Nov. 27, 1951 B. WALKER 2,576,159

VENETIAN BLIND PART

Filed Dec. 26, 1947

Fig. 1

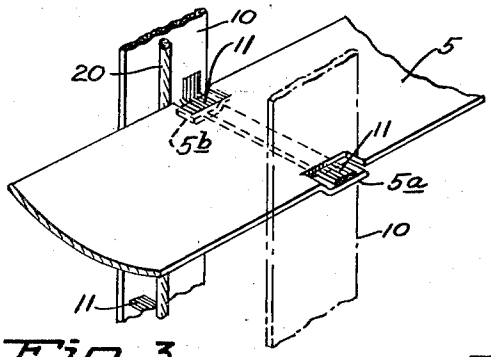


Fig. 2.

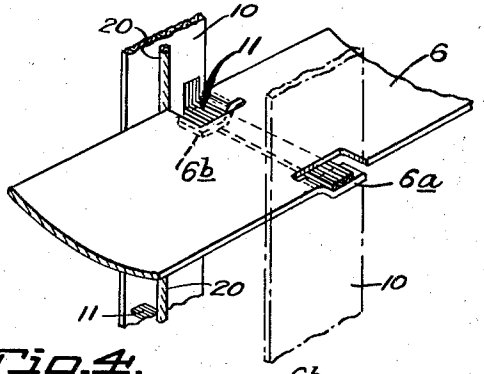


Fig. 3.

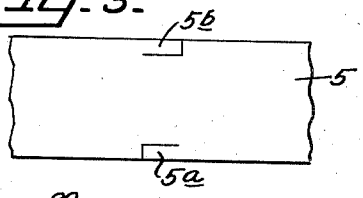
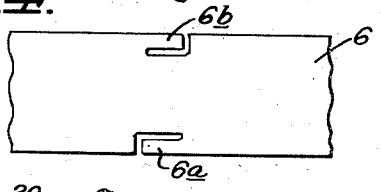


Fig. 4.



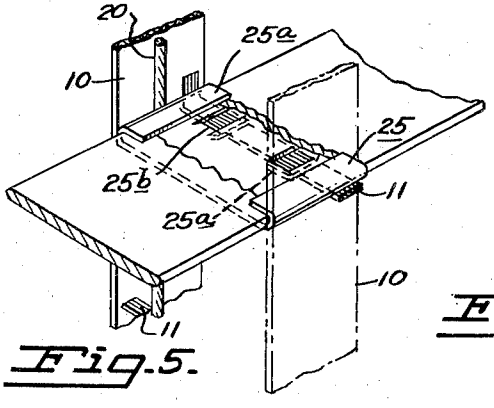


Fig. 5.

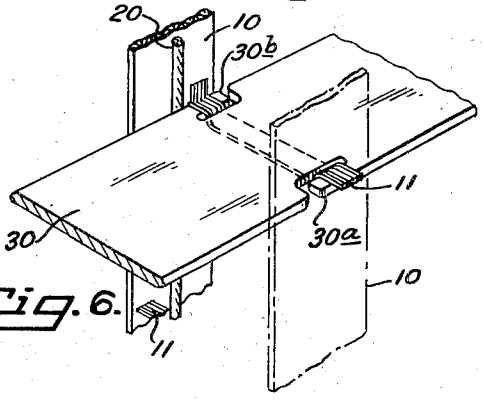


Fig. 6.

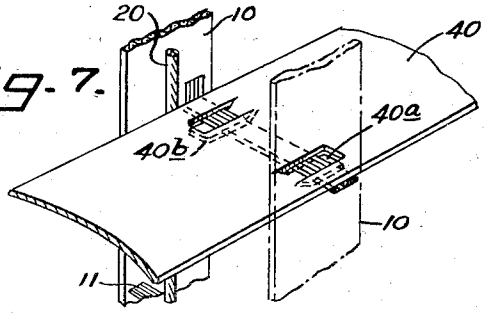


Fig. 7.

INVENTOR,

Brooks Walker

Patented Nov. 27, 1951

2,576,159

UNITED STATES PATENT OFFICE

2,576,159

VENETIAN BLIND PART

Brooks Walker, Piedmont, Calif.

Application December 26, 1947, Serial No. 793,882

2 Claims. (Cl. 160—178)

1

This invention pertains to improvements in Venetian blinds, particularly where the lifting cords for collapsing the Venetian blind do not go through holes in the slats to secure them positively against lateral displacement and where the lifting cords operate between the slats and the side members of the ladder tape as described in my United States Patent No. 2,200,349 or in connection with any other Venetian blind construction in which greater lateral stability of the slats relative to the ladder tape is desired in order to keep the ends of the slats in end alignment in the blind or to keep the slats from turning over in case the different sides of the slats are painted different colors or to keep the crown of the slats all in one direction in case of crowned metallic or composition slats.

This invention forms a further variation of another patent of mine on tongues, No. 2,311,716. This invention is also applicable to Venetian blind slats in which the cords go through punched or routed holes and where through contact with the slats or through wind or rapid raising and lowering or other causes the slats tend to get displaced. The tongues as proposed in this invention will keep the slats in alignment with the cross members of the ladder tape or ladder spacing elements and will therefore keep the slats in parallel alignment.

Other advantages will be pointed out in the accompanying description and claims.

This invention is illustrated by way of example in the accompanying drawings.

Figure 1 is a perspective view, partly cut away, showing one form of my invention.

Figure 2 is a perspective view, partly cut away, showing a slight modification of the invention from that shown in Figure 1.

Figure 3 is a plan view of a section of a slat, showing cuts for the tongues prior to the forming of the tongues as shown in Figure 1.

Figure 4 is a plan view of a portion of a slat with the tongues cut out prior to forming the tongues as shown in Figure 2.

Figure 5 is a perspective view, partly cut away, showing a clip attached to a composition, wood or metal slat wherein the tongues for engaging the cross rungs are formed from the clip.

Figure 6 is a perspective view, partly cut away, showing another form of my invention in which the tongues may be cut from the wood, composition or metal slats in the same plane as the slat and adapted to engage the ladder cross rungs.

Figure 7 is a perspective view, partly cut away, showing a slat with tongues formed away from the edge for engaging cross rungs.

2

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

In Figures 1 and 3, I have shown metallic or composition slot **5**, a ladder tape **10**, having cross rungs **11**, which may be of the staggered type as shown, of cord or woven construction, or metallic cross members as shown in many patents in this art, or a double ladder rung with one on each side of lifting cord **20**, or a cross member of sewn, woven or plastic type which may extend substantially across the width of said members or ladder tape **10**. These last comments about cross rungs apply to all of the drawings in this application. Tongues **5***a* and **5***b* are struck from slat **5** without an opening through between them as shown in Figure 3, and are subsequently deformed so they lie below the cross rung, are faced in opposite directions, and have an opening at the forward end of the tongue into which the cross rung can easily be inserted. Since the tapes and cross rungs are flexible, the method of engaging is first to hook the cross member with one tongue, then force the slat further in the direction which engages that tongue and force the cross tape backwards so that it can readily be engaged by the opposite tongue. The normal position of the ladder side webs and the cross members will keep the rung engaged with the tongues as shown. If ladder rungs are used on both sides of lifting cord **20**, or all on one side of lifting cord **20**, tongues formed in the same place on each slat can engage the cross rungs under each other for proper end alignment of the slats. If staggered rungs are used, tongues as shown in any of the figures can be used to engage alternate cross rungs on the tapes at opposite sides of the center of the blind. Double pairs of tongues may be used to engage the staggered rung construction on one ladder tape similar in spacing to those shown in my Patent No. 2,311,716.

In Figures 2 and 4, I have shown a ladder tape **10**, one lifting cord **20**, cross rungs **11**, and a slat **6**. Tongues **6***a* and **6***b* have been cut from the slat as shown in Figure 4 with a cutout separating the slat from the tongue by a space sufficient for the slat edges to clear the cross tape so no scissor action will take place in case the slats are deformed when a heavy blind is collapsed and a heavy weight of slats is piled up. The die for cutting the tongues shown in Figure 4 is somewhat simpler than the one in which a longitudinal space is cut and the ends of the

tongues are clipped, leaving them touching the main body of the slat prior to deformation. After punching, as shown in Figure 4, they are formed as shown in Figure 2 to lie below the cross member 11 and form an engagement with the tape similar to that described in connection with Figure 1.

In Figure 5, I have shown a ladder tape with side members 10, cross members 11, and clip 25 adapted to be secured to an uncut slat by having its ends crimped over the edges of the slat so that the clip can be slid on from the end of the slat or crimped on in place without sliding which might mar the finish of the slat. Tongues 25*a* and 25*b* are formed from the clip, are oppositely faced, are spaced apart relative to the length of the cross tape which they engage, which is necessary for easy engaging by flexing the cross tape, and may either be cut with no clearance at the edges of the tongues as shown on one tongue edge in Figure 3 or may be cut with edge clearance as shown on one edge in Figure 4. This construction leaves the slat very strong, as the clip reinforces it and the slat is uncut. Double sets of tongues may be employed for engaging staggered ladder tapes in any of the illustrations of this invention.

In Figure 6, I have shown a ladder tape with side members 10, cross rungs 11, slat 30 with tongues 30*a* and 30*b* formed therein. The forming operation may be by punching or by sawing or by other suitable means. The tongues are so formed that the ladder tape cross rungs go over the tongues and under the slat to support the slat. The cross member is deflected during engagement or disengagement, but during normal operation of the blind, wind pressure on the slats, manual dusting of the slats, and other normal contact with the blind, it will not be dislocated from the tongues and will provide suitable lateral stability for the slats.

In Figure 7, I have shown ladder tape side members 10, cross members 11, and tongues 40*a* and 40*b* formed from slat 40 which may be of metal construction or composition suitable for the formation of such tongues. These tongues 40*a* and 40*b* may be cut from the slat without edge clearance and deformed as shown, or may be cut with clearance at the sides as shown in Figures 11 and 12 of my Patent No. 2,311,716, or may be formed in any other manner so as to face in opposite directions and engage a cross member of a ladder spacing element while leaving the edges of the slat uncut for better slat strength and less tendency of the slat to catch when being removed. The tongues may be flush with the slat surface and operate by flexing the slat. Throughout, lifting cord 20 has been shown at one edge of the slat between the slat and the side member of the ladder tape, however it is to be understood that the lifting cord may be in any position; through the slats, outside of the ladder tapes, at the ends of the slats, etc., and the ladder tapes or lift members may be of any construction known to Venetian blind art or which may be used in the future which provide slat spacing and lifting in which it is desired that the slats be secured relative to the cross members on which

the slats rest. Many methods are well known in the Venetian blind art for securing slats to ladder tapes with or without cross rungs, and for securing slats to cross rungs. However, oppositely faced spaced apart tongues as shown herein have been found to be easy to engage, secure in their hold, and exceedingly inexpensive to manufacture as they can be formed with substantially no loss in production time by a die operation which forms the tongues at the same time the slats are clipped for length.

I do not wish in any way to limit myself to the exact details or mode of operation set forth in this 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 flexible ladder tape comprising spaced tapes connected together by cross rungs arranged and fastened to the spaced tapes in staggered relation, and a slat supported by a cross rung, said slat having longitudinal edges, two tongues formed from portions of the slat, and within the confines thereof, one side edge of each tongue being a continuation of one of the longitudinal edges of the slat, said tongue and adjacent portion of the slat forming an elongated slot of a length substantially equal to the width of the cross rung, said slot having an entrance opening at one end for the cross rung transversely of the slot so that the cross rung may pass over the two tongues, through the two slots and under the slat proper for holding the slat to the cross rung.

2. In a Venetian blind, a flexible ladder tape comprising spaced tapes connected together by cross rungs, and a slat supported by the cross rung, said slat having longitudinal edges, two tongues formed from portions of the slat, and within the confines of the slat so that the two tongues extend in opposite directions and extend within a transverse plane of the slat, each longitudinal edge of the slat forming a side of the tongue, said tongue being deformed downwardly away from the main body of the slat and each tongue forming with the adjacent portion of the slat, a slot of substantially the width of a cross rung, each slot so formed having a transverse entrance opening at one end through which the cross rung may be threaded so that the cross rung may pass over the two tongues through the slots and under the slat proper for holding the slat to the cross rung.

BROOKS WALKER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,072,464	Nisenson	Mar. 2, 1937
2,170,938	Carreras et al.	Aug. 29, 1939
2,297,996	Wolfe	Oct. 6, 1942
2,311,716	Walker	Feb. 23, 1943
2,317,659	Williams	Apr. 27, 1943