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VENETIAN BLIND

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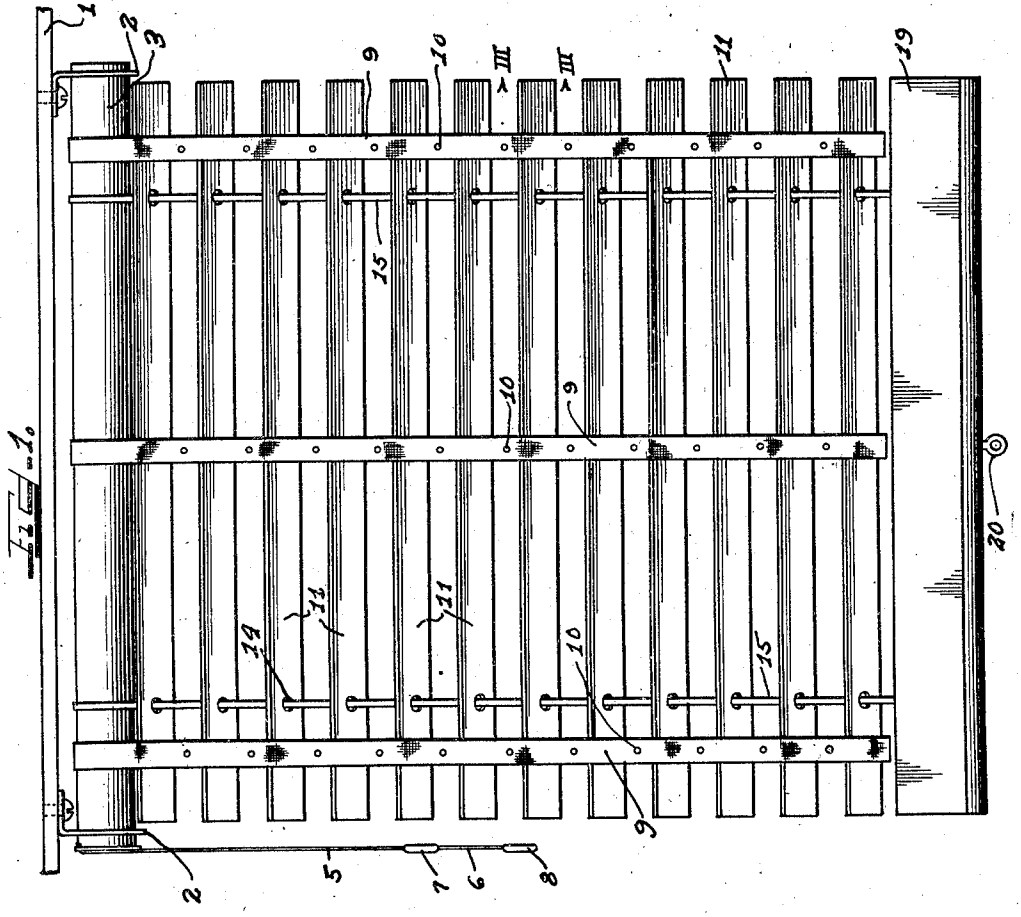


Fig. 1.

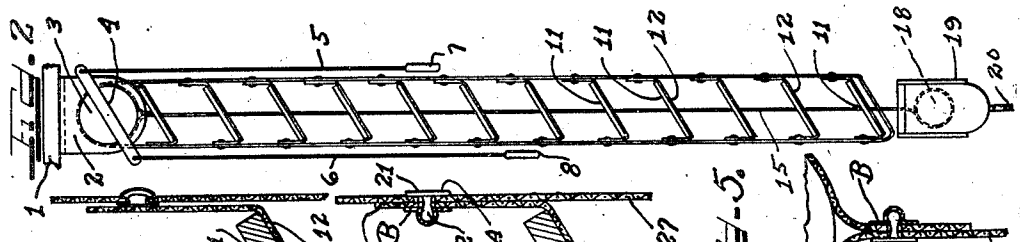


Fig. 2.

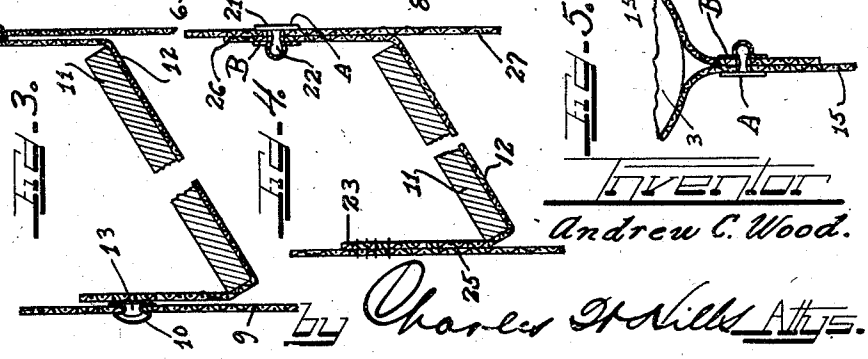


Fig. 3. Fig. 4. Fig. 5.

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# UNITED STATES PATENT OFFICE

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## VENETIAN BLIND

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5 Claims. (Cl. 156—17)

The present invention relates to Venetian blinds and more particularly to the construction thereof whereby the cost of manufacture is reduced and maintenance and repair made easier.

An object of the present invention is to provide a Venetian blind construction wherein the blind slats are loosely supported so that any slat may be quickly removed and replaced.

Another object of the present invention is to provide a Venetian blind construction wherein the stirrups for the slats are removably secured to the regulating tapes.

A further object of the present invention is to provide a Venetian blind construction wherein a shade roller is employed for raising and lowering the blind.

A still further object of the present invention is to provide a Venetian blind construction wherein the operating cords are removably secured to enable ready disassembly of the blind for replacement of damaged slats and ready assembly after repair.

The invention has for a further object the provision of a Venetian blind construction wherein stitching of the stirrups to the regulating tapes is eliminated.

A yet further object of the present invention is to provide a novel construction of regulating tapes and stirrups, for Venetian blinds, wherein the stirrups are attached to the tapes otherwise than by sewing, thus eliminating the need for a special sewing machine for the manufacture of such tapes as required at the present time.

Another and yet further object of the present invention is to improve Venetian blind construction generally.

The above, other and further objects of the present invention will be understood from the following description, accompanying drawing and appended claims.

Embodiments of the present invention are illustrated in the accompanying drawing, and the views thereof are as follows:

Figure 1 is an elevational view of a Venetian blind, fully opened, and constructed in accordance with the principles of the present invention.

Figure 2 is an end elevational view of the blind, looking at the left-hand end of Figure 1.

Figure 3 is an enlarged fragmental vertical sectional view through a slat and its stirrup, and showing the preferred manner of removably connecting the stirrup to the regulating tapes.

Figure 4 is a view similar to Figure 3, but showing a modified manner of stirrup attachment.

Figure 5 is a fragmental view showing one manner of removably securing an end of one of the operating cords about its support.

The drawing will now be explained.

The form of blind herein chosen to exemplify the present invention illustrates a header 1 of a window opening in which such a blind might be installed. Secured to the underside of the header 1 are brackets 2 which support an oscillatable cylindrical member 3. Attached to one end of the member 3 is a bar 4 having pull cords 5 and 6 secured in the ends of the bar and which are provided respectively with handles 7 and 8 for oscillating the member 3.

Depending from the cylindrical member 3 are a plurality of looped regulating tapes 9, three of such tapes being shown in the drawing.

Every one of the regulating tapes 9 is suspended from the cylindrical member 3 and where it passes about such member is secured thereto for movement therewith, as the member 3 is oscillated. These looped tapes may be made endless or otherwise as convenient.

Prior to the time that the tapes 9 are applied to the cylindrical member 3, the tapes are equipped with a plurality of similar members of two-part separable snap fasteners. Preferably the tapes 9 are supplied with the female portions 10 of such snap fasteners. These portions 10 are spaced at regular intervals to vertically space the slats 11 of the blind structure, and may be staggered along the tapes so that, if desired, the operating cords may be arranged within the tapes, and thus concealed from view.

For supporting the slats in position in the tapes 9, a plurality of fabric stirrups 12 are provided. Every one of these stirrups 12 is equipped, near its ends, with the male members 13 of the two-part separable snap fasteners.

After the tapes 9 have been applied to the cylindrical member 3, and secured to such member by tacks or otherwise, the several stirrups are snapped into place by engagement of the male members 13 thereof with the corresponding female members 10 in the tapes 9. The slats 11 are then laid in the stirrups loosely without being fastened in any manner to the stirrups.

Prior to the time of assembly, the slats have been apertured as at 14 to provide openings through which the operating cords 15 may pass.

The operating cords 15 may be flat tapes or cords, as desired. There are two such cords illustrated in the drawing. The upper ends of the cords 15 are passed about the cylindrical member 3, and are angularly movable relatively to such member. For removably securing the op-

erating cords 15 to the cylindrical member 3, female members B, of two-part separable snap fasteners may be secured to the cords near one of their extremities, while cooperating male members A may be fastened to the cords 15 in such spaced relation from the adjacent extremities of the cords to enable the extremities to be passed about the cylindrical member 3 and the members A and B of the snap fastener connected together to secure the cords to the member 3. Fasteners including the male members 13 or 22 and female members 10 may be employed, if desired.

The lower ends of the operating cords 15 are suitably fastened to a shade roller 18, of a type commonly employed for window shades.

For concealing the shade roller 18, a casing 19, generally of box-like form is supported by the shade roller by means of suitable fittings attached to the inner ends of the casing 19 and in hooking relation with the extremities of the shade roller 18, as is common practice with installations of shade rollers. Handle means 20 may be attached to the casing 19 for ease in manipulation of the blind.

Figure 1 shows a blind of the present invention in fully opened position. When it is desired to raise the blind, the handle 20 is grasped and given a slight downward pull, to thereby enable the shade roller 18 to function, whereupon the handle 20 and casing 19 are given upward movement so that the operating cords 15 may be wound about the shade roller 18, and this continued until the blind has been raised to desired position. As the blind is raised, in the manner stated, the several slats 11 pile up on top of the casing 19 so that when the blind is in fully raised position all of the slats are nested in flat-wise relationship adjacent the cylindrical member 3.

To lower the blind, the handle 20 is grasped and pulled downwardly whereupon the shade roller 18 unwinds, thus lowering the screen.

Whenever it is desired to change the angularity of the several slats 11, with respect to the horizontal, either one of the handles 7 or 8 is grasped and the bar 4 rocked in such manner as to oscillate the cylindrical member 3 in desired direction. For instance, observing Figure 2, if it is desired to move the slats 11 to a more nearly horizontal position than that shown in the figure, the handle 7 would be grasped and pulled downwardly, thus oscillating the cylindrical member 3 in clockwise direction. To increase the angularity of the slats, the handle 8 would be grasped and the bar 4 and cylindrical member 3 oscillated in the opposite direction.

It will be observed that the construction of the Venetian blind in accordance with this invention is one wherein the parts may be very rapidly assembled, and is one wherein the snap fastener members may be quickly applied to the several fabric tapes and stirrups, so that it is unnecessary to stitch or paste any of the parts together in operative relation.

The stirrups 12, when attached to the regulating tapes, form pockets in which the slats 11 lie and which pockets are of sufficient depth to retain the slats therein as the regulating tapes are adjusted to vary the angularity of the several slats with respect to the horizontal.

Instead of the snap fasteners, comprising male 13 and female 10 members, as described, for removably securing the stirrups to the tapes, another form, A and B of separable snap fastener may be employed.

Such other fasteners are illustrated in Figures 4 and 5, and consist of male members A and female members B.

A male member A consists of a bottom disc 21 and an upstanding bulbous projection 22. A female member B consists of an apertured disc adapted to snap over the bulbous projection 22 of a male member A.

When using snap fasteners A and B, it is unnecessary to sew the several members to the tapes and stirrups. All that need be done is to punch holes in the tapes at properly spaced points, insert the projections 22 through such holes, from the outsides of the tapes, and also through holes punched in the stirrups. The female members B are then applied over the projections 22, thereby securing the stirrups to the tapes. Such fasteners may be observed in Figures 4 and 5. This manner of application of the stirrups to the tapes is most economical, as any kind of fabric material may be used for the tapes and stirrups, and a simple punch used for making the necessary holes. The fasteners may be purchased on the open market, and applied, without stitching.

If, however, it were desired to utilize the fasteners A and B, without having the discs 21 exposed to view, the discs could be readily stitched to the inside faces of the tapes, so that the projections 22 thereof might pass through holes in the several stirrups.

A still further modification contemplates stitching the corresponding ends 23 of a plurality of stirrups 12 to one run 25 of a looped tape. The other ends 26 of the stirrups are punched to receive the projections 22 of snap fasteners A and B, and secured to the other run 27 of the tape, by the female members B engaging the projections 22. This type of construction may be readily accomplished without the use of special machinery, as the stitching may be done on any sewing machine and any punch may be used for making the holes.

Because of the fact that special machinery is required to stitch both ends of the stirrups to the tapes, such completed tapes are, at present, imported, as the volume of business in Venetian blind manufacture is insufficient to warrant the purchase, from abroad, of such special machinery.

The present invention provides a construction of Venetian blind tapes which may be carried out by anyone having any standard sewing machine and punch. For that matter, the stitching might be done by hand.

Should it become necessary to replace any of the slats of the blind of the present invention, all that is necessary to be done is to disconnect the operating cords 15 from the cylindrical member 3, by separating the snap fasteners, and withdrawing such cords from the damaged slat or slats. Such damaged slats may be then removed and replaced by new ones, the operating cords then threaded through the slats and secured to the cylindrical member 3 in the manner heretofore described, whereupon the screen is ready for use.

By means of the present invention, it has been found that Venetian blinds may be constructed very rapidly, as the amount of hand labor is reduced to a minimum. Furthermore, the regulating tapes and stirrups may be made of fabric material readily available in the market which may be bought in suitable widths and lengths.

Instead of utilizing the base member 1, the brackets 2 might as well be fastened directly to a window header or the header of some other

opening in which it is desired to install a Venetian blind.

The invention has been described herein more or less precisely as to details, yet it is to be understood that the invention is not to be limited thereby, as changes may be made in the arrangement and proportion of parts and improvements may be substituted, without departing from the spirit and scope of the invention.

The invention is claimed as follows:

1. In a shade roller, regulating tapes, and a plurality of stirrups snap fastened to said tapes for supporting a plurality of slats loosely resting on said stirrups.

2. In a Venetian blind, regulating tapes, and a plurality of slat stirrups snap fastened to said tapes for loosely supporting slats by said tapes.

3. In a Venetian blind including slats, regulating tapes, operating cords, and means removably supporting said slats in said regulating tapes; means removably connecting said operating cords to the blind supports whereby any slat may be removed for repair or replacement without disturbing other slats of the blind.

4. In a Venetian blind, of the class described, slat supporting and tilting means, and operating cord means concentrically arranged with respect to said first means.

5. Slat supporting tapes for Venetian blinds having detachably secured slat supporting stirrups.

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