July 17, 1956 B. WALKER 2,754,898

VENETIAN BLIND

Filed Feb. 26, 1949

Fig. 1.

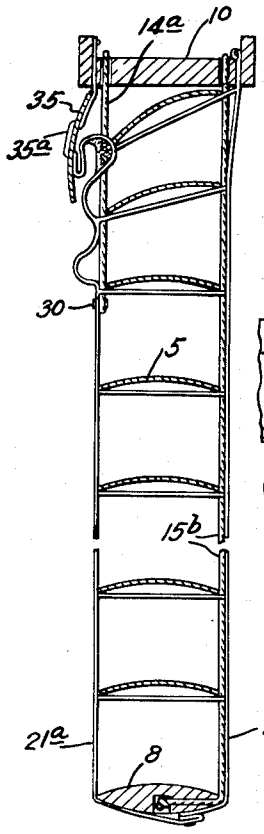


Fig. 2.

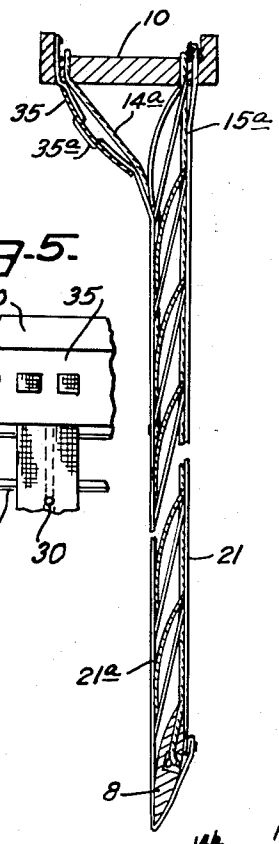


Fig. 3.

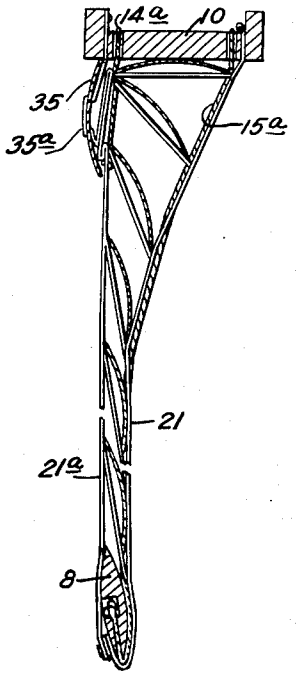


Fig. 5.

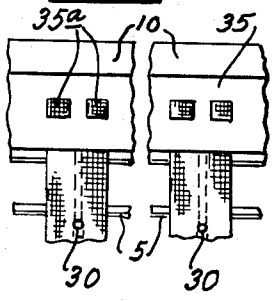
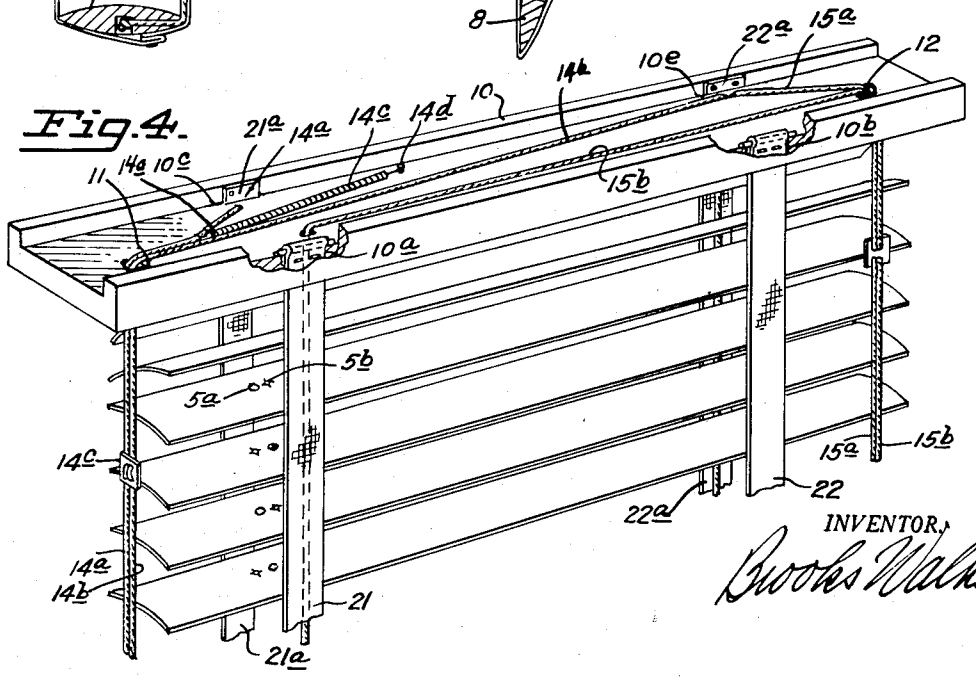


Fig. 4.



INVENTOR.

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United States Patent Office

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VENETIAN BLIND

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6 Claims. (Cl. 160—34)

This invention pertains to improvements in Venetian blinds and pertains particularly to the elimination of the tilt rail. It preferably includes a slat mounted adjacent to the head rail, a ladder tape with one side, preferably the room side, anchored to the head rail and a cord or tape pick-up attached to the third slat from the top to effect closing of the blind with the slats tilted in one direction while allowing the slats to close while tilting in the other direction with the top slat in a light-sealing position with its upper edge adjacent the head member.

Another object of this invention is to provide a light-sealing element in the form of a slat with a double tongue punched in line with the slat supporting tape at each end with a tongue similar to that shown in my issued U. S. Patent No. 2,311,716. In this construction the "petticoat" slat is hung from both ladder tapes by having both of the tongues grip the ladder tape by extending from the edge of the ladder tape in back of the ladder tape so that a small section of the ladder tape, or an auxiliary tape, shows on the face of the petticoat slat where the tongues are behind the tape. This petticoat slat forms an improved light seal and hangs down from the head member with its upper edge in contact or overlapping the head member. It never tilts in the reverse position such as the other slats but always hangs down in the light-sealing position.

Other objects of the invention are to eliminate the costly tilt rail tilting mechanism, the tilt rail, the tilt rail pivot support, and the unsightly ends of the tilt rail. The shorter length of the tilt rail relative to the slats results in unsightly light leakage at the ends of the tilt rail.

Another object of the invention is to provide the Venetian blind in which the slats go all the way to the head member, forming a tight closure, with a head member and tilting in either direction while still having one side member of the ladder tape stationary and allowing for full tilt of the slats in either direction.

Another object of the invention is to provide means for securing the ladder tapes through the head member at the upper face of the head member for more economical construction and improved appearance.

Other objects of the invention will be more clearly pointed out in the claims and in the accompanying specification and drawings by which I have illustrated the invention as follows:

Figure 1 is a sectional view taken at the center of one of the tapes showing a Venetian blind incorporating one form of the invention with the majority of the slats in the horizontal position.

Figure 2 is similar to Figure 1 except that the slats are shown with their left-hand edge lowered to the closed position.

Figure 3 is similar to Figures 1 and 2 except that it shows the left-hand side of the slats raised to their closed position when tilted in this direction.

Figure 4 is a perspective view of the upper portion of the blind as illustrated in Figures 1, 2, and 3 with the slats shown in approximately the same position as shown in Figure 1.

Figure 5 is a reduced scale figure of the upper portion of the blind showing the head rail and mounting of the petticoat slat.

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

In all figures, I have illustrated a head member **10** which carries two cord locks **11** and **12** located below the cord twin holes. Cord lock **11** controls the tilt cords **14***a* and **14***b* which are held in the correct relative position by equalizer **14***c*. Cord lock **12** controls lift cords **15***a* and **15***b* which extend to the bottom rail **8** where they are suitably secured for lifting of the blind without going through the slats, in a manner similar to that illustrated in my issued U. S. Patent No. 2,200,349. These lift cords **15***a* and **15***b* could, of course, go through conventional route holes in the center of the slats and back of the ladder tapes to be anchored at the center of the bottom rail, but in this case the slats **5** would not be removable.

If the lift cords **15***a* and **15***b* are in the offset position as illustrated, the slats may be retained by snaps on the cross rungs, engaging spring type apertures **5***a* and **5***b* in the slats as more fully described in my co-pending application, or they may be retained by tongues as illustrated in my issued U. S. Patent No. 2,311,716, or they may be retained to ladder tapes **21** or **22**, or they may be retained by retention at the ends of the slats as when they are inside hung, or by a slat at their edge as shown in my issued U. S. Patent No. 2,276,897, or by any other suitable means.

If the blind is wide enough to require more than two lifting cords, they may be compounded in the conventional manner if center route holes are used, or the multiple cords may go through the multiple cord locks to the exterior lifting cord where a four-cord equalizer may reduce the four-cord to a two-cord drop. A horizontal pick-up with the multiple cords with a direct pull or compound pull may be used in a manner similar to that shown in my issued U. S. Patent No. 2,276,897.

The head member **10**, as illustrated here, is shown as a channel type head member with enough space in the channel to provide room for the running of the cords, springs, movable pulley blocks, etc., as may be necessary depending on the size of the blind. A flat type head member wide enough to provide the support for the fascia and drapery rod support may also be used within the scope of this invention in which it is desirable that the edge of the fascia come above the edge of the dust cap head part combination to hide the cords, springs, etc., from being seen from the interior of the room.

The flexible ladder tapes **21**, **22** pass through saw slots **10***a* and **10***b*, respectively, in the head member and are either tacked to the top of the head member or have a loop through which a cord, dowel, or other material is passed to prevent the loop from passing downward through the saw slot and thus provide a suitable retention for the upper end of the side member of the ladder tapes. The other side **21***a* of the ladder tape **21** goes through a saw slot **10***c* and is tacked to the head member while side **22***a* of tape **22** goes through saw slot **10***e* and is tacked to the head member **10**.

Tilt cord **14***a* is suitably secured to the ladder tape side member **21***a* near the third slat from the top by a pin **30**, which may be pin, rivet, sewing, clamp, or other suitable device for securing a control cord or tape to the side member of the ladder tape. It is necessary to secure the control member to the ladder tape far enough down from the top so that when it is raised to the position as shown in Figure 3, it will fully tilt the slats with their left-hand edge raised to the closed position. This will usually require that the top slat be horizontal and just under

the head member and the second slat about at 45 degrees and the third slat raised to the closed position with its upper edge fairly near the head member. Tilt cord equalizer spring **14***c* is attached to tilt cords **14***a* and **14***b* and anchor **14***d* to assist in tilting when necessary and to hold cord lock **11** engaged when the slats are raised.

To provide better light closure at the top of the blind and to improve the appearance when in the position as shown in Figures 1 and 3, it may be desirable to install a petticoat slat **35** with a pair of tongues **35***a* of the type similar to that shown in my issued U. S. Patent No. 2,311,716 supporting the petticoat slat on the side members **21***a* and **22***a* of the ladder tapes. A snap, rivet, clip, tape loop, auxiliary piece of ladder tape, or other suitable means may be used for supporting the petticoat slat in its desired position. In order to prevent the petticoat slat from interfering with the full raising of the folded side members **21***a* and **22***a* of the ladder tapes it may be desirable to hang the petticoat slat from an auxiliary piece of tape or from a returned portion of side member **21***a* and **22***a* left hanging down below the head member tacking point to a point below the point of attachment such as **35***a* of the petticoat slat. Under some conditions, it may be desirable not to install the top slat as illustrated in Figures 1, 2, and 3, but to provide a cornice or fascia which drops well below the anchored tape edge of the second slat. The side of the ladder tape towards the room is preferably the anchored side of the ladder tape.

I do not wish in any way to limit myself to the exact details or mode of operation set forth in the specification and drawings, for it will be obvious that wide departure may be made in the way of details without departing from the spirit and scope of my invention which is set forth in the following claims.

I claim as my invention:

1. In a Venetian blind, a multiplicity of slats adapted to be fully tilted in alternate directions to closed positions, ladder tapes supporting said slats in spaced relationship, a head member supporting said Venetian blind, said ladder tapes having side members which are secured to said head member, a vertically positioned slat, means hingedly securing said vertical slat to the head member with said vertical slat depending therefrom, said means comprising a portion of the side members of said ladder tapes, said vertical slat swinging inwardly during one position of full tilt of the majority of slats and a flexible tilt cord passing through the head member and connected to one of the side members of the ladder tape below a plurality of the top slats of the blind, said top slats, said member and vertically positioned slat forming a light closure in either of the fully tilted positions of the slats.

2. In a Venetian blind, a multiplicity of slats, a ladder tape supporting said slats in spaced substantially parallel planes, a stationary non-rotatable head member, said ladder tape being directly secured to the head member and depending therefrom, a tilt cord for full tilting of all of said slats between two alternate closed light passage preventing positions, said cord being secured at one of its ends to said tape intermediate the upper and lower slats, said slats in one of said alternate closed light passage preventing positions all being disposed in substantially parallel planes to each other and in the other alternate closed light passage preventing positions the slats above said secured end of said tilt cord being disposed in non-parallel planes to the other slats and to each other with the said non-parallel slats cooperating with said head member to perfect the closed light passage preventing position and the remaining slats in said other position all being disposed in substantially parallel planes.

3. The structure defined in claim 2 together with a vertically positioned slat hingedly secured to the stationary non-rotatable head member and depending therefrom in a non-parallel plane to the other slats, said head member, vertical slat and the slats above the secured end of the cord cooperating to perfect the alternate closed light passage preventing positions.

4. In a Venetian blind, a multiplicity of slats, ladder tapes supporting said slats in spaced substantially parallel planes, a stationary non-rotatable head member, said ladder tapes including side members directly secured to the head member, a tilt cord for full tilting of all of said slats between two alternate closed light passage preventing positions, said cord passing through said head member and being secured at one of its ends to one of the side members of said tapes intermediate the upper and lower slats, said slats in one of said alternate closed light passage preventing positions all being disposed in substantially parallel planes to each other and in the other alternate closed light passage preventing position the slats above said secured end of said tilt cord being disposed in non-parallel planes to the other slats and to each other with the said non-parallel slats cooperating with said head member to perfect the closed light passage preventing position and the remaining slats in said other position all being disposed in substantially parallel planes.

5. The structure defined in claim 4 wherein said lift cord is secured to said side member intermediate the third and fourth slat from the top of the Venetian blind.

6. The structure defined in claim 4 together with a vertically positioned slat hingedly secured to the stationary non-rotatable head member and depending therefrom in a non-parallel plane to the other slats, said head member, vertical slat and the slats above the secured end of the cord cooperating to perfect the alternate closed light passage preventing positions.

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