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(54) **WASHING METHOD OF HANDHELD WASHING MACHINE AND HANDHELD WASHING MACHINE**

(57) This application relates to the technical field of handheld washing machines, and provides a washing method of a handheld washing machine and a handheld washing machine. The washing method of a handheld washing machine includes a main washing step: spraying a detergent to laundry through the handheld washing machine, then outputting a mechanical force to the laundry through the handheld washing machine to continuously wash the laundry, and during the continuous washing, intermittently blowing a high-pressure airflow to the laundry by the handheld washing machine. The handheld washing machine may perform the washing method of a handheld washing machine. The washing method of a handheld washing machine provided in this application have advantages of convenient use, a good laundry washing effect, and high washing efficiency.

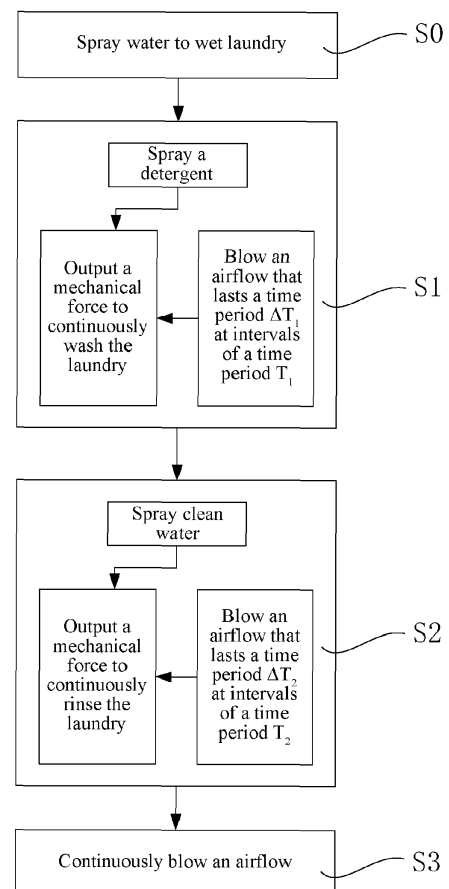


FIG. 1

Description

[0001] This application relates to the field of handheld washing machine technologies, and in particular to a washing method of a handheld washing machine and a handheld washing machine.

[0002] A handheld washing machine is a relatively common laundry tool in our daily life. The handheld washing machine generally includes several components such as a washing portion, a water storage box, a material storage box, and a power pump. The handheld washing machine pumps water or a detergent to the washing portion through the power pump, sprays the water or the detergent to to-be-washed laundry, and slaps the laundry through vibration of the washing portion, to wash the laundry.

[0003] However, during laundry washing, the handheld washing machine in the related art merely slaps laundry through the vibration of the washing portion to wash the laundry. For some penetrating stains in the laundry, the washing portion cannot enable the detergent to penetrate the laundry desirably to implement deep washing, resulting in a relatively weak washing capability for penetrating stains and stubborn stains.

[0004] In view of this, this application provides a washing method of a handheld washing machine and a handheld washing machine, to resolve the problem in the related art that a handheld washing machine has a poor washing effect.

[0005] The washing method of a handheld washing machine provided in this application includes the following step:

a main washing step: spraying a detergent to laundry through the handheld washing machine, then outputting a mechanical force to the laundry through the handheld washing machine to continuously wash the laundry, and during the continuous washing, intermittently blowing an airflow to the laundry by the handheld washing machine.

[0006] In a possible design, during the continuous washing, the handheld washing machine blows an airflow that lasts a time period ΔT_1 to the laundry at intervals of a time period T_1 .

[0007] In a possible design, the main washing step may be cyclically performed for a plurality of times.

[0008] In a possible design, the washing method of a handheld washing machine further includes a rinsing step after the main washing step:

the rinsing step: spraying clean water to the laundry through the handheld washing machine, then outputting a mechanical force to the laundry through the handheld washing machine to continuously rinse the laundry, and during the continuous rinsing, intermittently blowing an airflow to the laundry by the handheld washing machine.

[0009] In a possible design, during the continuous rinsing, the handheld washing machine blows an airflow that lasts a time period ΔT_2 to the laundry at intervals of a time period T_2 .

[0010] In a possible design, the rinsing step may be

cyclically performed for a plurality of times.

[0011] In a possible design, the washing method of a handheld washing machine further includes a blowing step after the rinsing step:

the blowing step: continuously blowing a high-pressure airflow to the laundry through the handheld washing machine.

[0012] In a possible design, the washing method of a handheld washing machine further includes a pre-washing step before the main washing step:

the pre-washing step: spraying clean water through the handheld washing machine to the laundry to wet the laundry.

[0013] In addition, an embodiment of this application further provides a handheld washing machine capable of performing the foregoing washing method of a handheld washing machine, including:

a washing portion, outputting a continuous mechanical force to wash laundry;

a water supply portion, outputting clean water to the laundry;

a feeding portion, outputting a detergent to the laundry;

an air supply portion, outputting an airflow to the laundry; and

a controller, configured to be electrically connected to the washing portion, the water supply portion, the feeding portion, and the air supply portion respectively, and configured to control the washing portion to output the mechanical force to the laundry to continuously wash the laundry, control the water supply portion to spray the clean water to the laundry, control the feeding portion to spray the detergent to the laundry, and control the air supply portion to intermittently blow the airflow to the laundry.

[0014] In a possible design, the air supply portion includes an air inlet, a connecting pipe, and a power pump disposed on the connecting pipe, and the air inlet is connected to a nozzle through the connecting pipe.

[0015] In a possible design, the washing portion includes a brush head and a driving device that drives the brush head to perform washing, and the nozzle is disposed on the brush head.

[0016] In a possible design, the water supply portion includes a water storage box, a connecting pipe, and a power pump disposed on the connecting pipe; and the feeding portion includes a material storage box, a connecting pipe, and a power pump disposed on the connecting pipe,

where at least one of the connecting pipes in the water supply portion and the feeding portion is connected to the nozzle, so that the nozzle further externally outputs

the clean water or the detergent.

[0017] In a possible design, the water supply portion, the feeding portion, and the air supply portion are further correspondingly provided with a first electronic control valve, a second electronic control valve, and a third electronic control valve on the respective connecting pipes; the water supply portion, the feeding portion, and the air supply portion share the same power pump; and the controller is electrically connected to the first electronic control valve, the second electronic control valve, and the third electronic control valve respectively, and controls on and off states of the first electronic control valve, the second electronic control valve, and the third electronic control valve to enable the power pump to separately pump the airflow, the clean water, or the detergent.

[0018] With reference to the foregoing technical solutions, the beneficial effects of this application are analyzed as follows:

The washing method of a handheld washing machine provided in this application includes a main washing step. In the main washing step, a detergent is sprayed to laundry through the handheld washing machine, then a mechanical force is outputted to the laundry through the handheld washing machine to continuously wash the laundry, and during the continuous washing, the handheld washing machine intermittently blows an airflow to the laundry.

[0019] Compared with the method in the related art in which a handheld washing machine, during laundry washing, merely slaps laundry through vibration of a washing portion to wash the laundry, in the washing method of a handheld washing machine provided in this application, during continuous washing, an airflow is intermittently blown to the laundry through the handheld washing machine to enable a detergent to better soak the laundry, thereby further improving the washing effect of the handheld washing machine.

[0020] In addition, this application further provides a handheld washing machine. The handheld washing machine may perform the foregoing washing method of a handheld washing machine, and includes a washing portion, a water supply portion, a feeding portion, an air supply portion, and a controller. The washing portion may output a continuous mechanical force to wash laundry. The water supply portion may output clean water to the laundry. The feeding portion may output a detergent to the laundry. The air supply portion may output an airflow to the laundry. The controller is configured to be electrically connected to the washing portion, the water supply portion, the feeding portion, and the air supply portion respectively, and may control the washing portion to output the mechanical force to the laundry to continuously wash the laundry, control the water supply portion to spray the clean water to the laundry, control the feeding portion to spray the detergent to the laundry, and control the air supply portion to intermittently blow the airflow to the laundry.

[0021] When the handheld washing machine performs the main washing step in the foregoing washing method of a handheld washing machine, the controller first controls the feeding portion to spray the detergent to the laundry; then, the controller controls the washing portion to output the mechanical force to the laundry to continuously wash the laundry; meanwhile, the controller controls the air supply portion to intermittently blow the airflow to the laundry, so that the detergent may better soak the laundry, to further improve the washing effect of the handheld washing machine.

[0022] Other features and advantages of the embodiments of this application are described in a subsequent specification, and are partially apparent from the specification, or are understood by implementing the embodiments of this application. An objective and other advantages of the embodiments of this application are achieved and obtained in structures that are specially pointed out in the specification and the accompanying drawings.

FIG. 1 is a schematic flowchart of a handheld washing machine washing method according to an embodiment of this application.

FIG. 2 is a first schematic structural diagram of a handheld washing machine according to an embodiment of this application.

FIG. 3 is a second schematic structural diagram of the handheld washing machine according to an embodiment of this application.

Reference Numerals:

[0023]

1-washing portion;

11-nozzle;

12-brush head;

2-water supply portion;

21-water storage box;

22-first electronic control valve;

3-feeding portion;

31-material storage box;

32-second electronic control valve;

4-air supply portion;

41-air inlet;

42-connecting pipe;

43-power pump;

44-third electronic control valve;

SO-pre-washing step;

S1-main washing step;

S2-rinsing step; and

S3-blowing step.

[0024] The accompanying drawings, which are incorporated herein and constitute a part of this specification, illustrate embodiments consistent with this application and, together with the specification, serve to explain the principles of this application.

[0025] To better understand the technical solutions of this application, the embodiments of this application are described below in detail with reference to the accompanying drawings.

[0026] It should be clear that the described embodiments are merely some but not all of the embodiments of this application. All other embodiments obtained by a person of ordinary skill in the art based on the embodiments of this application without creative efforts shall fall within the protection scope of this application.

[0027] The terms used in the embodiments of this application are merely for describing specific embodiments, but are not intended to limit this application. The terms "a", "said" and "the" of singular forms used in the embodiments and the appended claims of this application are also intended to include plural forms, unless otherwise specified in the context clearly.

[0028] The term "and/or" used in this specification describes only an association relationship for describing associated objects and represents that three relationships may exist. For example, A and/or B may represent the following three cases: Only A exists, both A and B exist, and only B exists. In addition, the character "/" in this specification generally indicates an "or" relationship between the associated objects.

[0029] It should be noted that nouns of locality such as "above", "below", "left", and "right" described in the embodiments of this application are described from the perspective shown in the accompanying drawings, and should not be construed as a limitation to the embodiments of this application. In addition, in the context, it is further understood that when an element is described as being connected "on" or "under" another element, the element may be not merely connected "on" or "under" another element, but also indirectly connected "on" or "under" another element through an intermediate element.

[0030] The following describes specific embodiments according to a washing method of a handheld washing

machine and a structure of the handheld washing machine provided in the embodiments of this application.

[0031] FIG. 1 is a schematic flowchart of a washing method of a handheld washing machine according to an embodiment of this application; FIG. 2 is a first schematic structural diagram of a handheld washing machine according to an embodiment of this application; and FIG. 3 is a second schematic structural diagram of the handheld washing machine according to an embodiment of this application.

[0032] As shown in FIG. 1, this embodiment of this application provides a handheld washing machine of a washing method. The washing method of a handheld washing machine includes a main washing step S1. In the main washing step S1, a detergent is sprayed to laundry through the handheld washing machine, then a mechanical force is outputted to the laundry through the handheld washing machine to continuously wash the laundry, and during the continuous washing, the handheld washing machine intermittently blows an airflow to the laundry.

[0033] Compared with the method in the related art in which a handheld washing machine, during laundry washing, merely slaps laundry through vibration of a washing portion to wash the laundry, in the washing method of a handheld washing machine provided in this application, during continuous washing, an airflow is intermittently blown to the laundry through the handheld washing machine to enable a detergent to better soak the laundry, thereby further improving the washing effect of the handheld washing machine.

[0034] In addition, this application further provides a handheld washing machine. The handheld washing machine may perform the foregoing washing method of a handheld washing machine, and includes a washing portion 1, a water supply portion 2, a feeding portion 3, an air supply portion 4, and a controller 5. The washing portion 1 may output a continuous mechanical force to wash laundry. The water supply portion 2 may output clean water to the laundry. The feeding portion 3 may output a detergent to the laundry. The air supply portion 4 may output an airflow to the laundry. The controller 5 is configured to be electrically connected to the washing portion 1, the water supply portion 2, the feeding portion 3, and the air supply portion 4 respectively, and may control the washing portion 1 to output the mechanical force to the laundry to continuously wash the laundry, control the water supply portion 2 to spray the clean water to the laundry, control the feeding portion 3 to spray the detergent to the laundry, and control the air supply portion 4 to intermittently blow the airflow to the laundry.

[0035] When the handheld washing machine performs the main washing step S1 in the foregoing washing method of a handheld washing machine, the controller 5 first controls the feeding portion 3 to spray the detergent to the laundry; then the controller 5 controls the washing portion 1 to output the mechanical force to the laundry to continuously wash the laundry; meanwhile, the con-

troller 5 controls the air supply portion 4 to intermittently blow the airflow to the laundry, so that the detergent may better soak the laundry, to further improve the washing effect of the handheld washing machine.

[0036] In an optional solution of the washing method of a handheld washing machine in this embodiment, during the continuous washing, the handheld washing machine blows an airflow that lasts a time period ΔT_1 to the laundry at intervals of a time period T_1 .

[0037] Specifically, as shown in FIG. 1, for example, the time period T_1 may be specifically set to, but is not limited to 10 seconds. The time period ΔT_1 may be specifically set to, but is not limited to 2 seconds. In this way, during the continuous washing, an airflow that lasts 2 seconds blown by the air supply portion 4 to the laundry at intervals of 10 seconds enables the detergent to gradually soak the laundry during washing. This not only ensures that stains on the laundry are cleaned, but also ensures that deep stains in the laundry are cleaned.

[0038] It should be noted that the controller 5 may be specifically configured to be, but is not limited to a PLC. A timing control instruction is preset through the PLC, so that the air supply portion 4 may be controlled to blow the airflow that lasts a time period ΔT_1 to the laundry at intervals of a time period T_1 .

[0039] In the optional solution of the washing method of a handheld washing machine in this embodiment, the main washing step S1 may be cyclically performed for a plurality of times.

[0040] Specifically, as shown in FIG. 1, the number of cycles of the main washing step S1 may be preset through a PLC cycle instruction. In this way, the handheld washing machine, when executing a complete washing procedure, may perform the main washing step S1 for a plurality of times, to ensure that stubborn stains penetrating the laundry can be fully cleaned.

[0041] In an optional solution of the washing method of a handheld washing machine in this embodiment, the washing method of a handheld washing machine further includes a rinsing step S2 after the main washing step S1. In the rinsing step S2, clean water is sprayed to the laundry through the handheld washing machine, then a mechanical force is outputted to the laundry through the handheld washing machine to continuously rinse the laundry, and during the continuous rinsing, the handheld washing machine intermittently blows an airflow to the laundry.

[0042] Specifically, as shown in FIG. 1, when the rinsing step S2 is performed, the controller 5 first controls the water supply portion 2 to spray the clean water to the laundry; then the controller 5 controls the washing portion 1 to output the mechanical force to the laundry to continuously rinse the laundry; meanwhile, the controller 5 controls the air supply portion 4 to intermittently blow the airflow to the laundry, so that the clean water may better soak the laundry during rinsing, to further improve the rinsing effect of the handheld washing machine.

[0043] In an optional solution of the washing method

of a handheld washing machine in this embodiment, during the continuous rinsing, the handheld washing machine blows an airflow that lasts a time period ΔT_2 to the laundry at intervals of a time period T_2 .

[0044] Specifically, as shown in FIG. 1, for example, the time period T_2 may be specifically set to, but is not limited to 12 seconds. The time period ΔT_2 may be specifically set to, but is not limited to 3 seconds. In this way, during the continuous washing, the air supply portion 4 blows an airflow that lasts 3 seconds to the laundry at intervals of 12 seconds, to enable the clean water to gradually soak the laundry during rinsing. This ensures an effect of rinsing both the surface of the laundry and the depths of the laundry.

[0045] In an optional solution of the washing method of a handheld washing machine in this embodiment, the rinsing step S2 may be cyclically performed for a plurality of times.

[0046] In the same way, the number of cycles of the rinsing step S2 may be preset through a PLC cycle instruction. In this way, the handheld washing machine, when executing a complete washing procedure, may perform the rinsing step S2 for a plurality of times, to ensure that the laundry is fully rinsed.

[0047] In an optional solution of the washing method of a handheld washing machine in this embodiment, the washing method of a handheld washing machine further includes a blowing step S3 after the rinsing step S2. In the blowing step S3, a high-pressure airflow is continuously blown to the laundry through the handheld washing machine.

[0048] Specifically, as shown in FIG. 1, when the blowing step S3 is performed, the controller 5 controls the air supply portion 4 to continuously blow an airflow to the laundry. Moisture in the laundry after the rinsing may be blown out through the blowing step S3, to dry the laundry. Especially, when the handheld washing machine is used for partially washing the laundry, wet parts of the laundry may be dried through the blowing step S3, to facilitate drying the laundry.

[0049] In an optional solution of the washing method of a handheld washing machine in this embodiment, the washing method of a handheld washing machine further includes a pre-washing step S0 before the main washing step S1. In the pre-washing step S0, the handheld washing machine sprays clean water to the laundry to wet the laundry.

[0050] Specifically, as shown in FIG. 1, when the pre-washing step S0 is performed, the controller 5 controls the water supply portion 2 to spray clean water to the laundry. In the pre-washing step S0, the laundry may be wetted, to help the detergent to better dissolve and penetrate in the subsequent main washing step S1, to further improve an effect of cleaning stains.

[0051] In an optional solution of the handheld washing machine in this embodiment, the air supply portion 4 includes an air inlet 41, a connecting pipe 42, and a power pump 43 disposed on the connecting pipe 42, and the

air inlet 41 is connected to a nozzle 11 through the connecting pipe 42.

[0052] Specifically, as shown in FIG. 2, the air supply portion 4 is designed to include the air inlet 41, the connecting pipe 42, and the power pump 43. The air inlet 41 is connected to the nozzle 11 through the connecting pipe 42. An operating state of the power pump 43 on the connecting pipe 42 is controlled through the controller 5, to implement the function of controlling the nozzle 11 to intermittently blow an airflow, thereby achieving beneficial effects of a simple structure and convenient use.

[0053] In an optional solution of the handheld washing machine in this embodiment, the washing portion 1 includes a brush head 12 and a driving device (not shown) that drives the brush head 12 to perform washing, and the nozzle 11 is disposed on the brush head 12.

[0054] Specifically, as shown in FIG. 2, the nozzle 11 may be specifically disposed in a central part of the brush head 12. In this way, the structure of the handheld washing machine may be simplified. When the brush head 12 rotates to wash or vibrates to slap and wash the laundry, the nozzle 11 may spray an airflow to the laundry at the same time, so that the detergent may better penetrate the laundry.

[0055] Certainly, the nozzle 11 may alternatively be disposed on another part of the handheld washing machine provided that the normal function of blowing an airflow to laundry is not affected.

[0056] In an optional solution of the handheld washing machine in this embodiment, the water supply portion 2 includes a water storage box 21, a connecting pipe 42, and a power pump 43 disposed on the connecting pipe 42; and the feeding portion 3 includes a material storage box 31, a connecting pipe 42, and a power pump 43 disposed on the connecting pipe 42, where at least one of the connecting pipes 42 in the water supply portion 2 and the feeding portion 3 is connected to the nozzle 11, so that the nozzle 11 further externally outputs the clean water or the detergent.

[0057] Specifically, as shown in FIG. 3, the at least one of the connecting pipes 42 in the water supply portion 2 and the feeding portion 3 is connected to the nozzle 11, so that the water supply portion 2, the feeding portion 3, and the air supply portion 4 may share one connecting pipe 42. The controller 5 controls operating states of the respective power pumps 43 of the water supply portion 2, the feeding portion 3, and the air supply portion 4, to implement the function of spraying the clean water, the detergent, or the airflow through the nozzle 11 to laundry.

[0058] Through the foregoing structure, functions of controlling an airflow, a detergent and clean water to be separately conveyed and sprayed may be implemented through one connecting pipe 42 and one nozzle 11, thereby achieving beneficial effects of a simple structure and convenient use.

[0059] Certainly, each of the water supply portion 2 and the feeding portion 3 may alternatively be provided with a dedicated water supply pipe, a dedicated feeding

pipe, a dedicated water spraying nozzle, a dedicated material spraying nozzle, provided that the conveying and spraying functions can be implemented.

[0060] In an optional solution of the handheld washing machine in this embodiment, the water supply portion 2, the feeding portion 3, and the air supply portion 4 are further correspondingly provided with a first electronic control valve 22, a second electronic control valve 32, and a third electronic control valve 44 on the respective connecting pipes 42. The water supply portion 2, the feeding portion 3, and the air supply portion 4 share the same power pump 43. The controller 5 is electrically connected to the first electronic control valve 22, the second electronic control valve 32, and the third electronic control valve 44 respectively, and may control on and off states of the first electronic control valve 22, the second electronic control valve 32, and the third electronic control valve 44, so that the power pump 43 may separately pump the airflow, the clean water, or the detergent.

[0061] Specifically, as shown in FIG. 3, the water supply portion 2, the feeding portion 3, and the air supply portion 4 are configured to share one power pump 43, and the controller 5 is electrically connected to the first electronic control valve 22, the second electronic control valve 32, and the third electronic control valve 44 in the water supply portion 2, the feeding portion 3, and the air supply portion 4 respectively. The function of spraying clean water, a detergent, or an airflow separately to laundry by the nozzle 11 may be implemented by using one power pump 43 and controlling the on and off states of the first electronic control valve 22, the second electronic control valve 32, and the third electronic control valve 44 through the controller 5, thereby achieving beneficial effects of simplifying the structure of the handheld washing machine, and reducing manufacturing costs.

[0062] Certainly, a dedicated water supply pipe and a dedicated feeding pipe may alternatively be disposed separately, and a power pump 43 may be separately disposed on each pipe respectively. The function of separately supplying the clean water, the detergent, and the airflow may alternatively be implemented by controlling an operating state of each power pump 43 through the controller 5.

[0063] The foregoing descriptions are merely exemplary embodiments of this application, but are not intended to limit this application. Any modification, equivalent replacement, improvement, or the like made without departing from the spirit and principle of this application shall fall within the protection scope of this application.

[0064] It should be noted that features of dependent claims may be combined with each other in any manner and combined with the features of independent claims without departing from the concept of this application.

Claims

1. A washing method of a handheld washing machine,

- characterized by** comprising the following step:
a main washing step (S1): spraying a detergent to laundry through the handheld washing machine, then outputting a mechanical force to the laundry through the handheld washing machine to continuously wash the laundry, and during the continuous washing, intermittently blowing an airflow to the laundry by the handheld washing machine.
2. The washing method of a handheld washing machine according to claim 1, **characterized in that** during the continuous washing, the handheld washing machine blows an airflow that lasts a time period ΔT_1 to the laundry at intervals of a time period T_1 .
 3. The washing method of a handheld washing machine according to claim 2, **characterized in that** the main washing step (S1) can be cyclically performed for a plurality of times.
 4. The washing method of a handheld washing machine according to claim 1, **characterized by** further comprising a rinsing step (S2) after the main washing step (S1):
the rinsing step (S2): spraying clean water to the laundry through the handheld washing machine, then outputting a mechanical force to the laundry through the handheld washing machine to continuously rinse the laundry, and during the continuous rinsing, intermittently blowing an airflow to the laundry by the handheld washing machine.
 5. The washing method of a handheld washing machine according to claim 4, **characterized in that** during the continuous rinsing, the handheld washing machine blows an airflow that lasts a time period ΔT_2 to the laundry at intervals of a time period T_2 .
 6. The washing method of a handheld washing machine according to claim 5, **characterized in that** the rinsing step (S2) can be cyclically performed for a plurality of times.
 7. The washing method of a handheld washing machine according to claim 4, **characterized by** further comprising a blowing step (S3) after the rinsing step (S2):
the blowing step (S3): continuously blowing a high-pressure airflow to the laundry through the handheld washing machine.
 8. The washing method of a handheld washing machine according to claim 1, **characterized by** further comprising a pre-washing step (S0) before the main washing step (SI),
the pre-washing step (S0): spraying clean water through the handheld washing machine to the laundry to wet the laundry.
 9. A handheld washing machine, capable of performing the washing method of a handheld washing machine according to any one of claims 1 to 8, **characterized by** comprising:
 - a washing portion (1), outputting a continuous mechanical force to wash laundry;
 - a water supply portion (2), outputting clean water to the laundry;
 - a feeding portion (3), outputting a detergent to the laundry;
 - an air supply portion (4), outputting an airflow to the laundry; and
 - a controller (5), configured to be electrically connected to the washing portion (1), the water supply portion (2), the feeding portion (3), and the air supply portion (4) respectively, and configured to control the washing portion (1) to output the mechanical force to the laundry to continuously wash the laundry, control the water supply portion (2) to spray the clean water to the laundry, control the feeding portion (3) to spray the detergent to the laundry, and control the air supply portion (4) to intermittently blow the airflow to the laundry.
 10. The handheld washing machine according to claim 9, **characterized in that** the air supply portion (4) comprises an air inlet (41), a connecting pipe (42), and a power pump (43) disposed on the connecting pipe (42), and the air inlet (41) is connected to a nozzle (11) through the connecting pipe (42).
 11. The handheld washing machine according to claim 10, **characterized in that** the washing portion (1) comprises a brush head (12) and a driving device that drives the brush head (12) to perform washing, and the nozzle (11) is disposed on the brush head (12).
 12. The handheld washing machine according to claim 10, **characterized in that** the water supply portion (2) comprises a water storage box (21), a connecting pipe (42), and a power pump (43) disposed on the connecting pipe (42); and
the feeding portion (3) comprises a material storage box (31), a connecting pipe (42), and a power pump (43) disposed on the connecting pipe (42),
wherein at least one of the connecting pipes (42) in the water supply portion (2) and the feeding portion (3) is connected to the nozzle (11), so that the nozzle (11) further externally outputs the clean water or the detergent.
 13. The handheld washing machine according to claim 10, **characterized in that** the water supply portion (2), the feeding portion (3), and the air supply portion (4) are further correspondingly provided with a first

electronic control valve (22), a second electronic control valve (32), and a third electronic control valve (44) on the respective connecting pipes (42); the water supply portion (2), the feeding portion (3), and the air supply portion (4) share the same power pump (43); and the controller (5) is electrically connected to the first electronic control valve (22), the second electronic control valve (32), and the third electronic control valve (44) respectively, and controls on and off states of the first electronic control valve (22), the second electronic control valve (32), and the third electronic control valve (44) to enable the power pump (43) to separately pump the airflow, the clean water, or the detergent.

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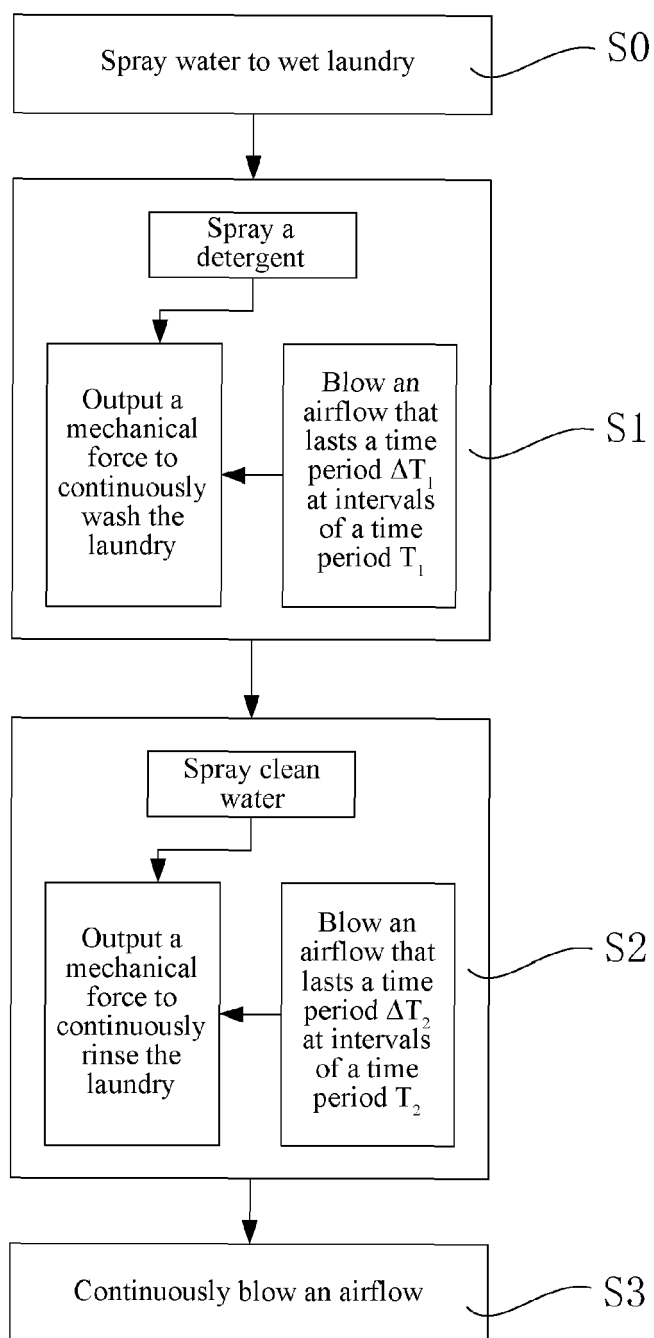


FIG. 1

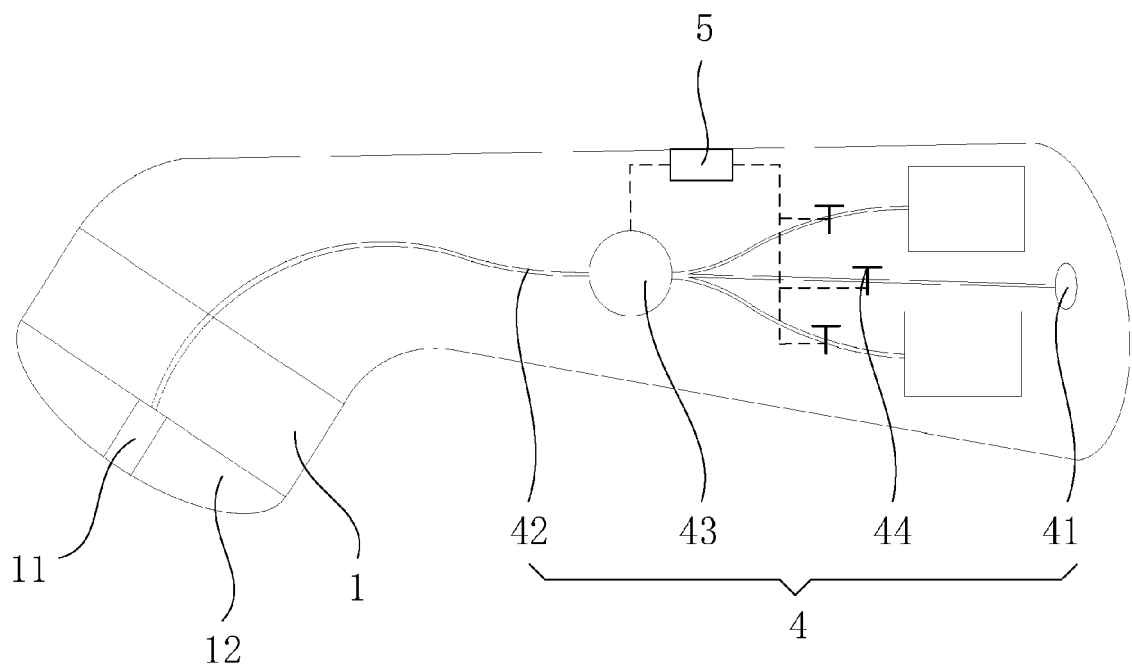


FIG. 2

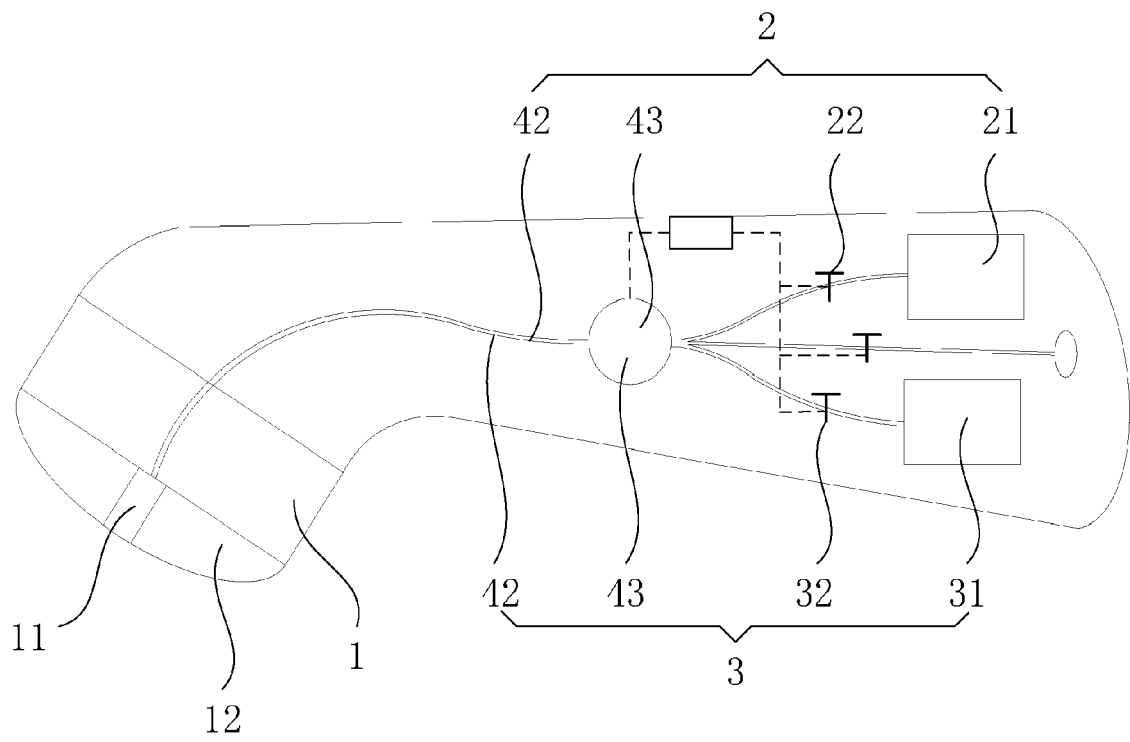


FIG. 3



EUROPEAN SEARCH REPORT

Application Number
EP 20 21 5062

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 2 811 062 A1 (LG ELECTRONICS INC [KR]) 10 December 2014 (2014-12-10) * paragraph [0030] - paragraph [0084]; figures 1-6 *	1,9,10, 12	INV. D06F5/00 D06F43/00
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			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 March 2021	Examiner Diaz y Diaz-Caneja
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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