**WHAT IS CLAIMED IS:**

1. A self-locking device for an anti-falling rail, comprising a housing (1), a spring (2), a rotary rod (3) and a first connection shaft (4), wherein a through groove (15) for inserting and connecting an anti-falling rail (20) is formed in the housing (1), the housing (1) comprises a fixed-side main body (11) and an open-side main body (12), the fixed-side main body (11) is detachably connected to the open-side main body (12), two ends of the first connection shaft (4) are connected to the fixed-side main body (11) and the open-side main body (12) respectively, one end of the rotary rod (3) is located inside the housing (1), the other end of the rotary rod (3) is located outside the housing (1), and the spring (2) may make the rotary rod (3) rotate about the first connection shaft (4), and allows one end of the rotary rod (3) to abut against ~~the~~ a front surface (21) of a wing board of the anti-falling rail (20);

the self-locking device for the anti-falling rail also comprises inner side guide wheels (8), outer side guide wheels (9) and side face guide wheels (10),

wherein the outer side guide wheels (9) are of cone frustum-shaped structures, outer diameters of small-diameter sections of the outer side guide wheels (9) are larger than outer diameters of inner side guide wheels (8), each outer side guide wheel (9) comprises an inner wheel body (91) and a wear-resistant material layer (92), the wear-resistant material layer (92) extends circumferentially around a portion of the inner wheel body (91), and the wear-resistant material layer (92) is connected to the inner wheel body (91) through an outer side baffle plate (93) and a sunk screw (94).

2. The self-locking device for ~~an~~ the anti-falling rail according to claim 1, wherein the fixed-side main body (11) comprises a first fixed plate (13) and a second fixed plate (14) which are sequentially connected, the first fixed plate (13) is parallel to the open-side main body (12), and the second fixed plate (14) is located between the first fixed plate (13) and the open-side main body (12).

3. The self-locking device for ~~an~~ the anti-falling rail according to claim 2, wherein a spring mounting ladder hole is formed in the second fixed plate (14), a spring baffle plate (5) is fixed in one end of the spring mounting ladder hole, one end of the spring (2) is connected to the spring baffle plate (5), and the other end of the spring (2) is connected to the rotary rod (3).

4. The self-locking device for ~~an~~ the anti-falling rail according to claim 2, wherein the first connection shaft (4) comprises an arch section (41), a large-diameter section (42) and a small-diameter section (43) which are sequentially connected, ~~the~~ an outer diameter of the arch section (41) is larger than that of the large-diameter section (42), and the outer diameter of the large-diameter section (42) is larger than that of the small-diameter section (43).

5. The self-locking device for ~~an~~ the anti-falling rail according to claim 4, wherein the arch section (41) and the large-diameter section (42) of the first connection shaft (4)

are in interference fit with the first fixed plate (13), and the small-diameter section (43) of the first connection shaft (4) passes through the rotary rod (3).

6. The self-locking device for ~~an~~ the anti-falling rail according to claim 5, wherein the open-side main body (12) is connected to a stop screw (6), ~~the~~ an end of the small-diameter section (43) is inserted and connected into the open-side main body (12), and the stop screw (6) can prevent the fixed-side main body (11) from being separated from the open-side main body (12).

7. The self-locking device for ~~an~~ the anti-falling rail according to claim 6, wherein a limiting groove (44) is formed in the end of the small-diameter section (43), and when ~~the~~ a tail end of the stop screw (6) is inserted into the limiting groove (44) of the first connection shaft (4), the fixed-side main body (11) and the open-side main body (12) are connected and fixed; and when the tail end of the stop screw (6) is separated from the limiting groove (44) of the first connection shaft (4), the fixed-side main body (11) and the open-side main body (12) can be separated.

8. The self-locking device for ~~an~~ the anti-falling rail according to claim 1, wherein the self-locking device for ~~an~~ the anti-falling rail also comprises a second connection shaft (7), the second connection shaft (7) is parallel to the first connection shaft (4), wherein a connection type of the second connection shaft (7) and the fixed-side main body (11) is identical to that of the ~~and~~ the first connection shaft (4) ~~are mirror images of each other~~ and the fixed-side main body (11), and a connection type of the second connection shaft (7) and the open-side main body (12) is identical to that of the first connection shaft (4) and the open-side main body (12), and ~~the~~ two ends of the second connection shaft (7) are connected to the fixed-side main body (11) and the open-side main body (12) respectively.

9. The self-locking device for ~~an~~ the anti-falling rail according to claim 1, wherein ~~the self-locking device for an anti-falling rail also comprises inner side guide wheels (8), outer side guide wheels (9) and side face guide wheels (10),~~ the inner side guide wheels (8) can roll on the front surface (21) of the wing board of the anti-falling rail (20), the outer side guide wheels (9) can roll on ~~the~~ a back surface (22) of the wind board of the anti-falling rail (20), and the side face guide wheels (10) can roll on ~~the~~ a side face (23) of the wing board of the anti-falling rail (20).

~~10. The self-locking device for an anti-falling rail according to claim 9, wherein the outer side guide wheels (9) are of cone frustum-shaped structures, the outer diameters of the small-diameter sections of the outer side guide wheels (9) are larger than the outer diameters of the inner side guide wheels (8), each outer side guide wheel (9) comprises an inner wheel body (91) and a wear-resistant material layer (92), each inner wheel body (91) sleeves the corresponding wear-resistant material layer (92), and each wear-resistant material layer (92) is connected to the corresponding inner wheel body (91) through an outer side baffle plate (93) and a sunk screw (94).~~