Dec. 17, 1940. L. WHEELER 2,224,943

BLIND

Filed Nov. 30, 1938

Fig. 1

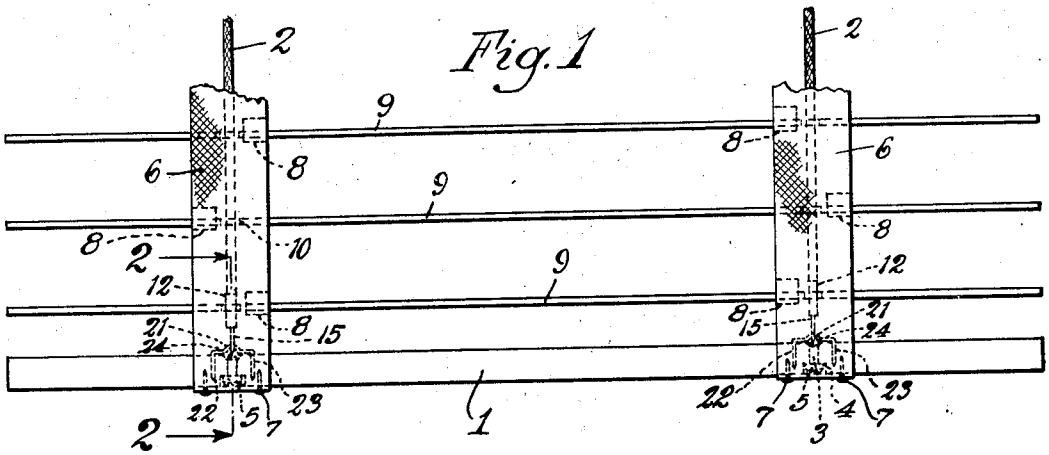


Fig. 2

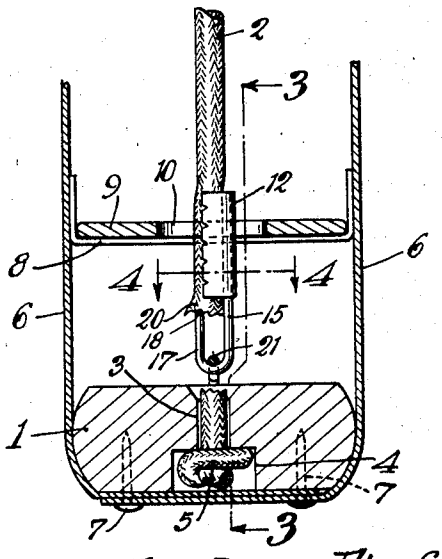


Fig. 3

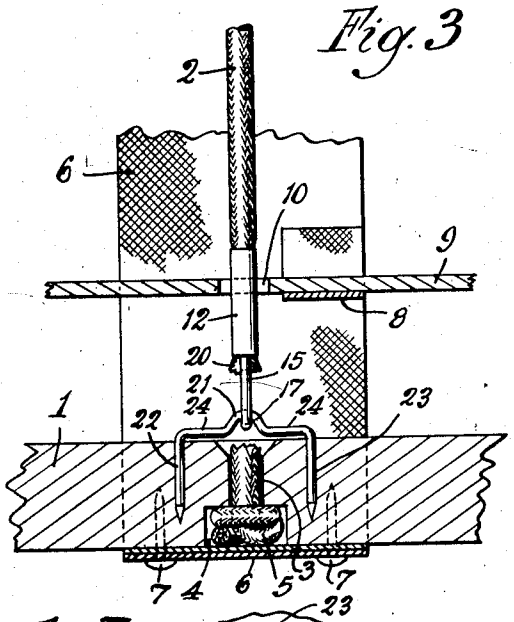


Fig. 5

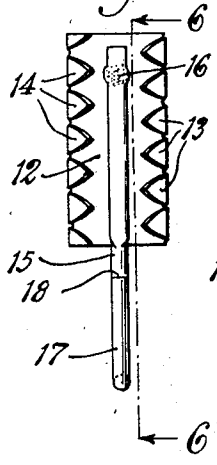


Fig. 6

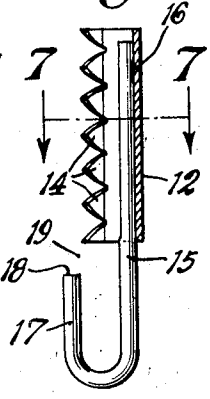


Fig. 7

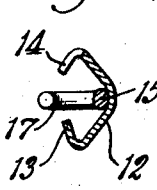
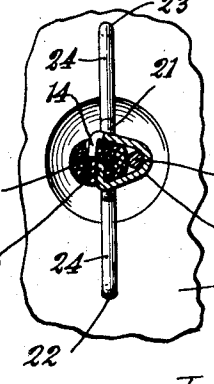


Fig. 4



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UNITED STATES PATENT OFFICE

2,224,943

BLIND

Leon Wheeler, Geneva, Ill.

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2 Claims. (Cl. 156—17)

My invention relates to an improvement in Venetian blinds and has for one purpose the provision of means for permitting the ready removal for cleaning, replacement or the like of slats from a Venetian blind.

Another and primary purpose is the provision of a means of and method for converting the ordinary non-removable type of Venetian blind into a type in which slats may readily be removed.

Another purpose is the provision of improved securing means between the lifting cords and the bottom bar of Venetian blinds.

Other purposes will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawing wherein:

Fig. 1 is a side elevation;

Fig. 2 is a section on an enlarged scale along the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a section on the line 4—4 of Fig. 2;

Fig. 5 is a view on a still more enlarged scale of the securing member;

Fig. 6 is a vertical section through such a member, taken on the line 6—6 of Fig. 5; and

Fig. 7 is a section on the line 7—7 of Fig. 6.

Like parts are indicated by like symbols throughout the specification and drawing.

Since my invention is applied to conventional Venetian blind structures, I have illustrated only the lower portion thereof. It will be understood that the essential operating parts are intended to be supplied.

Referring to the drawing, 1 generally indicates a bottom bar or lifting member to which may be engaged lifting cords 2, 2. In the conventional type of Venetian blind, the lower end of the lifting cords 2 pass through apertures 3 in the bottom bar 1, which apertures may have an enlarged bottom portion 4 adapted to secure a knot or other securing member 5 which may be formed in the lower end of each cord 2. Tapes 6, 6 are secured to the bottom of the bar 1, as for example by any suitable nails or the like 7.

It will be understood that the cords 6 have extending between them any suitable cross members 8 which may be secured thereto or may be woven unitarily therewith. These cross supports 8 are uniformly spaced on the two sets of tapes, in such fashion that slats 9 are supported thereupon and between the tapes and are uniformly spaced therealong.

Each slat 9 is apertured as at 10 to permit the passage therethrough of the cords 2. Any suitable means not herein shown may be employed for raising and lowering the cords 2 and for thereby raising and lowering the bottom bar 1. This has for effect successively to lift the individual slats 9 until the entire slat structure is lifted to raised position, where it may be secured in any suitable manner, which does not in detail form part of the present invention.

It is often desirable to remove the slats for replacement or cleaning. But where a relatively permanent securing means is employed between the cords 2 and the bottom bar 1, as shown at the knot 5 in Figs. 2 and 3, it is difficult if not impossible to disassemble the blind structure without entirely dismantling or rebuilding it. It is conventional to have the lower ends of the tapes 6 overlie and mask the holes 3 to hide the knots 5. I therefore find it desirable in constructing new blinds or in converting old blinds to provide removable securing means which are exposed on the upper surface of the member 1.

I illustrate for example a clip member or body 12 which has oppositely serrated edges 13 and 14, the serrations being inwardly bent at an angle less than ninety degrees, in order to insure that when the parts 13 and 14 are moved together in gripping relationship, as shown in Fig. 4, they will penetrate and positively grip the cord end 2, instead of merely surrounding it.

When the parts are in the position shown in Fig. 4, the serrations 13, 14 bite into the fabric and a firm hold is made. Relatively soft metal may be employed and pliers or the like may be employed positively to bend the parts into the position shown in Fig. 4. Secured to the clip or body 12 I provide a stem 15 which may if desired be spot-welded as at 16, or may be otherwise secured or may be made integral with the member 12. It is provided with a hook portion 17, the upper end 18 of which is sufficiently close to the opposite lower edge of the body portion 12 to provide a relatively small gap, indicated at 19 for example in Fig. 6.

When the parts have been clipped together, as shown in Figs. 2 and 4, it is preferable to leave a lower extending end portion 20 of the cord 2 which tends to close partially or completely the gap 19. Since the end portion 20 is of relatively soft fabric or loose end threads, it does not form a positive closure but tends to hold the below described eye portion 21 against unintended release from the hook 17. The hook 17 is simply hooked into the eye portion which, in the present form, constitutes a widely spread staple having spaced penetrating prongs 22, 23, horizontal por-

tions 24, and an intermediate eye or bend 21. The portions 22, 23 are preferably so widely spaced as to penetrate the bottom or bar 1 at each side of the aperture 4.

In applying the eye member, the bend 21 is preferably centered over the aperture 3 and the device can then be hammered into place, the aperture 3 providing a proper centering in relation to the normal position or axis of movement of the cords 2.

In building a new blind, any suitable eye member, of which the member 21 is typical, is simply driven into or otherwise secured to the bar 1 at the appropriate position. The slats 9 are slid into position on the cross supports 8. The cords 2, having securing clips 12 fastened in position, are then threaded downwardly through the apertures 10 of the slats 9 until the hook 17 can be hooked into the eye 21. As above mentioned, the bottom extension or tuft 20 serves as a ready means for preventing unintended freeing of the hook from the eye, but is a barrier insufficient to prevent a desired engagement of the two parts.

Where the operator is converting an old type blind into a blind with removable slats, he can employ a sharp knife or the like to sever the bottom portion of the cords 2. This is preferably done when the blind is fully extended, the tapes 6 serving to support the bottom bar 1 in place. The operator can then remove the lower slat or slats to give himself room to work and can drive the eye members 21 into position, using the apertures 3 as centering means. He can then apply one of the members 12 to the lower end of each of the cords 2 and squeeze the opposed serrated portions 13 and 14 together by pliers or the like. He then engages the hook 17 with the eye 21, after having threaded the cord 2 down through the apertures 10 of all the slats.

In practice, an operator can very quickly convert an old fixed structure Venetian blind into a Venetian blind with removable slats, the whole process taking only a few minutes. All that the user or operator needs is a pair of the eyes 21, a pair of the members 12, and a knife sharp enough to sever the cord 2.

It will be realized that whereas I have described and illustrated a practical and improved structure and an improved method, nevertheless many changes may be made in the size, shape, number and disposition of the parts and in the details and steps of such method without departing from the spirit of my invention. I therefore wish my description and drawing to be taken as in a broad sense illustrative or diagrammatic, rather than as limiting me to my precise showing.

In particular, it will be understood that the eye member 21 may be widely varied and a wide variety of means may be employed to secure the hooks 17 to the bottom of the cords 2.

I claim:

1. For use with a Venetian blind base bar having the normal cord receiving apertures, a staple, including laterally spaced bar penetrating members, adapted to be located at opposite sides of one of such apertures, and an eyelet portion axially aligned with one of such apertures, and a hook removably penetrating said eyelet portion, said hook including a shank element adapted to be secured to the end of a Venetian blind cord.

2. For use with a Venetian blind base bar having the normal cord receiving apertures, a staple, including laterally spaced bar penetrating members, adapted to be located at opposite sides of one of such apertures, and an eyelet portion axially aligned with one of such apertures, and a hook removably penetrating said eyelet portion, said hook including a shank element adapted to be secured to the end of a Venetian blind cord, said shank element including a flexible sheet metal body having opposed serrated edges bent at a substantial angle to said body and adapted to engage the end of said cord above the end thereof, with a portion of the cord extending below the body and terminating adjacent the upper end of the hook.

LEON WHEELER.