Claims

1. A ball joint orientation device applicable to a unipod, comprising

a ball joint (1);

stop members;

a ball joint seat (5); and

a main rod (4);

wherein,

one end of said ball joint (1) is formed as a rotating part (11) and is arranged in said ball joint seat (5) in a universal swaying manner, and the other end extends to form a connecting part (12) and is fixedly connected with said main rod (4); said stop members are arranged in said ball joint seat (5), and said stop members comprise a locking stop member (21) located at an upper side of said rotating part (11);

said device further comprises an orientation knob (3) sleeved around the connecting part (12) and/or said main rod (4), and said orientation knob (3) can be screwed towards or away from said ball joint seat (5), so as to move upward or downward;

said orientation knob (3) is able to abut against an end face of said ball joint seat (5) by being screwed towards said ball joint seat (5), and, said locking stop member (21) locks said ball joint (1), so as to prevent said ball joint from rotating; ~~and~~

said orientation knob (3) becomes separated from said ball joint seat (5) by being screwed away from said ball joint seat (5), so as to release said ball joint (1) and allow the ball joint to rotate freely; and

said main rod (4) and said connecting part (12) are fixedly connected together through a main rod joint (41), one end of said main rod joint (41) is sleeved around said main rod (4) and in threaded connection with one end of said main rod (4), and the other end of said main rod joint (41) is sleeved around said connecting part (12) and in threaded connection with said connecting part (12).

2. The ball joint orientation device applicable to the unipod of claim 1, wherein,

said stop members further comprises a lower stop member (22) adapted for limiting the position of the ball joint and located at a lower side of said rotating part (11), an upper surface of the lower stop member (22) abuts against the rotating part

(11).

~~3. The ball joint orientation device applicable to the unipod of claim 1, wherein,~~

~~said main rod (4) is in threaded connection with said connecting part (12), and said orientation knob (3) is in threaded connection with said main rod (4) or said connecting part (12).~~

~~4. The ball joint orientation device applicable to the unipod of claim 1, wherein,~~

~~said main rod (4) and said connecting part (12) are fixedly connected together through a main rod joint (41), one end of said main rod joint (41) is sleeved around said main rod (4) and in threaded connection with one end of said main rod (4), and the other end of said main rod joint (41) is sleeved around said connecting part (12) and in threaded connection with said connecting part (12).~~

~~5~~3. The ball joint orientation device applicable to the unipod of claim 4~~1~~, wherein,

said orientation knob (3) is sleeved around said main rod joint (41), and in threaded connection with said main rod joint (41).

~~6~~4. The ball joint orientation device applicable to the unipod of claim ~~5~~3, wherein,

said lower stop member (22) is a ball joint lower stop ring made of plastic, and the ball joint lower stop ring is fixed in ball joint seat (5).

~~7~~5. The ball joint orientation device applicable to the unipod of claim ~~6~~4, wherein,

said locking stop member (21) is a ball joint upper stop ring made of rubber, and the ball joint upper stop ring is disposed inside said ball joint seat (5) and located at the upper end of said ball joint seat (5), and the lower surface of the ball joint upper stop ring abuts against a spherical surface of said rotating part (11).

~~8~~6. The ball joint orientation device applicable to the unipod of claim ~~7~~5, wherein,

the mutual contact surfaces of each of the ball joint upper and lower races and the rotating part (11) are curved surfaces.

~~9~~7. The ball joint orientation device applicable to the unipod of claims 1, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

~~10. The ball joint orientation device applicable to the unipod of claim 2, wherein,~~

~~said main rod (4) is in threaded connection with said connecting part (12), and said orientation knob (3) is in threaded connection with said main rod (4) or said connecting part (12).~~

~~11. The ball joint orientation device applicable to the unipod of claim 2, wherein,~~

~~said main rod (4) and said connecting part (12) are fixedly connected together through a main rod joint (41), one end of said main rod joint (41) is sleeved around said main rod (4) and in threaded connection with one end of said main rod (4), and the other end of said main rod joint (41) is sleeved around said connecting part (12) and in threaded connection with said connecting part (12).~~

~~12~~8. The ball joint orientation device applicable to the unipod of claims 2, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

~~13. The ball joint orientation device applicable to the unipod of claims 3, wherein,~~

~~recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).~~

~~14. The ball joint orientation device applicable to the unipod of claims 4, wherein,~~

~~recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).~~

~~15~~9. The ball joint orientation device applicable to the unipod of claims ~~5~~3, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

~~16~~10. The ball joint orientation device applicable to the unipod of claims ~~6~~4, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

~~17~~11. The ball joint orientation device applicable to the unipod of claims ~~7~~5, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

~~18. The ball joint orientation device applicable to the unipod of claims 10, wherein,~~

~~recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).~~

~~19. The ball joint orientation device applicable to the unipod of claims 11, wherein,~~

~~recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).~~

Claims

1. A ball joint orientation device applicable to a unipod, comprising

a ball joint (1);

stop members;

a ball joint seat (5); and

a main rod (4);

wherein,

one end of said ball joint (1) is formed as a rotating part (11) and is arranged in said ball joint seat (5) in a universal swaying manner, and the other end extends to form a connecting part (12) and is fixedly connected with said main rod (4); said stop members are arranged in said ball joint seat (5), and said stop members comprise a locking stop member (21) located at an upper side of said rotating part (11);

said device further comprises an orientation knob (3) sleeved around the connecting part (12) and/or said main rod (4), and said orientation knob (3) can be screwed towards or away from said ball joint seat (5), so as to move upward or downward;

said orientation knob (3) is able to abut against an end face of said ball joint seat (5) by being screwed towards said ball joint seat (5), and, said locking stop member (21) locks said ball joint (1), so as to prevent said ball joint from rotating;

said orientation knob (3) becomes separated from said ball joint seat (5) by being screwed away from said ball joint seat (5), so as to release said ball joint (1) and allow the ball joint to rotate freely; and

said main rod (4) and said connecting part (12) are fixedly connected together through a main rod joint (41), one end of said main rod joint (41) is sleeved around said main rod (4) and in threaded connection with one end of said main rod (4), and the other end of said main rod joint (41) is sleeved around said connecting part (12) and in threaded connection with said connecting part (12).

2. The ball joint orientation device applicable to the unipod of claim 1, wherein,

said stop members further comprises a lower stop member (22) adapted for limiting the position of the ball joint and located at a lower side of said rotating part (11), an upper surface of the lower stop member (22) abuts against the rotating part

(11).

3. The ball joint orientation device applicable to the unipod of claim 1, wherein,

said orientation knob (3) is sleeved around said main rod joint (41), and in threaded connection with said main rod joint (41).

4. The ball joint orientation device applicable to the unipod of claim 3, wherein,

said lower stop member (22) is a ball joint lower stop ring made of plastic, and the ball joint lower stop ring is fixed in ball joint seat (5).

5. The ball joint orientation device applicable to the unipod of claim 4, wherein,

said locking stop member (21) is a ball joint upper stop ring made of rubber, and the ball joint upper stop ring is disposed inside said ball joint seat (5) and located at the upper end of said ball joint seat (5), and the lower surface of the ball joint upper stop ring abuts against a spherical surface of said rotating part (11).

6. The ball joint orientation device applicable to the unipod of claim 5, wherein,

the mutual contact surfaces of each of the ball joint upper and lower races and the rotating part (11) are curved surfaces.

7. The ball joint orientation device applicable to the unipod of claim 1, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

8. The ball joint orientation device applicable to the unipod of claim 2, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

9. The ball joint orientation device applicable to the unipod of claim 3, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses

(31).

10. The ball joint orientation device applicable to the unipod of claim 4, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).

11. The ball joint orientation device applicable to the unipod of claim 5, wherein,

recesses (31) are respectively formed at both end ports of the inner wall of the orientation knob (3), and seal rings (32) are respectively disposed in said recesses (31).