Nov. 2, 1954 R. F. ANDERSON 2,693,010

VENETIAN BLIND

Filed May 10, 1950 3 Sheets-Sheet 1

Fig. 1.

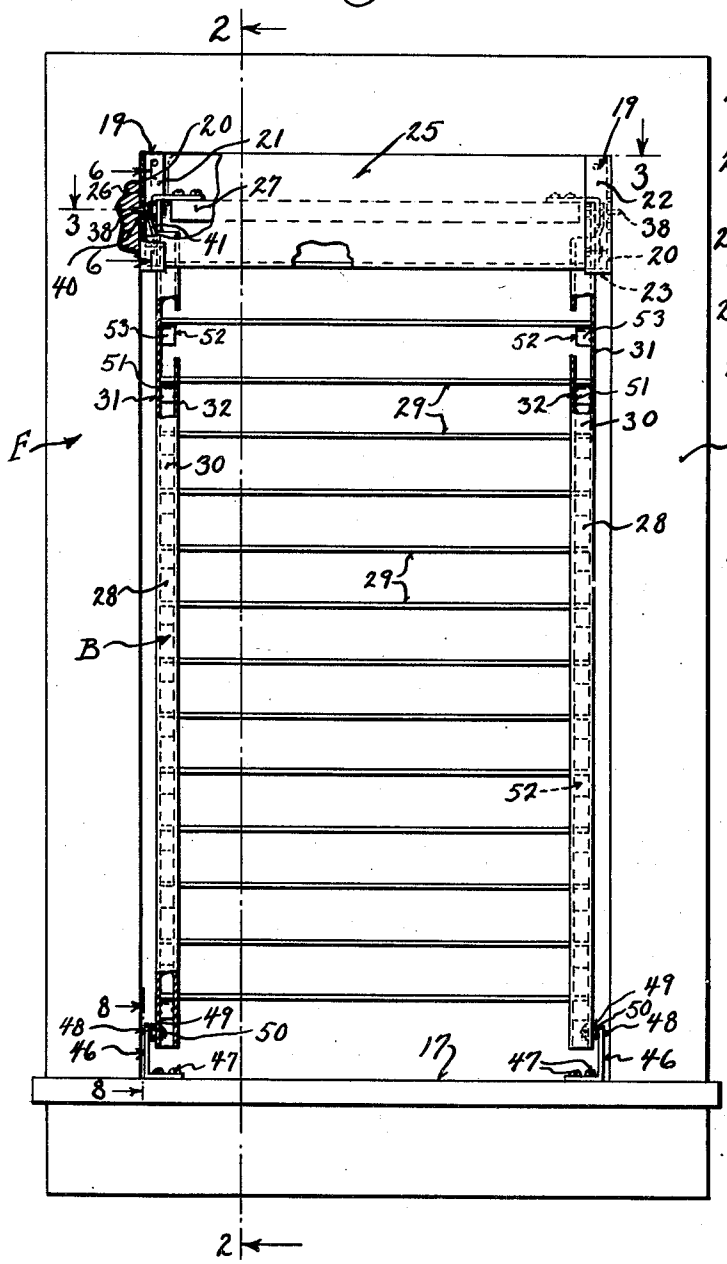
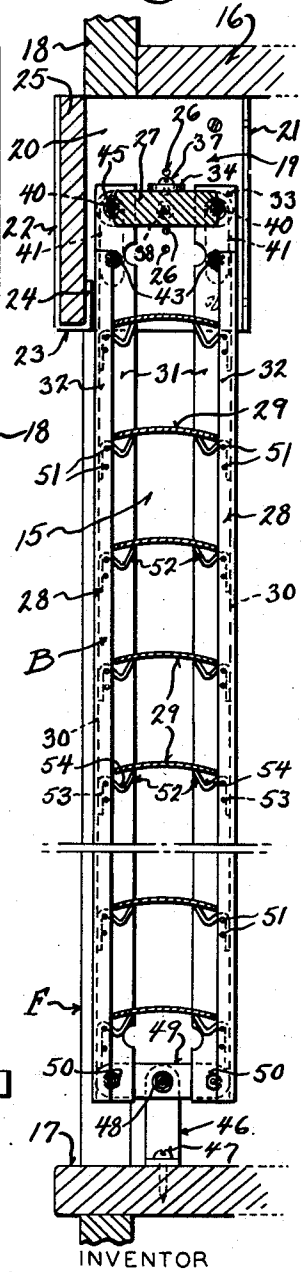


Fig. 2.



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Nov. 2, 1954 R. F. ANDERSON 2,693,010

VENETIAN BLIND

Filed May 10, 1950 3 Sheets-Sheet 2

Fig. 3.

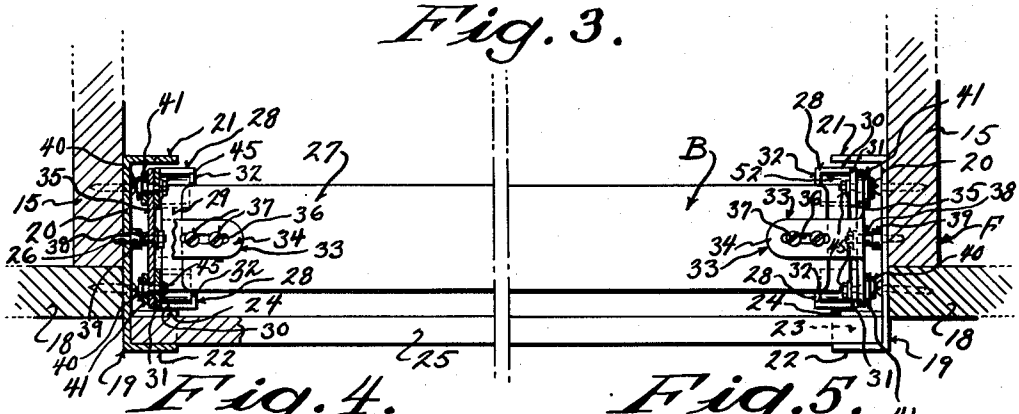


Fig. 4.

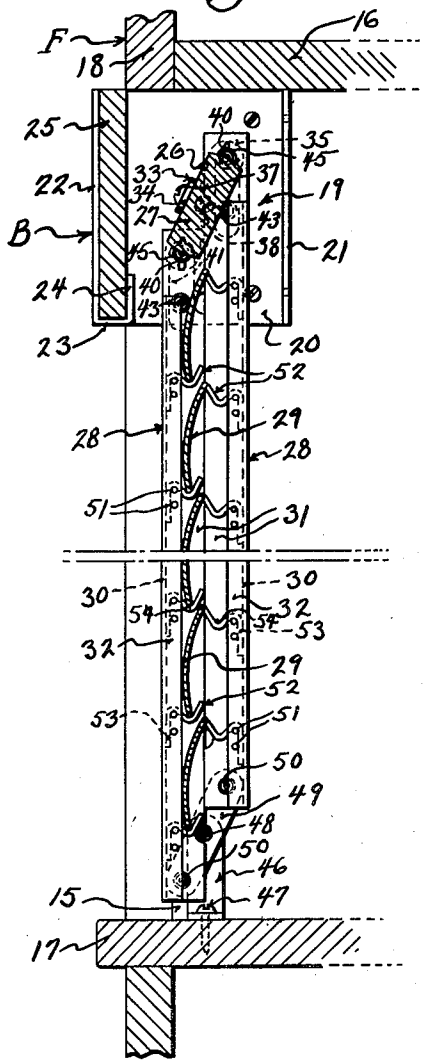
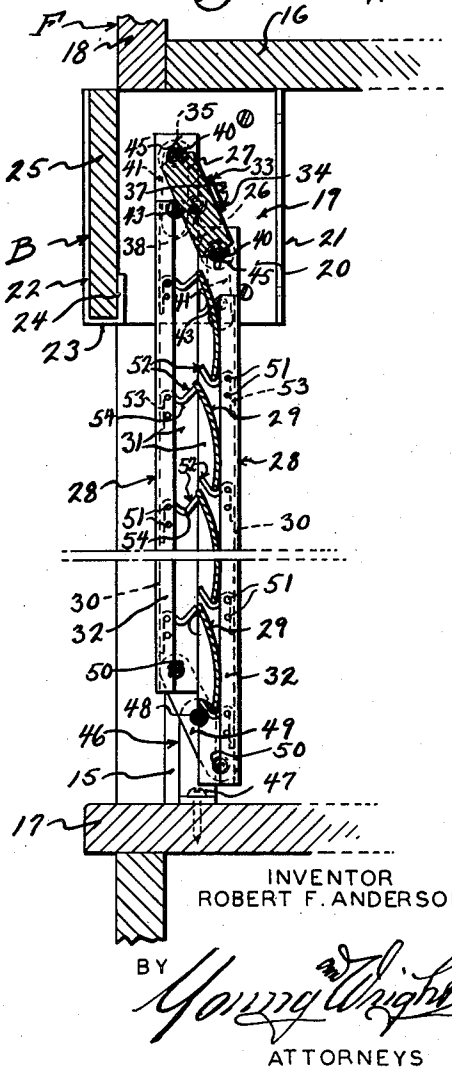


Fig. 5.



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Nov. 2, 1954 R. F. ANDERSON 2,693,010

VENETIAN BLIND

Filed May 10, 1950 3 Sheets-Sheet 3

Fig. 6.

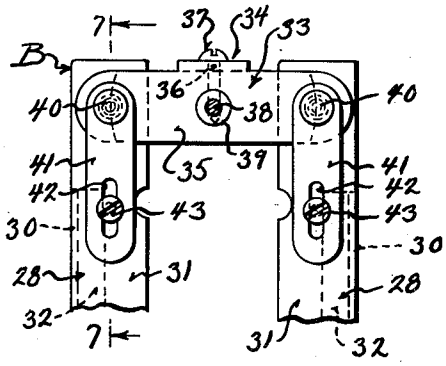


Fig. 7.

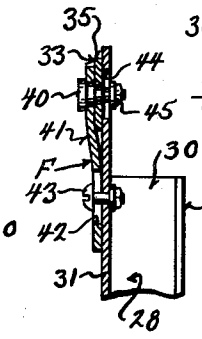


Fig. 8.

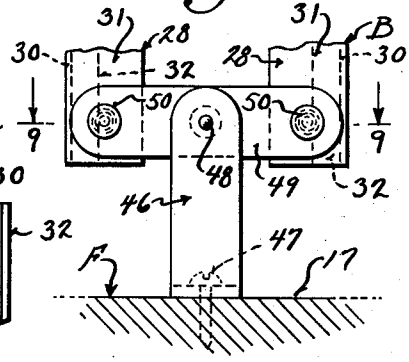


Fig. 9.

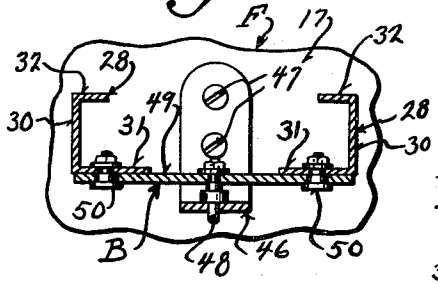


Fig. 10.

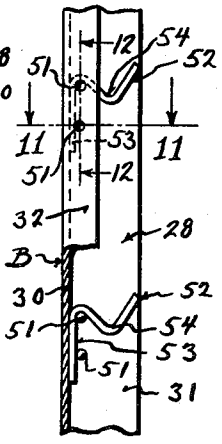


Fig. 11.

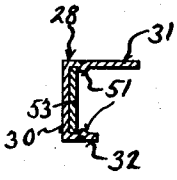


Fig. 14.

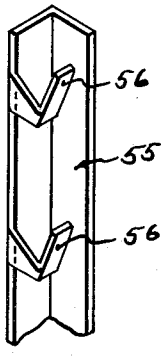


Fig. 12.

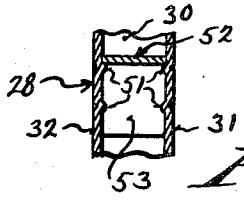
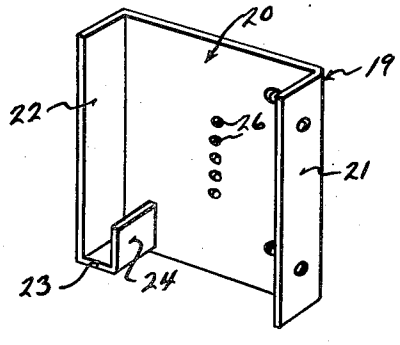


Fig. 13.



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United States Patent Office 2,693,010 Patented Nov. 2, 1954

2,693,010

VENETIAN BLIND

Robert F. Anderson, Kenosha, Wis.

Application May 10, 1950, Serial No. 161,197

1 Claim. (Cl. 20—62)

This invention appertains broadly to shades, curtains, and the like, and more particularly to a novel Venetian blind construction for windows, and is a continuation in part of my original application Ser. No. 602,517, filed June 30, 1945, now abandoned.

One of the primary objects of my invention is to provide a Venetian blind in which the use of supporting tapes and pull and tilting cords for the slats is dispensed with, whereby the difficulties contingent with the use thereof is eliminated.

Another salient object of my invention is to provide a Venetian blind which can be easily and quickly installed on window frames by a workman and which can be readily manipulated and kept clean by the housewife.

A further object of my invention is to provide novel means for supporting the slats of a Venetian blind, whereby the slats can be quickly removed from the blind without the manipulation of any fastening elements, clips, or the like, so that the slats can be readily and easily dusted or cleaned when necessary by the housewife, without the necessity of removing the entire blind.

A further important object of my invention is to provide a novel frame for detachably and individually supporting the slats with means whereby the slats can be expeditiously tilted to any desired angle.

Another important object of the invention is the provision of novel brackets or hooks carried by the movable guide rails of the blind, whereby to facilitate the tilting of the slats during adjustment of the guide rails and to prevent accidental displacement of the slats, when said slats are in their fully closed position.

A further important object of the invention is the provision of novel means for detachably connecting the slat hooks or brackets with the rails, so that the same can be quickly and easily associated with the rails.

A still further object of the invention is the provision of means whereby fine adjustment of the guide rails can be had relative to the top of the window frame, so that the blind can be quickly associated with window frames in which small variances in height occur.

A still further object of the invention is to provide a Venetian blind which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a front elevational view showing my novel blind in place on a window frame, parts of the view being shown broken away and in section, to illustrate structural detail.

Figure 2 is an enlarged longitudinal sectional view through the Venetian blind and window frame, taken on the line 2—2 of Figure 1, looking in the direction of the arrows and illustrating the open position of the slats.

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 1, looking in the direction of the arrows illustrating the novel means employed for connecting the top rail to the window fixtures for the blind.

Figure 4 is a view similar to Figure 2, but showing the blind in an adjusted position with the slats moved to a substantially closed position.

Figure 5 is a view similar to Figure 4, and showing the slats adjusted to another position.

Figure 6 is an enlarged fragmentary detail sectional view taken on the line 6—6 of Figure 1, looking in the direction of the arrows and illustrating the novel means for supporting the upper end of the blind and means whereby a minute fine adjustment can be had.

Figure 7 is a detail vertical sectional view taken on the line 7—7 of Figure 6, looking in the direction of the arrows illustrating the adjustment.

Figure 8 is an enlarged detail fragmentary vertical sectional view taken on the line 8—8 of Figure 1, looking in the direction of the arrows illustrating the window sill bracket for the lower ends of the guide and adjustment rails.

Figure 9 is a detail horizontal sectional view taken on the line 9—9 of Figure 8, looking in the direction of the arrows illustrating the window sill fixture.

Figure 10 is an enlarged fragmentary detail side elevational view of one of the guide and adjustment rails illustrating the novel means for detachably associating the supporting hooks or the brackets with the rail, parts of the rail being shown broken away and in section.

Figure 11 is a detail transverse sectional view through a rail taken on the line 11—11 of Figure 10 looking in the direction of the arrows.

Figure 12 is a detail fragmentary vertical sectional view through a rail taken on the line 12—12 of Figure 10, looking in the direction of the arrows and illustrating the means for detachably connecting a slat supporting hook or bracket to the rail.

Figure 13 is a detail perspective view of one of the fixtures for the upper end of the blind.

Figure 14 is a detail fragmentary perspective view illustrating a slightly modified form of one of the guide and supporting rails for the slats.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter B generally indicates my novel Venetian blind, and F a window frame with which the same can be associated.

The window frame F can be considered of the type generally found in buildings and forms no part of my present invention, and will not be described in detail. It is to be noted, however, that the same includes the side stiles **15**, a lintel **16** and a sill **17**. Finishing framing pieces **18** can surround the stiles, lintel and sill.

My novel Venetian blind B includes a pair of companion supporting brackets or fixtures **19**, which are so constructed as to permit the securing thereof to the exposed faces of the stiles **15**, whereby the blind can be placed directly within the window frame or to the outer faces of the framing pieces **18**, so that the blind can be secured to the outside of the frame.

Each of the companion brackets or fixtures **19** comprise a face plate **20** having formed on its rear edge a right angularly extending apertured flange **21**. The face plate **20** is also apertured adjacent to its inside corners, and consequently fastening elements can be passed through either the face plate **20** or the flange **21**, to place the bracket on the inside of the window frame, as shown, or to the outer face of the window frame. Where the face plates **20** of the brackets or fixtures **19** are secured inside the frame, the front edges of the face plates **20** project beyond the window frame and the front edges of the face plates have formed thereon inturned right angularly extending guide flanges **22**. The lower ends of the flanges **22** are provided with rearwardly directed feet **23**, and the inner edges of the feet carry upturned arms **24**, which are arranged in spaced, parallel relation to the front flanges **22**. A finishing board or ornamental strip **25** extends transversely of the window and is carried by the brackets or fixtures **19** and the lower edges thereof fit against and are supported by the feet **23**. The arms **24** constitute stops for the finishing piece **25**. Each face plate **20** of the brackets or fixtures **19** is provided with a vertical row of bearing openings **26**, the purpose of which will later appear.

The Venetian blind per se, includes a top supporting board or rail **27**, mounted for rocking movement, and this rail or board forms in conjunction with pairs of vertical guide rails **28**, a frame for detachably support-

ing a plurality of equidistantly spaced, blind slats 29. The slats 29 can be formed from wood or metal, as may be preferred.

The guide rails 28 form an important part of my invention, and are preferably constructed from sheet metal and each vertical guide rail is of a substantially U-shape in cross section. Hence each vertical guide rail includes a connecting wall 30, and inwardly directed flanges 31 and 32. The flanges 31 can be of a greater width than the flanges 32. As is clearly shown in Figures 2 to 5, inclusive, and 9, the guide rails are arranged in pairs on each side of the window and are carried by the top rail or board 27. As brought out above, the top rail or board 27 is mounted for rocking movement and the board is adjustably carried by the window brackets or fixtures 19. In order to rockably support the top rail or board 27, the opposite ends thereof have secured thereto fixture supporting plates 33. Each of these fixture supporting plates 33 includes a centrally disposed arm 34 and an outer depending right angularly disposed rock plate 35. The arms 34 are adjustably secured to the ends of the top rail or board 27, so as to allow for slight variations in the width of a window. As shown, each of the arms 34 is provided with a longitudinal slot 36 and screws 37 extend through each slot and into the board or top rail 27. Rigidly fastened to the center of each rock plate 35 is a pivot pin or pintle 38, having formed thereon a limiting collar or flange 39. The pivot pins 38 are inserted in the selected bearing openings 26 of the frame fixtures or brackets 19 and by inserting the pivot pins or pintles 38 in the selected openings 26, the top rail can be adjusted relative to the height of the window. The side stiles 15 can be drilled at the points of insertion of the pivot pins 38 in the selected openings 26 and the drilled openings form additional bearing supports for the pivot pins. As heretofore stated, the top rail or rock board 27, carries the corner vertical rails 28, and the terminals of the rock plates 35 carry short pivot studs 40 and these pivot studs rockably support the corner guide rails 28. In order to permit a very fine adjustment to be had besides the spaced openings 26, the upper ends of the corner guide rails 28 have adjustably connected thereto straps 41. As shown, the straps 41 are provided with longitudinal slots 42 and adjustment screws 43 extend through the slots and into the rails 28. Consequently, the straps 41 can be raised and lowered within certain limitations. The upper ends of the straps 41 are provided with bearing openings and the pivot pins 40 extend through the bearing openings and into the slots 44 formed in the upper ends of the rails 28. Threaded on the pivot studs 40 are nuts 45 which bear against the rails 28. From the construction so far, it can be seen that the top rail 27 is free to rock in the window fixtures 19, and that the corner guide rails 28 in turn rock on the top rail or board 27.

Means is provided for anchoring the lower ends of the corner guide rails 28 in place and for rockably supporting said lower ends whereby the corner guide rails can be raised and lowered. As illustrated, I provide bottom window sill anchor brackets 46, and these brackets can be rigidly secured in place against movement by screws 47, which can enter the frame sill 17. The vertical arms of the window sill brackets 46 receive pivot pintles 48 carried centrally by bottom rock plates or bars 49. The terminals of the rock plates or bars 49 are connected with the corner guide rails 28 by pivot studs 50.

By this construction and arrangement, one rail 28 can be grasped by the operator and upon vertical shifting of this rail, the other rails will be moved therewith.

The rails 28 form means for detachably supporting and rockably carrying the blind slats 29 and novel means is provided for supporting said slats.

In one preferred form of supporting the slats, the parallel flanges 31 and 32 of the guide rails have struck out therefrom adiacent to the wall 30 pairs of guide teats 51. These pairs of guide teats 51 are equidistantly spaced along the vertical length of each guide rail, for a purpose which will now appear. Detachably carried by each rail at equidistantly spaced points are slat supporting fingers or brackets 52. Each of the slat supporting

fingers or brackets 52 include a vertically disposed flat shank 53 and an outwardly projecting V-shaped arm 54. Each shank 53 is substantially the width of a guide rail and the shanks of the fingers or brackets 52 are forced between the walls 30 and the teats 51 of the guide rails. This is clearly shown in Figures 10, 11 and 12. By this construction, a simple and easy means is provided for fabricating the rails 28 and for detachably associating the fingers or brackets 52 therewith.

As is clearly shown in Figures 2 to 5, inclusive, the blind slats rest on the hook or V-shaped fingers 52 and the corners of the slats are received within the rails 28 and the corners of the slats can engage the flanges 31 of the rails and the edges of the rail flanges 32.

While the construction of the rails 28 and the fingers, or brackets 52, shown specifically in Figures 10, 11 and 12 is preferred, the rails can be constructed in other manners. In Figure 14 I have shown angle shaped corner rails indicated by the reference character 55, and one flange of each rail 55 can have formed directly thereon at equidistantly spaced points, V-shaped hooks or fingers 56 for receiving the slats. By referring to Figures 1 and 2, it can be seen that when the top rail or board 27, is in a horizontal position, that the blind slats 29 are likewise in a horizontal position, and hence the blind will be open to its full extent. When it is desired to completely close the blind, see Figures 4 and 5, one of the front rails 28 can be grasped and this rail can be moved down, as shown in Figure 4, or moved up as shown in Figure 5, to its full extent and the top and bottom rock plates or bars 35 and 49 will be tilted on their fixtures and the rails of the pairs of rails will be moved toward one another and the blinds will be tilted to their full extent. Much stress is laid on the construction of the slat supporting fingers or brackets, and it is to be noted that these fingers form a full support for the longitudinal edges of the slats at the terminals thereof and accidental displacement of the slats is prevented. Obviously, any degree of tilt of the slats can be had between the positions shown in Figure 2 and Figures 4 and 5, by moving the guide rails 28 the desired up and down distance. The construction is such that a frictional bind exists between the moving parts and this frictional bind is sufficient to hold the Venetian blind in its desired adjustment.

If such should be desired, any preferred means can be utilized for supporting the blind slats intermediate their ends, where the blinds are utilized on wide windows.

Various changes in details may be made, without departing from the spirit or the scope of this invention, but what I claim as new is:

In a permanent Venetian blind, corner guide rails of a substantially U-shape in cross section each including a wall and spaced parallel flanges, said flanges having struck in teats adjacent to the wall, and freely removable slat receiving seats, each including a vertical shank and a V-shaped arm, the shanks of the seats being received between the wall and the struck in teats the V-shaped arms being adapted to detachably and rockably support a longitudinal edge of a slat.

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