rod 13 as physically separated and individual sheets. This, of course, is entirely immaterial to the invention.

The lower end of the shade or ventilator body may be supported in any suitable manner, upon a rigid cross-member or reinforcing element 14, which may be of any desired shape or thickness.

Each of the sheets 10 and 12 is folded transversely of its length, at spaced intervals, to provide pairs of elongated panels 15 and 16, the successive folds being formed in reverse directions so as to provide the alternate exterior and interior hinges 17 and 18, respectively. In that form of the invention disclosed in Figs. 1 and 2, the interior hinges 18 of sheet 12 are secured to the corresponding interior hinges of sheet 10, and the connections whereby the sheets are thusly joined may be effected in any suitable manner, such as by means of the stitching indicated at 19. It should be understood that stitching is one of the many known expedients which could be used for joining the sheets together at intervals, at or near the interior hinges of the succession of panels. The use of staples, adhesives, and various forms of clamping or securing means are con-

templated as being within the scope of the invention. The folding of the sheets as stated results in a multiplicity of elongated panels arranged in zigzag fashion, with adjacent panels disposed so that their planes intersect at the folds or hinges, at angles which may be varied by elevating and lowering the lower support member 14. Any suitable means may be employed for elevating and lowering the lower end of the shade or ventilator, and by way of example there is shown a cord arrangement suitable for the purpose. The cord 20 may be passed through apertures such as 21 and 22 in each of the sheets 10 and 12, so that the lower portion 23 of the cord supports the element 14. The two ends of the cord extend upwardly at opposite sides of the shade or ventilator, where they may be directed through a guide 24, which may be simply a screw eye. The two ends 25 and 26 of the cord 20 may then be directed horizontally through other guide means 27 and 28, whence they depend, as at 29 and 32, to a position at which they may be manipulated for elevating and lowering the shade. A second cord 31 may be similarly associated with the shade structure at its opposite side, to furnish pull cords 30 and 33 corresponding to those indicated at 29 and 32. When the cords are pulled downwardly in unison, the shade is elevated, and by releasing them the shade may be lowered. The weight of the lower cross-piece 14 generally is sufficient to effect a lowering of the shade when the pull cords are free or unrestrained. Elevating or lowering of the shade or ventilator will, of course, change the angular relationship of the succession of panels in both sheets 10 and 12.

The device may be operated with one or more draw cords. By omitting the draw cords, the shade may be used as a window ventilator to be fitted adjustably between the uprights of a window frame. When thusly used, the structure is to be turned ninety degrees from the Fig. 1 position, so that it is extendable and collapsible in a horizontal direction instead of vertically.

In instances wherein it is desirable to impart ventilating characteristics to the shade, suitable apertures of a desired configuration may be provided in the various panels of the sheets 10 and 12. Assuming that the sheet 10 is exposed to the exterior of a window, and sheet 12 to the interior of a room, it is preferable to furnish apertures such as 35 in the uppermost panels 15. The opposed side of the shade then would have the corresponding apertures 36 thereof located in the lowermost panels 16. By preference, though not necessarily, the innermost edges of the apertures 35 and 36 are located in close proximity with the connections 19 which at intervals secure the sheets 10 and 12 together. By reason of the construction just explained, ventilation is provided in the direction of the arrows 37 and 38, along a tortuous path. Such disposition of the ventilating apertures, while affording the necessary circulation of air, effectively obviates a direct line of vision through the shade. In this respect, the present device is similar to a Venetian blind. In shades which are several feet in width, it may be desirable to provide connecting struts such as 39 of Fig. 1, to span the ventilating openings at intervals, so that distortion may not occur due to lack of support across the apertures. Fig. 1 shows both long and short apertures, which may be employed alternatively or in combination if desired. Where ventilation and admission of light is not particularly required, the shade may be constructed without ventilating openings.

Figs. 3, 4, and 5 disclose a second form of the invention which, in its details of construction, distinguishes from the form disclosed in Figs. 1 and 2. A primary distinction is that the sheets 10 and 12 are not of the same length, sheet 10 being considerably longer than sheet 12. The upper panels 40 of sheet 10 are shown as being considerably wider than the upper panels 41 of sheet 12, the same being true of the lower panels 42 and 43 of sheets 10 and 12, respectively. Moreover, the angles at which the pairs of panels 40 and 42 meet, are more acute than the angles included by the panels 41 and 43. A feature which is to be particularly noted, is that the interior angle or line of fold 44 between panels 41 and 43 extends between the panels 40 and 42 of sheet 10, so that when the shade is elevated or collapsed, the panels 41 and 43 will be embraced within the panels 40 and 42, the interior and exterior angles 44 and 45 respectively extending in a common direction. Accordingly, when the shade is lowered or extended to a sufficient extent, the sheet 12 may be quite flat, as indicated in Fig. 4, leaving the angular relationship of the panel of sheet 10 quite clearly defined.

As in the Fig. 1 device, the device of Figs. 3, 4, and 5 has its sheets 10 and 12 provided with interior and exterior hinges. The exterior and interior hinges of sheet 10 are indicated at 45 and 46, respectively, whereas the exterior and interior hinges of sheet 12 are indicated at 47 and 44, respectively. In that form of the device which is illustrated by Figs. 3, 4, and 5, it is not absolutely necessary that the pairs of hinges 46 and 47 be securely joined together in the manner required for the device of Fig. 1. In other words, the switching or fastening operations joining the sheets 10 and 12 together intermediate their ends, may be eliminated entirely if desired. When the fastening or stitching means are eliminated, it may be found desirable simply to furnish apertures such as 50 in all of the panels near the junction of the pairs of hinges 46-47, as most clearly shown in Fig. 5, so that the pull cord 48 may be threaded through the various perforations or apertures 50, thereby to impart to the pull cord the two-fold purpose of maintaining the pairs of hinges 46 and 47 in register, while at the same time furnishing the means of elevating and lowering the shade. At the point 49, or elsewhere near the lower support bar 51, the sheets 10 and 12 may be joined together, or fastened to the bar 51, as desired. The character 60 indicates stitching or other fastening means for the sheets 10 and 12, in the region of support 57. The upper ends 52 and 53 of each pull cord 48, may be passed through suitable guides or eyelets 54, 55, and 56, in substantially the manner explained in connection with Figs. 1 and 2. The type of pull cord arrangement illustrated, is exemplary only, and may therefore be varied to suit individual circumstances or limitations of shade installation.

The upper support means for the composite shade may be simply a bar or rod 57, supported by the window frame at its opposite ends.

It is to be understood that the shade of Figs. 3, 4 and 5 optionally may be provided with ventilating apertures corresponding to those of Figs. 1 and 2, although such apertures are not illustrated. Ventilating apertures, when included in the structure, would be formed in the panels 41, and 42, so as to provide for entry of light and air while at the same time obstructing the line of vision therethrough.

By referring to Fig. 2 and noting especially the relative positions of the ventilator openings, it will at once be understood that drawing the shade taut will result in disposing the apertured panels thereof substantially in flatwise abutment against the opposed unapertured or solid panels, thereby to effectually preclude through-vision, ventilation, and entry of light. If desired, a full-length window may be equipped with two shades, one like Fig. 1 extending downwardly from the middle point of the window height, and another similar one inverted and extending upwardly from the middle point, so as to provide for controlling entry of light and air at the upper and lower halves of the window, individually. The same effect can be obtained, of course, by making the shade of window length, and dividing the height of the shade in half by inserting of a supporting bar midway between the upper and lower ends of the shade, the ends of the bar being fixed to opposite sides of the window at mid-height of the window, thereby to alternatively provide for individually controlling the upper and lower halves of the shade. Many such variations are possible and will most naturally suggest themselves to the person skilled in the art, however all the various modes of shade hanging are of secondary importance to the present invention. The structure of the composite shade herein disclosed is of the essence of the invention, and it should be understood that various modifications and changes in the details thereof may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed is:

1. A window fixture which comprises in combination a main body portion and opposite ends, said body portion comprising two opposed sheets each folded transversely of its length at spaced intervals, with successive folds reversed to provide alternate exterior and interior hinges, and

panels defined by said hinges, and means securing the interior hinges of one sheet to corresponding interior hinges of the other sheet, leaving the exterior hinges of both sheets free to move relatively upon relative movement of the body portion ends toward and from one another.

2. A window fixture which comprises a body portion having opposite ends, said body portion comprising two opposed sheets of unequal length, said sheets each being folded transversely at spaced intervals, with successive folds reversed to provide exterior and interior hinges, and panels defined by said hinges, the panels of the shorter sheet being narrower than the panels of the longer sheet, and arranged so that the interior hinges of said shorter sheet project between adjacent panels of the longer sheet and extend in the same general direction as the exterior hinges of said longer sheet, and means for maintaining substantially the relationship of the hinges and panels as stated.

3. A window fixture which comprises a body portion having opposite ends, said body portion comprising two opposed sheets of unequal length, said sheets each being folded transversely at spaced intervals, with successive folds reversed to provide exterior and interior hinges, and panels defined by said hinges, the panels of the shorter sheet being narrower than the panels of the longer sheet, and arranged so that the interior hinges of said shorter sheet project between adjacent panels of the longer sheet and extend in the same general direction as the exterior hinges of said longer sheet, and a guide cord arranged to hold the interior panel hinge of the longer sheet against the exterior panel hinge of the shorter sheet, said hinges being disposed at one side of the cord while all other hinges of the two sheets assume positions at the opposite side of the cord.

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