

Description

The present invention relates to an adjustable mounting for an article restraining cross bar of an automobile luggage rack having a pair of elongated parallel side rails with at least one stanchion mounted for longitudinal movement on each side rail and means for locking the stanchions in selected positions along the side rails, and including means for interconnecting opposed ones of said stanchions, respectively, to opposite ends of said cross bar.

The adjustable mounting is intended to be used with an article carrier in the form of a luggage rack for automotive vehicles of the same general type as disclosed in copending Mandarino et al. U.S. application Serial No. 250.705 filed September 28, 1988. The invention herein relates to an improvement in the cross bar and stanchion connection for a luggage rack such as disclosed in that application, for example.

Racks for carrying luggage and other articles on an exterior surface of automobile vehicles and the like have become quite popular. Typically, such racks and carriers are mounted on the vehicle roof or rear trunk lid, although other surfaces are sometimes used, such as the upper surface of a cap or canopy for a pick-up truck.

There are many prior art patents on such luggage racks and article carriers. One general type rack employs raised side rails mounted substantially above the surface of the vehicle on fixed stanchions with either fixed or longitudinally adjustable cross bars therebetween. Bott Re. 26.538 and Re. 26.539 are examples of expired patents of this kind. Ingram U.S. patent 4.225.068; Kowalski U.S. patents 4.239.138 and 4.279.368 and Mareydt U.S. patent 4.616.772 are more recent examples disclosing luggage racks and carriers of this general type. Because both the side rails and cross bars are elevated above the roof surface, they tend to create undesirable wind resistance and noise and because they are unsupported between the stanchions, the load carrying capacity of the rails is also somewhat limited.

Another general type of rack or carrier that has met with some commercial acceptance employs relatively flat, low-profile slats along the sides on which longitudinally adjustable stanchions rigidly connected to cross bars are mounted. Bott U.S. patent 4.516.710 and Re. 32.706 along with their issued parent patents and many of the numerous references cited therein are illustrative of this style rack. Other U.S. patents disclosing racks and carriers of this type are : Ingram 4.132.335 and 4.244.501, Kowalski et al. 4.372.469, Rasor et al. 4.406.386, Cronic 4.448.337, Stapleton et al. 4.469.261 and many of the references cited in these patents. The side slats disclosed in these

patents are generally characterized as being substantially wider than they are high and have a substantially flat, horizontal upper article carrying surface.

For use with vehicles having roof surfaces with a more rounded contour, Bott U.S. patents 4.684.048 and 4.754.905 disclose carriers having supporting slide slats with non-horizontal lower mounting surfaces and upwardly opening channels for receiving generally horizontally disposed liners with flat inwardly directed flanges for supporting articles and longitudinally movable stanchions rigidly connected to cross bars.

More recently, luggage racks have been designed wherein the side rails are supported on the exterior surface of the vehicle but the rails are higher than they are wide and are provided with a decorative trim strip on the outboard side of the rail to present a streamlined aerodynamic and aesthetically pleasing appearance. Such a luggage rack is disclosed in the above-mentioned copending Mandarino et al. U.S. patent application Serial No. 250.705 which also discloses article securing members in the form of crossbar stanchions or tie down elements that are longitudinally movable along the side rails and selectively locked in place at predetermined intermittent locations by a pushbutton lock pin mechanism that engages spaced apart apertures formed along the length of the rails. As disclosed in that application and many of the other prior art patents, identified above, the cross bars which are movable on the side slats or rails are rigidly connected to the stanchions and, as a result, both stanchions must be moved simultaneously or one and then the other must be inched along the slat or rail to move the crossbar to another selected position. Single-handedly adjusting the location of the cross bar can therefore be a difficult task on such prior article carriers and racks.

U.S. patent 3.330.454 discloses a luggage rack including a mounting for an article restraining bar of the type comprising the features indicated in the preamble of claim 1. In this rack the opposite ends of a cross rail are secured to the inboard sides of side rails by means of a pair of retainer or support brackets. These brackets are formed with a laterally inwardly projecting lug portion that is adapted to be inserted within the adjacent end of the cross rail. A generally flat shoulder extends outwardly around the outboard end of the lug portion and is adapted to have the end of the cross rail abut thereagainst. This end is rigidly secured to the bracket by means of a locking screw.

Since the ends of the cross rail are rigidly abutting a flat surface of the lug portion, pivoting in a horizontal plane of the cross rail is greatly hindered and is even not possible if the locking screw is tight. This construction does therefore not allow

to easily adjust one end of the cross bar longitudinally along the side rail while the other end with the opposite stanchion remains fixed.

It is the aim of the present invention to create an adjustable mounting that allows a combined movement of the cross bar so that the latter can pivot in an horizontal plane and so that one stanchion can be slid longitudinally along one of the side slats or rails while the other generally opposing stanchion remains securely in place.

The invention is characterized at this purpose by said interconnecting means including a complementary pivot tongue and tongue supporting socket combination, one of which is secured to each end of the cross bar and the other of which is secured to each of the stanchions, and fastening means for securing the respective tongues and tongue supporting sockets together permitting limited inward and outward movement of the tongues relative to the supporting sockets as will a limited horizontal pivotal movement of the tongues relative to the fastening means in order to allow limited pivotal movement of the cross bar in a substantially horizontal plane incident to longitudinal movement of one of the stanchions without binding along one of the side rails relative to the longitudinal position of the opposed stanchion on the other side rail.

This construction permits the stanchions to be relocated individually very easily. A person can quickly adjust the position of the cross bar of the article carrier single-handedly.

Favourably, said tongue of said pivot plug includes at least one recess having a drain hole adjacent said slot and said socket includes vertical ribs in the lower section thereof underlying the pivot plug to facilitate the draining of liquid from the pivot plug and socket connection.

These and other features and advantages of the invention will be more readily apparent upon reading the following description of a preferred exemplified embodiment of the invention and upon reference to the accompanying drawings wherein :

Figure 1 is a partial perspective view of an article carrier including the cross bar and stanchion connection of the present invention as installed on the upper exterior body surface of an automobile vehicle or the like;

Figure 2 is an enlarged detail of the circled area 2 in fig. 1 showing a fragmentary perspective view of one of the side rails including its end cap and an article supporting member including the cross bar and stanchion connection of the present invention;

Figure 3 is an enlarged fragmentary top plan view of the cross bar extending between a pair of generally opposed stanchions, with the cross bar shown in its extreme pivoted position as permitted by the stanchion connection of the

present invention;

Figure 4 is a side elevation of one of the stanchions showing its pivot plug receiving socket; Figure 5 is a slightly enlarged cross sectional view of the pivot plug and socket connection substantially as seen along line 5-5 in fig. 3;

Figure 6 is a fragmentary top plan view of the cross bar and pivot plug;

Figure 7 is a fragmentary bottom plan view of the cross bar, pivot plug, and one of the stanchions illustrating the pivotable positioning of the cross bar with respect to the stanchion from the underside; and

Figure 8 is a fragmentary bottom plan view of cross bar and pivot plug of the present invention.

While the invention will be described and disclosed in connection with certain preferred embodiments and procedures, it is not intended to limit the invention to those specific embodiments. Rather it is intended to cover all such alternative embodiments and modifications as fall within the spirit and scope of the invention.

Turning now to the drawings, there is shown in Fig. 1, an article carrier or luggage rack 20 mounted on the exterior body surface 21 of an automobile vehicle or the like. In the embodiment illustrated in FIG. 1, the carrier 20 is shown mounted on the roof portion of the vehicle, but it should be understood that the carrier 20 can also be mounted on other suitable exterior vehicle surfaces such as a trunk lid, for example.

The article carrier 20 includes a pair of elongated side rails 22 adapted to be mounted on the vehicle body surface 21 in spaced-apart parallel relation with respect to the longitudinal center line of the surface 21. As shown in FIG. 1, a plurality of elongated skid strips 23 are adapted to be mounted in spaced-apart parallel relation intermediate the side rails 22. It will be understood that the skid strips 23 are adapted to not only directly support articles or luggage placed within the carrier 20, but also protect the exterior vehicle surface 21 from being marred or scratched by such articles, luggage and the like.

Mounted on each of the side rails 22 are at least one and preferably a plurality of article securing members 24 and 25. In accordance with the present invention, the article securing members 24 are in the form of stanchions mounted on each of the side rails 22 and support raised cross bars 26 between them. The article securing members 25 are in the form of tie down members mounted on each of the side rails 22. It will be understood that each elongated side rail 22 also has a substantially longitudinally extending z axis which is intersected at right angles thereto by a substantially horizontally extending x axis and a substantially vertically

extending y axis, as is shown by the arrow diagram in FIG. 2.

In accordance with the disclosure in copending U.S. application, Serial No. 275,705 assigned to Masco Industries, Inc., each of the side rails 22 of the preferred embodiment is formed with a transverse cross-section having a height greater than its width and the upper surface is formed with a substantial portion thereof sloping downwardly and outwardly with respect to the center line of the vehicle surface 21 and the longitudinal axis z of the side rail 22. Thus, each side rail 22 is formed with an asymmetrical transverse cross-sectional shape and it will be understood that the inboard sides of the respective side rails are adapted to be mounted on the vehicle surface 21 in facing relationship with respect to the center line. It will be appreciated that by making the side rails 22 higher than they are wide, they have greater resistance to vertical bending and, therefore, greater load carrying capacity as compared to the relatively wide and flat slat-like side elements of the prior art such as disclosed in the aforementioned Bott U.S. patent No. 4,516,710 and other similar prior art slat-like structures.

Pursuant to another feature disclosed in copending application Serial No. 275,705, manually operated locking means are provided to lock the article securing members 24, 25 at selected positions along the side rails 22, while permitting longitudinal movement thereon as shown in FIG. 2 when it is desired to adjust their relative positions. In the preferred embodiment, the locking mechanism includes a manual push button 28 which disengages a lock pin from a series of apertures 29 formed in the side rail 22 when the button is depressed. One form of such a push button with a cam actuating mechanism is disclosed in the above-mentioned application Serial No. 275,705. Another and even more preferred pushbutton with a lever actuated lock pin raising mechanism is disclosed in copending application Serial No. _____, filed on August 1, 1990, and assigned to the same assignee as the present application. It should be appreciated, however, that while such push button - lock pin mechanisms are preferred, other stanchion locking mechanisms such as disclosed in various ones of the prior art patents referred to above may also be employed without departing from the present invention which relates more particularly to the stanchion - cross bar connection described below.

In accordance with the present invention, means are provided for interconnecting the article securing members, or stanchions 24, to the opposite ends of the cross bar 26 to allow limited pivotal movement of the cross bar in a substantially horizontal plane as one of the stanchion members is longitudinally adjusted along one of the side rails

22 relative to the other stanchion member on the other parallel rail as shown in FIG. 3.

In facilitating this limited pivotal movement, the stanchion-cross bar connecting means 30 includes a pivot plug 31 and a corresponding socket 40. In the illustrated embodiment, the pivot plug 31 is secured to the cross bar end 27 and the socket 40 is formed on the stanchion 24. It will be appreciated, of course, that as an alternative arrangement, the cross bar end could contain the socket with the pivot plug extending from the stanchion.

As shown in FIGS. 6 and 8, the pivot plug 31 has distal and proximal ends 32 and 32a, respectively, and upper and lower surfaces 33 and 33a, respectively, and is formed with an axially extending collar 34 adjacent its proximal end 32a. The collar portion 34 defines an elliptical sleeve 35 which receives one correspondingly elliptical end 27 of the cross bar 26. A suitable fastener 36, such as a screw, extends through the collar 34, securing the cross bar 26 to the pivot plug 31 as shown in FIG. 8.

Pursuant to the present invention, the pivot plug 31 adjacent the collar 34 includes a tongue portion 37 dimensioned for reception within the socket 40 of the stanchion 24. In the preferred embodiment, the tongue 37 terminates at its distal end 32 in a semicircular radiused edge 38. As shown in FIGS. 6 and 8, a slot 39 extends through the tongue 37 of the pivot plug along its longitudinal center line from near the collar 34 to near the radiused edge 38.

According to the primary purpose of the present invention, a socket 40 is formed on the stanchion 24 and defines a generally horizontal groove 41 which extends laterally inward from the stanchion for receiving the tongue portion 37 of the pivot plug 31. In the illustrated embodiment, a fastening device 42, such as a pivot screw, is inserted through a threaded hole in the bottom wall 44 of the socket 40 and passes through the slot 39 in the tongue 37 of the pivot plug 31 to secure the pivot plug tongue 37 within the socket 40 of the stanchion 24 as shown in FIGS. 5 and 7. The pivot plug tongue 37 is thus permitted limited movement into and out of the socket 40, that movement constrained by the pivot screw 42. In addition, and in accordance with the present invention, the rounded, radiused edge 38 of the distal end 32 of the pivot plug tongue is dimensioned to provide clearance between the distal end 32 and the socket 40 thus allows for limited pivoting of the pivot plug about the pivot screw in a horizontal plane as shown in FIG. 7. Preferably, the pivot screw 42 includes a smooth portion 42a which extends through the slot 39 to facilitate smooth movement of the pivot plug 31 within the socket 40 as illustrated in FIG. 5.

It will be understood that by allowing for limited movement of the pivot plug 31 within the socket 40 of the stanchion 24, a stanchion connected to one end of a cross bar 26 can be adjusted longitudinally along the side rail 22 while the other stanchion connected to the opposite end of the cross bar remains fixed as illustrated in FIG. 3. One of the advantages of this arrangement, which permits the relocation of the stanchions individually, is that a person can quickly adjust the cross bar of the article carrier single-handedly.

It should be noted that when a cross bar 26 is positioned at a right angle to the side rails 22, the outer edge 45 of the socket 40 is disposed against the collar 34 of the pivot plug 31.

Pursuant to another feature of the present invention, the upper surface 33 of the pivot plug 31 includes two recesses 50 placed on either side of the slot 39 and in parallel relation thereto. As seen in FIGS. 6 and 8, each recess 50 contains a drain hole 51. Additionally, the socket portion 40 of the stanchion 24 preferably includes vertical ribs 52 in the lower section 44 thereof underlying the pivot plug tongue 37 such that channels 53 are formed between the ribs 52 as shown in FIG. 4. It will be appreciated that the recesses 50 and drain holes 51 of the pivot plug 31 and the channels 53 of the socket 40 serve to reduce the amount of material required for molding the pivot plug and socket while also facilitating the removal of liquid from within the pivot plug-socket connection 30 thus reducing the risk of liquid freezing inside the socket and impairing the pivoting of the pivot plug and cross bar.

Claims

1. An adjustable mounting for an article restraining cross bar (26) of an automobile luggage rack having a pair of elongated parallel side rails (22) with at least one stanchion (24) mounted for longitudinal movement on each side rail (22) and means for locking the stanchions (24) in selected positions along the side rails (22), and including means for interconnecting opposed ones of said stanchions (24), respectively, to opposite ends of said cross bar (26) characterized by said interconnecting means including a complementary pivot tongue (37) and tongue supporting socket (40) combination, one of which is secured to each end of the cross bar (26) and the other of which is secured to each of the stanchions (24), and fastening means (42) for securing the respective tongues (37) and tongue supporting sockets (40) together permitting limited inward and outward movement of the tongues (37) relative to the supporting sockets (40) as will a

limited horizontal pivotal movement of the tongues (37) relative to the fastening means (42) in order to allow limited pivotal movement of the cross bar (26) in a substantially horizontal plane incident to longitudinal movement of one of the stanchions (24) without binding along one of the side rails (22) relative to the longitudinal position of the opposed stanchion (24) on the other side rail.

2. An adjustable mounting according to claim 1 characterized in that said tongue supporting socket (40) includes a generally horizontal groove (41) in the stanchion (24) and said tongue (37) is formed on a plug (31) secured to the end of the cross bar (26) and said tongue (37) is dimensioned to fit within said socket groove (41).
3. An adjustable mounting according to claim 2 characterized in that said tongue (37) includes a slot (39) which extends along its longitudinal center, said fastening means (42) is disposed in said slot (39) and said tongue (37) is formed with a rounded distal end (32) for providing clearance between said distal end (32) and said socket groove (41) during said limited horizontal pivotal movement of the cross bar (26).
4. An adjustable mounting according to claim 2 characterized in that said tongue (37) of said pivot plug (31) includes at least one recess (50) having a drain hole (51) adjacent said slot (39) and said socket (40) includes vertical ribs (52) in the lower section thereof underlying the pivot plug (31) to facilitate the draining of liquid from the pivot plug and socket connection.
5. An adjustable mounting according to claim 3 characterized in that said pivot plug (31) is formed with an axially extending collar (34) adjacent its proximal end and said collar (34) is dimensioned to receive one end of the cross bar (26) therein.

Patentansprüche

1. Verstellbare Befestigung für einen Gegenstände zurückhaltenden Quersteg (26) eines Kraftfahrzeug-Gepäckträgers mit einem Paar gestreckter, paralleler Seitenschielen (22) mit zumindest einer längs verschiebbar auf jeder Seitenschiene (22) befestigten Stütze (24) und Mitteln zur Arretierung der Stützen (24) in ausgewählten Stellungen entlang der Seitenschielen (22) sowie Mitteln, um benannte, gegenüberliegende Stützen (24) und entgegenge-



It will be understood that by allowing for limited movement of the pivot plug 31 within the socket 40 of the stanchion 24, a stanchion connected to one end of a cross bar 26 can be adjusted longitudinally along the side rail 22 while the other stanchion connected to the opposite end of the cross bar remains fixed as illustrated in FIG. 3. One of the advantages of this arrangement, which permits the relocation of the stanchions individually, is that a person can quickly adjust the cross bar of the article carrier single-handedly.

It should be noted that when a cross bar 26 is positioned at a right angle to the side rails 22, the outer edge 45 of the socket 40 is disposed against the collar 34 of the pivot plug 31.

Pursuant to another feature of the present invention, the upper surface 33 of the pivot plug 31 includes two recesses 50 placed on either side of the slot 39 and in parallel relation thereto. As seen in FIGS. 6 and 8, each recess 50 contains a drain hole 51. Additionally, the socket portion 40 of the stanchion 24 preferably includes vertical ribs 52 in the lower section 44 thereof underlying the pivot plug tongue 37 such that channels 53 are formed between the ribs 52 as shown in FIG. 4. It will be appreciated that the recesses 50 and drain holes 51 of the pivot plug 31 and the channels 53 of the socket 40 serve to reduce the amount of material required for molding the pivot plug and socket while also facilitating the removal of liquid from within the pivot plug-socket connection 30 thus reducing the risk of liquid freezing inside the socket and impairing the pivoting of the pivot plug and cross bar.

Claims

1. An adjustable mounting for an article restraining cross bar (26) of an automobile luggage rack having a pair of elongated parallel side rails (22) with at least one stanchion (24) mounted for longitudinal movement on each side rail (22) and means for locking the stanchions (24) in selected positions along the side rails (22), and including means for interconnecting opposed ones of said stanchions (24), respectively, to opposite ends of said cross bar (26) characterized by said interconnecting means including a complementary pivot tongue (37) and tongue supporting socket (40) combination, one of which is secured to each end of the cross bar (26) and the other of which is secured to each of the stanchions (24), and fastening means (42) for securing the respective tongues (37) and tongue supporting sockets (40) together permitting limited inward and outward movement of the tongues (37) relative to the supporting sockets (40) as will a

limited horizontal pivotal movement of the tongues (37) relative to the fastening means (42) in order to allow limited pivotal movement of the cross bar (26) in a substantially horizontal plane incident to longitudinal movement of one of the stanchions (24) without binding along one of the side rails (22) relative to the longitudinal position of the opposed stanchion (24) on the other side rail.

2. An adjustable mounting according to claim 1 characterized in that said tongue supporting socket (40) includes a generally horizontal groove (41) in the stanchion (24) and said tongue (37) is formed on a plug (31) secured to the end of the cross bar (26) and said tongue (37) is dimensioned to fit within said socket groove (41).
3. An adjustable mounting according to claim 2 characterized in that said tongue (37) includes a slot (39) which extends along its longitudinal center, said fastening means (42) is disposed in said slot (39) and said tongue (37) is formed with a rounded distal end (32) for providing clearance between said distal end (32) and said socket groove (41) during said limited horizontal pivotal movement of the cross bar (26).
4. An adjustable mounting according to claim 2 characterized in that said tongue (37) of said pivot plug (31) includes at least one recess (50) having a drain hole (51) adjacent said slot (39) and said socket (40) includes vertical ribs (52) in the lower section thereof underlying the pivot plug (31) to facilitate the draining of liquid from the pivot plug and socket connection.
5. And adjustable mounting according to claim 3 characterized in that said pivot plug (31) is formed with an axially extending collar (34) adjacent its proximal end and said collar (34) is dimensioned to receive one end of the cross bar (26) therein.

Patentansprüche

1. Verstellbare Befestigung für einen Gegenstände zurückhaltenden Quersteg (26) eines Kraftfahrzeug-Gepäckträgers mit einem Paar gestreckter, paralleler Seitenschienen (22) mit zumindest einer längs verschiebbar auf jeder Seitenschiene (22) befestigten Stütze (24) und Mitteln zur Arretierung der Stützen (24) in ausgewählten Stellungen entlang der Seitenschienen (22) sowie Mitteln, um benannte, gegenüberliegende Stützen (24) und entgegengerichte

setzte Enden des benannten Querstegs miteinander zu verbinden, dadurch gekennzeichnet, dass die benannten Verbindungsmittel eine ergänzende bewegliche Lasche (37) und dazugehörige Laschenbuchse (40), deren eine jeweils an jedem Ende des Querstegs (26), die andere an jeder der Stützen (24) befestigt ist, sowie Mittel (42) umfassen, um die entsprechenden Laschen (37) und dazugehörigen Laschenbuchsen (40) ineinander zu sichern und eine begrenzte Bewegung der Laschen (37) weiter hinein in die Laschenbuchsen (40) oder weiter aus diesen heraus sowie auch eine begrenzte Schwenkbewegung der Laschen (37) in der Horizontalen relativ zu den Befestigungsmitteln (42) zu gestatten, so dass der Quersteg (26) eine begrenzte Schwenkbewegung in einer im wesentlichen horizontalen Ebene ausführen kann, wenn eine der Stützen (24), ohne hängenzubleiben, entlang einer der Seitenschienen (22) relativ zur Längsstellung der gegenüberliegenden Stütze (24) an der anderen Seitenschiene bewegt wird.

2. Verstellbare Befestigung gemäss Anspruch 1, dadurch gekennzeichnet, dass die benannte Laschenbuchse (40) eine allgemein waagerechte Rille (41) in der Stütze (24) einschliesst und dass die benannte Lasche (37) an einem am Ende des Quersteges (26) befestigten Stöpsel (31) sitzt und so bemessen ist, dass sie in die benannte Buchsenrille (41) passt.

3. Verstellbare Befestigung gemäss Anspruch 2, dadurch gekennzeichnet, dass die benannte Lasche (37) einen Schlitz (39) einschliesst, der sich längs entlang der Laschenmitte erstreckt, dass die benannten Befestigungsmittel (42) in dem benannten Schlitz (39) angeordnet sind und dass die benannte Lasche (37) ein abgerundetes äusseres Ende (32) hat, um während der benannten, begrenzten horizontalen Schwenkbewegung des Querstegs (26) für Spielraum zwischen dem benannten äusseren Ende (32) und der benannten Buchsenrille (41) zu sorgen.

4. Verstellbare Befestigung gemäss Anspruch 2, dadurch gekennzeichnet, dass die benannte Zunge (37) des benannten schwenkbaren Stöpsels (31) zumindest eine Vertiefung (50) mit Abflussöffnung (51) neben dem benannten Schlitz (39) hat und die benannte Buchse (40) senkrechte Rippen (52) in ihrer unteren Partie unter dem schwenkbaren Stöpsel (31) hat, um den Ablauf von Flüssigkeit aus der schwenkbaren Stöpsel-Buchse-Verbindung zu erleichtern.

5. Verstellbare Befestigung gemäss Anspruch 3, dadurch gekennzeichnet, dass der benannte schwenkbare Stöpsel (31) einen sich axial erstreckenden Kragen (34) an seinem nahen Ende aufweist und dass der benannte Kragen (34) so bemessen ist, dass er ein Ende des Querstegs (26) in sich aufnehmen kann.

Revendications

1. Dispositif de montage ajustable pour une barre transversale (26) qui est destinée à immobiliser des articles et qui fait partie d'un porte-bagages d'une automobile comprenant une paire de rails latéraux parallèles allongés (22) avec au moins un support (24) monté pour se déplacer longitudinalement sur chaque rail latéral (22) et des moyens pour verrouiller les supports (24) dans des positions sélectionnées le long des rails latéraux (22), et comportant des moyens pour interconnecter des supports opposés (24) aux extrémités opposées respectives de ladite barre transversale (26), caractérisé en ce que lesdits moyens d'interconnexion comportent une combinaison d'une languette pivotante (37) et d'un manchon de support (40) de la languette complémentaires, l'un d'entre les deux étant fixé à chaque extrémité de la barre transversale (26) et l'autre étant fixé à chacun des supports (24), et des moyens de fixation (42) pour fixer les languettes respectives (37) aux manchons (40) de support des languettes en permettant un mouvement limité vers l'intérieur et vers l'extérieur des languettes (37) par rapport aux manchons de support (40), ainsi qu'un mouvement limité de pivotement horizontal des languettes (37) par rapport au moyen de fixation (42), afin de permettre un mouvement limité de pivotement sans pliage de la barre transversale (26) dans un plan sensiblement horizontal lors d'un mouvement longitudinal d'un des supports (24) le long d'un des rails latéraux (24) par rapport à la position longitudinale du support opposé (24) sur l'autre rail latéral.

2. Dispositif de montage ajustable selon la revendication 1, caractérisé en ce que ledit manchon de support (40) de la languette comporte une rainure sensiblement horizontale (41) dans le support (24) et que ladite languette (37) est formée sur un bouchon (31) fixé à l'extrémité de la barre transversale (26) et que ladite languette (37) est dimensionnée pour s'adapter dans ladite rainure (41) de douille.

3. Dispositif de montage ajustable selon la revendication 2, caractérisé en ce que ladite lan-

guette (37) comporte une fente (39) qui s'étend le long de son centre longitudinal, ledit moyen de fixation (42) est positionné dans ladite fente (39) et ladite languette (37) est formée avec une extrémité distale arrondie (32) pour permettre un jeu entre ladite extrémité distale (32) et ladite rainure de manchon (41) durant ledit mouvement limité de pivotement horizontal de la barre transversale (26).

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4. Dispositif de montage ajustable selon la revendication 2, caractérisé en ce que ladite languette (37) dudit bouchon à pivot (31) comporte au moins un creux (50) ayant un trou de drainage (51) jouxtant ladite fente (39) et que ledit manchon (40) comporte des nervures verticales (52) dans sa section inférieure, sous le bouchon à pivot (31) pour faciliter le drainage de liquide depuis la connexion entre le bouchon à pivot et le manchon.

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5. Dispositif de montage ajustable selon la revendication 3, caractérisé en ce que ledit bouchon à pivot (31) est formé avec un collier s'étendant axialement (34) au voisinage de son extrémité proximale et que ledit collier (34) est dimensionné pour recevoir une extrémité de la barre transversale (26).

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