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(54) IRONING STATION WITH VARIOUS STEAM LEVELS

(57) The ironing station with various steam levels comprises an iron (40) with a soleplate (1) and a supply unit (50) with a water tank (7). The iron (40) furthermore includes a first evaporation chamber (4) separated from the soleplate and in communication with first steam outlet holes (2) of the soleplate, a second evaporation chamber (14) integrated in the soleplate and in communication with steam outlet holes (3) of the soleplate, and heaters heating the soleplate (1) and the evaporation chambers (4, 14). A first pump (9) drives water through a main conduit (8) from the receptacle to the first evaporation chamber (4). A second pump (15) drives water through a secondary conduit (12) from a diversion (13) of the main conduit located downstream from the first pump to the second evaporation chamber (14).

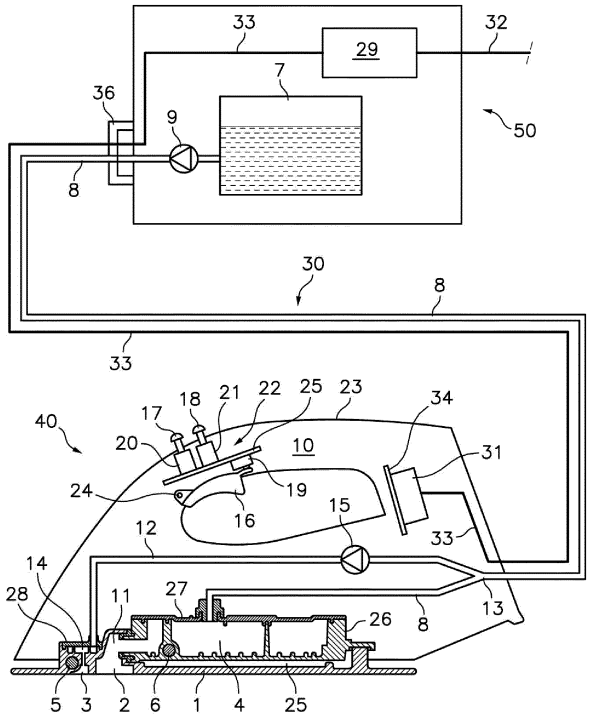

Fig. 1

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Description

Technical Field

[0001] The present invention relates to an ironing station including a steam iron and a supply unit that can be connected to one another by fluid ducts and electrical ducts, and including a device selectively providing at least three steam flow levels through steam outlet holes formed in the soleplate of the iron.

Background of the Invention

[0002] Steam irons include a soleplate provided with a plurality of steam outlet holes, an evaporation chamber, heating means heating the soleplate for ironing and the evaporation chamber for generating steam, and a water tank, wherein the water is introduced into the evaporation chamber and the generated steam is expelled through the steam outlet holes of the soleplate.

[0003] Given that the water tank installed in the iron has a limited capacity and entails a weight that is added to the weight a user must support when handling the iron while ironing, separating the water tank from the iron and installing it in a stationary supply unit connected to the iron by a supply cord including a water conduit and an electric power supply cable is known. In some cases, the evaporation chamber is installed in the supply unit and the water conduit is replaced with a steam conduit, such that the generated steam is supplied to the iron through the steam conduit. The assembly formed by the iron and the supply unit is known as "ironing station" or "ironing center".

[0004] Patent document FR 2523164 A1 discloses an ironing station including a steam iron and a separate water tank, where the iron comprises a soleplate provided with a plurality of steam outlet holes, an evaporation chamber independent of the soleplate, a first heater for heating the soleplate and a second heater for heating the evaporation chamber and generating steam. The water is supplied from the water tank to the evaporation chamber through a conduit and a pump. The steam is supplied through another conduit from the evaporation chamber to a steam distribution chamber located in the iron in communication with the steam outlet holes of the soleplate. The evaporation chamber is located above and in contact with the steam distribution chamber.

[0005] Patent document US 5010664 A describes a steam iron comprising a soleplate provided with a plurality of steam outlet holes, an evaporation chamber partially demarcated by the soleplate, a water tank and a pump supplying water from the water tank to the evaporation chamber through a conduit. The steam is expelled from the evaporation chamber through the steam outlet holes of the soleplate. The pump is operated by an electric operating device, such as a solenoid, which can be activated according to different pulse sequences to provide different steam flow values.

[0006] Patent document FR 2690932 A1 discloses a steam iron comprising a soleplate provided with a plurality of steam outlet holes, a pair of evaporation chambers independent of the soleplate, a first heater heating the soleplate and a second heater heating the evaporation chambers, a water tank and a pump supplying water from the receptacle to the evaporation chambers. A device consisting of conduits and valves controlled by manual push buttons allows selecting two different steam flow levels by simply conducting the water through two different conduits towards either of the evaporation chambers, or towards both, and the steam is conducted through other conduits from the evaporation chambers to a steam distribution chamber in communication with the steam outlet holes of the soleplate. Additionally, this iron includes a device accumulating the hydraulic pressure of the water, and the pressurized water can be sprayed from a front spray nozzle by pressing another button.

[0007] Patent document FR 2747403 A1 describes an ironing station including a steam iron and a supply unit. The iron comprises a soleplate provided with a plurality of steam outlet holes and a heater arranged for heating the soleplate. The supply unit includes a water tank and an evaporation chamber provided with a heater for generating steam. The water is supplied from the water tank to the evaporation chamber through a main water conduit and a first pump. The steam is conducted through a steam conduit from the evaporation chamber to a steam distribution chamber located in the iron in communication with the steam outlet holes of the soleplate. The water can additionally be supplied from the main water conduit, before the first pump, to the steam conduit through a diversion conduit and a second pump for providing wet steam. The iron includes an electric switch controlling the operation of the first pump and the second pump, which are both housed in the supply unit.

[0008] Patent document FR 2785975 A1 discloses an ironing station comprising a steam iron and a supply unit. The iron includes a soleplate provided with a plurality of steam outlet holes and a heater heating the soleplate. The supply unit includes a water tank, an evaporation chamber and another heater heating the evaporation chamber for generating steam. The water is supplied from the water tank to the evaporation chamber through a main water conduit and a first pump. The steam is supplied through a steam conduit from the evaporation chamber to a steam distribution chamber located in the iron in communication with the steam outlet holes of the soleplate. Additional water can be supplied from the water tank to the steam conduit for providing wet steam by means of a secondary water conduit, which is a diversion of the main conduit, and a second pump. Both first and second pumps are housed in the supply unit and are controlled from a control located in the iron. The water can be returned from the main water conduit, after the first pump, to the water tank through a return conduit and a safety valve should there be any excess pressure in the evaporation chamber.

[0009] Patent document FR 2853671 A1 describes an ironing station comprising a steam iron and a supply unit. The iron includes a soleplate provided with a plurality of steam outlet holes located in two different regions of the soleplate, a separate evaporation chamber, a first heater heating the soleplate, and a second heater heating the evaporation chamber for generating steam. The supply unit includes a water tank. The water is supplied from the water tank to the evaporation chamber of the iron through a water conduit and a pump. The ironing station offers the possibility of conducting the steam through two different steam conduits, from the evaporation chamber to two steam distribution chambers located in the iron in communication with the steam outlet holes of the two different regions of the soleplate. The steam conduits are selected by means of a valve operated by a manual push button. The iron includes another valve operated by another manual push button which diverts water from the water conduit to a front spray nozzle through an auxiliary water conduit for spraying water from the front nozzle.

[0010] Patent document WO 2005080664 A1 discloses a steam iron including a soleplate provided with a plurality of steam outlet holes, a first evaporation chamber partially demarcated by a first region of the soleplate of the iron where there are side steam outlet holes, a second evaporation chamber partially demarcated by a second region of the soleplate of the iron where there are front steam outlet holes, a heater heating the soleplate and the first and second evaporation chambers, a water tank, a manual pump operated by a manual push button and a pressurized water accumulation receptacle. The water flows directly from the water tank to the first evaporation chamber through corresponding passages. Optionally, the water is pumped by the manual pump from the water tank to the pressurized water accumulation receptacle and the pressurized water is injected from the pressurized water accumulation receptacle into the second evaporation chamber through corresponding conduits.

[0011] Patent document WO 2013167692 A1 describes an ironing station comprising a steam iron and a supply unit. The iron includes a soleplate provided with a plurality of steam outlet holes and a supplementary water tank. The supply unit includes a water boiler acting like an evaporation chamber. The steam is conducted through a steam conduit from the boiler to a steam distribution chamber located in the iron in communication with the steam outlet holes of the soleplate. The boiler is at atmospheric pressure so a pump for driving the steam from the boiler to the steam distribution chamber is not necessary, and the passage of steam is controlled by a valve located in the supply unit and controlled by means of a manual push button located in the iron. In the iron there is a first pump manually operated by means of a push button obtaining water from the supplementary water tank located in the iron and conducting it directly to the steam distribution chamber, where the water evaporates upon contact with an inner surface of the soleplate, providing an additional steam function. A second pump manually operated by means of a second push button obtains water from the supplementary water tank located in the iron and conducts it to a front spray nozzle from which the water is sprayed.

Brief Description of the Invention

[0012] The present invention provides an ironing station comprising a steam iron and a supply unit connected to one another by a supply cord. The iron includes a soleplate having a first region in which there are located one or more first steam outlet holes and a second region in which there are located one or more second steam outlet holes, a first evaporation chamber in communication with the first steam outlet holes, and heating means heating the soleplate for ironing and the first evaporation chamber for generating steam. The supply unit includes a water tank.

[0013] A first pump drives water from the water tank to the first evaporation chamber through a main water conduit. A second pump drives the water through a secondary water conduit from a diversion of the main water conduit located downstream from the first pump to a second evaporation chamber which is in communication with the one or more second steam outlet holes.

[0014] In one embodiment, the first pump is installed in the supply unit and the second pump and the diversion are installed in the iron. Alternatively, both first and second pumps could be installed in the supply unit or in the iron, and the diversion could be arranged in the supply unit or between the supply unit and the iron.

[0015] In one embodiment, the first and second pumps are operated by respective first and second solenoids the operation of which is controlled by an electronic control unit through a pulse sequence, and the iron comprises one or more switches connected to the electronic control unit and actuated by one or more manual controls that allow selecting water flow rates towards the first and second evaporation chambers provided by said first and second pumps and obtaining different corresponding steam flows, i.e., operating the iron in a steam mode chosen from three or more pre-established steam modes.

[0016] Preferably, the one or more switches comprise a first switch activating the operation of the first solenoid operating the first pump according to a single pulse sequence for providing a continuous steam flow through the one or more first steam outlet holes, and an additional multi-position switch or a plurality of additional switches activating the operation of the second solenoid operating the second pump according to multiple pulse sequences for providing different multiple additional steam flows through the one or more second steam outlet holes.

[0017] The one or more manual controls can comprise, for example, a first manual control actuating the first switch, and one or more additional manual controls actuating the additional multi-position switch or the additional switches. The first manual control and the one or more additional manual controls are preferably located

in a handle of the iron. In one embodiment, the iron includes a plastic shell fixed to the soleplate, and this shell defines the handle. In this case, the first manual control is a trigger, for example, located on a front lower side of the handle and the one or more manual controls are one or more push buttons or one or more capacitive or resistive touch sensors or one or more optical sensors located on a front upper side of the handle.

[0018] In another embodiment, the first and second pumps are operated by respective solenoids or electric motors the operation of which is controlled by an electronic control unit through frequency variation, and the iron comprises at least one variable frequency drive connected to the electronic control unit and actuated by a manual control that allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

[0019] In yet another embodiment, the first and second pumps are operated by respective electric motors the operation of which is controlled by an electronic control unit through voltage variation, and the iron comprises at least one voltage variator connected to the electronic control unit and actuated by a manual control that allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

[0020] In any of these last two embodiments, the manual control is a sliding mechanical control or a linear touch sensor or a linear optical sensor located in a handle of the iron. The linear touch sensor can be capacitive or resistive. Optionally, the iron includes a plastic shell fixed to the soleplate, the handle is defined by the shell, and the sliding mechanical control or the linear touch sensor or the linear optical sensor is located on a front upper side of the handle.

[0021] A linear touch sensor can be capacitive or resistive, and can comprise, for example, an elongated touch-sensitive surface provided with first and second opposite ends, and calibrated such that it gives a 0% response when the first end is touched, a 100% response when the second end is touched, and a 0%-100% response when an intermediate point is touched, this 0%-100% response being proportional to the distance from the point touched to the first end.

[0022] A linear optical sensor can comprise, for example, a plurality of optical sensors adjacent to and aligned with one another, protected by a transparent cover, and calibrated such that it gives a 0% response when light is allowed to reach all the optical sensors, a 100% response when light is prevented from reaching each and every one of the optical sensors, and a 0%-100% response when light is allowed to reach only some of the optical sensors, this 0%-100% response being proportional to the number of optical sensors prevented from receiving light.

[0023] In one embodiment, the first evaporation chamber is separated from the soleplate and the second evaporation chamber is partially formed by the soleplate. Preferably, the heating means comprise a first heating element heating the soleplate and a second heating element heating the first evaporation chamber. For example, the first heating element comprises a first electrical resistance embedded in the soleplate and the second heating element comprises a second electrical resistance embedded in the first evaporation chamber.

[0024] Optionally, the iron includes a thermostat actuated by a manual control that allows regulating the temperature of the first heating element. The electronic control unit only allows operating the first and second pumps if the temperatures of the first evaporation chamber and of the soleplate and/or of the second evaporation chamber are above a predetermined threshold assuring evaporation of the water. In one embodiment, the soleplate has an inner surface separated from the first evaporation chamber by an empty space.

Brief Description of the Drawings

[0025] The foregoing and other features and advantages will be better understood based on the following merely illustrative and non-limiting detailed description of several embodiments in reference to the attached drawings, in which:

Figure 1 is a schematic side view of an ironing station according to one embodiment of the present invention;

Figure 2 is a schematic top view of a soleplate of a steam iron that is part of the ironing station of Figure 1;

Figure 3 is a voltage/time diagram of a pulse sequence according to which a first pump included in the ironing station works;

Figure 4 and 5 are voltage/time diagrams of first and second pulse sequences, respectively, according to which a second pump included in the ironing station can selectively work; and

Figure 6 is a schematic side view of an ironing station according to another embodiment of the present invention.

Detailed Description of an Embodiment

[0026] First in reference to Figure 1, there is shown an ironing station according to one embodiment of the present invention, which comprises a steam iron 40 and a supply unit 50 connected to one another by a supply cord 30.

[0027] The iron 40 comprises a metal soleplate 1 and a plastic shell 23 fixed to the soleplate 1. The shell 23 defines a handle 10 by means of which the iron 40 can be gripped and handled.

[0028] The soleplate 1, schematically shown in Figure 2, has a plurality of first steam outlet holes 2 located in a first region of the soleplate 1 and a second steam outlet hole 3 located in a second region of the soleplate 1. Var-

iations in the number and arrangement of the first steam outlet holes and second steam outlet holes 2, 3 and in the location and extent of the first and second regions of the soleplate 1 are within the scope of the present invention.

[0029] The shell 23 of the iron 40 houses a first evaporation chamber 4 comprising a body 26 and a cover 27. The body 26 is fixed to the soleplate 1 such that there is a gap 25 between the first evaporation chamber 4 and an inner surface of the soleplate 1. There is embedded in the soleplate 1 a first electrical resistance 5 constituting a first heating element which, when activated, heats the soleplate 1 for ironing, and there is embedded in the body 26 of the first evaporation chamber 4 a second electrical resistance 6 constituting a second heating element which, when activated, heats the first evaporation chamber 4 for generating steam.

[0030] The first evaporation chamber 4 has several compartments communicated with one another and with a steam distribution chamber 11 formed in the soleplate 1, and this steam distribution chamber 11 is in turn in communication with the first steam outlet holes 2 located in the first region of the soleplate 1. A second evaporation chamber 14 closed at the top by a cover 28 is formed in the soleplate 1. This second evaporation chamber 14 is in communication with the second steam outlet hole 3 located in the second region of the soleplate 1.

[0031] The supply unit 50 includes a water tank 7. A main water conduit 8 having a first end connected to the water tank 7 and a second end connected to the first evaporation chamber 4 is included in the mentioned supply cord 30. A first pump 9, which is housed in the supply unit 50, is interposed in the main water conduit 8. Therefore, the water in the water tank 7 is supplied to the first evaporation chamber 4 through the main water conduit 8 driven by the first pump 9, and the steam generated in the first evaporation chamber 4 is supplied to the steam distribution chamber 11, from where it is expelled through the first steam outlet holes 2 located in the first region of the soleplate 1.

[0032] Inside the shell 23 of the iron 40 there is a secondary water conduit 12 having a first end connected to a diversion 13 of the main water conduit 8 located downstream from the first pump 9 and a second end connected to the second evaporation chamber 14. A second pump 15, which is housed in the shell 23 of the iron 40, is interposed in the secondary water conduit 12. Therefore, the water in the water tank 7 is supplied to the second evaporation chamber 14 through the secondary water conduit 12 driven by the second pump 15, and the steam generated in the second evaporation chamber 14 is expelled through the second steam outlet hole 3 located in the second region of the soleplate 1.

[0033] The first and second pumps 9, 15 are operated by respective first and second solenoids (not shown). An electronic control unit 22, which is installed, for example, in a printed circuit board 25, to which the first and second solenoids are connected, is housed in the shell 23. This electronic control unit 22 controls the operation of the first and second solenoids through a start/stop pulse sequence. The iron 40 further comprises one or more switches connected to the electronic control unit 22 and the switches are actuated by one or more manual controls whereby it is possible to select one steam mode from three steam modes providing different steam flow levels, namely: a "normal steam" mode providing a continuous steam flow, an "extra steam" mode providing an additional steam flow, and a "super steam" mode providing an enhanced additional steam flow.

[0034] In the embodiment illustrated in Figure 1, the one or more switches of the first, second and third switches 19, 20, 21 installed in the printed circuit board 25 and the one or more manual controls comprise a first manual control 16 actuating the first switch 19, a second manual control 17 actuating the second switch 20 and a third manual control 18 actuating the third switch 21. The first manual control 16 is a trigger located on a front lower side of the handle 10 and has a first end connected to the shell 23 by means of a connecting pin 24 and a second end adjacent to the first switch 19, which is a microswitch, for example. Therefore, when the trigger is pressed it pivots around the connecting pin 24 and actuates the first switch 19. The second and third manual controls 17, 18 are push buttons located on a front upper side of the handle 10.

[0035] The first switch 19 activates the operation of the first solenoid operating the first pump 9 according to a single start/stop pulse sequence P (shown in Figure 3) for providing the continuous steam flow through the one or more first steam outlet holes 2 located in the first region of the soleplate 1 according to the "normal steam" mode.

[0036] The second switch 20 activates, through the electronic control unit 22, the operation of the second solenoid operating the second pump 15 according to a first start/stop pulse sequence P1 (shown in Figure 4) for providing a first additional steam flow through the one or more second steam outlet holes 3 located in the second region of the soleplate 1 according to the "extra steam" mode.

[0037] The third switch 21 activates, through the electronic control unit 22, the operation of the second solenoid operating the second pump 9 according to a second start/stop pulse sequence P2 for providing a second additional steam flow that is greater than the first one through the one or more second steam outlet holes 3 located in the second region of the soleplate 1 according to the "super steam" mode.

[0038] This embodiment allows for multiple variants. For example, the operation of the solenoid operating the second pump 15 can be activated by means of more than two additional switches or by means of an additional multi-position switch, which allows selecting one pulse sequence from more than two pre-established pulse sequences for providing more than two different additional steam flows through the one or more second steam outlet holes 3. Accordingly, the manual controls can include

more than two additional manual controls for actuating the more than two additional switches, or a single additional manual control for actuating the additional multiposition switch. The one or more additional manual controls can be, for example, one or more push buttons, or one or more capacitive or resistive touch sensors, or one or more optical sensors.

[0039] As is conventional, the iron includes a thermostat-based temperature control device, or an NTC with its TRIAC- or relay-type associated power electronics or the like (not shown) actuated by a manual control (not shown) that allows regulating the temperature of the first electrical resistance 5 heating the soleplate 1. Given that the second evaporation chamber 14 is integrated in the soleplate 1 and is heated by the same first electrical resistance 5 heating the soleplate, in order to activate the "extra steam" and "super steam" modes, the soleplate 1 must be heated to a relatively high temperature to evaporate the water in the second evaporation chamber 14.

[0040] Preferably, temperature detectors (not shown) connected to the electronic control unit 22 are arranged in the first evaporation chamber 4 and in the soleplate 1 and/or in the second evaporation chamber 14, and the electronic control unit 22 only allows operating the first and second pumps 9, 15 if the temperatures detected in the first evaporation chamber 4 and in the soleplate 1 and/or in the second evaporation chamber 14 are above a predetermined threshold for assuring evaporation of the water.

[0041] Likewise, given that the diversion 13 of the main water conduit 8 from where the secondary water conduit 12 takes water to conduct it to the second evaporation chamber 14 is located downstream from the first pump 9, in order to activate the "extra steam" and "super steam" modes provided by the second pump 15, the "normal steam" mode provided by the first pump 9 must also be activated.

[0042] A main power supply unit 29 connected to a power grid through an electric power supply cable 32 is installed in the supply unit 50. Inside the shell 23 of the iron 40 there is a secondary power supply unit 31 comprising, for example, a printed circuit board 34, from which electric current is supplied to the first and second electrical resistances 5, 6 and to the electronic control unit 22 from which the first and second electric operating devices of the first and second pumps 9, 15 are powered and controlled. The main power supply unit 29 and the secondary power supply unit 31 are connected to one another by an electrical cable 33 included in the supply cord 30.

[0043] The supply cord 30 can be connected to and disconnected from the supply unit 50 by means of a connector 36 including a fluid connector for the main water conduit 8 and an electrical connector for the electrical cable 33.

[0044] Figure 6 shows an ironing station according to another embodiment of the present invention, which is similar to the one described above in relation to Figure 1 except that the operation of the solenoids operating the first and second pumps 9, 15 is controlled by the electronic control unit 22 through frequency variation instead of through pulses. To that end, the iron 40 comprises a variable frequency drive (not shown) connected to the electronic control unit 22 and the variable frequency drive is actuated by a manual control that allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

[0045] In Figure 6, the manual control actuating the variable frequency drive is a linear touch sensor 35 located on a front upper side of the handle 10 of the iron 40 such that a user can regulate steam flow by sliding their thumb on the hand gripping the handle 10 along the linear touch sensor 35. The linear touch sensor 35 can be capacitive or resistive. Alternatively, the manual control actuating the variable frequency drive can be a sliding mechanical control or a linear optical sensor.

[0046] According to an embodiment variant shown in Figure 6, the first and second pumps 9, 15 are operated by respective electric motors (not shown) the operation of which is controlled by the electronic control unit 22 through frequency variation or through voltage variation. When the electric motors are controlled by frequency variation the iron 40 includes a variable frequency drive connected to the electronic control unit 22, and when the electric motors are controlled by voltage variation the iron 40 includes a voltage variator connected to the electronic control unit 22. In both cases, whether it is the variable frequency drive or the voltage variator, it is actuated by a manual control, such as a sliding mechanical control, or a capacitive or resistive linear touch sensor, or a linear optical sensor preferably located in the handle 10 of the iron 40, which allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

Claims

1. An ironing station with various steam levels comprising a steam iron (40) and a supply unit (50) connected to one another by a supply cord (30), wherein the iron (40) includes:

a soleplate (1) provided with one or more first steam outlet holes (2) located in a first region of the soleplate (1) and one or more second steam outlet holes (3) located in a second region of the soleplate (1);
a first evaporation chamber (4) in communication with the first steam outlet holes (2);
heating means heating the soleplate (1) for ironing and the first evaporation chamber (4) for generating steam;
wherein the supply unit (50) includes a water tank (7);
and wherein the water in the water tank (7) is

supplied to the first evaporation chamber (4) through a main water conduit (8) driven by a first pump (9),
characterized in that the iron (40) includes:

a second evaporation chamber (14) which is in communication with the one or more second steam outlet holes (3); and
a second pump (15) driving the water through a secondary water conduit (12) from a diversion (13) of the main water conduit (8) located downstream from the first pump (9) to the second evaporation chamber (14).

2. The ironing station according to claim 1, wherein the first and second pumps (9, 15) are operated by respective first and second solenoids the operation of which is controlled by an electronic control unit (22) through a pulse sequence, and the iron (40) comprises one or more switches connected to the electronic control unit (22) and actuated by one or more manual controls that allow selecting one steam mode from three or more pre-established steam modes providing different steam flow levels.

3. The ironing station according to claim 1, wherein the first and second pumps (9, 15) are operated by respective solenoids or electric motors the operation of which is controlled by an electronic control unit (22) through frequency variation, and wherein the iron (40) comprises at least one variable frequency drive connected to the electronic control unit (22) and actuated by a manual control that allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

4. The ironing station according to claim 1, wherein the first and second pumps (9, 15) are operated by respective electric motors the operation of which is controlled by an electronic control unit (22) through voltage variation, and wherein the iron (40) comprises at least one voltage variator connected to the electronic control unit (22) and actuated by a manual control that allows regulating a steam flow between a minimum flow level and a maximum flow level in a continuous or step-wise manner.

5. The ironing station according to claim 2, wherein the one or more switches comprise a first switch (19) activating the operation of the first solenoid operating the first pump (9) according to a single pulse sequence (P) for providing a continuous steam flow through the one or more first steam outlet holes (2), and an additional multi-position switch or a plurality of additional switches (20, 21) activating the operation of the second solenoid operating the second pump (15) according to multiple pulse sequences (P1, P2) for providing different multiple additional steam flows through the one or more second steam outlet holes (3).

6. The ironing station according to claim 5, wherein the one or more manual controls comprise a first manual control (16) actuating the first switch (19), and one or more additional manual controls (17, 18) actuating the additional multi-position switch or the additional switches (20, 21), the first manual control (16) and the one or more additional manual controls (16, 17, 18) being located in a handle (10) of the iron (40).

7. The ironing station according to claim 6, wherein the iron (40) includes a plastic shell (23) fixed to the soleplate (1), the shell (23) defines the handle (10), and the first manual control (16) is a trigger located on a front lower side of the handle (10), and the one or more manual controls (17, 18) are one or more push buttons or one or more capacitive or resistive touch sensors or one or more optical sensors located on a front upper side of the handle (10).

8. The ironing station according to claim 3 or 4, wherein the manual control is a sliding mechanical control, or a capacitive or resistive linear touch sensor (35), or a linear optical sensor located in a handle (10) of the iron (40).

9. The ironing station according to claim 8, wherein the iron (40) includes a plastic shell (23) fixed to the soleplate (1), the shell (23) defines the handle (10), and the sliding mechanical control or the capacitive or resistive linear touch sensor (35) or the linear optical sensor is located on a front upper side of the handle (10).

10. The ironing station according to claim 1, wherein the first evaporation chamber (4) is separated from the soleplate (1) and the second evaporation chamber (14) is partially formed by the soleplate (1).

11. The ironing station according to claim 10, wherein the heating means comprise a first heating element heating the soleplate (1) and a second heating element heating the first evaporation chamber (4).

12. The ironing station according to claim 11, wherein the first heating element comprises a first electrical resistance (5) embedded in the soleplate (1) and the second heating element comprises a second electrical resistance (6) embedded in the first evaporation chamber (4).

13. The ironing station according to claim 11 or 12, wherein the iron (40) includes a thermostat actuated by a manual control that allows regulating the tem-

perature of the first heating element.

14. The ironing station according to claim 11, 12 or 13, wherein the soleplate (1) has an inner surface separated from the first evaporation chamber (4).

15. The ironing station according to claim 1, wherein the first pump (9) is installed in the supply unit (50) and the second pump (15) and the diversion (13) are installed in the iron (40).

16. The ironing station according to claim 1, wherein the first evaporation chamber (4) is in communication with a steam distribution chamber (11) located in the soleplate (1), which is in communication with the one or more first steam outlet holes (2).

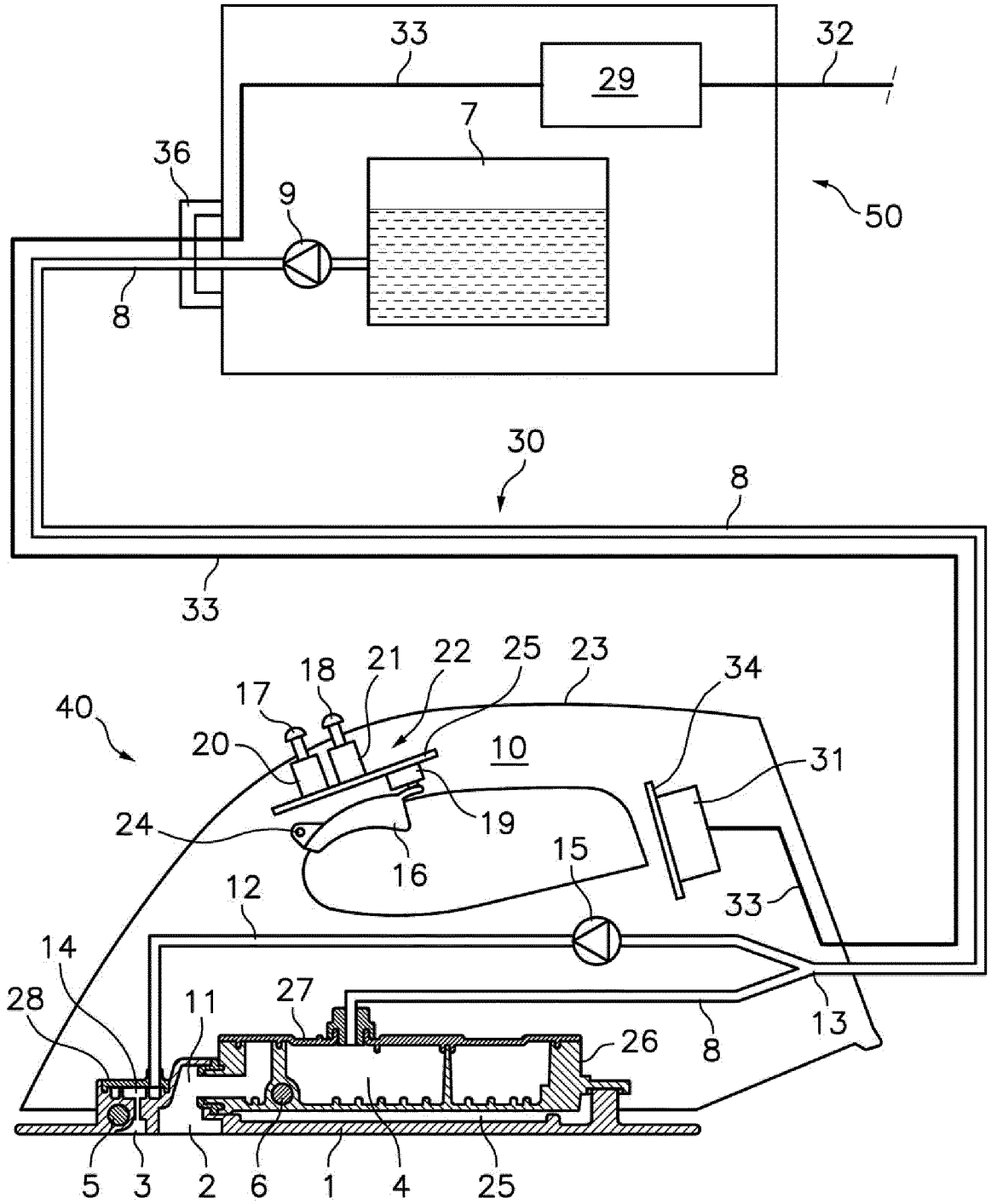
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Fig. 1

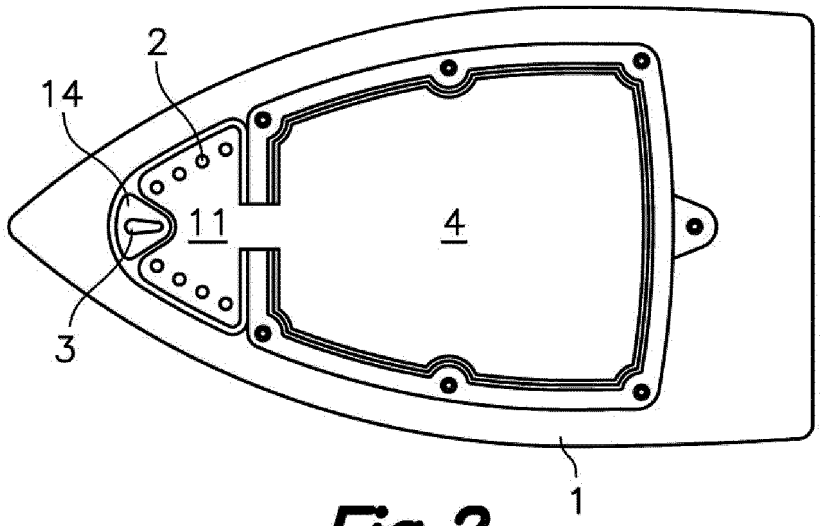

Fig.2

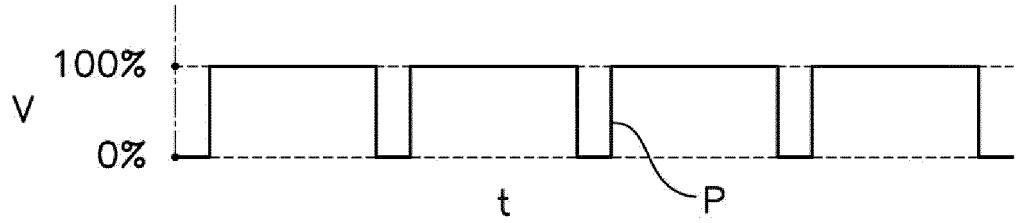

Fig.3

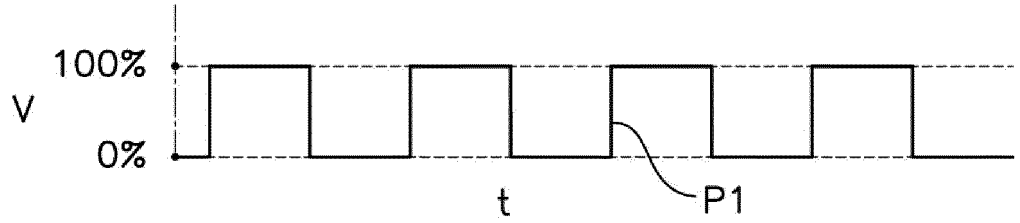

Fig.4

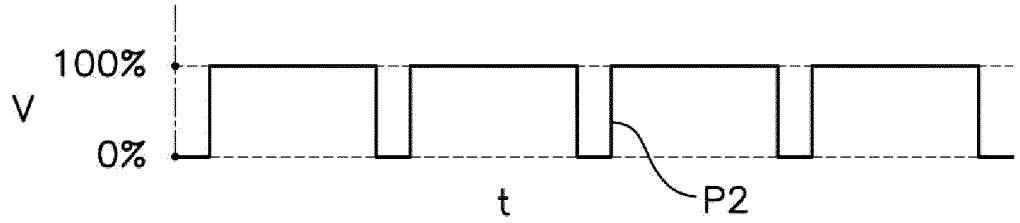

Fig.5

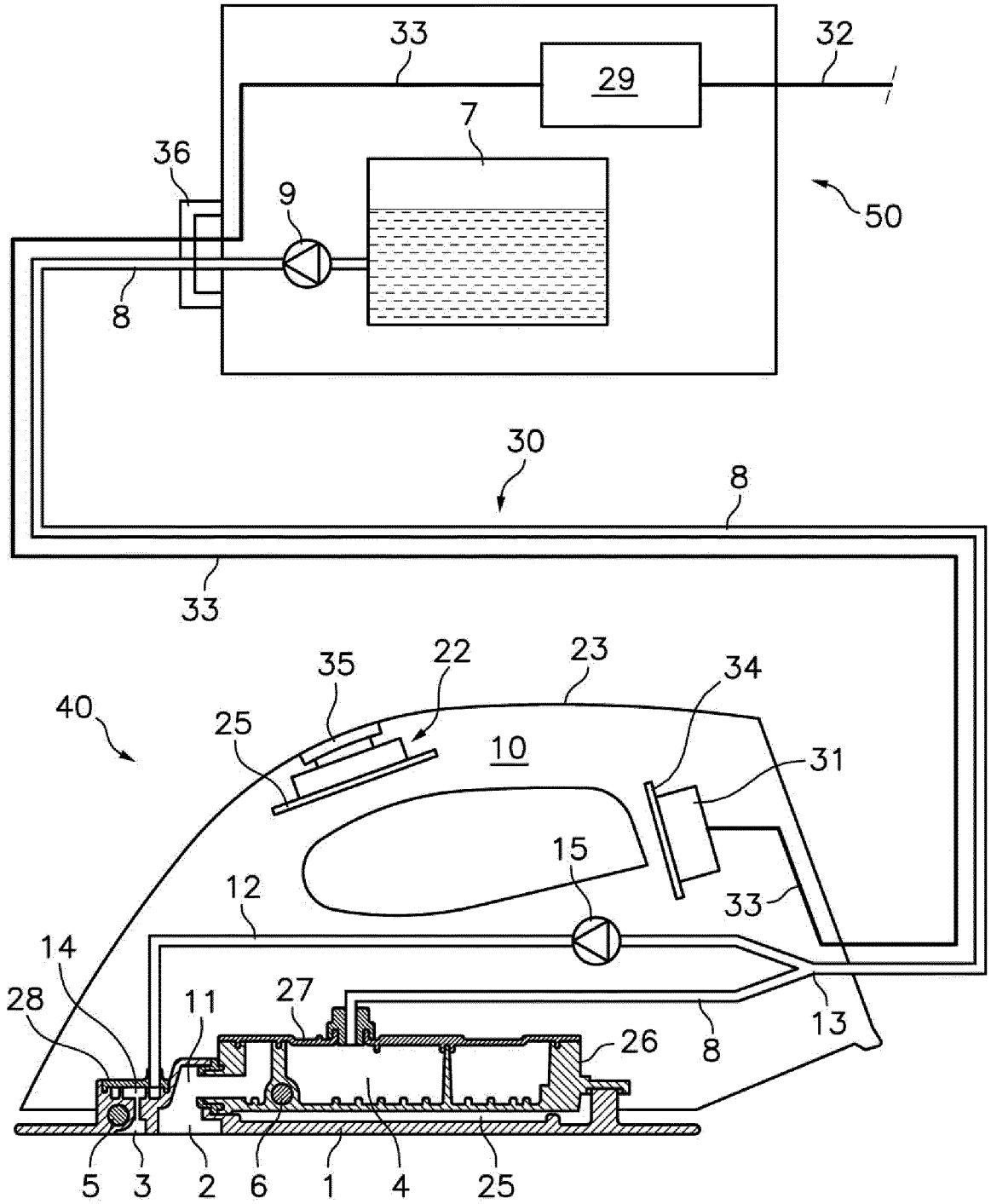
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Fig.6

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