[0045] A structure of the wheel set brake mechanism 4 according to an embodiment of the present application is described below with reference to FIG. 3 to FIG. 12. The wheel set brake mechanism 4 may include a drive member 41, a locking assembly 410 (see FIG. 9), two brake assemblies and a first elastic member 44 (see FIG. 9). The brake assemblies may have a roughly same structure, including, for example, a drive pin 42, a traction member (a first cable and a second cable), a locking member 43 and a first elastic member 44. One of the brake assemblies is mainly described in detail below.

[0046] Referring to FIG. 3, the drive member 41 may include a sleeve portion 412 and a pedal portion 411 extending from the sleeve portion 412. The sleeve portion 412 may be arranged outside the horizontal tube 12 in such a way that the sleeve portion 412 is rotatable around the axis of the horizontal tube 12. Referring to FIG. 7 and FIG. 8, in some embodiments, the sleeve portion 412 may be formed by butting of two semi-cylindrical structures 412a and 412b. Referring to FIG. 7, the sleeve portion 412 may be symmetrically provided with two chutes 41a. Referring to FIG. 6, the horizontal tube 12 may be provided with two elongated holes 12a. One elongated hole 12a corresponds to one chute 41a, and an extension direction of the elongated hole 12a is parallel to an axis direction of the horizontal tube 12. In other embodiments, the two chutes 41a may be arranged on the horizontal tube 12, and the two elongated holes 12a may be arranged on the sleeve portion 412. The pedal portion 411 may extend from the semi-cylindrical structure 412a for a user to depress. In some embodiments, the pedal portion 411, when subjected to depression force from the user, may drive the sleeve portion 412 to pivot downward to enable the drive member 41 to rotate to the braking position. In this case, the rear wheel 3 is locked and cannot rotate. The pedal portion 411, when subjected to upward lifting force from the user, may drive the sleeve portion 412 to pivot upward to enable the drive member 41 to rotate to the initial position. In this case, the rear wheel 3 is unlocked and may rotate freely.

[0047] The locking assembly 410 is configured to lock the drive member 41 at the braking position. That is, when the drive member 41 rotates to the braking position, the locking assembly 410 may automatically lock the rotation of the drive member 41, so as to keep the drive member 41 at the braking position. It may be understood that when the user applies the upward lifting force to the pedal portion 411, locking force applied by the locking assembly 410 to the drive member 41 may be overcome, so as to allow the pedal portion 411 to return to the initial position. A ~~preferred~~ structure of the locking assembly 410 will be described in detail below.

[0048] Referring to FIG. 6 to FIG. 9, the drive pin 42 is axially movably arranged inside the horizontal tube 12, and an axis of the drive pin 42 is, for example, parallel to the axis of the horizontal tube 12. The drive pin 42 is provided with a radially-protruding sliding shaft 42a. That

sleeve 45 may be perpendicular to the rolling axis of the rear wheel 3. The first elastic reset member 46 may be arranged between the wheel stand 31 and the sliding sleeve 45. In addition, an end portion of the sliding sleeve 45 away from the transverse shaft 431 may be provided with an accommodating groove 45a, the second end of the second cable 49 is provided with a second pivot joint 49b, and the second pivot joint 49b is rotatably arranged in the accommodating groove 45a. In some embodiments, the second pivot joint 49b may be a spherical head which is accommodated between an end cap of the sliding sleeve 45 and the longitudinal shaft 432. More specifically, the second pivot joint 49b may abut against the end cap of the sliding sleeve 45 to connect the sliding sleeve 45 to the second cable 49. In this way, the second cable 49 drives the sliding sleeve 45 to enable the transverse shaft 431 of the locking member 43 to be stuck in the engagement hole 32. In this way, the first elastic reset member 46 drives the sliding sleeve 45 to enable the transverse shaft 431 of the locking member 43 to exit the engagement hole 32. The arrangement of the sliding sleeve 45 and the second pivot joint 49b may prevent relative torsion between the locking member 43 and the second cable 49. In some embodiments, a ball may also be clamped between the second pivot joint 49b of the second cable 49 and the end cap of the sliding sleeve 45. Arrangement of the ball may be obtained with reference to the ball 49c in FIG. 13.

[0056] Referring to FIG. 9, the first elastic member 44 is located in the horizontal tube 12 and located between the two drive pins 42 of the two brake assemblies. The first elastic member 44 is compressed when the drive member 41 switches from the initial position to the braking position. The first elastic member 44 applies force to the two drive pins 42 at the same time when the drive member 41 switches from the braking position to the initial position, which facilitates reset movement of the two drive pins 42 in opposite directions, and the drive member 41 is kept at the initial position through engagement of the sliding shaft 42a of each drive pin 42 with the corresponding chute 41a and the corresponding elongated hole 42a. The first elastic reset member 46 drives the locking member 43 to the unlocking position, so as to facilitate next braking of the rear wheel 3.

[0057] Referring to FIG. 8 and FIG. 9, a<u>n</u> ~~preferred~~ implementation of the locking assembly 410 is illustrated. The locking assembly 410 may lock the drive member 41 at the braking position or unlock the drive member 41 from the braking position. The locking assembly 410 may include a locking protrusion 410b arranged outside the horizontal tube 12. The sleeve portion 412 of the drive member 41 may be provided with, for example, an end surface 4101 abutting against the locking protrusion 410b. The end surface 4101 is provided with a locking recess 410a. The locking protrusion 410b abuts against the end surface 4101 to be elastically deformed when the

[0065] The above disclosed are merely ~~preferred~~ examples of the present application, and certainly cannot be used to limit the scope of the present application. Therefore, equivalent changes made according to the patent scope of the present application still fall within the scope covered by the present application.