

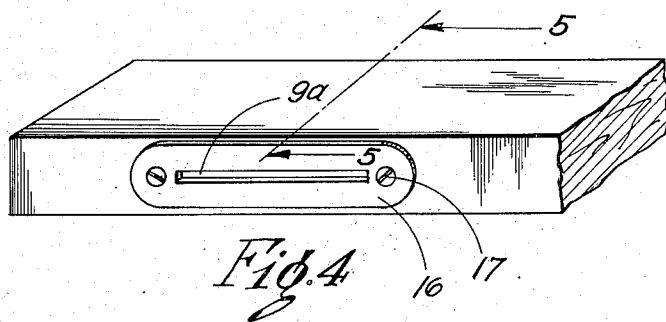
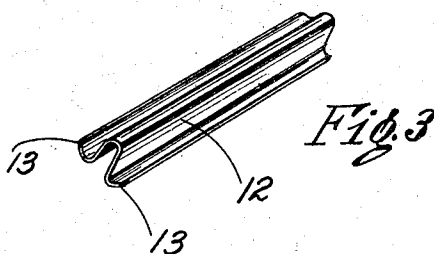
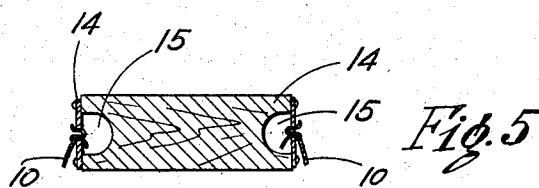
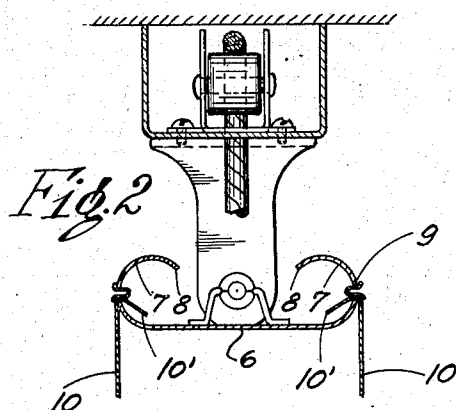
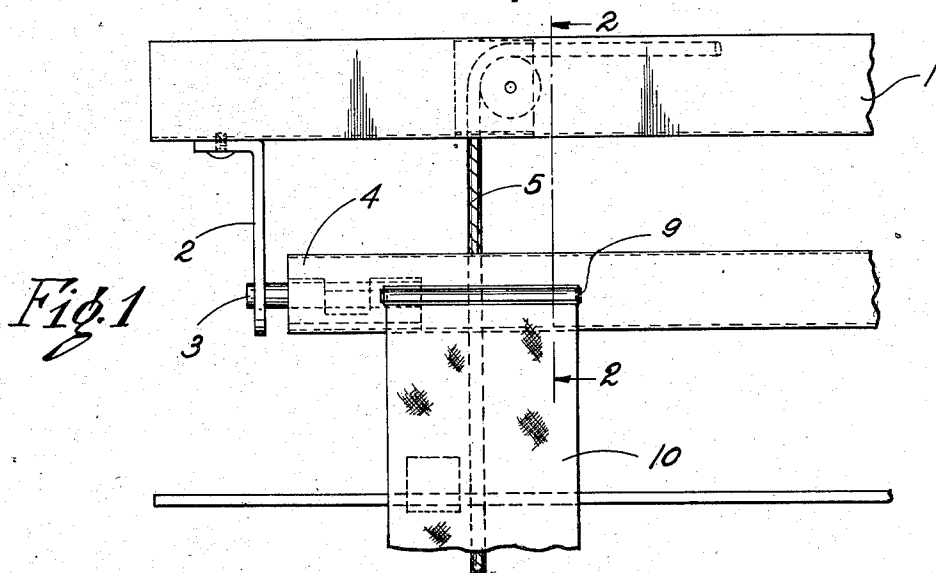
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2,111,980

VENETIAN SHADE

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2,111,980

VENETIAN SHADE

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Application September 29, 1936, Serial No. 103,090

11 Claims. (Cl. 156—17)

This invention relates to Venetian blinds and more particularly to an improved means for securing the ladder tapes which support the slats between the upper and lower rails to said rails.

5 This application is in part a division of our co-pending application Serial No. 753,586, filed November 19, 1934.

Venetian blinds usually comprise a tiltable top rail which may carry suspended therefrom two or more ladder tapes, on the cross pieces of which are supported the usual slats. The bottom ends of the ladder tapes usually carry a bottom rail. Heretofore the ladder tapes have been secured to the upper and lower rails, which are usually made of wood, by tacking the same to the rails with nails, tacks, or by screws which pass through the fabric of the tape into the rails. The previous means used for securing the tapes to the rails had several disadvantages: tacks through the fabric of the ladder tapes tended to weaken the fabric; not only did they weaken the fabric, but they concentrated the area where the strain comes upon the fabric to a very small area, thus causing the tapes to tear quickly when under slight strain. It was also considerable work to remove the tapes from the rails for cleaning; and after being removed a few times the rail was mutilated by being filled with tack holes. With the prior art devices it was also difficult to adjust the tapes to the desired length.

By our present invention, the defects of the prior tape holding methods have been eliminated and the tapes may be quickly and easily attached to the rails without the use of tools. Furthermore by our improved clamping means the place where the tape is attached to the rail is a distributed area extending across the entire width of the tape and providing an extremely strong attachment. The device is particularly adapted to metal rails, but is also capable of attachment to the wood rails with but slight change thereto. The tapes may be quickly and easily removed for cleaning and readily adjusted to the desired length without any apparent wear to either the tapes or rails.

Still other desirable features of the invention and the invention itself will become more apparent from the following description which together with the accompanying drawing illustrates the invention.

In the drawing:

Fig. 1 is a fragmentary elevational view showing the upper tiltable rail and the end of a ladder tape attached thereto;

Fig. 2 is a section taken on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged perspective view of the resilient metal wedge used in our invention;

Fig. 4 is a perspective of a wood rail adapted to our invention; and

Fig. 5 is a section on the line 5—5 of Fig. 4.

Referring to the drawing throughout which like parts are designated by like reference characters, the connection of the tape to the upper tilt rail only is shown, it being understood that the connection of the tape to the lower rail may be similar.

An upper non-tilting head rail 1 is provided adapted for attachment to the casing of a window or the like in any desirable manner. It is provided with downwardly depending brackets 2 at the ends for the reception of the trunnions 3 of the upper tilt rail 4.

A cord 5 is shown for raising and lowering the blind but forms no particular part of the present invention and hence will not be further considered.

We have found metal rails to be particularly desirable, but it is to be understood that the rail may be wood or other material and that the invention is not limited to metal rails. As best shown in Figs. 1 and 2, the rail comprises a flat intermediate portion 6 and having curved sides or beads 7. The space between the free edges 8 may be filled with a strip as shown in our co-pending application Serial No. 55,540 of December 21, 1935. In the top rail, however, the strip would not show, so therefore it may be eliminated for reasons of economy.

Each of the sides 7 is provided with an elongated slot 9 extending longitudinally of the rail and of a length and breadth sufficient to permit the easy insertion of a ladder tape 10, which ladder tape may be of the usual and well known construction. The free end 10 of the tape extends into the interior of the rail and is secured therein by a metal clip or wedge (Fig. 3). The wedge may be made of thin resilient metal and comprises a substantially U-shaped body 12 having a pair of laterally extending flanges 13. The clip is forced into the slot 9 and the body 12 engages the tape for the entire width of the tape holding it securely against the edge of the metal forming the slots. The flanges 13 lay along the exterior surface of the rail conforming to the surface thereof, preventing the clip from being pushed entirely through the slot and furnishing a convenient means for engaging the clip for removal.

It is obvious that the invention may also be applied to blinds where the tilt means for the slat is enclosed in the head rail, the head rail acting as a housing for the tilting and raising mechanism. In this case a single rod might be 5 journaled in bearings on opposite ends of the head rail and the tilt means be connected directly on the rods or even in some instances be separate levers connected by gears to such a rod. In 10 either event the tapes would be secured in a socket to the tilting member or members in a similar manner to that previously described. It being understood that the tape fastening means is not limited merely to attachment of tapes to 15 tilt rails such as are disclosed in the drawing.

Figs. 4 and 5 show a wood rail adapted for use with our invention. In this instance the edges 14 of the rail are hollowed out to provide pockets 15 and over the pockets are disposed plates 16 20 secured to the rail by screws or the like 17. The plates have slot 9a similar to those in the metal rail. The manner in which the tape ends are held in the slots is exactly the same as in the metal rails.

It is to be noted that by this improved fastening means the strain of the fastening is distributed across the entire width of the tape instead of being localized in a small area. We have found that it is practically impossible to disengage the 30 tape from the slat by pulling upon the tape and that the tape can be quickly removed or inserted without the use of tools. This ease of removal also facilitates the making of the proper adjustment of the tapes as to length. The clip being 35 resilient also permits certain variations in thickness of the tape. It may also be readily bent to increase or decrease its thickness to allow for manufacturing tolerances as to the width of the slot.

Having thus described our invention we are aware that numerous and extensive departures may be made therefrom but without departing from the spirit and scope of the appended claims.

We claim:

1. In combination with a flexible tape for a Venetian blind, top and bottom shutters therefor having their side edges rolled into beads, said beads being slotted and said tape having its ends inserted in said slots, means for removably and 50 adjustably clamping said ends in said slots.

2. In combination with a flexible tape for a Venetian blind, top and bottom shutters therefor having their side edges rolled into beads, said beads being slotted and said tape having its ends 55 inserted in said slots, means for removably and adjustably clamping the ends of the tape.

3. In combination with a ladder tape for Venetian blinds, a top and bottom supporting member therefor formed to provide slots for the reception of said tape, metal clips adapted for insertion in the slots for removably and adjustably clamping the ends of the tape inserted in the slots.

4. In a shutter type window shade, an end shutter having each side portion thereof rolled into a bead, said beads being slotted, said end shutter connected to flexible straps which are severally inserted in the slots formed in the said rolled beads, and U-shaped spring metal clips 65

inserted in said slots for clamping the ends of the straps in place.

5. In a Venetian blind, top and bottom rails therefor, a ladder tape, said rails having metal side edges, said edges having longitudinally extending slots for receiving the ends of said ladder tape, and means for removably and adjustably clamping said ladder tape ends in said slots.

6. In a device of the class described, a rail for a Venetian blind having its side edges formed to provide slots of the approximate length of the width of the ladder tape to be used on the device, a ladder tape having its free ends inserted in the slots, clips for holding the ladder tape in the slots, each clip comprising a resilient body adapted to wedge the tape between the clip and one edge of the slot.

7. In a device of the class described, a rail for a Venetian blind having its side edges formed to provide slots of the approximate length of the width of the ladder tape to be used on the device, a ladder tape having its free ends inserted in the slots, clips for holding the ladder tape in the slots, each clip comprising a resilient body adapted to wedge the tape between the clip and one edge of the slot and having laterally extending flanges for preventing the clip from being pushed through the slot.

8. In a device of the class described, a rail for a Venetian blind having its side edges formed to provide slots of the approximate length of the width of the ladder tape to be used on the device, a ladder tape having its free ends inserted in the slots, clips for holding the ladder tape in the slots, each clip comprising a resilient body adapted to wedge the tape between the clip and one edge of the slot and having laterally extending flanges for preventing the clip from being pushed through the slot, said flanges conforming to the surface of the rail.

9. In a device for holding ladder tapes to the top and bottom rails of a Venetian blind comprising recesses formed in the rails, each recess having a cover plate, a slot in the cover plate adapted to receive an end of a ladder tape, and means to retain the tape in said slot comprising a resilient metal wedge.

10. In a device for holding ladder tapes to the top and bottom rails of a Venetian blind comprising recesses formed in the rails, each recess having a cover plate, a slot in the cover plate adapted to receive an end of a ladder tape, and means to retain the tape in said slot comprising a resilient U-shaped metal wedge adapted to hold the tape against the edge of the metal on one side of the slot.

11. In a device for holding ladder tapes to the top and bottom rails of a Venetian blind comprising recesses formed in the rails, cover plates for the recesses, slots in said cover plates adapted to receive the ends of the ladder tapes, and means for retaining the tapes in said slots comprising metal wedges, each having a body of U-shaped cross section, and a pair of flanges extending laterally from the free ends adapted to engage the sides of the slot and hold the tape between the clip and the edge of the slot.

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