~~SEAT~~ SAFETY BELT ADJUSTING STRUCTURE, AND CHILD SAFETY SEAT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present disclosure claims priorities of China patent application No. 202022713068.8 filed on November 19, 2020 and entitled "Safety Belt Adjusting Structure," China patent application No. 202022337083.7 filed on October 19, 2020 and entitled "Child Safety Seat," and China patent application No. 202110814966.9 filed on July 19, 2021 and entitled "Safety Belt Adjusting Structure," and the entire contents of the above-mentioned China Patent Applications are incorporated herein by reference.

TECHNICAL FIELD

[0002] The application relates to baby products, in particular to a safety belt adjusting structure and a child safety seat.

BACKGROUND

[0003] Baby seats are almost a necessity for babies. In the technology known to the inventors, most safety seats can be used for children of different sizes through adjustment. Among them, the headrest can be adjusted to a suitable position during in the adjustment of the seat, so as to adapt to children of different sizes, but it is difficult to adjust the safety belt to a suitable position. Generally, the adjustment structure of the safety belt is complicated and troublesome to operate, and when the headrest height is adjusted, it is difficult to change the position of the safety belt to a suitable position, which brings some inconvenience to the user.

[0004] Therefore, there is an urgent need for a safety belt adjusting structure in which a safety belt can be adjusted to a proper position adapted for different users.

[0005] The child safety seat is a seat specially designed for children. By assembling the child safety seat in a car for a child to sit on, the child is bound by the child safety seat, so as to ensure the safety of child during travelling. Fig. 19 shows an existing child safety seat 200a, which includes a seat 201a and a safety belt 202a disposed through the seat. The safety belt 202a is provided with an 8-shaped buckle 203a located in front of the seat 201a, and the 8-shaped buckle 203a is used to adjust the length of the safety belt, so as to ensure the safety belt can firmly bind a child to the seat 201a. However, the existing child safety seat 200a has the following

WHAT IS CLAIMED IS:

1. A safety belt adjusting structure adapted for adjusting a position of a safety belt of a child carrier corresponding to shoulders of a child, wherein the safety belt adjusting structure comprises

a supporting member movably arranged on the child carrier, and

a plurality of rows of adjusting portions having different heights are arranged on the supporting member for accommodating the safety belt, such that the position of the safety belt corresponding to the shoulders of the child is adjusted by movement of the supporting member and cooperation of the safety belt with the adjusting portions having different heights.

2. The safety belt adjusting structure according to claim 1, wherein the child carrier is provided with an adjustable headrest, and the safety belt adjusting structure is linked with the headrest, wherein the headrest brings the supporting member to move up and down on the child carrier.

3. The safety belt adjusting structure according to claim 2, wherein the supporting member is connected to the headrest, or. the supporting member and the headrest are in an integral structure.

~~4. The safety belt adjusting structure according to claim 2, wherein the supporting member and the headrest are in an integral structure.~~

~~5. The safety belt adjusting structure according to claim 2, wherein the headrest brings the supporting member to move up and down on the child carrier.~~

~~6~~4. The safety belt adjusting structure according to claim 1, wherein each of the adjusting portions is in a form of through slot structure for the safety belt in a horizontal state to move passing through, wherein the through slot structures of the adjusting portions in two adjacent rows are communicated with each other.

~~7. The safety belt adjusting structure according to claim 6, wherein the through slot structures of the adjusting portions in two adjacent rows are communicated with each other.~~

~~8~~5. The safety belt adjusting structure according to claim ~~6~~4, wherein the through slot structures of the adjusting portions in two adjacent rows are communicated with each other by a vertical slot structure for the safety belt in vertical state to slide.

~~9~~6. The safety belt adjusting structure according to claim ~~8~~5, wherein a connection between each of the through slot structures and the vertical slot structure is arc-shaped, wherein a length of each of the through slot structures is longer than a width of the safety belt.

~~10~~7. The safety belt adjusting structure according to claim ~~8~~5, wherein a first limiting portion is further arranged between each of the through slot structures and the vertical slot structure, and sliding of the safety belt in the through slot structures are limited by the first limiting portion.

~~11~~8. The safety belt adjusting structure according to claim ~~10~~7, wherein a second limiting portion is further arranged between each of the through slot structures and the first limiting portion, and sliding of the safety belt in the through slot structures is limited by the second limiting portion, wherein a protruding height of the first limiting portion and/or the second limiting portion in the adjusting portions is higher than a thickness of the safety belt.

~~12. The safety belt adjusting structure according to claim 7, wherein a length of each of the through slot structures is longer than a width of the safety belt.~~

~~13. The safety belt adjusting structure according to claim 11, wherein a protruding height of the first limiting portion and/or the second limiting portion in the adjusting portions is higher than a thickness of the safety belt.~~

~~14~~9. The safety belt adjusting structure according to claim ~~6~~4, wherein an opened portion is arranged on a side of the supporting member, and the opened portion is communicated with at least two through slot structures arranged adjacently, such that the safety belt is transferred between different adjusting portions through the opened portion.

~~15~~10. The safety belt adjusting structure according to claim ~~8~~5, wherein an opened portion communicated with the vertical slot structure is arranged on a side of the supporting member, and the opened portion is communicated with the at least two through slot structures arranged adjacently through the vertical slot structure.

~~16~~11. The safety belt adjusting structure according to claim 1, wherein the child carrier is provided with a mounting hole for the safety belt to pass through and be mounted, and the safety belt cooperates with different adjusting portions in the mounting hole.

~~17~~12. The safety belt adjusting structure according to claim 1, wherein the child carrier is further provided with a lifting adjustment structure cooperating with the supporting member, and the supporting member is provided with a clamp member cooperating with the lifting adjustment structure, such that the supporting member is able to be located at different positions of the child carrier by the clamp member being clamped to different positions of the lifting adjustment structure~~.~~, wherein the lifting adjustment structure is provided with a plurality of clamp holes cooperating with the clamp member, and a position of the supporting member is adjusted by the clamp member being clamped to different clamp holes.

~~18. The safety belt adjusting structure according to claim 17, wherein the lifting adjustment structure is provided with a plurality of clamp holes cooperating with the clamp member, and a position of the supporting member is adjusted by the clamp member being clamped to different clamp holes.~~

~~19~~13. A safety belt adjusting structure adapted for adjusting a position of a safety belt of a child carrier corresponding to shoulders of a child, wherein the safety belt adjusting structure comprises a supporting member movably arranged on the child carrier, and a plurality of rows of adjusting portions having different heights are arranged on the supporting member for accommodating the safety belt, an opened portion communicated with at least two rows of the adjusting portions is further arranged on a side of the supporting member, and the safety belt is able to be cooperated with the adjusting portions having different heights via the opened portion to adjust the position of the safety belt corresponding to shoulders of the child.

~~20~~14. The safety belt adjusting structure according to claim ~~19~~13, wherein a guiding portion is arranged between the opened portion and each of the adjusting portions, and the guiding portion has a structure shaping from wide to narrow gradually along a direction in which the opened portion enters each of the adjusting portions.

~~21. The safety belt adjusting structure according to claim 20, wherein a connection between the guiding portion and the opened portion is arc-shaped.~~

~~22~~15. The safety belt adjusting structure according to claim ~~19~~13, wherein a vertical slot structure is arranged between the opened portion and each of the adjusting portions for the safety belt in vertical state to slide.

2316. The safety belt adjusting structure according to claim 2215, wherein a connection between each of the adjusting portions and the vertical slot structure/the opened portion is arc-shaped, wherein a guiding portion is arranged between the opened portion and each of the adjusting portions, and the guiding portion has a structure shaping from wide to narrow gradually along a direction in which the opened portion enters each of the adjusting portions, wherein a connection between the guiding portion and the opened portion is arc-shaped.

2417. The safety belt adjusting structure according to claim 1913, wherein a first limiting portion is further arranged between each of the adjusting portions and the opened portion, and sliding of the safety belt in each of the adjusting portions is limited by the first limiting portion., wherein a second limiting portion is further arranged between each of the adjusting portions and the first limiting portion, and sliding of the safety belt in each of the adjusting portions is limited by the second limiting portion.

25. The safety belt adjusting structure according to claim 24, wherein, a second limiting portion is further arranged between each of the adjusting portions and the first limiting portion, and sliding of the safety belt in each of the adjusting portions is limited by the second limiting portion.

2618. A child carrier comprising a carrier body, wherein the carrier body is provided with thea safety belt adjusting structure according to any of claims 1-25, and a position of the safety belt corresponding to the shoulders of the child is adjusted by the safety belt adjusting structure., wherein the safety belt adjusting structure is adapted for adjusting a position of a safety belt of a child carrier corresponding to shoulders of the child, wherein the safety belt adjusting structure comprises

a supporting member movably arranged on the child carrier, and

a plurality of rows of adjusting portions having different heights are arranged on the supporting member for accommodating the safety belt, such that the position of the safety belt corresponding to the shoulders of the child is adjusted by movement of the supporting member and cooperation of the safety belt with the adjusting portions having different heights.

2719. The child carrier according to claim 2618, wherein the carrier body is a baby stroller, a sleeping box, or an automobile safety seat.

~~28. A child safety seat comprising a seat body, a safety belt, and an adjusting buckle, wherein the safety belt is arranged to be passed through the seat body, and the safety belt has a front belt portion located in front of the seat body and a rear belt portion located behind the seat body, the adjusting buckle is arranged on the rear belt portion and is used for adjusting a length of the front belt portion.~~

~~29. The child safety seat according to claim 28, wherein the adjusting buckle is an 8-shaped buckle, and the rear belt portion is passed through the adjusting buckle.~~

~~30. The child safety seat according to claim 28, wherein the adjusting buckle abuts against a back of the seat body.~~

~~31. The child safety seat according to claim 28, wherein the number of the adjusting buckle is one.~~

~~32. The child safety seat according to claim 28, wherein the number of the safety belt is two, and the two safety belts are arranged on the seat body at intervals.~~

~~33. The child safety seat according to claim 28, wherein a free end of the front belt portion is provided with a first fixing connection member.~~

~~34. The child safety seat according to claim 33, wherein the seat body is provided with a second fixing connection member cooperatively connected to the first fixing connection member.~~

~~35. The child safety seat according to claim 34, wherein one of the first fixing connection member and the second fixing connection member is a male buckle, and the other of the first fixing connection member and the second fixing connection member is a female buckle.~~

~~36. The child safety seat according to claim 28, wherein the seat body is provided with passage for the safety belt to pass through, the passage forms a front opening on a front side of the seat body, and the passage forms a rear opening on a rear side of the seat body.~~