March 17, 1942. B. WALKER 2,276,898

VENETIAN BLIND

Filed April 30, 1941

Fig. 2

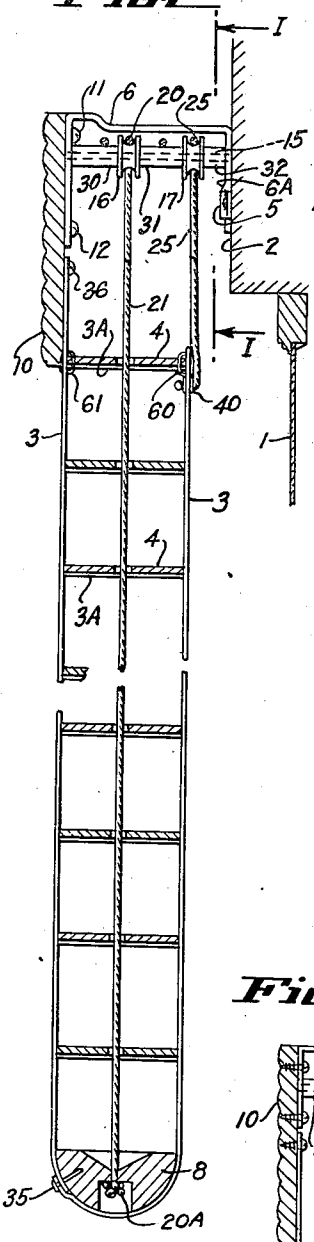


Fig. 1.

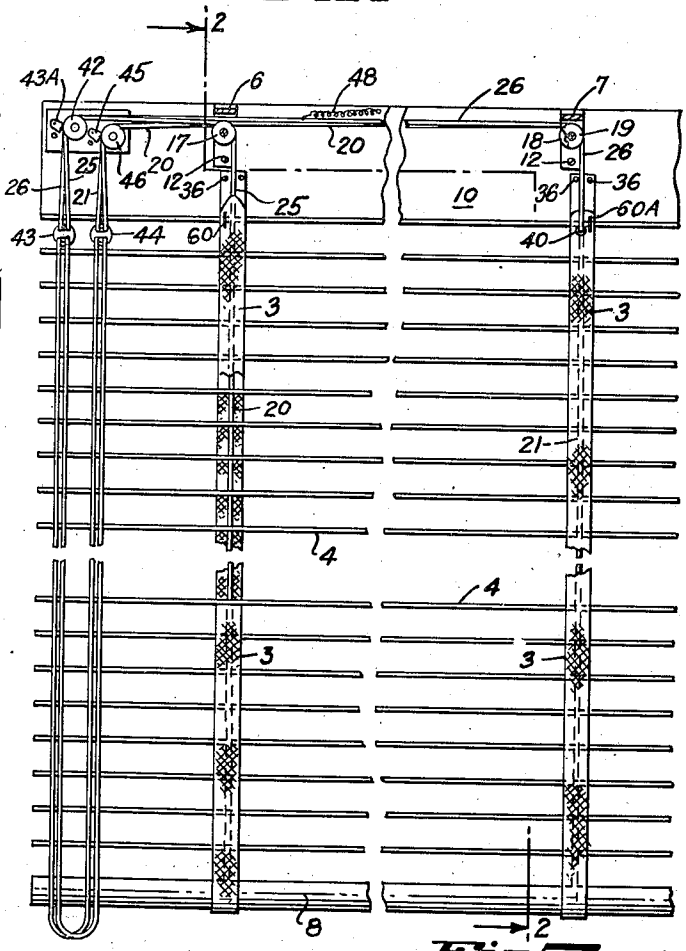


Fig. 3.

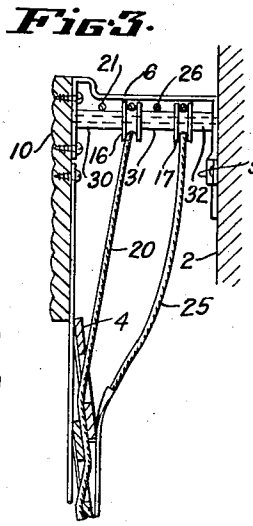


Fig. 4.

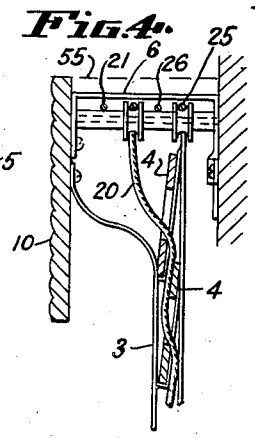


Fig. 5.

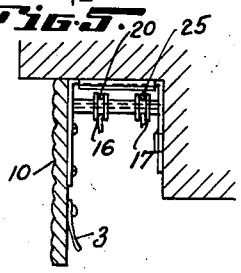
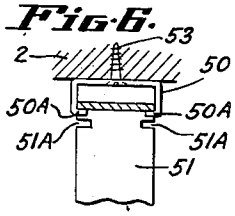


Fig. 6.



INVENTOR.

Brooks Walker

Patented Mar. 17, 1942

2,276,898

UNITED STATES PATENT OFFICE

2,276,898

VENETIAN BLIND

Brooks Walker, Piedmont, Calif.

Application April 30, 1941, Serial No. 391,103

12 Claims. (Cl. 156—17)

This invention pertains to improvements in Venetian blind construction and the like, particularly to modifications in the construction of the tilting and raising mechanism and the method of attaching the blinds to the fascia.

The idea of the present invention is, among other things, to simplify the construction above the top slat which is usually accomplished by a tilt rail, a head rail, and a combination of these two are usually covered by a fascia. In this construction, I utilize the fascia as a structural member, since its width, located in a vertical position, makes it capable of supporting considerable weight between or beyond supports. I have done away with the tilt rail by anchoring the room side of the ladder tape rigidly relative to the fascia, preferably tacking or stapling the same to the fascia. I have designed a special bracket for supporting the fascia relative to the ceiling, walls, or window frame, which brackets also incorporate the pulleys over which the lifting cords pass. The same pivot or axle for the lifting cord pulleys also acts for pulleys over which cords or flexible elements pass to control the tilting mechanism by raising or lowering the window side of the ladder tapes or flexible slat spacing device. In modern blind construction, fascias are practically essential, but from an apparent standpoint it is desirable that the fascias be only approximately twice the slat width or less, if possible, under certain conditions. At the same time, it is essential that in all positions of the slats, whether tilted up or down, no light streak show between the top slat and the fascia when in the closed position, and also that the pulley mechanism, as well as the attachment between the tilt and the back tape of the ladder tape, be hidden from view from the inside of the room in order to present as neat an appearance as possible. All this is accomplished in this application.

Although I have shown, in most cases, the fascias supported by brackets alone without a dust cap, in case such a dust cap is used, it may be attached to the fascia and may be supported by separate brackets with angle brackets tying the fascia to the dust cap, also carrying the pulleys for the lift and tilt cords. The cord locks for controlling both lifting and tilting are supported on the fascia or on the dust cap without the necessity of routing either, which of course reduces the cost of manufacture and assembly.

This construction also does away with the necessity of routing the tilt rail for the passage of lifting cords, and for routing the head rail for the passage of the cords horizontally, and for the mounting of the pulleys, all of which require special set-ups for each size of blind which is an expensive operation and has to be carefully laid out on each job separately.

A further object is to provide a simplified construction which would be cheaper to manufacture, easier to service, and using a fewer number of parts. Other improvements will become more apparent when reading the specification and claims hereof.

The device is shown by way of the illustrations on the accompanying drawing, in which—

Figure 1 is a plan view, partly cut away, partly in section, illustrating one form of the invention.

Figure 2 is a vertical end section through section 2 to Figure 1.

Figure 3 is a partial end section of the upper portion of Figure 2, showing the slats in a lower, closed position.

Figure 4 is a view similar to 3, but showing the slats in a raised, closed position.

Figure 5 is a view of an alternate construction in which the fascia and supporting bracket are mounted on a ceiling or recess adjacent to the window opening.

Figure 6 is a cross section of the supporting bracket for the fascia support shown in Figure 5.

In all figures, like numerals of reference refer to corresponding parts in the drawing.

Referring to the drawing in detail, particularly Figures 1 to 4, inclusive, I have shown a window 1, a window frame or wall 2 on which is supported a Venetian blind by means of wall bracket 5 and Venetian blind bracket 6 which is attached to fascia 10 by wood screws 11 and 12. On bracket 6 is mounted an axle 15 which carries two pulleys 16 and 17, held apart by separators 30, 31, and 32, if such separators are deemed necessary, as it may be equally satisfactory to use wider pulleys 16 and 17 which butt against each other and keep the cords 20 and 25 from getting entangled by means of the pulley flanges and their proximity to bracket 6 which does not allow the cords to get out of the pulleys. An alternate construction would be to allow the pulleys 16 and 17 to float on axle 15 to find their own neutral position.

The blind itself consists of ladder tape 3 with cross rungs 3A which supports slats 4. At the bottom of the blind is preferably a bottom rail 8 supported on the ladder tape 3 by a suitable attachment, such as pins 35. Lifting cords 20 and 21 pass either through slots in the slats, as illustrated, or at the edge of the slats, as shown in my

United States Patent #2,200,349, in which case pulley 16 would be located at one edge of the slats and similar pulley 18 at bracket 7 would be located above the opposite edge of the slats. Cords 20 are suitably attached to bottom rail 8 by passing through a hole and tying a knot 20A in the lifting cords, or other suitable manner.

The room side of the ladder tape 3 is suitably attached to the fascia by nails, staples, or other devices, as shown in 36. The window 1 is at what we prefer to call the back or window side of the blind, and the ladder tape at that side is secured to the tilting cords 25 and 26, respectively, in some suitable manner, such as by folding the ends of the ladder tape tentwise across the tilt cord 25 and then sewing, stapling, or clipping the ladder tape to the cord in some suitable manner. An alternate construction is to insert an eyelet 40 in the ladder tape, as shown under bracket 7 and then pass tilting cord 26 through said eyelet and tying a knot in the end of the cord to form an attachment between the end of the cord and the ladder tape. Any other suitable manner of attaching cords or other flexible elements to the ladder tape may also be applied. By this construction, when it is desired to tilt the blind, the operator pulls on cords 25 and 26 which may be tied together by cord bracket 43. These tilting cords pass over pulley 42 and adjacent cord stop 43A which may be of any conventional or improved construction. Cords 20 and 21, being connected to the bottom rail 8, lift in a conventional manner and it is locked in any desirable position by moving the cords 25 and 26 outwardly to cause dog 45 to engage the cords as soon as the blind starts to lower. To prevent cords 20 and 21 from piling up on the floor as the blind is lifted, I have shown a construction wherein they can continue to become cords 25 and 26 which control the tilting mechanism. This continuous lift and tilt arrangement only allows the cord to reach the floor in twice the raising distance which would be the case if the continuous cord were not used. When it is desired to tilt the blind, the operator does so by raising or lowering cords 25 and 26 and locking them in a desired position by moving them outwardly to cause dog 43A to lock the cords at the pulley 46 to retain the slats in any desired tilted position. When the slats are in the raised position shown in Figure 4, there may be an on-center action which is overcome by the addition of a spring 48 attached between the fascia and tilt cord 26, to urge the cord into a slat lowered position and to overcome the friction of the pulley 46 and dog 45 when in the non-locking position.

If it is desired to only have one lifting and tilting cord, it is very easily accomplished, as the total motion of the tilting cord is only a little over twice the slat width, and a junction between cord 25 and 26 can be made adjacent pulley 17 when in the slat lowered position and there will be sufficient room provided between pulley 17 and lock pulley 46 to allow full two-way tilt of the slats. Pulleys 42 and 46 and their associated cord locks can be placed at opposite ends of the blind on the fascia, if it is desired from an operating standpoint, though in this case it would probably not be very practical to have the lifting cords continuous. When it is desired to remove the slats for repairs, cleaning, and inspection etc., it is only necessary to remove the fascia 10 with its attached supporting brackets 6 and 7 out of wall bracket 5. A stop 6A prevents bracket 6 from falling too far down through bracket 5. Where the blind is to be installed in a recess near the window, a construction similar to Figure 5 may be incorporated, wherein a bracket 50 is attached to the window frame 2 by means of a suitable wood screw or other attachment 53 and so formed that bracket 51, which supports the fascia 10 in a manner similar to brackets 6 and 7, may be slipped into said bracket by raising it to where notches 51A pass by projections 50A of the wall bracket. When the bracket is lowered in the position shown in Figure 6, it is retained against displacement by its own weight.

If a dust cap is used between the fascia and the wall, it would be located as indicated at dotted lines at 55 in Figure 4, in which case bracket 6 could be attached to dust cap 55 and fascia 10, and could form the supporting bracket, or a separate support angle bracket could support the blind to dust cap 55, fascia 10, bracket 6 and 7 etc.

Under certain circumstances, it may be found desirable to attach the top slat to the sides of the ladder tape so as to make said top slat act as a hinge. This is done by having two small holes at the edge of the top slat through which cords or metal clips 60 and 61 pass to flexibly connect the edges of the top slat to the sides of the ladder tape. This is particularly important if the pulleys that control the tilting of the slats by raising and lowering the rear ladder tape are close to the anchored side of the ladder tape, causing a side pressure on the edge of the top slat as it is forced to a lowered from a raised position, particularly in the horizontal position. Such side pressure in certain instances forces the top slat out of parallel with the other slats, which are resting on the ladder tape rungs, and sometimes causes the blind to bind during the tilting operation. Attachments such as 60 and 61 have been found valuable in eliminating this bind. On short blinds it is only necessary to make such attachments at one tape; on long blinds it might be advisable to make such attachments at more than one tape.

While I have described and illustrated several embodiments of my invention, it will be apparent to those skilled in the art that various changes, omissions, additions, and substitutions may be made in the construction of the apparatus and that the apparatus may be put to uses other than those described without departing from the spirit of the invention as defined in the appended claims.

I claim as my invention:

1. A Venetian blind supporting means, including a main support, a plurality of blind slats suspended by flexible elements from said main support, said flexible elements including front and rear portions relative to said slats, a fascia element at the top of said blind, one side of said flexible element rigidly secured to said fascia, a support for said fascia, flexible lifting elements for collapsing and tilting said slats, pulleys for said flexible elements, said pulleys supported at least partially by said fascia support.

2. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down.

3. A Venetian blind, including spaced slats, a

ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, the top slat being supported just above the bottom of said fascia when in the horizontal position.

4. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a lock device, said flexible lifting elements travelling through said lock device which is supported on said fascia.

5. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a cord lock device, a cord for tilting said slats, said flexible lifting elements and said tilting cords both passing through cord lock devices.

6. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a cord lock device, a cord for tilting said slats, said flexible lifting elements and said tilting cords both passing through cord lock devices, said cord lock devices being supported on said fascia.

7. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a cord lock device, a cord for tilting said slats, said flexible lifting elements and said tilting cords both passing through cord lock devices, a plurality of metal brackets for supporting said fascia, pulleys for said flexible lifting elements, said pulleys being supported in said brackets.

8. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a cord lock device, a cord for tilting said slats, said flexible lifting elements and said tilting cords both passing through cord lock devices, a plurality of metal brackets for supporting said fascia, pulleys for said tilting cords to pass over, said pulleys being mounted in said brackets.

9. A Venetian blind, including spaced slats, a ladder tape, flexible lifting elements, a fascia element at the top of said blind, said ladder tape having two side tapes and cross tapes adjacent each slat, one side of said tapes being firmly attached adjacent said fascia, the other side of said ladder tape being manually adjustable to tilt said slats to a closed position with the slats tilted up or down, a cord lock device, a cord for tilting said slats, said flexible lifting elements and said tilting cords both passing through cord lock devices, a plurality of metal brackets for supporting said fascia, pulleys for said flexible tilting and lifting elements to pass over said pulleys, said pulleys being supported in said brackets.

10. A Venetian blind, including pulleys, flexible elements for lifting said blind, a fascia, a support for said fascia, a plurality of slats, a flexible slat supporting element, manual means for lifting and tilting said slats in both directions, said pulleys being mounted on the supports for said fascia, said supports being separate and adjacent two or more of said flexible slat supporting elements.

11. A Venetian blind, including pulleys, flexible elements for lifting said blind, a fascia, a support for said fascia, a plurality of slats, a flexible slat supporting element, manual means for lifting and tilting said slats in both directions, said pulleys being mounted on the supports for said fascia, said supports being substantially U shaped and forming the only support for said fascia.

12. A Venetian blind, including pulleys, flexible elements for lifting said blind, a fascia, a support for said fascia, a plurality of slats, a flexible slat supporting element, manual means for lifting and tilting said slats in both directions, said pulleys being mounted on the supports for said fascia, said supports being separate short brackets adjacent two or more flexible slat supporting elements and being the sole support for said fascia.

BROOKS WALKER.

Patent No. 2,276,898 Granted March 17, 1942

BROOKS WALKER

The above entitled patent was extended July 24, 1951, under the provisions of the act of June 30, 1950, for 6 years and 214 days from the expiration of the original term thereof.

Commissioner of Patents.