METHOD OF ASSEMBLING VENETIAN BLINDS


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3 Claims. (Cl. 29—24.5)

1. This invention relates to the assembly of Venetian blinds and, more particularly, to a method of and tool for facilitating the assembly of blinds of the so-called "inclosed head" type.

In the inclosed head type of Venetian blind, the operating mechanism of the blind, e.g., pullies, tilt bar, tilter and cord lock, is contained within a head bar which may be formed of a metal channel. The tilt bar is often a composite structure, consisting essentially of a tilt rod having tape rockers mounted thereon. The bottom wall of an inclosed head bar is provided with slots so that in assembly of the blind the upper ends of the ladder tape branches may be passed downwardly through the slots and secured to the tilt bar. The ends of the ladder tape branches are often folded back and secured upon the branches to form terminal loops for convenience in attaching the ladder tapes to the tilt bar.

The lift cords are relieved through holes in the bottom wall of the head bar, cord guides in the form of sheaves often being incorporated in the tilt rod cradles where a cradle is used adjacent to each tape rocker for supporting the tilt rod or bar. An example of this type of head bar is shown in my co-pending Patent No. 2,629,434.

In conventional assembly of Venetian blinds, the slats are inserted within the ladder tape after the upper ends of the branches have been attached to the tilt bar. Due to the normal staggered arrangement of the cross tapes or rungs of the ladder tape, the lift cords cannot be reeved through the slats and thence through the head bar until the slats have been inserted in the ladder tapes as above described. However, in the inclosed head construction, the tilt bar, including the tape rockers, is directly over the cord entrance holes in the bottom of the head bar and seriously interferes with stringing the lift cords through the head bar, particularly if a straining needle be used to pass the cords through the slats.

In the method of assembling Venetian blinds to be described herein, the tilt bar is not assembled into the head bar until after the lift cords have been reeved through the blind. In order to support the upper ends of the ladder tapes while the slats are being inserted therein and the lift cords reeved through the slats, a temporary support is provided for each branch of each ladder tape.

These temporary supports or tools according to the form shown of the present invention are formed of flat metal members having hooked lower ends adapted to be received within the looped upper end of each ladder tape branch. The support is shaped to slip downwardly from above through one of the slots in the bottom wall of the head bar provided for passage of the ladder tapes. The upper portion of the support is hooked over a top edge of the head bar leaving the central portion of the head bar clear for reeving of the lift cords and for insertion of the tilt bar together with its tape rockers, if any.

After the tilt bar has been inserted within the tilt rod cradles and engaged with the tilter, the temporary supports, carrying the 'ladder' tape ends, are drawn upwardly through the ladder tape slots in the head bar and the ends of the ladder tape branches engaged in their proper place on the tape rockers, thus completing the assembly of the blind.

2. An object of the present invention is to provide an improved method for the assembly of Venetian blinds of the "inclosed head" type.

Another object of the invention is to provide an advantageous tool for facilitating the assembly of Venetian blinds.

Another object is to provide an advantageous tool for facilitating the engagement of ladder tapes with the titling mechanism of Venetian blinds.

A still further object of the invention is to provide a support for temporarily suspending the ladder tapes of a blind in juxtaposition to an inclosed metal head for insertion of the slats of the blind and reeving of the lift cords of the blind.

Further objects and objects relating to details and advantages in practicing the method and forming the tool will more definitely appear from the detailed description to follow.

My invention is clearly defined in the appended claims. In the claims, as well as in the description, parts are at times identified by specific names for clarity and convenience; but such nomenclature is to be understood as having the broadest meaning consistent with the context and with the concept of my invention as distinguished from the pertinent prior art. The best form in which I have contemplated applying my invention is illustrated in the accompanying drawings forming part of this specification, in which:

Fig. 1 is a perspective view of my improved tool for the assembly of Venetian blinds.

Fig. 2 is a perspective view showing a portion of a Venetian blind head bar, two of the tools
shown in Fig. 1 being shown in position on the head bar and supporting the upper ends of the branches of a ladder tape.

Fig. 3 is a fragmentary perspective view of the head bar shown in Fig. 2, the slats having been inserted within the ladder tapes and the lift cords having been reeved through the blind. The ladder bar with its tape rockers has also been inserted in the head bar and one of the ladder tape supports has been raised for engaging the ladder tape with the tape rocker.

Fig. 4 is a detailed perspective view showing the first phase of the engagement of a ladder tape branch with a tape rocker.

Fig. 5 is a detailed perspective view showing the second phase of engaging the ladder tape branch with the tape rocker.

Referring now to Fig. 1, a temporary support or tool 10 for the ladder tape branches is shown. This support may be so stamped from sheet metal as to form a horizontally-projecting arm 11 extending across the bottom of the member. The arm 11 may be provided with an upwardly-extended hooked-end portion 12 to decrease the likelihood of fortuitous disengagement of the ladder tape from the arm 11 during assembly of the blind. The lower portion of the support 10 is flat and of a size to pass readily through one of the slots provided in the bottom wall of a head bar 15 for passage of a ladder tape branch. One of these slots is shown at 14 in Fig. 2.

The support 10 may extend straight up from the arm 11 so as to extend adjacent to a side wall of the head bar 15 when inserted through the slot; and the support may be provided with a U-shaped upper end 16 adapted to hook over an upper edge of the head bar 15. If desired, a hole 17 may be provided in the support 10 just below the upper end 16 to facilitate grasping the support. The point of juncture of the arm 11 with the rest of the support 10 may be reinforced by an inwardly-pressed bead or corrugation 19 to resist lateral bending of the arm.

Referring now in detail to Fig. 2, the head bar 15 shown is of more or less conventional channel shape and is often formed of sheet metal. The bottom wall of this head bar has previously been perforated to form pairs of slots such as the slot 14 for passage of the branches of each of the ladder tapes such as ladder tape 20. The various fittings have already been secured in place along the bottom wall of the head bar 15, including tilt rod cradles such as cradle 21 shown in Fig. 2. The channel end brace 22 may already be in position or may be inserted at any later time. For a complete description of the head bar and its various fittings, see my above-referred-to Patent 2,629,434.

In order to incorporate the head bar 15 in a Venetian blind, a support 10 is inserted downwardly through each slot 14 of the head bar, the upper ends 16 of the supports 10 being hooked over the upper edges of the head bar as shown in Fig. 2. The head bar 15 may then be supported on a conventional rack, not shown, so as to hold the head bar in normal level position.

A ladder tape 20 is engaged with each pair of support 10, 10 by telescoping the looped upper ends of the ladder tape branches over the arms 11, 11. The ladder tapes are permitted to hang downwardly from the supports as indicated in Fig. 2. A bottom bar 24 may be secured to the lower ends of the ladder tapes 20 either before or after the tapes are hung on the support 10, preferably after lift cords have been reeved in the blind.

After the ladder tapes have been hung, the slats 25 of the blind may be inserted within the tapes, these slats being supported by the cross tapes or rungs 26 of the tapes. The lift cords 23 may be reeved through the head bar 15 and downwardly through the slats 25 and the ladder tapes 20 and attached to the bottom bar 24. In the case of "four lift cord" blinds, the cords are then repped upwardly through the blind slats.

After the lift cords 23 have been completely reeved, these cords are pulled so as to raise the blind to open position as shown in Fig. 3. In this position, the slats 25 are in superimposed relation on top of the bottom bar 24, thus taking the tension off the upper ends of the branches of the ladder tapes 20. The tilt rod or bar 27 together with its tape rockers 28, one of which is shown, may then be assembled within the head bar 15, the entire head bar being lowered if desired for ease of working on it.

To complete the assembly, the supports 10 are then individually drawn upward by hand so as to draw each ladder tape branch through its slot 14 in the bottom wall of the head bar 15. The looped upper end of the branch of the ladder tape is then engaged with the tape rocker 28 by passing the loop onto the short finger 30 of the tape rocker as the arm 11 of the support is withdrawn from the ladder tape (as shown in Fig. 5). For a more detailed description of the tape rocker and the engagement of ladder tape brackets therewith, see my Patent 2,589,846. When manipulating the support 10, the ball of the thumb or a finger of the operator may be engaged within the hole 17 of the support to aid in grasping it.

The above-described method of assembly has been found to considerably expedite and facilitate the assembly of Venetian blinds of the inclosed head type and particularly the reeving of the lift cords therein. The tool 10 has been found to be highly effective and desirable in carrying out the method.

I claim:

1. The method of assembling an inclosed head Venetian blind, said blind having a hollow head bar which, in the assembled blind, contains the operating mechanism for the blind including the tilt bar, the bottom wall of the head bar having slots therein for the passage of ladder tapes therethrough and holes for the passage of the lift cords, the ladder-tape-receiving slots being disposed in opposed pairs, the holes in the bar receiving the lift cords lying between the slots of each pair and the tilt bar being above and generally centered with respect to the ladder-tape-receiving slots, said method comprising: suspending each ladder tape from a pair of temporary supports passed downwardly through each ladder-tape-receiving slot and supported by the head bar, then inserting the slats in the ladder tapes, then reeving the lift cords through the holes in the head bar for such cords and through the slats of the blind, then raising the blind by means of the lift cords to support the slats by the lift cords and to remove the load from the ladder tapes, then inserting the tilt bar within the head bar, then raising each of the temporary supports to draw the upper ends of the ladder tapes upwardly through the slots in
the head bar and into the space within the head bar and attaching said ladder tape upper ends to the tilt bar.

2. The method of assembling an enclosed head Venetian blind, said blind having a hollow head bar which, in the assembled blind, contains the operating mechanism for the blind including the tilt bar, the bottom wall of the head bar having slots therein for the passage of ladder tapes therethrough and holes for the passage of the lift cords, the ladder-tape-receiving slots being disposed in opposed pairs, the holes in the bar receiving the lift cords lying between the slots of each pair and the tilt bar being above and generally centered with respect to the ladder-tape-receiving slots, said method comprising: suspending each ladder tape from a pair of temporary supports passed downwardly one through each ladder-tape-receiving slot and supported by the head bar, then inserting the slats in the ladder tapes, then reeving the lift cords through the holes in the head bar for such cords and through the slats of the blind, then inserting the tilt bar within the head bar, then raising each of the temporary supports to draw the upper ends of the ladder tapes upwardly through the slots in the head bar and into the space within the head bar and attaching said ladder tape upper ends to the tilt bar.

3. The method of assembling an enclosed head Venetian blind, said blind having a hollow, channel-shaped head bar which, in the assembled blind, contains the operating mechanism for the blind including the tilt bar, the bottom wall of the head bar channel having slots therein for the passage of ladder tapes therethrough and holes for the passage of the lift cords downwardly through the slats, the ladder-tape-receiving slots being disposed in opposed pairs, and the tilt bar being above and generally centered with respect to the ladder-tape-receiving slots and directly above the cord-receiving holes, said method comprising: suspending each ladder tape from a pair of temporary supports passed downwardly one through each ladder-tape-receiving slot and supported from the upper edge of the adjacent side of the head bar channel, then inserting the slats in the ladder tapes, then reeving the lift cords through said lift cord holes in the head bar and through the slats of the blind, then inserting the tilt bar within the head bar between the pairs of temporary supports, then raising the temporary supports to draw the upper ends of the ladder tapes upwardly through the slots in the head bar into the space within the head bar and attaching said ladder tape upper ends to the tilt bar.

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