HEADREST POLE GUIDE

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ABSTRACT
A headrest pole guide structure may include a main body configured to be fixed to a seat back and disposed inside a seat cover, the main body having an upper surface in contact with a lower surface of the seat cover and a hollow space so that a pole may be selectively inserted into the hollow space, and a head disposed above the main body, wherein the head may be fastened to the main body with the seat cover interposed between the main body and the head.

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CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present application claims priority to Korean Patent Application No. 10-2012-0098735 filed on Sep. 6, 2012, the entire contents of which is incorporated herein for all purposes by this reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates generally to headrest pole guides which are installed in vehicle seats and support and guide headrests and, more particularly, to a headrest pole guide which guides a headrest such that the height of the headrest with respect to a seatback can be adjusted in multi-stages.

[0004] 2. Description of Related Art

[0005] Vehicle seats include a seat cushion which supports the lower part of a rider, and a seat back which is connected to the seat cushion and support the back of the rider. A headrest is provided on an upper end of the seatback to support the rear part of the head of the rider.

[0006] For the sake of convenience, the headrest is configured such that the height thereof can be adjusted depending on the body type such as a height of the rider. Typically, a pole guide is installed in the seat back, and vertical movement of a pole is linearly guided by the pole guide. The headrest is provided on an upper end of the pole.

[0007] Structures for supporting the pole of the headrest on the pole guide are classified into a continuously variable type and a multi-stage type. In the multi-stage structure, the pole that linearly and vertically moves relative to the pole guide can be releasably fastened to the pole guide at predetermined distances by a locking structure so that the height of the headrest can be adjusted in multi-stages. The continuously variable structure is configured such that the pole can vertically move and the height of the headrest can be varied as a user wants without stages.

[0008] Although the continuously variable structure is simple, if a comparatively large load is applied from the head of the rider to the headrest, for example, when a vehicle accident occurs, the position of the headrest may not be able to be reliably maintained. In this case, the headrest cannot effectively support the head of the rider. Compared to this, although the multi-stage structure is complex, even if a comparatively large impact is applied to the headrest, for instance, when the vehicle is involved in an accident, the height at which the headrest is fixed can be reliably maintained. Therefore, the multi-stage structure can more reliably support the head of the rider.

[0009] FIG. 1 illustrates a conventional multi-stage type of headrest pole guide in which a pole is disposed. The pole guide 500 is formed into a single body and is assembled with a seat back 502 in such a way that it is forcibly fitted downward into the upper end of the seat back 502 through a seat cover 504. A plurality of hook notches 508 are formed in the pole 506 at positions spaced apart from each other so that the position of the pole 506 can be adjusted in multi-stages. A height adjustment lever 510 is provided in a flange part formed in an upper end of the pole guide 500 and is locked to a selected one of the hook notches 508 of the pole 506 so that the pole 506 can be elastically fastened to the pole guide 500 or released therefrom depending on the manipulation of the user.

[0010] However, in the conventional headrest pole guide having the above-mentioned construction, as shown in FIG. 1, after it has been assembled with the seat back, a gap is easily formed between the flange part 512 of the pole guide 500 and the seat cover 504 and is expanded with the passage of time. In some cases, even when the headrest pole guide is first assembled with the seat back, a gap may be formed between the flange part 512 and the seat cover 504, thus deteriorating the appearance of the vehicle seat.

[0011] The information disclosed in this Background of the Invention section is only for enhancement of understanding of the general background of the invention and should not be taken as an acknowledgement or any form of suggestion that this information forms the prior art already known to a person skilled in the art.

BRIEF SUMMARY

[0012] Various aspects of the present invention are directed to providing a headrest pole guide which can prevent a gap from being formed between the pole guide and a seat cover, whereby not only when a vehicle seat including the headrest pole guide is assembled but also after the vehicle has been used, the superior quality of the appearance of the vehicle seat and the headrest pole guide can be maintained, and in which the assembly of the headrest pole guide with the vehicle seat can be facilitated, and the height of the pole of the headrest pole guide can be adjusted in multi-stages so that the functional reliability of the headrest which aims to support the head of a rider can be ensured, thereby ultimately enhancing the merchantable quality of the vehicle.

[0013] In an aspect of the present invention, a headrest pole guide structure may include a main body configured to be fixed to a seat back and disposed inside a seat cover, the main body having an upper surface in contact with a lower surface of the seat cover and a hollow space so that a pole is selectively inserted into the hollow space, and a head disposed above the main body, wherein the head is fastened to the main body with a seat cover interposed between the main body and the head.

[0014] The head is provided with a height adjustment lever to adjust a relative position of the pole with respect to the main body.

[0015] The headrest pole guide structure may further include a connector provided between the main body and the head and being connected at an upper end thereof to the head and coupled at a lower end thereof to the main body through the seat cover.

[0016] The connector may include, in a lower portion thereof, a plurality of coupling hooks protruding downward through the seat cover, wherein the main body may have a plurality of hook depressions and the coupling hooks are locked to the corresponding hook depressions under the seat cover.

[0017] The plurality of coupling hooks are bent outward on lower ends thereof based on a center therebetweeen.

[0018] A lower portion of the connector is coupled to the hollow space of the main body.

[0019] The head may have an insert hole communicating with the hollow space of the main body in a central portion thereof so that the pole is configured to be inserted into the hollow space through the insert hole, and a perimeter portion
defining the insert hole, the perimeter portion facing the upper surface of the main body and being configured such that the perimeter portion of the head and the upper surface of the main body compress the seat cover upward and downward when the main body and the head are coupled each other, and the main body may include a flange part having the upper surface and compressing the seat cover interposed between the flange part and the perimeter portion of the head when the main body and the head are coupled each other, and a guide part interposed ending downward from the flange part, the guide guiding linear sliding movement of the pole.

0020] The flange part of the main body forms is configured such that the upper surface thereof is inclined with respect to the guide part.

0021] The methods and apparatuses of the present invention have other features and advantages which will be apparent from or are set forth in more detail in the accompanying drawings, which are incorporated herein, and the following Detailed Description, which together serve to explain certain principles of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

0022] FIG. 1 is a sectional view illustrative of the installation structure of a conventional headrest pole guide.

0023] FIG. 2 is an exploded perspective view of a headrest pole guide according to an exemplary embodiment of the present invention.

0024] FIG. 3 is a view investigating a process of assembling the pole guide of FIG. 2.

0025] FIG. 4 is a sectional view illustrating the installation structure of the headrest pole guide according to an exemplary embodiment of the present invention.

0026] It should be understood that the appended drawings are not necessarily to scale, presenting a somewhat simplified representation of various features illustrative of the basic principles of the invention. The specific design features of the present invention as disclosed herein, including, for example, specific dimensions, orientations, locations, and shapes will be determined in part by the particular intended application and use environment.

0027] In the figures, reference numbers refer to the same or equivalent parts of the present invention throughout. The several figures of the drawing.

DETAILED DESCRIPTION

0028] Reference will now be made in detail to various embodiments of the present invention(s), examples of which are illustrated in the accompanying drawings and described below. While the invention(s) will be described in conjunction with exemplary embodiments, it will be understood that the present description is not intended to limit the invention(s) to those exemplary embodiments. On the contrary, the invention(s) is/are intended to cover not only the exemplary embodiments, but also various alternatives, modifications, equivalents and other embodiments, which may be included within the spirit and scope of the invention as defined by the appended claims.

0029] Hereinafter, the present invention will be described in detail with reference to the attached drawings.

0030] Referring to FIGS. 2 through 4, a headrest pole guide 11 according to an exemplary embodiment of the present invention includes a main body 5 and a head 9. The main body 5 is fixed to a seat back and disposed in the seat cover 1. The main body 5 has an upper surface which is brought into contact with an inner surface of a seat cover 1. The main body 5 has a hollow space 21 into which a pole 3 is inserted. The head 9 is disposed above the main body 5 and fastened to the main body 5 with the seat cover 1 interposed between the main body 5 and the head 9. The head 9 is provided with a height adjustment lever 7 so that a relative position of the pole 3 is fixed or allowed to be changed.

0031] In detail, the main body 5 is fixed to the seat back inside the seat cover 1 that covers the seat back, and the head 9 is coupled to the main body 5 outside the seat cover 1 such that the seat cover 1 is interposed between the main body 5 and the head 9. The seat cover 1 is compressed upwards and downwards by the main body 5 and the head 9 so that the seat cover 1 can be maintained in the state of being caught therewith. Therefore, not only when the headrest pole guide 11 is first assembled with the seat back but also even after the vehicle has been used, space between the seat cover 1 and the headrest pole guide 11 is prevented from expanding, and the assembled state can be reliably maintained, thus preventing the appearance of the vehicle seat including the headrest pole guide 11 from being deformed. The height adjustment lever 7 provided in the head 9 makes it possible for a headrest coupled to the pole 3 to be adjusted in height in multi-stages and to be reliably fixed at a selected height. Thereby, even when a vehicle accident occurs, the headrest pole guide 11 can reliably support the headrest such that the headrest can absorb an impact applied thereto, thus more reliably ensuring the safety of a rider.

0032] Although the head 9 may integrally have a coupling part which is coupled to the main body 5 through the seat cover 1, the headrest pole guide 11 according to the exemplary embodiment of the present invention further includes a connector 13 which is provided between the main body 5 and the head 9. An upper end of the connector 13 is coupled to the head 9, and a lower end thereof is coupled to the main body 5 through the seat cover 1.

0033] The connector 13 includes, in a lower portion thereof, a plurality of coupling hooks 15 which protrude downward through the seat cover 1. Lower ends of the coupling hooks 15 are bent outward based on the center between them. A plurality of hook depressions 17 are formed in the main body 5 so that the coupling hooks 15 are locked to the respective hook depressions 17.

0034] In an exemplary embodiment of the present invention, the height adjustment lever 7 may be installed in the connector 13 as shown in FIG. 2.

0035] In an exemplary embodiment of the present invention, a lower portion of the connector 13 may be coupled to the hollow space 21 of the main body 5.

0036] As shown in FIG. 3, to assemble the headrest pole guide 11, after the main body 5 has been installed in the seat back inside the seat cover 1, the connector 13 is pushed onto the main body 5 outside the seat cover 1 in such a way that the coupling hooks 15 of the connector 13 are locked to the hook depressions 17 through the seat cover 1. In this way, the assembly operation can be simply and easily completed.

0037] In an exemplary embodiment of the present invention, the coupling between the connector 13 and the head 9 may be realized by a structure such as a well-known snap-fit structure which facilitates the assembly operation.

0038] The head 9 has an insert hole 19 which communicates with the hollow space 21 of the main body 5 in a central portion thereof, so that the pole 3 is inserted into the hollow
space 21 through the insert hole 19. A perimeter portion 23 which defines the insert hole 19 faces the upper surface of the main body 5 and is configured such that the perimeter portion 23 of the head 9 and the upper surface of the main body 5 can compress the seat cover 1 upward and downward. The main body 5 includes a flange part 25 which has the upper surface and compresses the seat cover 1 interposed between it and the perimeter portion 23 of the head 9, and a guide part 27 which integrally extends downward from the flange part 25 and guides linear sliding movement of the pole 3.

Therefore, after the head 9 and the connector 13 have been coupled to the main body 5, the superior appearance of the vehicle seat can be ensured and maintained, because the seat cover 1 is interposed between the head 9 and the main body 5. This state can be reliably maintained unless the coupling hooks 15 are removed from the hook depressions 17. Even after the vehicle has been used, the assembled state between the seat cover 1 and the headrest pole guide 11 can be efficiently maintained.

As shown in FIG. 3, the flange part 25 of the main body 5 may be configured such that the upper surface thereof is inclined with respect to the guide part 27.

The reason for this is because this structure can make it easy to modify design in the angle of the direction in which the seat back is oriented or in the angle of the direction in which the headrest moves upward or downward, and can enhance flexibility of design between providing space required to install the main body 5 in the seat back and the angle of the direction in which the headrest moves upward or downward.

As described above, a headrest pole guide according to an exemplary embodiment of the present invention can prevent a gap from being formed between the pole guide and the seat cover. Therefore, not only when a vehicle seat including the headrest pole guide is assembled but also after the vehicle has been used, the superior quality of the appearance of the vehicle seat and the headrest pole guide can be maintained. In addition, the assembly of the headrest pole guide with the vehicle seat can be facilitated. Moreover, the height of the pole of the headrest pole guide can be adjusted in multi-stages so that the functional reliability of the headrest which aims to support the head of a rider can be ensured. The marketable quality of the vehicle can thereby be ultimately enhanced.

For convenience in explanation and accurate definition in the appended claims, the terms “upper”, “lower”, “inner” and “outer” are used to describe features of the exemplary embodiments with reference to the positions of such features as displayed in the figures.

The foregoing descriptions of specific exemplary embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teachings. The exemplary embodiments were chosen and described in order to explain certain principles of the invention and their practical application, to thereby enable others skilled in the art to make and utilize various exemplary embodiments of the present invention, as well as various alternatives and modifications thereof. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.

What is claimed is:

1. A headrest pole guide structure, comprising:
   a main body configured to be fixed to a seat back and disposed inside a seat cover, the main body having an upper surface in contact with a lower surface of the seat cover and a hollow space so that a pole is selectively inserted into the hollow space; and
   a head disposed above the main body,
   wherein the head is fastened to the main body with the seat cover interposed between the main body and the head.

2. The headrest pole guide structure as set forth in claim 1, wherein the head is provided with a height adjustment lever to adjust a relative position of the pole with respect to the main body.

3. The headrest pole guide structure as set forth in claim 1, further including a connector provided between the main body and the head and being connected at an upper end thereof to the head and coupled at a lower end thereof to the main body through the seat cover.

4. The headrest pole guide structure as set forth in claim 3, wherein the connector includes, in a lower portion thereof, a plurality of coupling hooks protruding downward through the seat cover, and wherein the main body has a plurality of hook depressions and the coupling hooks are locked to the corresponding hook depressions under the seat cover.

5. The headrest pole guide structure as set forth in claim 4, wherein the plurality of coupling hooks are bent outward on lower ends thereof based on a center therebetween.

6. The headrest pole guide structure as set forth in claim 3, wherein a lower portion of the connector is coupled to the hollow space of the main body.

7. The headrest pole guide structure as set forth in claim 1, wherein the head has:
   an insert hole communicating with the hollow space of the main body in a central portion thereof so that the pole is configured to be inserted into the hollow space through the insert hole; and
   a perimeter portion defining the insert hole, the perimeter portion facing the upper surface of the main body and being configured such that the perimeter portion of the head and the upper surface of the main body compress the seat cover upward and downward when the main body and the head are coupled each other, and
   wherein the main body includes:
   a flange part having the upper surface and compressing the seat cover interposed between the flange part and the perimeter portion of the head when the main body and the head are coupled each other; and
   a guide part integrally extending downward from the flange part, the guide guiding linear sliding movement of the pole.

8. The headrest pole guide structure as set forth in claim 7, wherein the flange part of the main body forms is configured such that the upper surface thereof is inclined with respect to the guide part.