June 4, 1940. E. M. TRAMMELL 2,203,372

HEADRAIL ASSEMBLY FOR VENETIAN BLINDS

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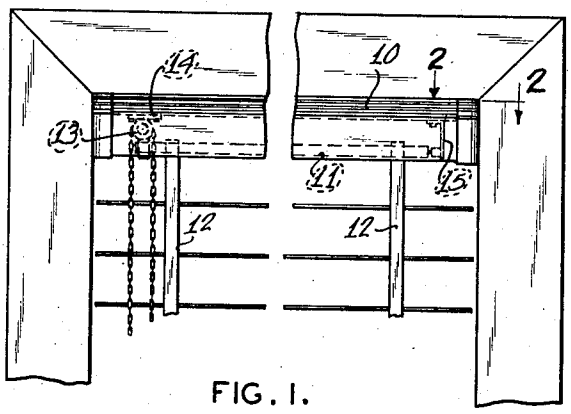


FIG. 1.

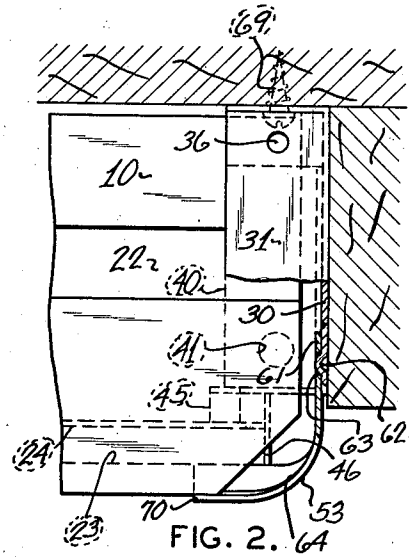


FIG. 2.

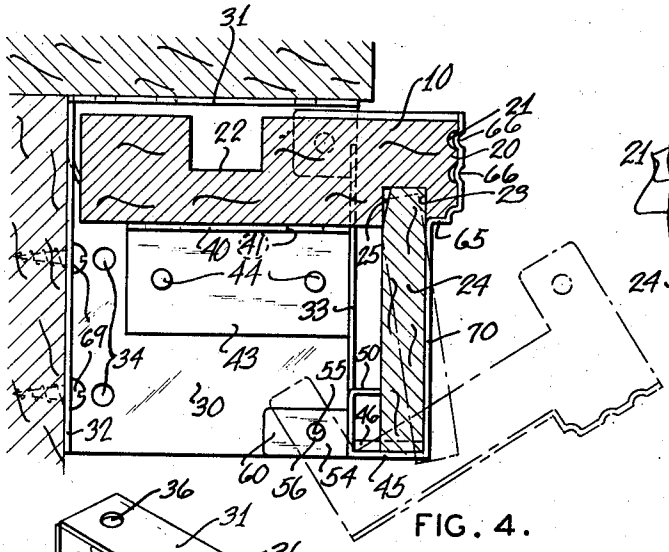


FIG. 4.

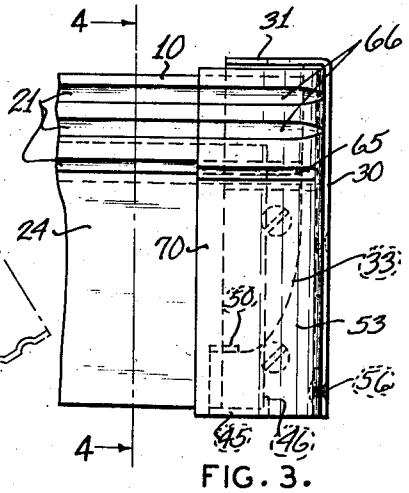


FIG. 3.

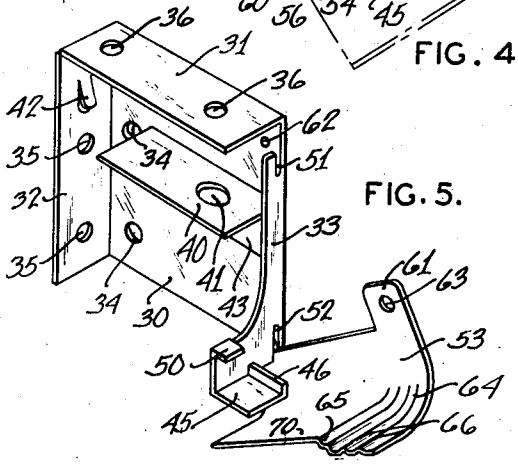


FIG. 5.

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HEADRAIL ASSEMBLY FOR VENETIAN BLINDS

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10 Claims. (Cl. 156—17)

This invention relates to improvements in headrail assemblies for Venetian blinds, and more particularly to an improved construction of headrail and valance elements as well as improved bracket members for endwise supporting the headrail and valance in assembly, and therethrough, for supporting the operative elements of the blind structure.

According to the usual prevailing practice in the manufacture and erection of Venetian blinds, the operative elements and mechanism of the blind assembly, including tilting and lifting members, together with slats, tapes, etc., are carried in suspended relation from a single upper mounting rail commonly designated as a headrail. The headrail is supported in the window opening usually by end brackets of some form, and according to length of the blind and width of window opening, sometimes one or more intermediate supports have heretofore been required. A valance board when utilized, had heretofore been employed for the primary purpose of providing a facing or closure for the upper portion of the blind assembly, so as to conceal the tilting mechanism and certain of the lifting elements associated with the blind. As far as is known however, the valance, or valance board as it is sometimes designated, has heretofore formed no particularly useful structural or functional purpose in the headrail assembly but has been restricted to the use of providing merely an ornamental effect or closure for the purpose noted.

It is a major purpose of the present invention so to combine the headrail and valance in assembly as to utilize the valance as a part of the blind supporting structure cooperating with the headrail; more specifically and preferably, to employ the valance as a strut or truss extending transversely of the window opening, but longitudinally of the headrail. The present invention in its broader aspects comprehends a general improvement in the head portions of the Venetian blind assembly of the type referred to.

A further general object of the invention may be stated as attained in a novel combination and arrangement of headrail, valance and end brackets so assembled that the valance and headrail are interfitted, and the end brackets serve to surround the end portions of the valance and headrail in a manner better to enclose the operating portions of the assembly than in heretofore existing blind structures.

Yet another object of the invention is attained in means provided by improved construction of the end brackets for the headrail assembly, such that the valance and headrail, together with the blind elements supported thereby, may be quickly and easily demounted for cleaning or service, and quickly replaced to operative position without requiring any tools or special equipment, and so that the demounting and replacement require only a minimum of time.

A still further object of the invention is attained in an improved construction of brackets for supporting a headrail, or a headrail and valance assembly, the improvements in bracket construction being applicable to many types of Venetian blinds, and the elements of improved bracket design being in furtherance of certain of the objects heretofore stated.

Yet another object is attained in an improved mounting means for the valance such that it may be readily and instantly removed and replaced without requiring any displacement of the headrail and appurtenant parts.

The foregoing and numerous other objects will be apparent from the following detailed description of a preferred embodiment of the invention, considered in connection with the accompanying drawing, in which:

Fig. 1 is a front elevation of a Venetian blind assembly to which the improvements of the present invention are applied; Fig. 2 is a fragmentary sectional elevation in a horizontal plane through the assembly of Fig. 1, particularly as taken along line 2—2 thereof; Fig. 3 is an enlarged front elevation of one end of the headrail, valance board assembly, and one of the brackets, as shown by Fig. 1; Fig. 4 is a vertical sectional elevation as viewed along line 4—4 of Fig. 3, and Fig. 5 is an elevation in perspective of one of the preferred forms of the brackets, showing the bracket as it would appear when utilized at the right hand end of the headrail assembly.

Referring now by characters of reference to the drawing, the preferred arrangement comprises the headrail 10 horizontally disposed to extend across the window opening, as indicated by Fig. 1, and to constitute a support for a tilt rail 11, with which is associated ladder tapes 12 and tilting mechanism generally indicated at 13; the tilt rail being mounted for example, by a flange 14 and a tilt rail bracket 15, the brackets 14 and 15 being secured, for example by screws extended upwardly into the headrail so that the blind assembly is mounted in depending relation thereto. Other modes of mounting will suggest themselves to those skilled in the art, it being understood that the specific arrangement by which the operative elements of the blind are

secured to the headrail, constitutes of itself, no part of the present invention.

The headrail 10 is provided with a forwardly projecting ornamental bead or beading 20, which portion is, for reasons of appearance and strength, projected forwardly of the valance or valance board, to be described. The forwardly projecting portion 20 serves not merely an ornamental purpose, being sometimes referred to as an architectural return, but serves, as will later appear, a distinctly structural function in establishing the relation between the headrail and valance. In the arrangement illustrated, the ornamental bead portion 20 is provided with a plurality of grooves or flutes 21, being longitudinal recesses in the forward face of this portion of the rail.

In accordance with prevailing practice in connection with certain types of Venetian blinds, the upper surface of the headrail is provided with a longitudinal recess or groove 22 which serves as a channel for the horizontal passes of the lift ropes or wires (not shown). In the preferred embodiment illustrated, the under surface of the headrail 10 near its forward margin, and particularly just below the bead portion, is provided with a longitudinal groove 23, which is preferably of a width substantially the same as the thickness of the valance which is indicated generally at 24. The innermost upper edge of the valance 24 is preferably chamfered or bevelled, along its entire length, as indicated at 25. As will clearly appear from Fig. 4, the removal of this portion of the wood or other material of the valance, facilitates insertion of the valance into groove 23 of the headrail in a manner clearly appearing from Fig. 4.

It is a preference that the headrail and elements supported thereby, be first assembled, then the headrail inserted into the brackets, hereinafter described, which brings the rail 10 into horizontal position transversely of the window opening. With the valance 24 inserted with its upper margin innermost so as to present the bevelled portion 25 to the rail, the valance is applied by upward movement so as to bring its upper margin fully into the recess 23, following which the valance is brought to vertical position as shown in full lines (Fig. 4). This represents the relation normally occupied by the elements 10 and 24 in assembly. It will appear that the relation thus established is such that the valance 24 serves as a truss element running from end to end of the headrail, and that the upper margin of the valance bears continuously in the bottom of groove 23 constituting a reentrant portion of the lower face of the headrail, the relation of the elements thus being an edge-to-face association of the parts whereby the headrail and valance when assembled, constitute the structural equivalent of a single, angle-shaped support.

Because of the manner of thus utilizing the valance in aid of support of the headrail, many of the intermediate supporting brackets such as heretofore used on even moderate lengths of blinds, may now be dispensed with, thus effecting a considerable economy not only for hardware and parts, but for installation time. It is further to be noted that the assembly of the headrail and valance is accomplished without using screws, nails or like fastening means, all as will more clearly appear in connection with the description of the supporting brackets.

Turning now to the brackets per se, these are preferably formed in pairs such that one thereof is utilized at the right hand end of the headrail assembly, and the other at the left hand end thereof. Fig. 5 as well as Figs. 2, 3, and 4 show a right hand bracket, but the modifications thereof to constitute a left hand bracket will appear obvious to those skilled in the art. The preferred type of bracket is of the general form of an open-side receptacle or box-like structure, having its open side presented toward the headrail and valance, and hence toward the window opening. One side is, however, preferably substantially closed as by a side plate 30, characterized by right angle flanges 31 at the top of the bracket and 32 along its rear margin, and a partial front flange 33 extended inwardly of the front edge of the side wall 30. To permit the introduction of mounting screws or the like in substantially any conceivable condition of installation, the wall 30 is provided with a pair of screw openings, one of which is shown at 34. The back flange 32 is provided with a pair of openings 35, and the top flange 31 with a pair of openings 36. Generally, these pairs of openings will be selectively utilized, according to whether the bracket is to be mounted on the top rail, jamb, or on the rear facing or finish elements of the window.

The primary support for the adjacent end of the headrail is provided for by a horizontal headrail shelf 40 which preferably extends from the forward margin of plate 30 rearwardly a suitable distance, but a space remaining betwen the rear end of the shelf 40 and the rear flange 32 of the bracket. This permits access of a screw driver or the like from within the bracket to a zone in line with the rearmost opening 36 in flange 31. To provide for similar access to a screw in the forward opening 36, shelf 40 is apertured as at 41. To aid in positioning the headrail in a fore-and-aft direction with respect to the window, or transversely of the bracket structure and shelf 40, there is provided an instruck inverted tongue 42, the manner of usage of which is hereinafter referred to.

Referring to the forward flange 33 of the bracket, this is preferably formed of substantially L-shape in frontal aspect, and like flanges 31 and 32, is formed of an inturned marginal portion of the plate 30 so that but a single piece of metal is utilized for the elements 30, 31, 32 and 33, it being preferred, for reasons of economy, to form the shelf 40 of a separate piece of metal bent up to a right angle, and including besides the shelf proper, a supporting portion 43 secured as by rivets or the like 44, to the side wall 30.

The L-shape flange 33 is of such form that at its lowermost margin is provided a forwardly extending foot, or substantially horizontal shelf 45 constituting a seat for the adjacent end of the valance in much the same manner that the shelf 40 serves as a seat for the adjacent end of the headrail. Shelf 45 may, if desired, be turned upwardly to provide a lip 46 serving as an end stop for the valance, and just above the shelf is a forwardly presented tongue 50, the forward edge of which serves as a stop to limit inward movement of the valance 24, and to prevent any displacement of the valance beyond the vertical. It will be noted that the forward edge of the stop 50 lies in the same vertical plane as the innermost vertical surface of the groove 23, so that these parts cooperate in assuring a vertical placement of the valance 24, yet limiting its inward movement beyond that desired.

The flange 33 is provided with a notch or slot 51 near its upper portion and with a corresponding

but relatively inverted notch **52** entering its lower margin just adjacent the line of origin of the flange. The notches **51** and **52** serve, in a manner appearing from Fig. 5, to permit entrance therein of portions of a displaceable holding element or closure generally indicated at **53**. Although the member **53** may be displaceably associated with the bracket in different ways, it is preferred that it include a rearwardly extending arm or leg portion **54** apertured as at **55** to receive a pivot pin or the like **56**, which may conveniently consist of a rivet extending through a punched aperture in the lower forward marginal portion of the side wall **30**; it is about this pivot element as an axis, that the closure or holding member **53** is swingably disposed.

It has ben found advisable and desirable in the case of a pivotal mounting of member **53**, to extend the leg or arm portion **54** somewhat inwardly beyond the pivot member **56**. This inwardly extending portion **60** serves to abut the inner surface of the flange **33**, when the closure **53** is lowered to a point somewhat beyond horizontal position. This arrangement offers an advantage in assuring that the member **53** does not casually fall below a predetermined position in a manner to interfere with free introduction of the headrail and appurtenant parts, into the brackets.

The opposite end of the pivoted closure **53** is provided with a latch arm **61**, which in closed position enters the notch **51**. The cooperating latch element of the preferred embodiment is constituted in part by an instruck embossed portion or boss **62** in the upper forward edge of the plate **30**. It is noted that the latch arm **61** of the closure **53** is provided with an aperture **63** of such a diameter that when the closure **53** is in its normal vertical position, the opening **63** receives the boss and tends to maintain, or latch the pivoted closure in its normal or operative position.

According to preference in the assembly shown by the drawing, the closure structure **53** is rounded in form, and is provided with a deepened, recessed, or cup portion generally identified with the zone **64**, this recessed upper part of the closure **53** serving, when in closed position, to accommodate the ornamental bead portion **20** of the assembly. It also serves, due to the shouldered conformity **65** (Figs. 4 and 5), to constitute a rest or seat for the forwardly projecting and overhanging portion of the woodwork. In order further to position the headrail and closure **53** relative to each other, the closure member is provided upwardly and somewhat forwardly of the seat **65**, with indent portions **66**, the particular conformity of which is preferably dictated by the depth and arrangement of the recesses **21** along the bead portion **10**, it being noted as a preference that the portion **66** shall interfit, at least partially, the grooves **21**.

The manner of use of the brackets is thought to have been fully apparent from the foregoing description of parts, but it may be noted that the brackets are installed in a manner suggested by the location of supporting or holding screws **69** for example, and at such a level that the headrail **10** bridges the oppositely presented shelves **40** of the paired brackets. As the headrail **10** together with appurtenances, is disposed on the brackets, it is pushed inwardly or rearwardly as far as possible with the result that the tongues **42** snugly engage the rear edge faces of the headrail, and coact with the closures **53** to prevent any unintended displacement of the rail with respect to the shelves **40**.

The valance **24** is then inserted in the manner heretofore discussed, with its upper chamfered margin **25** rearmost, and with the valance inserted at a slight angle as suggested by the dotted lines in Fig. 4, and the valance is thereafter brought to a vertical position to which its rearward displacement is restricted by the rear wall of the recess **23** and stops **50** of the brackets. The closures **53** having been open for the reception of the headrail and balance, they may now be closed by upward movement, each about its pivot **56**, so as to bring the closures to substantially vertical position and with the latching means provided by bosses **62** and openings **63** in engagement as shown by Fig. 2.

It will have appeared from the foregoing description that the assembled elements present not only a structurally superior arrangement of the parts as well as one which is highly ornamental and pleasing in appearance, but an arrangement such that since the ends of the headrail are substantially completely embraced, they are definitely positioned against movement in any direction. The same advantage applies to the assembled valance which is firmly gripped along its upper margin by the opposite walls of the groove **23**, and at its opposite lower extremities between the stops **50** and the inner vertical face **70** of each of the swingable closure elements **53**, and endwise movement being precluded by stops **46**.

It is to be noted that, by reason of the additional supporting strength derived from the truss relation of the valance **24** to the headrail, a lighter headrail, i. e. one of less thickness or depth, is enabled to be used. For example, in those installations formerly requiring a headrail of 1¼" stock, I am enabled by the presently improved arrangement to reduce this thickness at least to ⅞", and yet attain comparable strength without any serious deflection of the rail when loaded. It may be further noted that in accordance with the practice of some manufacturers it was necessary to utilize a center bracket, for example, a U-shaped bracket, on the headrails of all blinds, say in excess of 54" length. By virtue of the present strengthening effect imparted by the valance and the improved bracketing arrangement, center supports need not be resorted to except in blinds of much greater than the noted length.

It will have appeared that the improvements characterizing the present invention serve fully to attain each of the several objects hereinabove specifically pointed out, as well as other objects and advantages expressed and implied in the description of the current embodiment.

Although the invention has been pointed out by making detailed reference solely to a single preferred arrangement and combination of parts, it will be understood that numerous changes may be made in the parts themselves, as well as in their arrangement and relative disposition, all without departing from the spirit and full intended scope of the invention as defined by the claims hereunto appended.

I claim as my invention:

1. An end bracket for a headrail and valance assembly, including means forming spaced seats for the headrail and valance, a closure member for the forward portion of the bracket, the closure member having a face portion normally abutting the face of the valance, and an offset portion en-

gaging a face of the headrail, said portions coacting with said seats to provide for mounting the headrail in forwardly overhanging relation to the valance with the valance in edge-to-face relation to the headrail and a pivot for the closure member by which it is adapted to be swung forwardly and downwardly of the mounted headrail and valance assembly.

2. A mounting bracket for one end of a headrail and valance assembly in a Venetian blind, the bracket including an open-side receptacle, a horizontal shelf extended inwardly of a side portion of the receptacle, a second shelf extended forwardly and inwardly of one edge of the receptacle, the shelves coacting to provide spaced seats for the headrail and valance, a member displaceably carried by the forward end portion of the receptacle, normally overlying an end face portion of the valance and so mounted on the bracket as to permit opening movement of the member in a downward direction, and a supporting seat for one edge portion of the headrail, formed on said displaceable member.

3. An end bracket for a headrail and valance of a Venetian blind, the bracket including a substantially rectangular box-like receptacle having an open side, and a side plate constituting a closed side, flange portions projecting substantially at a right angle from two margins of the plate, a horizontal shelf projecting inwardly of the receptacle and carried by the side plate thereof, the side plate and each of the flange portions being provided with openings for the reception of mounting screws or the like, a third flange projecting at a right angle to the forward margin of the plate, a valance shelf projecting forwardly of the third flange, a stop for the valance board formed by a projection on the third flange, above the shelf thereon, a closure for the forward portion of the bracket, pivoted to the lower margin of the side plate thereof, the closure being provided with an inwardly extending leg parallel to the side plate, and a projection beyond the pivot coacting with said third flange to form a stop limiting the downward pivotal movement of the closure element, the third flange being slotted to permit the pivot arm of the closure element to move vertically, in closing the closure element, the third flange being further provided with a slot near its upper margin and open above said slot to permit the passage into the receptacle of an upper marginal portion of the closure element, and latching means for the closure element constituted by coacting portions of the closure and the side plate of the bracket.

4. An end bracket for a headrail and valance of a Venetian blind, the bracket including a substantially rectangular box-like receptacle having an open side, and a side plate constituting a closed side, flange portions projecting substantially at a right angle from two margins of the plate, a horizontal shelf projecting inwardly of the receptacle and carried by the side plate thereof, the side plate and each of the flange portions being provided with openings for the reception of mounting screws or the like, a third flange projecting at a right angle to the forward margin of the plate, a valance shelf projecting forwardly of the third flange, a stop for the valance board formed by a projection on the third flange, above the shelf thereon, a closure for the forward portion of the bracket, pivoted to the lower margin of the side plate thereof, the closure being provided with an inwardly extending leg parallel to the side plate, and a projection beyond the pivot coacting with said third flange to form a stop limiting the downward pivotal movement of the closure element, the third flange being slotted to permit the pivot arm of the closure element to move vertically, in closing the closure element being further provided with a slot near its upper margin and open above said slot to permit the passage into the receptacle of an upper marginal portion of the closure element, and latching means for the closure element constituted by coacting portions of the closure and the side plate of the bracket, one of the first said flange portions being provided with an instruck tongue element forming a displaceable holding element for the rear of the headrail, and normally coacting with said closure element for positioning the headrail against fore-and-aft movement in the bracket.

5. In a Venetian blind, a headrail and valance assembly including a headrail element by which the blind mechanism and slats are supported, and a valance element arranged substantially normal to the headrail element, one of said elements provided with a longitudinal groove, and the other element having an edge interfitted with the grooved portion in such manner that one of the elements is in continuous supporting engagement with the other element over its length, and a supporting bracket at each end of the assembly, formed to support the ends of both elements over their widths, the brackets each including a swingable front closure for shrouding the ends of the elements and maintaining the elements in assembly.

6. In a Venetian blind, a headrail in supporting relation to the slats and mechanism of the blind, and longitudinally grooved along its undersurface, a valance interfitting the groove with one of its edges in continuous supporting engagement to the headrail over the length of the latter, and a supporting bracket at each end of the assembly, the brackets each including a channelled element for shrouding the ends of the valance and maintaining the headrail and valance in assembly, a pivotal connection between the channelled element and body of the bracket, and a latch for securing the channelled element in normal position, the channelled elements being tiltable forwardly without disturbing the assembled relation of headrail and valance.

7. In a Venetian blind, a headrail and valance assembly including a headrail element, a valance element arranged substantially normal thereto, one of said elements provided with a longitudinal groove, the the other element having an edge interfitted with the grooved portion in such manner that one of the elements is in continuous supporting engagement with the other element over its length, and a supporting bracket at each end of the assembly, including a hinged closure and latch therefor, for maintaining the elements in assembly, each of said brackets being so formed as to embrace the adjacent end of the headrail, and including means providing a seat for the valance.

8. In a Venetian blind assembly, a headrail, and a valance depending from a forward portion of the headrail, a bracket at each end of the headrail and valance assembly, and provided with supporting seats therefor, and means constituted by the headrail and the brackets, forming stops spaced from each other in a vertical plane, the stops coacting to limit the rearward

movement of the valance, and a channelled closure pivoted to the lower margin of each bracket, and constituting a support for a forward margin of the headrail and a stop limiting forward movement of the headrail and the valance.

9. In a Venetian blind assembly, a headrail and valance assembled at an angle to each other and formed to provide a beading forwardly of the vertical face of the valance, a bracket at each end of the headrail and valance, each bracket providing seats for supporting the headrail and valance and including a front element normally vertically disposed thereon and displaceably overlying the front end portions of the headrail and valance assembly, said element including an offset portion adapted to engage and constitute a seat for the beading.

10. In a Venetian blind assembly, a headrail and valance assembled at an angle to each other and formed to provide a beading forwardly of the vertical face of the valance, a bracket at each end of the headrail and valance, each bracket providing seats for supporting the headrail and valance and including a front element normally vertically disposed thereon and displaceably overlying the front end portions of the headrail and valance assembly, said front element including an offset portion adapted to engage and constitute a seat for the beading, the said front element being pivotally connected to the associated bracket in a manner to enable it to be swung outwardly to permit insertion therein of the headrail and valance, and arranged to be moved to closed position to constitute an abutment restricting forward movement of the headrail and valance.

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