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BOTTOM RAIL TAPE CLIP CONSTRUCTION FOR VENETIAN BLINDS

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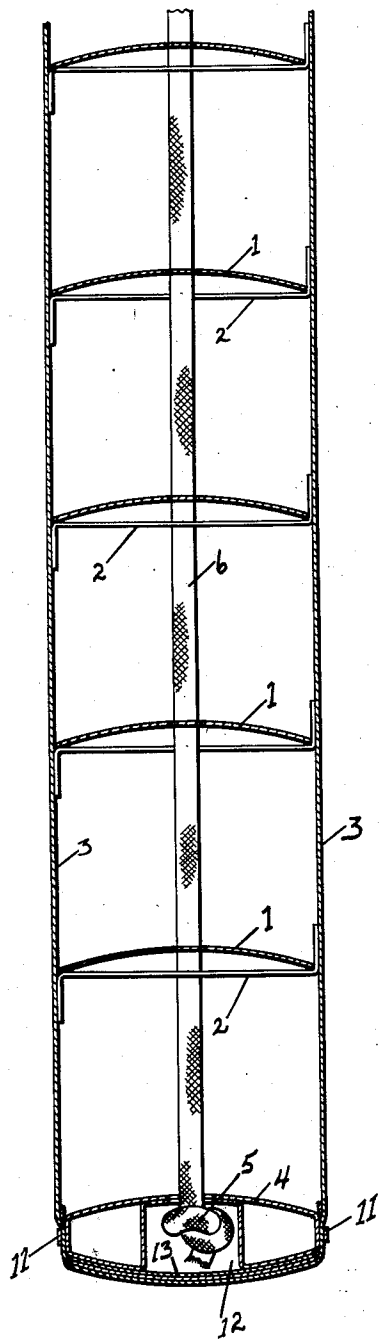


FIG. 1

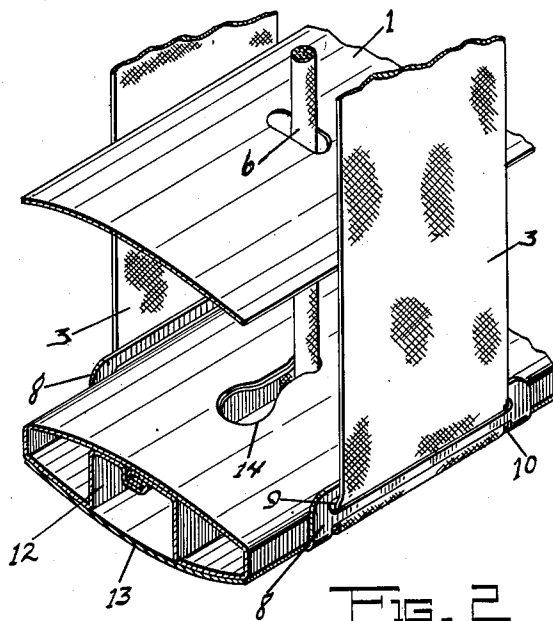


FIG. 2

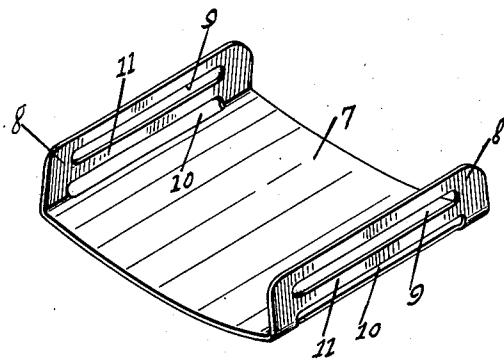


FIG. 3

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BOTTOM RAIL TAPE CLIP CONSTRUCTION FOR VENETIAN BLINDS

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4 Claims. (Cl. 160—178)

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The object of the present invention has been to devise certain novel means by way of improvements in Venetian blind construction, for the attachment of the slat supporting and operating tapes to the so-called bottom rail of the blind unit.

It is customary for the tapes of a Venetian blind to be secured at the upper end to the tilt-rail of the blind and at the lower end to the bottom-rail, as it is commonly known, and in the carrying out of the present invention it is contemplated to utilize quickly attachable clip means, adapted to be inter-engaged with the tapes above referred to for securing them properly to the said lower or bottom rail.

In its specific embodiment this invention contemplates the use of quickly attachable and detachable clip devices for the purpose just above mentioned, made from resilient or spring metal so as to provide for each of the clip members spring end extensions, adapted to be engaged with opposite edges of the bottom rail of the blind by pressure attachment of the clips to said rail in proper position for holding the tapes of the blind, two or more in number, securely attached to the bottom rail.

In addition to the foregoing phases of the present invention, it is contemplated to use in conjunction with bottom rail of blind, which is made of metal, preferably, a closing plate structure for the open bottom side of such rail which may be formed with a longitudinal recess or slot when made of metal. According to this invention the said closing plate may be made of the same material or metal from which the slats are formed and when applied to the bottom-rail enhances the appearance thereof and that of the whole blind. The said closing plate, which might also be called a finishing plate for the bottom rail, in the present invention, is connected to and held in place on said rail by the spring tape-securing clips or clip members hereinbefore referred to. Having the last phase of this invention in mind, therefore, it will be seen that the spring clip members utilized as the attaching means for the tapes perform a double function by reason of their cooperation with the closing or finishing plate.

A full understanding of this invention and the merits thereof will be had upon referring to the following description in conjunction with the annexed drawings, and in said drawings:

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Figure 1 is a vertical sectional view of the lower portion of a Venetian blind showing the embodiment of the present invention therein.

Figure 2 is a fragmentary perspective view, illustrating more particularly the bottom rail of the blind and the method of attachment thereto of the clips which hold the tapes properly secured to the rail, as well as the bottom finishing plate.

Figure 3 is a detailed perspective view of one of the clip members alone bringing out the special construction thereof, enabling their use for the purposes of the invention.

Referring to the accompanying drawings and setting forth the preferred embodiment of the present invention, it is noted that the portion of the Venetian blind illustrated in the drawings is that of the lower part of the blind and as seen includes the customary superimposed slats 1, which are supported in the customary way by the ladder members 2 of the vertical tapes 3. The blind shown is of conventional construction to the extent of using the above mentioned parts, and the bottom rail 4, which as shown, is made of metal and in cross-section tapers at its opposite edges, being provided with a longitudinal recess on the under side thereof in which the knots at the lower ends of the lift cords of the blind are adapted to be disposed, said knots being designated 5, and the lift cords being designated 6. The rail 4 has a convex top portion and its bottom portions at opposite sides of the knot recess are of downward convex contour.

Passing now to the manner of attachment of the supporting tapes 3 of the slats 1, with respect to the bottom rail 4, it is noted that there is employed in connection with and cooperating with the bottom rail 4, a spring clip 7, for each set of the tapes 3, one of which is, of course, located at the outer edges of the various slats 1, and the other at the inner edges of said slats. The spring clips 7 comprise essentially body portions of flat metal of a resilient nature which body portion for each clip 7, is formed at its front and rear edges with upwardly extending spring-engaging flanges 8, that are adapted to resiliently engage and interlock the clip or clip member 7, with the said rail 4. For the interlocking action the clip 7 is merely moved upwardly while the end flanges are engaged with the front and rear edges of the rail 4 and the resilient

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action of the flanges 8 maintains the clip or clip member 7 in positive, secured engagement with the rail 4. The body of each clip 7, is slightly curved downwardly at the middle portion, as quite readily to be seen on referring to the drawings, to conform with the shape of the under side of the rail 4.

Now each of the spring engaging flanges 8 of the clip member 7 is provided with an upper slot 9 and a lower slot 10, formed longitudinally of the spring flange, the disposition of said slots 9 and 10 providing a longitudinal bar 11 created by spaced disposition of the slots aforesaid.

The slots at 9 and 10 in each of the flanges 8 are provided to enable the interengagement of the lower ends of the front and rear tapes, 3, of each pair of the tapes, with the clip members 7 and the clamping of the said lower ends of the tape to the front and rear edge portions of the rail 4 by the spring action of the flanges 8 against said edges of the rail. With the above in view the lower ends of the tapes are threaded through the upper slots 9, and the lower slots 10, of the flanges 8, and when said flanges with the clip member 7, are brought into engagement with the rail 4, the bar parts 11 between the slots 9 and 10 act as clamping members or bars for holding said lower ends of the tapes tightly connected with the front and rear edge portions of the bottom rail for the blind unit.

According to the construction of the bottom rail 4 seen in the drawings, as previously referred to, said rail is so made that it provides the longitudinal bottom recess 12, in which the knots 5 of the lift cords 6 are disposed, housed, and in a manner, secreted.

The present invention, as previously indicated, contemplates employment of a covering or finishing plate adapted to lie close and flush with the surface of the under side of the rail 4, and this plate is preferably made of the material from which the metal slats 1 of the blind are formed, these slats being concavo-convex in cross section. Indeed a section of the slat material from which the slats 1 are formed and of the same length may be used, if desired, because customarily the bottom-rail 4 of a Venetian blind is of substantially the same length as the slats. By reversing the disposition of the so-called bottom plate 13 so that its concave side is upwards it will be observed that said plate will neatly and effectively contact the underside of the rail 4, so that it affords the appearance of a continuous bottom surface provided for the rail 4.

For holding the bottom plate 13 in place it is contemplated that same shall be applied to the under side of rail 4 previous to the application of spring clip members 7 to the rail 4, and that upon the springing of the members 7 into engagement with the rail 4, after the lower ends of the tapes 3 have been passed through the slots at 9 and 10 of the flanges 8, the closing or finishing plate 13, as well as the tapes, will be effectively held in position against said underside of the rail 4, by the spring clamping action of the members 7 into connection and engagement with the rail 4.

While the present invention is illustrated in conjunction with a Venetian blind construction utilizing primarily metal slats and a metal bottom rail, the principle of construction and operation of the parts comprising the invention would enable their employment in conjunction with wooden slat and bottom rail types of Venetian blinds, just as well.

The top portion of the rail 4 has key hole slots

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14 therein for enabling detachable engagement of the lower knots 5 of the lift cords 6 with the rail. The knots 5 are passed through the larger portions of the slots 14 and the cords are then slid into the narrower parts of the slots 14 as self-evident.

The invention hereof is not limited to the use of the bottom plate 13 which may be dispensed with, if desired.

The tapes 3 may terminate at their lower ends adjacent the front and rear edges of the rail 4 just below the lower slots 10 of the clip flanges. However, the tapes 4 may be continuous and connected at their lower ends as shown and thus extend below the rail 4 where such portions will be effectively clamped against the under side of the rail 4 by the body portions of the clip members 7.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent of the United States, is:

1. In Venetian blind construction, in combination, a bottom rail, slats above said rail, tapes for connecting the bottom rail and slats, and detachable spring clip members interengaging the bottom rail and lower ends of the tapes for positively connecting the tapes to said rail, and a detachable finishing plate on the bottom rail intermediate the under side of the rail and the bodies of the clip members and clamped in position thereon by the clip members.

2. In Venetian blind construction, in combination, a bottom rail, slats above said rail, tapes for connecting the bottom rail and slats, a finishing plate removably applied to the bottom of the bottom rail in flush contact therewith, and spring clips detachably engaged with said tapes and rail and holding the finishing plate in contact therewith.

3. In Venetian blind construction, in combination, a bottom rail, slats above said rail, tapes for connecting the bottom rail and slats, and detachable spring clip members interengaging the bottom rail and lower ends of the tapes for connecting the tapes to said rail, the clip members each comprising a body portion to lie against the body of the bottom rail and upwardly extending spring flange members engaging the front and rear edges of the bottom rail, the flange members having upper and lower horizontal slots therein through which the lower ends of the tapes pass at points between the flange members and the front and rear edge portions of the bottom rail, said slots being located between the planes of the top and bottom of the bottom rail.

4. In Venetian blind construction, in combination, a bottom rail, slats above said rail, tapes for connecting the bottom rail and the slats, said bottom rail comprising a top portion having downwardly extending side portions, and spaced bottom portions of approximately convex contour, a finishing plate for closing the bottom portion of the bottom rail and composed of a strip of metal such as used for the construction of the slats of the blind and of concavo-convex form, said finishing plate extending from end to end of the bottom rail and being substantially flush with said bottom portion of said rail and having its concave side contacting the convex contour bottom portions of the bottom rail, and spring clips for attachment of the tapes and the said finishing plate to the bottom rail, each of said clips comprising a body portion having end upwardly extending spring flanges, the spring flanges being in spring engagement with the side

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portions of the bottom rail and being formed with upper and lower elongated openings therein through which the tapes of the blind are passed, said flanges detachably securing the tapes at the lower end portions thereof to the opposite sides of the bottom rail, and the finishing plate being detachably held in position against the bottom portion of the bottom rail by the engagement of the body portions of the spring clips with the latter.

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