

## Claims

1. A device for rapid separation and preparation of plasma, comprising a dust removal mechanism (01) and a separation box (1), wherein the dust removal mechanism (01) includes a box cover (2) hinged to the top of the separation box (1), the bottom of the box cover (2) is rotatably provided with two shafts (3), and several blades (4) are fixedly mounted on each shaft (3), characterised in that it further comprises:  
Several ventilation holes (5) formed on the bottom inner wall of the box cover (2), a top cover (6) fixedly mounted on the top of the box cover (2), several air outlets (7) respectively formed on the left and right sides of the top cover (6), several telescopic rods (8) fixedly mounted on the bottom inner wall of the top cover (6), a T-shaped groove (9) formed on the top of the box cover (2), several T-shaped plates (10) fixedly mounted at the bottom ends of the telescopic rods (8), the T-shaped plates (10) being adapted to the T-shaped groove (9), springs (11) respectively wound around the telescopic rods (8), the tops of the springs (11) being fixedly connected to the top cover (6), and the bottoms of the springs (11) being fixedly connected to the T-shaped plates (10).
2. A device for rapid separation and preparation of plasma according to claim 1, characterised in that: a separation mechanism (02) is provided on the bottom inner wall of the separation box (1), the separation mechanism (02) comprising several separation rods (12) rotatably mounted on the bottom inner wall of the separation box (1), the top ends of two corresponding separation rods (12) being respectively fixedly provided with circular boxes (13), the tops of the two circular boxes (13) being respectively provided with several through holes (14), and several rubber T-shaped cylinders (15) being fixedly mounted inside each circular box (13).
3. A device for rapid separation and preparation of plasma according to claim 1, characterised in that: two supporting mechanisms (03) are fixedly mounted on the bottom inner wall of the separation box (1), each supporting mechanism (03) comprising several fixing rods (16) fixedly mounted on the bottom inner wall of the separation box (1), several annular blocks (17) fixedly mounted on the fixing rods (16), several sliding blocks (18) fixedly mounted on the outer wall of the circular boxes (13), and the ends of the sliding

blocks (18) remote from each other extending into the annular blocks (17) and being slidably connected thereto.

4. A device for rapid separation and preparation of plasma according to claim 1,  
5 characterised in that: the bottom ends of the two shafts (3) are respectively provided with compaction mechanisms (04), each compaction mechanism (04) comprising a circular disc (19) fixedly mounted at the bottom end of the shaft (3), and a rubber disc (20) fixedly mounted at the bottom of the circular disc (19), the rubber disc (20) being adapted to the circular box (13).

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5. A device for rapid separation and preparation of plasma according to claim 1,  
characterised in that: two opening and closing mechanisms (05) are provided inside the separation box (1), each opening and closing mechanism (05) comprising a mounting plate (21) fixedly installed on the inner wall of the left side of the separation box (1), the rear surface of the mounting plate (21) being fixedly provided with a hydraulic cylinder (22), the inner wall of the left side of the separation box (1) and the inner wall of the left side of the box cover (2) being respectively provided with strip-shaped grooves (23), the strip-shaped groove (23) on the inner wall of the left side of the separation box (1) being arranged at an inclined angle, two sliding rods (24) being respectively fixedly mounted  
15 inside the two strip-shaped grooves (23), circular sliding blocks (25) being slidably sleeved on the two sliding rods (24), the two circular sliding blocks (25) respectively extending out of the two strip-shaped grooves (23), the left sides of the two circular sliding blocks (25) being rotatably provided with connecting plates (26), the front surfaces of the connecting plates (26) being provided with T-shaped sliding grooves (27), the ends of the hydraulic cylinders (22) being fixedly provided with T-shaped sliding blocks (28), and the  
20 T-shaped sliding blocks (28) extending into and slidably connected with the T-shaped sliding grooves (27).

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6. A device for rapid separation and preparation of plasma according to claim 5,  
30 characterised in that: the rear surfaces of the two connecting plates (26) are respectively provided with transmission mechanisms (06), each transmission mechanism (06)

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comprising a nail-shaped square plate (29) fixedly mounted on the rear surface of the connecting plate (26), an air box (30) fixedly mounted on the bottom inner wall of the separation box (1), an airbag (31) provided inside the air box (30), a through groove formed on the front surface of the air box (30), the nail-shaped square plate (29) being adapted to the through groove on the front surface of the air box (30), an air pipe (32) fixedly mounted on the front surface of the airbag (31), and the front end of the air pipe (32) extending out of the air box (30).

7. A device for rapid separation and preparation of plasma according to claim 1, characterised in that: a disinfection mechanism (07) is provided on the bottom inner wall of the separation box (1), the disinfection mechanism (07) comprising a disinfection box (33) fixedly mounted on the bottom inner wall of the separation box (1), a rectangular plate (34) fixedly mounted inside the disinfection box (33), and a cylinder (35) fixedly mounted inside the disinfection box (33), a piston (36) being slidably mounted inside the cylinder (35), the right side of the piston (36) being fixedly provided with a return spring (37), the right end of the return spring (37) being fixedly connected to the cylinder (35), the bottom of the rectangular plate (34) being fixedly provided with a liquid leakage pipe (38), the end of the liquid leakage pipe (38) extending into the cylinder (35), the right end of the cylinder (35) being fixedly provided with an infusion pipe (39), the right end of the infusion pipe (39) extending out of the disinfection box (33), a liquid spraying cover (40) being fixedly mounted on the inner wall of the front side of the separation box (1), and the end of the infusion pipe (39) being fixedly connected to the liquid spraying cover (40).
8. A device for rapid separation and preparation of plasma according to claim 2, characterised in that: a driving mechanism (08) is provided on the inner wall of the front side of the separation box (1), the driving mechanism (08) comprising a driving motor (41) fixedly mounted on the inner wall of the front side of the separation box (1), the output shaft of the driving motor (41) being fixedly connected to the corresponding separation rod (12), several pulleys (42) being respectively fixedly sleeved on the separation rods (12), and synchronous belts (43) being wound around the pulleys (42).