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Inventeur(s):
YU Lili – Chine, XING Lijie – Chine

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Mandataire(s):
IP SHIELD – 1616 Luxembourg (Luxembourg)

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Titulaire(s):
QINGDAO HAICI HOSPITAL AFFILIATED TO QINGDAO
UNIVERSITY – 266033 Qingdao, Shandong (Chine)

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PORTABLE AND DETACHABLE MOVABLE INFUSION STAND.

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The present invention relates to the technical field of movable infusion stands, and specifically relates to a portable and detachable movable infusion stand. The portable and detachable movable infusion stand includes a base mechanism, a telescopic mechanism, and a suspension mechanism, where through a threaded joint arranged at the bottom end of a first support rod of the telescopic mechanism and a fixed screw hole formed in the top end of a water tank, fixed connection between the first support rod and the base mechanism may be realized; through regulation holes formed in the outer surfaces of a second support rod, a third support rod and a fourth support rod, and spring limit buttons arranged at the tops of the second support rod and the third support rod, flexible height regulation, installation and detachment for the support rods may be realized, so that the convenience and practicality of use for the infusion stand are improved; through a rotating ball head fixedly arranged at the top end of the fourth support rod, a fixed block and a top cap may rotate to regulate and control, and then hooks at the both sides of the fixed block may be driven to rotate synchronously, so that the convenience in the use process is improved, and the working efficiency of medical staff is increased; and the infusion stand is bound to a support frame of a hospital bed through a binding belt hole, and tilting of the infusion stand during the activities of a patient is avoided, so that the safety of the user is improved.

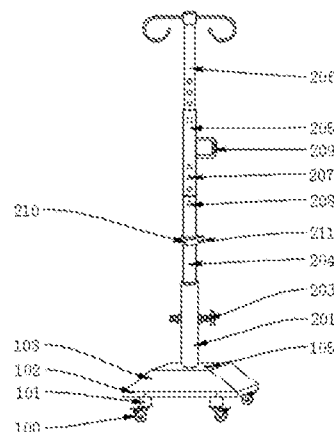


FIG. 1

PORTABLE AND DETACHABLE MOVABLE INFUSION STAND

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BACKGROUND OF THE INVENTION**[0001] 1. Technical Field**

[0002] The present invention relates to the technical field of movable infusion stands, and
5 specifically relates to a portable and detachable movable infusion stand.

[0003] 2. Description of Related Art

[0004] An infusion stand is widely applied to clinical treatment, and is a force support material that enables the solution level of a medicine solution and the heart level of a patient to maintain a certain height, and promotes the medicine solution to enter the body of the patient. At
10 present, infusion stands used in various hospitals in China are simple in structure, single in function, and little in humanistic care, although the infusion stands have been improved in style, the infusion stands still cannot meet the needs of modern medical staff and patients, and therefore, research and improvement for the infusion stands are particularly important.

[0005] The disclosure with an authorization announcement number CN209996914U
15 discloses a movable infusion stand, and the provided movable infusion stand can not only be used by a plurality of persons at the same time, but also ensure the comfort of hands during infusion, and meanwhile, the number of suitable platforms for placing the hands can be selected according to the number of infusion bottles or infusion bags, without influence on the movement of the infused persons. However, the infusion stand lacks a binding function and a hook rotation
20 function, and a base of the infusion stand is light in dead weight, and inconvenient for the convenience in use and the safety of the user.

BRIEF SUMMARY OF THE INVENTION

[0006] The purpose of the present invention is to provide a portable and detachable
25 movable infusion stand, for solving the problems proposed in the above background art.

[0007] In order to realize the above purpose, the present invention provides the following

technical solution:

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[0008] a portable and detachable movable infusion stand includes a base mechanism, a telescopic mechanism, and a suspension mechanism, where the base mechanism includes brakable universal wheels, support legs, a bottom plate, a water tank, a water injection port, a rubber plug, and a fixed screw hole, the support legs are fixedly connected to the top ends of the brakable universal wheels, the bottom plate is fixedly connected to the top ends of the support legs, the water tank is fixedly arranged at the top end of the bottom plate, the water injection port is fixedly formed in the top end of the water tank, the rubber plug is movably arranged inside the water injection port, and the fixed screw hole is fixedly formed in the top end of the water tank.

[0009] Preferably, the telescopic mechanism includes a threaded joint, a first support rod, an installation hole, a split bolt, a second support rod, a third support rod, a fourth support rod, regulation holes, spring limit buttons, a pull handle, a fixing ring, and a binding belt hole, where the threaded joint is fixedly arranged at the bottom end of the first support rod.

[0010] Preferably, the installation hole is formed in the outer surface of the first support rod, the split bolt penetrates through the second support rod and is fixedly arranged at the both sides of the first support rod, a plurality of the regulation holes are formed in the outer surfaces of the second support rod, the third support rod, and the fourth support rod, and the spring limit buttons are fixedly arranged at the tops of the second support rod and the third support rod.

[0011] Preferably, the third support rod is movably arranged at the top end of the second support rod, the fourth support rod is fixedly arranged at the top end of the third support rod, the pull handle is fixedly arranged at one side of the third support rod, the fixing ring is fixedly arranged on the outer surface of the second support rod, and the binding belt hole is fixedly formed in one side of the fixing ring.

[0012] Preferably, the suspension mechanism includes a top cap, a fixed block, a rotating ball head, and hooks, where the top cap is movably arranged at the top end of the fourth support rod, and the fixed block is fixedly arranged inside the top cap.

[0013] Preferably, the rotating ball head is movably arranged at the bottom of the fixed block, the bottom end of the rotating ball head is fixedly connected to the top end of the fourth support rod, and the hooks are fixedly connected to the both sides of the fixed block. LU505650

[0014] Compared with the prior art, the present invention has the beneficial effects that:

5 [0015] according to the movable infusion stand of the present invention, after the water tank is fully filled with water through the water injection port of the base mechanism, the water injection port is blocked by virtue of the rubber plug to prevent water overflow, then the infusion stand is moved to a position needing to be used through the brakable universal wheels and the pull handle, and then brakes of the brakable universal wheels are tightened downwards, so that
10 the infusion stand is prevented from slipping to cause secondary injury to a patient in a use process; through the threaded joint arranged at the bottom end of the first support rod of the telescopic mechanism and the fixed screw hole formed in the top end of the water tank, fixed connection between the first support rod and the base mechanism may be realized, and through the regulation holes formed in the outer surfaces of the second support rod, the third support rod
15 and the fourth support rod, and the spring limit buttons arranged at the tops of the second support rod and the third support rod, flexible height regulation, installation and detachment for the support rods may be realized, so that the convenience and practicality of use for the infusion stand are improved; and

[0016] according to the movable infusion stand of the present invention, through the
20 rotating ball head fixedly arranged at the top end of the fourth support rod, the fixed block and the top cap may rotate to regulate and control, and then the hooks at the both sides of the fixed block may be driven to rotate synchronously, so that the convenience in the use process is improved, and the working efficiency of medical staff is increased; and through the binding belt hole formed in one side of the second support rod, the infusion stand may be bound to a support
25 frame of a hospital bed through the binding belt hole when the infusion stand needs to be fixed to one side of the hospital bed, and movement or tilting of the infusion stand during the activities of

the patient is avoided, so that the safety of the user is improved.

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BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0017] In order to explain the embodiments of the present invention or the technical solutions in the prior art more clearly, the accompanying drawings required in the embodiments or the description of the prior art will be briefly introduced below. Obviously, the accompanying drawings in the following description are only some embodiments of the present invention, and a person of ordinary skill in the art can still derive other drawings according to these accompanying drawings without creative efforts.

[0018] FIG. 1 is a schematic diagram of an overall structure of the present invention;

[0019] FIG. 2 is a schematic diagram of a section structure of the present invention;

[0020] FIG. 3 is a schematic enlarged diagram of a position A in FIG. 2 in the present invention; and

[0021] FIG. 4 is a schematic enlarged diagram of a position B in FIG. 2 in the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0022] To make the objectives, technical solutions and advantages of the present invention clearer, the present invention will be further described in detail with reference to the accompanying drawings and specific embodiments. It should be understood that the specific embodiments described herein are only used to explain the present invention, and are not used to limit the present invention.

[0023] Referring to FIG. 1 to FIG. 4, the present invention provides a technical solution that:

[0024] a portable and detachable movable infusion stand includes a base mechanism, a telescopic mechanism, and a suspension mechanism, where the base mechanism includes brakable universal wheels 100, support legs 101, a bottom plate 102, a water tank 103, a water

injection port 104, a rubber plug 105, and a fixed screw hole 106, the support legs 101 are
 fixedly connected to the top ends of the brakable universal wheels 100, the bottom plate 102 is
 fixedly connected to the top ends of the support legs 101, the water tank 103 is fixedly arranged
 at the top end of the bottom plate 102, the water injection port 104 is fixedly formed in the top
 5 end of the water tank 103, the rubber plug 105 is movably arranged inside the water injection
 port 104, and the fixed screw hole 106 is fixedly formed in the top end of the water tank 103.

[0025] In the example, preferably, the telescopic mechanism includes a threaded joint 200,
 a first support rod 201, an installation hole 202, a split bolt 203, a second support rod 204, a third
 support rod 205, a fourth support rod 206, regulation holes 207, spring limit buttons 208, a pull
 10 handle 209, a fixing ring 210, and a binding belt hole 211, where the threaded joint 200 is fixedly
 arranged at the bottom end of the first support rod 201.

[0026] In the example, preferably, the installation hole 202 is formed in the outer surface
 of the first support rod 201, the split bolt 203 penetrates through the second support rod 204 and
 is fixedly arranged at the both sides of the first support rod 201, a plurality of the regulation
 15 holes 207 are formed in the outer surfaces of the second support rod 204, the third support rod
 205, and the fourth support rod 206, and the spring limit buttons 208 are fixedly arranged at the
 tops of the second support rod 204 and the third support rod 205.

[0027] In the example, preferably, the third support rod 205 is movably arranged at the top
 end of the second support rod 204, the fourth support rod 206 is fixedly arranged at the top end
 20 of the third support rod 205, the pull handle 209 is fixedly arranged at one side of the third
 support rod 205, the fixing ring 210 is fixedly arranged on the outer surface of the second
 support rod 204, and the binding belt hole 211 is fixedly formed in one side of the fixing ring
 210.

[0028] In the example, preferably, the suspension mechanism includes a top cap 300, a
 25 fixed block 301, a rotating ball head 302, and hooks 303, where the top cap 300 is movably
 arranged at the top end of the fourth support rod 206, and the fixed block 301 is fixedly arranged

inside the top cap 300.

[0029] In the example, preferably, the rotating ball head 302 is movably arranged at the bottom of the fixed block 301, the bottom end of the rotating ball head 302 is fixedly connected to the top end of the fourth support rod 206, and the hooks 303 are fixedly connected to the both
5 sides of the fixed block 301.

[0030] When the portable and detachable movable infusion stand of the example is in use, firstly, the water tank 103 is fully filled with water through the water injection port 104 of the base mechanism, the water injection port 104 is blocked by virtue of the rubber plug 105 to prevent water overflow, then the infusion stand is moved to a position needing to be used
10 through the brakable universal wheels 100 and the pull handle 209, and then the brakes of the brakable universal wheels 100 are tightened downwards, so that the infusion stand is prevented from slipping to cause secondary injury to a patient in a use process; and through the threaded joint 200 arranged at the bottom end of the first support rod 201 of the telescopic mechanism and the fixed screw hole 106 formed in the top end of the water tank 103, fixed connection between
15 the first support rod 201 and the base mechanism may be realized, and through the regulation holes 207 formed in the outer surfaces of the second support rod 204, the third support rod 205 and the fourth support rod 206, and the spring limit buttons 208 arranged at the tops of the second support rod 204 and the third support rod 205, flexible height regulation, installation and detachment for the support rods may be realized, so that the convenience and practicality of use
20 for the infusion stand are improved. Through the rotating ball head 302 fixedly arranged at the top end of the fourth support rod 206, the fixed block 301 and the top cap 300 may rotate to regulate and control, and then the hooks 303 at the both sides of the fixed block 301 may be driven to rotate synchronously, so that the convenience in the use process is improved, and the working efficiency of medical staff is increased. Through the binding belt hole 211 formed in
25 one side of the second support rod 204, the infusion stand may be bound to a support frame of a hospital bed through the binding belt hole when the infusion stand needs to be fixed to one side

of the hospital bed, and movement or tilting of the infusion stand during the activities of the patient is avoided, so that the safety of the user is improved. LU505650

[0031] The above are only the preferred embodiments of the present invention, and are not intended to limit the present invention in other forms. Any skilled in the art may make changes of variations on the technical content disclosed above to become equivalent embodiments with the same changes. However, any simple modification, equivalent change and variation made on the above embodiments by using the contents without departing from the technical solution of the present invention based on the technical essence of the present invention are all still within the protection scope of the present invention.

CLAIMS

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1. A portable and detachable movable infusion stand, comprising a base mechanism, a telescopic mechanism, and a suspension mechanism, wherein the base mechanism comprises brakable universal wheels (100), support legs (101), a bottom plate (102), a water tank (103), a water injection port (104), a rubber plug (105), and a fixed screw hole (106), the support legs (101) are fixedly connected to the top ends of the brakable universal wheels (100), the bottom plate (102) is fixedly connected to the top ends of the support legs (101), the water tank (103) is fixedly arranged at the top end of the bottom plate (102), the water injection port (104) is fixedly formed in the top end of the water tank (103), the rubber plug (105) is movably arranged inside the water injection port (104), and the fixed screw hole (106) is fixedly formed in the top end of the water tank (103).

2. The portable and detachable movable infusion stand according to claim 1, wherein the telescopic mechanism comprises a threaded joint (200), a first support rod (201), an installation hole (202), a split bolt (203), a second support rod (204), a third support rod (205), a fourth support rod (206), regulation holes (207), spring limit buttons (208), a pull handle (209), a fixing ring (210), and a binding belt hole (211), and the threaded joint (200) is fixedly arranged at the bottom end of the first support rod (201).

3. The portable and detachable movable infusion stand according to claim 2, wherein the installation hole (202) is formed in the outer surface of the first support rod (201), the split bolt (203) penetrates through the second support rod (204) and is fixedly arranged at the both sides of the first support rod (201), a plurality of the regulation holes (207) are formed in the outer surfaces of the second support rod (204), the third support rod (205), and the fourth support rod (206), and the spring limit buttons (208) are fixedly arranged at the tops of the second support rod (204) and the third support rod (205).

4. The portable and detachable movable infusion stand according to claim 3, wherein the third support rod (205) is movably arranged at the top end of the second support rod (204), the

fourth support rod (206) is fixedly arranged at the top end of the third support rod (205), the pull handle (209) is fixedly arranged at one side of the third support rod (205), the fixing ring (210) is fixedly arranged on the outer surface of the second support rod (204), and the binding belt hole (211) is fixedly formed in one side of the fixing ring (210).

5 5. The portable and detachable movable infusion stand according to claim 1, wherein the suspension mechanism comprises a top cap (300), a fixed block (301), a rotating ball head (302), and hooks (303), the top cap (300) is movably arranged at the top end of the fourth support rod (206), and the fixed block (301) is fixedly arranged inside the top cap (300).

10 6. The portable and detachable movable infusion stand according to claim 5, wherein the rotating ball head (302) is movably arranged at the bottom of the fixed block (301), the bottom end of the rotating ball head (302) is fixedly connected to the top end of the fourth support rod (206), and the hooks (303) are fixedly connected to the both sides of the fixed block (301).

REVENDICATIONS

1. Support de perfusion mobile amovible portatif, comprenant un mécanisme de base, un mécanisme télescopique, un mécanisme de suspension, caractérisé par : le fait que le mécanisme de base comprend une roue universelle freinable (100), une béquille
5 (101), une plaque de base (102), un réservoir d'eau (103), un orifice d'injection d'eau (104), un bouchon en caoutchouc (105), un trou de vis de fixation (106), l'extrémité supérieure de la roue universelle freinable (100) reliée fixement à une béquille (101), l'extrémité supérieure de la béquille (101) reliée fixement à une plaque de base (102), l'extrémité supérieure de la plaque de base (102) munie fixement d'un réservoir d'eau
10 (103), l'extrémité supérieure du réservoir d'eau (103) munie fixement d'un orifice d'injection d'eau (104), l'intérieur de l'orifice d'injection d'eau (104) muni de manière mobile d'un bouchon en caoutchouc (105) et l'extrémité supérieure du réservoir d'eau (103) munie fixement d'un trou de vis de fixation (106).

2. Support de perfusion mobile amovible portatif selon la revendication 1, dans lequel
15 le mécanisme télescopique comprend un joint fileté (200), une première tige de jambe de force (201), un trou de montage (202), un boulon d'ancrage (203), une deuxième tige de jambe de force (204), une troisième tige de jambe de force (205), une quatrième tige de jambe de force (206), un trou de réglage (207), une limite de torsion du ressort (208), une poignée de traction (209), une bague de fixation (210), un trou
20 d'attache (211), le joint fileté (200) installé fixement à l'extrémité inférieure de la première tige de jambe de force (201).

3. Support de perfusion mobile amovible portatif selon la revendication 2, la surface extérieure de la première tige de jambe de force (201) munie de trou de montage (202), le boulon d'ancrage (203) installé fixement à deux côtés de la première tige de jambe
25 de force (201) à travers la deuxième tige de jambe de force (204), la surface extérieure de la deuxième tige de jambe de force (204), de la troisième tige de jambe de force (205) et de la quatrième tige de jambe de force (206) munie de plusieurs trous de réglage (207), et l'extrémité supérieure de la deuxième tige de jambe de force (204) et la troisième tige de jambe de force (205) munie fixement de limite de torsion du
30 ressort (208).

4. Support de perfusion mobile amovible portatif selon la revendication 3, dans lequel la troisième tige de jambe de force (205) est installée de manière mobile à l'extrémité supérieure de la deuxième tige de jambe de force (204), la quatrième tige de jambe de force (206) installée fixement à l'extrémité supérieure de la troisième tige de jambe de force (205), un côté de la troisième tige de jambe de force (205) muni fixement d'une poignée de traction (209), la surface extérieure de la deuxième tige de jambe de force (204) munie fixement d'une bague de fixation (210) et un côté de la bague de fixation (210) muni d'un trou d'attache (211).
5. Support de perfusion mobile amovible portatif selon la revendication 1, dans lequel
10 le mécanisme de suspension comprend un capuchon supérieur (300), un bloc fixe (301), une rotule rotative (302) et un crochet (303), le capuchon supérieur (300) installé de manière mobile à l'extrémité supérieure de la quatrième tige de jambe de force (206) et l'intérieur du capuchon supérieur (300) muni d'un bloc fixe (301).
6. Support de perfusion mobile amovible portatif selon la revendication 5, dans lequel
15 l'extrémité inférieure du bloc fixe (301) est munie d'une rotule rotative (302), l'extrémité inférieure de la rotule rotative (302) reliée fixement à l'extrémité supérieure de la quatrième tige de jambe de force (206) et les deux côtés du bloc fixe (301) reliés fixement de crochets (303).

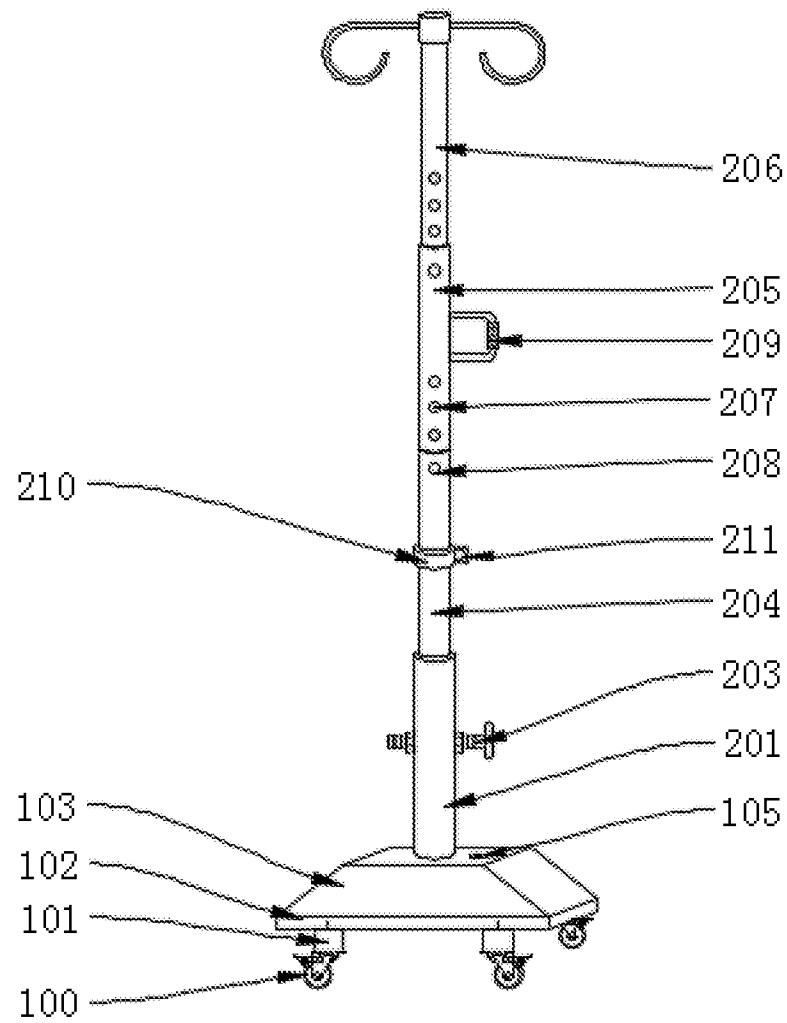


FIG. 1

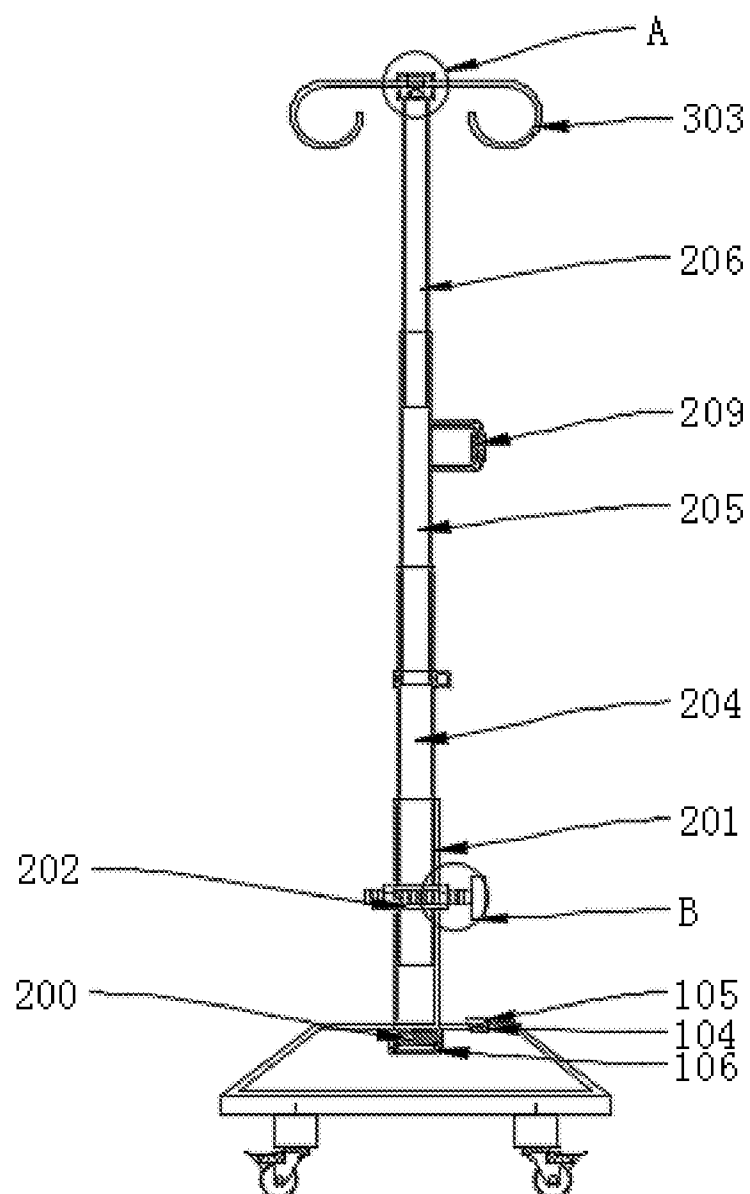


FIG. 2

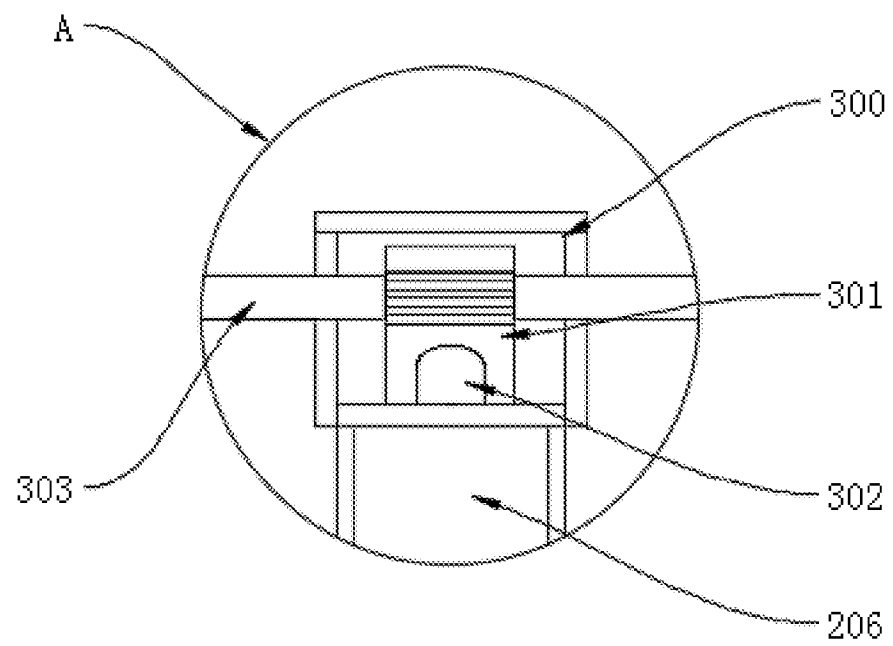


FIG. 3

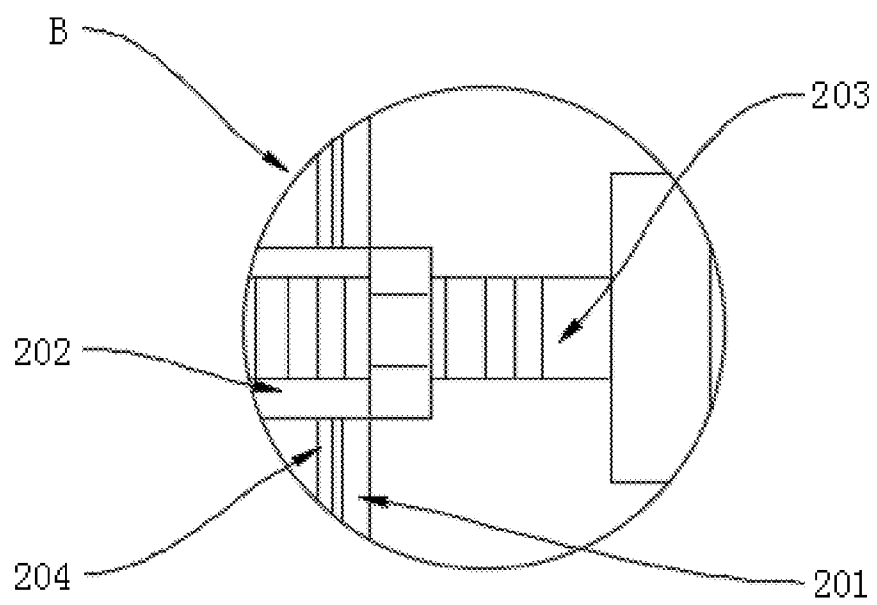


FIG. 4