Claims

1. A cleaning tool set, comprising:

a bucket body (1) and a flat mop (2) with a mop rod (3), a mop head (4) rotatably attached to the mop rod (3), and a wiper disposed on the mop head (4);

wherein, the bucket body (1) has a squeezing water section (5) and a cleaning section, a squeezing device (7) is disposed over the squeezing water section (5);

when the mop head (4) of the flat mop is removably inserted into the squeezing device (7), the wiper enters inside the squeezing water section (5), the squeezing device (7) presses against the wiper on the mop head (4) and scrapes the wiper on the mop head (4) so as to squeeze the water out of the wiper;.

a water flow device disposed in the squeezing water section (5), the water flow device is formed by a water passage (46), placed above the squeezing water section (5) and the cleaning section (6) and extending from the squeezing water section (5) to the cleaning section (6), and transfers the water from the squeezing water section (5) to the cleaning section (6)；

during squeezing, the flat mop (2) moves up and down, the wiper can enter into the squeezing water section (5), and accordingly the wiper will be squeezed drier after multiple repetitions of squeezing.

2. The cleaning tool set according to claim 1, wherein the squeezing device (7) comprises a frame (9) and a squeezer (11);

the frame (9) has a squeezing port (10) for receiving the mop head (4) and the mop head (4) in a state of water squeezing;

the squeezer (11) is disposed adjacent to the squeezing port (10), so that the squeezer (11) can press the wiper on the mop head (4) to scrape the wiper.

3. The cleaning tool set according to claim 2, wherein the squeezer (11) is a squeezing strip, a squeezing sheet, or a rotatable squeezing water roller.

4. The cleaning tool set according to claim 2, wherein the squeezer (11) is fixed on the frame (9).

5. The cleaning tool set according to claim 2, wherein the width of the squeezing port (10) can be changed when water is squeezed.

6. The cleaning tool set according to claim 5, wherein the squeezer (11) is movably connected to the frame (9) via an elastic device;

or, the frame (9) has an inclined groove, and the squeezer (11) is movably positioned in the groove and can move along the inclined groove.

7. The cleaning tool set of claim 2, wherein the squeezing port (10) comprises an opening for the mop head (4) to pass through and an opening for the mop rod (3) to pass through, and the two openings are connected.

8. The cleaning tool set of claim 2, wherein the frame (9) is detachably mounted on the bucket body (1).

9. The cleaning tool set of claim 2, wherein a guiding slope is disposed on the squeezing port (10).

10. The cleaning tool set of claim 1, wherein when the mop head (4) rotates to a state where water can be squeezed, the length direction of the mop head (4) is the same as that of the mop rod (3).

11. The cleaning tool set of claim 10, wherein the width direction of the mop head (4) is matched with the length of the squeezing port (10).

12. The cleaning tool set of claim 10, wherein when the flat mop is inserted into the squeezing device (7), the length of the mop head (4) matches the height of the barrel at the squeezer (11).

13. The cleaning tool set of claim 2, wherein a wheel corresponding to the squeezer (11) is disposed on the squeezing port (10), and when the flat mop is inserted into the squeezing port (10), the wheel is rotated to accommodate the flat mop head (4).

14. The cleaning tool set of claim 1, wherein a buffer for the flat mop is disposed within the squeezing water section (5) and/or the cleaning section (6) of the bucket body (1).

15. The cleaning tool set according to claim 14, wherein the buffer is an elastic cushion, an elastic block, or a spring-loaded device, which is disposed on a bottom of the bucket body (1).

16. The cleaning tool set according to claim 15, wherein the spring-loaded device comprises an ejected spring (17) with a bottom and a top and a rebound carrier (18); and

the bottom of the ejected spring (17) is fixed relative to the bucket body (1), while the top of the ejected spring (17) presses against the rebound carrier (18).

17. The cleaning tool set according to claim 1, wherein a plurality of drainage valves corresponding to the squeezing water section (5) are disposed on the bucket body (1).

18. The cleaning tool set according to claim 1, wherein a water pumping device is disposed within the squeezing water section (5) of the bucket body (1), and the water flow device composed of the water pumping device pumps water out of the squeezing water section (5).

19. The cleaning tool set according to claim 18, wherein the water pumping device comprises a water pumping cylinder (27) placed on the bottom of the bucket body (1);

a baffle (28) is disposed within the water pumping cylinder (27) to divide the interior of the water pumping cylinder into an upper water pumping section (29) connected to a water pumping pipe and a lower water supply section (30) in communication with the bucket body (1);

a piston (31) is disposed within the water pumping section (29) and sealed against the water pumping section (29), and an elastic device is disposed between the piston (31) and the baffle (28); and

a check valve is disposed on the baffle (28), which is closed when the piston is pressed down and opened when the piston is lifted up.

20. The cleaning tool set according to claim 18, wherein the water pumping device comprises an impeller pump (35) disposed on the bottom of the bucket body (1), which is connected to the water pumping pipe, an impeller is disposed within the impeller pump (35), a driving shaft is disposed in a center of the impeller, and a driving gear (36) is disposed on the driving shaft;

a gear carrier (37) and a lifting rack (38) are disposed within the bucket body (1), and a duplex gear comprising a bevel gear (39) and a driven gear (40) engaged with the lifting rack (38) is disposed on the gear carrier (37); and

a vertical spindle (41) is disposed on the gear carrier (37), and an upper gear (42) engaged with the bevel gear (39) and a lower gear (43) engaged with the driving gear (36) are disposed on the spindle (41).

21. The cleaning tool set according to claim 1, wherein the squeezing device (7) has a water passage (46) extending toward the cleaning section (6), the water passage (46) forms the water flow device, and the water from the wiper squeezed by the squeezing water section (5) flows into the squeezing water section (5) through the water passage (46).

22. The cleaning tool set according to claim 1, wherein an enclosure frame (25) is disposed within the squeezing water section (5) of the bucket body (1), during squeezing, the mop head (4) is pressed down and inserted into the enclosure frame (25)

23. The cleaning tool set according to claim 22, wherein the enclosure frame (25) further comprises a upper end surface and a guide port (25a) inclined downward on the upper end surface.

24. The cleaning tool set according to claim 1, wherein the bucket body (1) has a raised step (48) protruding upwardly from bottom of the squeezing water section (5); during squeezing, the flat mop is corresponding to the raised step (48), and the mop head (4) goes down to the raised step (48).

25. The cleaning tool set according to claim 24, wherein a water accumulating interlayer for containing accumulated water during squeezing is formed around the raised step (48);

when the water level of the accumulated water does not exceed the raised step (48), the wiper on the mop head (4) will not come into contact with the water dripping at the bottom of the squeezing water section (5) when squeezing water;

when the water level of the accumulated water exceeds the raised step (48), the wiper enters the squeezing water section (5) and absorbs the accumulated water until the water level drops to the raised step (48).

26. The cleaning tool set according to any one of claims 1-25, wherein the bucket body (1) has a cleaning section (6), the cleaning section (6) and the squeezing water section (5) are respectively at two different positions when used.

27. The cleaning tool set according to claim 26, wherein the cleaning section (6) and the squeezing water section (5) are physically separated with each other.

28. The cleaning tool set according to claim 26, wherein at least one squeezing device (7) is disposed at the cleaning section (6), and at least one squeezing device (7) is disposed at the squeezing water section (5);

during cleaning, the mop head (4) is rotated to a cleanable state, the flat mop is

inserted into at least one squeezing device (7), the wiper enters into the cleaning section (6), and the mop head (4) moves and extrudes between the cleaning section (6) and at least one squeezing device (7) to clean the wiper by moving and extrusion.

29. The cleaning tool set according to claim 26, wherein there is only one squeezing device (7) which is disposed in either the squeezing water section (5) or the cleaning section (6) of the bucket body (1);

during cleaning, the mop head (4) is rotated to a cleanable state, the flat mop is inserted into the squeezing device (7), the wiper enters into the cleaning section (6), and the mop head (4) moves and extrudes between the cleaning section (6) and the squeezing device (7) to clean the wiper by moving and extrusion.

30. The cleaning tool set according to claim 26, wherein an upward protruding portion (49) extending from the bucket body (1), which defines the squeezing water section (5), and the section of the bucket body (1) below the upward protruding portion (49) defines the cleaning section (6).

31. The cleaning tool set according to claim 29, wherein a sliding track (1a) is disposed on a top of the bucket body (1), and the squeezing device (7) can slide on the sliding track (1a) and move between the squeezing water section (5) and the cleaning section (6).

32. The cleaning tool set according to claim 31, wherein the squeezing device (7) is disposed on a lifting frame (54), a track is disposed in the bucket body (1), and the lifting frame (54) rises and falls along the track;

when the lifting frame (54) is located at a low position, the mop head (4) moves back and forth between the squeezing device (7) to extrude and clean;

when the lifting frame (54) is located at a high position, the mop head (4) moves back and forth between the squeezing device (7) to extrude water.

33. The cleaning tool set according to claim 29, wherein a turnover frame (57) with a head portion (57a) and a tail portion (57b) is disposed on the bucket body (1);

the head portion (57a) is hinged to a top of the bucket body (1);

the squeezing device (7) is rotatably disposed on the tail portion (57b) of the turnover frame (57);

the turnover frame (57) can be positioned and switched between a horizontal state and a vertical state relative to the top of the bucket body (1), so as to switch the squeezing device (7) between the squeezing water section (5) and the cleaning section (6).

34. The cleaning tool set according to claim 26, wherein the squeezing device (7) is disposed in the squeezing water section (5), and a cleaner (14') is disposed in the cleaning section (6);

the cleaner (14') can move upward and downward relative to the bucket body (1), when the wiper on the mop head (4) moves relative to the cleaner (14'), the wiper on the mop head (4) is cleaned for being scrapped between the wiper on the mop head (4) and the cleaner (14').

35. The cleaning tool set according to claim 34, wherein the movement of the cleaner (14') relative to the bucket body (1) is achieved by hand.

36. The cleaning tool set according to claim 35, wherein the cleaner (14') is driven to move upward when the mop head (4) is pressed down, and the cleaner (14') is driven to move downward when the mop head (4) is pulled upward.

37. The cleaning tool set according to claim 36, wherein the cleaner (14') comprises a first frame (21') and a second frame (22') which are separated from each other;

a cleaning component (20') is disposed on the first frame (21') or the second frame (22');

a third frame (23') is disposed between the first frame (21') and the second frame (22');

a first rod (24') is hinged at two ends of the first frame (21'), a second rod (25') is hinged at two ends of the second frame (22'), and a third rod (26') close to the first frame (21') and a fourth rod (27') close to the second frame (22') are hinged at two ends of the third frame (23');

the first rod (24') and the third rod (26') are hinged at their lower ends, and the second rod (25') and the fourth rod (27') are hinged at their lower ends; and,

during cleaning, a force is applied after the mop head (4) is aligned with the third frame (23'), so that the first frame (21') and the second frame (22') can move upward and downward.

38. The cleaning tool set according to claim 36, wherein the cleaner (14') is connected to a gear-rack mechanism which is driven by the mop head (4).

39. The cleaning tool set according to claim 1, wherein

the squeezing device comprises a squeezer (7') for squeezing the wiper on the mop head (4) and a first support opposite to the squeezer (7');

the squeezer (7') is directly or indirectly disposed on the bucket body (1), and the first support is directly disposed on the bucket body (1);

the space between the squeezer (7') and the first support is defined as a squeezing space; and,

when the mop head (4) is inserted into the squeezing space, the wiper on the mop head (4) can move vertically relatively to the squeezer (7') and be squeezed by the squeezer (7').

40. The cleaning tool set according to claim 39, wherein

the first support is a pair of support ribs (9') longitudinally extending from an end surface of the bucket body (1);

or a pair of support ribs (9') transversely extending from a side surface of the bucket body (1);

or a pair of support frames (10') longitudinally extending from an end surface of the bucket body (1), with a roller (11') being disposed at a tail end of each of the support frames (10');

or a pair of support frames (10') transversely extending from a side surface of the bucket body (1), with a roller (11') being disposed on each of the support frames (10').

41. The cleaning tool set according to claim 27, wherein the water flow device transfers squeezed water of the wiper to the cleaning section (6).

42. The cleaning tool set according to claim 26, wherein a cleaning device for cleaning the wiper is disposed within the cleaning section (6)

43. The cleaning tool set according to claim 42, wherein

the cleaning device comprises a cleaner (14'') for squeezing and scraping the wiper on the mop head (4) and a second support opposite to the cleaner (14'');

the cleaner (14'') is directly or indirectly disposed on the bucket body (1), and the second support is disposed on the bucket body (1);

the space between the cleaner (14'') and the second support is defined as a cleaning space; and,

when the mop head (4) is inserted into the cleaning space, the wiper on the mop head (4) can move relatively to the cleaner (14'') and be squeezed by the cleaner (14'').

44. The cleaning tool set according to claim 43, wherein

the second support is a pair of support ribs (9'') longitudinally extending from an end surface of the bucket body (1);

or a pair of support ribs (9'') transversely extending from a side surface of the bucket body (1);

or a pair of support frames (10'') longitudinally extending from an end surface of the bucket body (1), with a roller (11'') being disposed at a tail end of each of the support

frames (10’’);

or a pair of support frames (10’’) transversely extending from a side surface of the bucket body (1), with a roller (11’’) being disposed on each of the support frames (10’’);

or a pair of support frames (10’’) longitudinally extending from an end surface of the bucket body (1), with a pair of springs (16’’) and a pair of elastic blocks (17’’) being disposed in each of the support frames (10’’), the springs (16’’) acting on the elastic blocks (17’’) to allow portions of the elastic blocks (17’’) to rebound from the tail end of the support frames (10’’).

45. The cleaning tool set according to claim 43, wherein the cleaner (14’’) is a cleaning scraper, a cleaning brush, cleaning teeth or soft cleaning rubber.

46. The cleaning tool set according to claim 43, wherein the cleaning device further comprises a cleaning frame (15’’) disposed on the bucket body (1), and the cleaner (14’’) is disposed on the cleaning frame (15’’).