WHAT IS CLAIMED IS:

1. A side collision protection mechanism (10) for buffering a side impact force applied to a child safety seat (100) during a side collision accident, comprising: a side collision protection case (11) and a locking element (12); the side collision protection case (11) being pivotally turnably connected to a side region (21) of a child safety seat (100) to be switched between a folded state, in which the side collision protection case (11) is flatly fitted on the side region (21), and an extended state, in which the side collision protection case (11) is turned away from the side region (21); the side collision protection case (11) being maintained in the extended state through a locking of the locking element (12) to the side region (21); the locking element (12) being movably set in the side collision protection case (11) and having a locking end (121) detachably engaged with the side region (21); the locking end (121) being fully locked to the side region (21) when the side collision protection case (11) is in the extended state and subjected to a side impact force; the locking end (121) being partially locked to the side region (21) when the side collision protection case (11) is in the extended state but not subjected to any side impact force; and the locking end (121) being brought to release from the partial locking to the side region (21) when the side collision protection case (11) in the extended state and not subjected to any side impact force is pushed to pivotally turn relative to the side region (21) to switch from the extended state into the folded state, wherein an end of the locking element (12) far away from the locking end (121) is an actuating end (122), and the actuating end (122) is exposed from the side collision protection case (11).

2. The side collision protection mechanism (10) according to claim 1, wherein the locking element (12) is slidably set in the side collision protection case (11).

3. The side collision protection mechanism (10) according to claim 1, wherein the actuating end (122) has a substantially cambered outer end surface.

4. The side collision protection mechanism (10) according to claim 1, further comprising

a fixing member (13) fixedly mounted to the child safety seat (100); the fixing member (13) including a locking recess (131) for detachably engaging with the locking end (121); and the locking of the locking end (121) to the side region (21) being realized through the engagement of the locking end (121) with the locking recess (131).

5. The side collision protection mechanism (10) according to claim 4, wherein the locking element (12) is in alignment with the locking recess (131) when the side collision protection case (11) in the extended state.

6. The side collision protection mechanism (10) according to claim 4, wherein the locking end (121) has a tip provided with a beveled structure (1211), and the beveled structure (1211) being in alignment with an inner peripheral wall around an opening of the locking recess (131) when the side collision protection case (11) is in the extended state and not subjected to a side impact force.

7. The side collision protection mechanism (10) according to claim 4, wherein the locking recess (131) is a slot.

8. The side collision protection mechanism (10) according to claim 1, wherein an interference fit between the actuating end (122) and the side collision protection case (11) occurs when the side collision protection case (11) is in the extended state and subjected to a side impact force.

9. The side collision protection mechanism (10) according to claim 1, wherein the side collision protection case (11) internally defines a slide passage (111), and the locking element (12) being slidably set in the slide passage (111).

10. The side collision protection mechanism (10) according to claim 9, wherein the slide passage (111) includes a first passage section (1111) and a second passage section (1112), which are arranged in a stepped manner, such that the second passage section (1112) has a bore size larger than that of the first passage section (1111); and the second passage section

(1112) extending through the side collision protection case (11) with the actuating end (122) set in the second passage section (1112).

11. The side collision protection mechanism (10) according to claim 1, wherein the locking element (12) is arranged to be slidable along a direction the same as a lengthwise extending direction of the side collision protection case (11).

12. The side collision protection mechanism (10) according to claim 1, further comprising a locating assembly (14) mounted on the side collision protection case (11) and connected to the locking element (12); the locating assembly (14) constantly holding the locking element (12) in place in the side collision protection case (11) when the side collision protection case (11) is in the extended state and not subjected to any side impact force, such that the locking end (121) is constantly maintained in its partial locking to the side region (21).

13. The side collision protection mechanism (10) according to claim 12, wherein the locating assembly (14) has a tendency of driving the locking element (12) to extend out of the side collision protection case (11) when the locking end (121) is fully locked to the side region (21).

14. The side collision protection mechanism (10) according to claim 12, wherein the locating assembly (14) includes a mounting section (141) and an elastic section (142) located at an end of the mounting section (141); the elastic section (142) being elastically arranged relative to the mounting section (141), the mounting section (141) being mounted on the side collision protection case (11), and the elastic section (142) being mounted on the locking element (12) in an interference-fit manner.

15. The side collision protection mechanism (10) according to claim 14, wherein the locking element (12) is provided with a connecting bore (123), and the elastic section (142) being pressed against an inner wall surface of the connecting bore (123).

16. The side collision protection mechanism (10) according to claim 15, wherein the side collision protection case (11) is internally provided with a locating shaft (114), and the locating shaft (114) being inserted in and extended through the connecting bore (123).

17. The side collision protection mechanism (10) according to claim 12, wherein the locating assembly (14) is an elastic element arranged like a letter “m”.

18. The side collision protection mechanism (10) according to claim 1, wherein the side collision protection case (11) has a contact surface (112) for flatly contacting with the side region (21), and an inward extended concave push surface (113) located opposite to the contact surface (112).

19. A child safety seat (100), comprising: a seat (20), a base (30) and a side collision protection mechanism (10); the side collision protection mechanism (10) being one according to any one of claims 1 to 18; the seat (20) being mounted on a top of the base (30); and a side collision protection case (11) of the side collision protection mechanism (10) being pivotally connected to a side region (21) of the seat (20) or the base (30).