Claims

1. A quick connection anti-loose apparatus of a photographic stand, comprising

a first main rod (1),

a second main rod (3), and

a connection anti-loose device, for connecting the first main rod (1) and the second main rod (3);

wherein, the connection anti-loose device comprises

a first joint (11), provided on the first main rod (1);

a second joint (31), provided on the second main rod (3); and

a connecting structure, slidably sleeved on the first joint (11) and restricted from slipping off from an end of the first joint (11) facing the second joint (31), or slidably sleeved on second joint (31) and restricted from slipping off from an end of the second joint (31) facing the first joint (11); and

further comprises anti-rotation structures, provided between opposite ends of the first joint (11) and the second joint (31), and combined with each other to prevent the first joint (11) and the second joint (31) from rotating relative to each other;

the connecting structure is adapted for sliding from the first joint (11) or the second joint (31) on which the connecting structure is sleeved to the second joint (31) or the first joint (11), and driving the first joint (11) or the second joint (31) on which the connecting structure is sleeved to slide during detachable connection with the second joint (31) or the first joint (11), so as so enable the anti-rotation structures between the opposite ends of the first joint (11) and the second joint (31) to be combined with each other;

wherein, the connection structure is a connecting knob (12) which is sleeved on the first joint (11); and the connecting knob (12) and the second joint (31) are detachably connected with each other by means of threads;

the end of the first joint (11) facing the first main rod (1) is conical, provided with a narrower upper part and a wider lower part;

a corresponding conical inner cavity (121) is formed at the end of the connecting

knob (12) facing the first main rod (1);

an internal thread (122) is formed on the inner wall of the end of the connecting knob (12) facing the second joint (31);

an external thread (311) matched with the internal thread (122) is formed on an outer wall of the second joint (31).

2. The quick connection anti-loose apparatus of 1, wherein, the anti-rotation structure further comprises a clamping head (111) or a clamping slot (312) formed at an end of the first joint (11), and a clamping slot (312) or a clamping head (111) matched with the clamping head (111) or the clamping slot (312) and formed at an end of the second joint (31).

3. The quick connection anti-loose apparatus of claim 2, wherein, further comprising

a joint sheath (4) is sleeved outside the second joint (31), for preventing the external thread (311) of the second joint (31) from scratching hands.

4. The quick connection anti-loose apparatus of claim 3, wherein,

the joint sheath is provided with a hollow structure;

the end of the joint sheath (4) facing the second main rod (3) is provided with a circumferential inner wall in threaded connection with the second joint (31) provided with a circumferential outer wall;

a clearance provided between the circumferential inner wall of the end of the joint sheath (4) facing the first joint (11) and the circumferential outer wall of the second joint (31) is adapted for screwing the end of the connecting knob (12) sleeved on the first joint (11) facing the second joint (31) therein.

5. The quick connection anti-loose apparatus of any of claims 2-4, wherein,

the clamping head (111) is a pyramidal, provided with a wider upper part and a narrower lower part and formed at the end of the first joint (11) facing the second joint (31); and

the clamping slot (312) is a pyramidal inner cavity formed at the end of the second joint (31) facing the first joint (11).

6. The quick connection anti-loose apparatus of any of claims 2-4, wherein,

the clamping head (111) is a pyramidal, provided with a narrower upper part and a wider lower part and formed at the end of the second joint (31) facing the first joint (11); and

the clamping slot (312) is a pyramidal inner cavity formed at the end of the first joint (11) facing the second joint (31).

7. The quick connection anti-loose apparatus of claim 5 or 6, wherein,

the clamping head is in the form of a hexagonal pyramidal boss, and the pyramidal inner cavity is in the form of a corresponding hexagonal pyramidal slot.

8. The quick connection anti-loose apparatus of any of claims 1-7, wherein,

the end of the second joint (31) facing the second main rod (3) is inserted into the second main rod (3) and is in threaded connection with the second main rod (3); and glue is further applied to surfaces of the second joint (31) and the second main rod (3) fit to each other.

9. The quick connection anti-loose apparatus of any of claims 1-8, wherein,

a stepped hole (112) extending in the axial direction is formed at the end face of the end of the first joint (11) facing the first main rod (1);

one end of the first main rod (1) is inserted into the stepped hole (112) and abuts against a step surface of the stepped hole (112);

an outer wall of an end head of the first main rod (1) is in threaded connection with an inner wall of the first joint (11) by means of threads; and glue is further applied to surfaces of the first main rod (1) and the first joint (11) fit to each other.

Claims

1. A quick connection anti-loose apparatus of a photographic stand, comprising

a first main rod (1),

a second main rod (3), and

a connection anti-loose device, for connecting the first main rod (1) and the second main rod (3);

wherein, the connection anti-loose device comprises

a first joint (11), provided on the first main rod (1);

a second joint (31), provided on the second main rod (3); and

a connecting structure, slidably sleeved on the first joint (11) and restricted from slipping off from an end of the first joint (11) facing the second joint (31), or slidably sleeved on second joint (31) and restricted from slipping off from an end of the second joint (31) facing the first joint (11); and

further comprises anti-rotation structures, provided between opposite ends of the first joint (11) and the second joint (31), and combined with each other to prevent the first joint (11) and the second joint (31) from rotating relative to each other;

the connecting structure is adapted for sliding from the first joint (11) or the second joint (31) on which the connecting structure is sleeved to the second joint (31) or the first joint (11), and driving the first joint (11) or the second joint (31) on which the connecting structure is sleeved to slide during detachable connection with the second joint (31) or the first joint (11), so as so enable the anti-rotation structures between the opposite ends of the first joint (11) and the second joint (31) to be combined with each other;

wherein, the connection structure is a connecting knob (12) which is sleeved on the first joint (11); and the connecting knob (12) and the second joint (31) are detachably connected with each other by means of threads;

the end of the first joint (11) facing the first main rod (1) is conical, provided with a narrower upper part and a wider lower part;

a corresponding conical inner cavity (121) is formed at the end of the connecting

knob (12) facing the first main rod (1);

an internal thread (122) is formed on the inner wall of the end of the connecting knob (12) facing the second joint (31);

an external thread (311) matched with the internal thread (122) is formed on an outer wall of the second joint (31).

2. The quick connection anti-loose apparatus of 1, wherein, the anti-rotation structure further comprises a clamping head (111) or a clamping slot (312) formed at an end of the first joint (11), and a clamping slot (312) or a clamping head (111) matched with the clamping head (111) or the clamping slot (312) and formed at an end of the second joint (31).

3. The quick connection anti-loose apparatus of claim 2, wherein, further comprising

a joint sheath (4) is sleeved outside the second joint (31), for preventing the external thread (311) of the second joint (31) from scratching hands.

4. The quick connection anti-loose apparatus of claim 3, wherein,

the joint sheath is provided with a hollow structure;

the end of the joint sheath (4) facing the second main rod (3) is provided with a circumferential inner wall in threaded connection with the second joint (31) provided with a circumferential outer wall;

a clearance provided between the circumferential inner wall of the end of the joint sheath (4) facing the first joint (11) and the circumferential outer wall of the second joint (31) is adapted for screwing the end of the connecting knob (12) sleeved on the first joint (11) facing the second joint (31) therein.

5. The quick connection anti-loose apparatus of any of claims 2-4, wherein,

the clamping head (111) is a pyramidal, provided with a wider upper part and a narrower lower part and formed at the end of the first joint (11) facing the second joint (31); and

the clamping slot (312) is a pyramidal inner cavity formed at the end of the second joint (31) facing the first joint (11).

6. The quick connection anti-loose apparatus of any of claims 2-4, wherein,

the clamping head (111) is a pyramidal, provided with a narrower upper part and a wider lower part and formed at the end of the second joint (31) facing the first joint (11); and

the clamping slot (312) is a pyramidal inner cavity formed at the end of the first joint (11) facing the second joint (31).

7. The quick connection anti-loose apparatus of claim 5 or 6, wherein,

the clamping head is in the form of a hexagonal pyramidal boss, and the pyramidal inner cavity is in the form of a corresponding hexagonal pyramidal slot.

8. The quick connection anti-loose apparatus of any of claims 1-7, wherein,

the end of the second joint (31) facing the second main rod (3) is inserted into the second main rod (3) and is in threaded connection with the second main rod (3); and glue is further applied to surfaces of the second joint (31) and the second main rod (3) fit to each other.

9. The quick connection anti-loose apparatus of any of claims 1-8, wherein,

a stepped hole (112) extending in the axial direction is formed at the end face of the end of the first joint (11) facing the first main rod (1);

one end of the first main rod (1) is inserted into the stepped hole (112) and abuts against a step surface of the stepped hole (112);

an outer wall of an end head of the first main rod (1) is in threaded connection with an inner wall of the first joint (11) by means of threads; and glue is further applied to surfaces of the first main rod (1) and the first joint (11) fit to each other.