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(54) **Title:** AN ABLUTION APPARATUS AND SYSTEM

(57) **Abstract:** Ablution system (10) for performing Wudu includes apparatus (12), sensors (14.1, 14.2, 14.3), control system (16), power supply, solenoid valves and stool. Apparatus (12) includes upper ablution basin (22), lower ablution basin (24), upper water dispensers (26), lower water dispensers (28), and faucet (30). Basins (22) and (24) each include receptacle portion (32, 38), respectively, for collecting water from associated dispensers (26, 28) and faucet (30), a pair of lateral extension portions (34, 40) projecting upwardly from opposite sides of the portions (32, 38), respectively and a back portion, extending between portions (34, 40), respectively. Dispensers (26) include a pair of face-level nozzles (42.1) and arm level nozzles (44) located on opposite inner sides of portions (34) and face-level nozzles (42.1) on the back portion for delivering water to a user's arms and face. Dispensers (28) include two pairs of opposing feet-level nozzles (50.1, 50.2), each located on a different one of the portions (40) and a feet-level nozzle (50.3) located on the back portion. System (16) controls water flow to dispensers (26, 28) and faucet (30) by valves and in response to motion detection by sensors (14.1, 14.2, 14.3)..

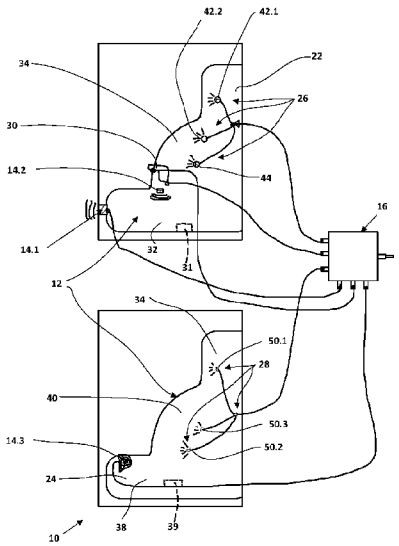


FIG 3

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# AN ABLUTION APPARATUS AND SYSTEM

## FIELD OF INVENTION

This invention relates to an ablution apparatus and system. More particularly, the ablution apparatus and system are configured for use in performing ablution performed in preparation for Islamic Prayer (commonly referred to as "Wudu").

## BACKGROUND TO INVENTION

In the Muslim faith, it is essential before praying to prepare the body for prayer by performing a cleansing ritual known as Wudu. Wudu is performed out of humility and respect prior to commencing prayer and involves washing one's face, hands, arms, head and feet.

More particularly, Wudu typically requires the washing of the hands thoroughly three times, inclusive of between the fingers and up to the wrists. The mouth is washed three times including rinsing the mouth thoroughly. The nose is thoroughly washed and rinsed, by gentle inhalation of water from the right cupped hand and expulsion thereof, using the left hand to block alternate nostrils. The face is washed three times, from forehead to chin and ear to ear.

It is further required to wash the arms three times up to the elbow level. The head is washed one time from front to back of the head with a drenched hand and back again. The ears are washed using drenched fingers which wipe the inside and outside of the ears. Finally, the feet are washed three times from toes to ankles, using the hands to wash the feet.

Facilities are provided as Mosques to facilitate ablution. These typically comprise a number of faucets for delivering flowing water to each person performing Wudu. As

such, water usage and consumption at Mosques can be extremely high, particularly in the case of busy or well attended Mosques, in which multiple faucets are running concurrently and continuously, while multiple users are performing Wudu.

Because Wudu is typically performed using water from a flowing faucet, it is also necessary to transfer water using cupped hands from the faucet to the face, head, feet and arms. This process is extremely wasteful and inefficient, as only a small proportion of the flowing water is captured by the user and utilized for performing Wudu. The vast majority of water dispensed by the faucet during Wudu is not utilized nor required for performing Wudu and is consequently wasted.

In this specification any reference to the term "Wudu" will be understood to refer to the cleansing ritual described above.

According to various sources, for example, Countrymeters, Islam constitutes approximately 24.7% of the world population and includes an estimated 1,941,018,638 followers (http:// https://countrymeters.info/en/World#religion). It will be appreciated that given that Wudu may be performed up to five times a day, the wastage of water is extremely significant.

As such, a need therefore exists for an ablution apparatus and system which reduces the volume of water usage and water wastage during Wudu. As well as saving water, a need exists for an ablution apparatus and system which, while saving water, at the same time, still dispenses sufficient water to allows for through and complete ablution in accordance with Islamic requirements.

A need further exists for an ablution apparatus and system which facilitates a comfortable user experience while performing Wudu. In particular, the aged and physically challenged individuals find it very difficult particularly to wash their feet at the taps provided in Mosques, without getting wet or slipping or falling over. In this regard,

it will be appreciated that excess spilled water constitutes a falling risk, particularly for the already physically challenged and elderly.

## SUMMARY OF INVENTION

According to a first aspect of the invention, there is provided an ablution apparatus including:

an upper ablution basin for collecting water;

at least one upper water dispenser associated with the upper ablution basin, the upper ablution basin and the at least one upper water dispenser being arranged in an arrangement wherein water from said at least one upper water dispenser is collected in the upper ablution basin, in use;

a lower ablution basin for collecting water, said lower ablution basin being located, in use beneath the upper ablution basin; and

at least one lower water dispenser associated with the lower ablution basin, wherein the at least one lower water dispenser and the lower ablution basin are arranged in an arrangement wherein water from said at least one lower water dispenser is collected in the lower ablution basin, in use.

The upper ablution basin and the lower ablution basin may each define a receptacle portion in which the water from the associated water dispenser is collected. The upper ablution basin and the lower ablution basin may have a wastewater outlet for releasing water collected in the receptacle portion, in use.

In a particular embodiment, said at least one upper water dispenser may be in the form of a water dispensing nozzle. In a particular embodiment said at least one lower water

dispenser may be in the form of a water dispensing nozzle. The or each water dispensing nozzle may be in the form of an adjustable nozzle for adjusting an orifice of the nozzle through which water is delivered. More specifically, the or each water dispensing nozzle may be configured for delivering a fine mist spray, in use.

The upper ablution basin may include a pair of opposing lateral extension portions which, in the in use configuration thereof, project upwardly from the receptacle portion of the basin at opposing opposite sides of the receptacle portion. As such, said at least one upper water dispenser may comprise one or more pairs of upper water dispensers, each water dispenser of the one or more pairs of upper water dispensers may be located on a particular different one of the extension portions of the upper ablution basin.

Each pair of upper water dispensers may be configured and arranged relative to the upper ablution basin such that water dispensed by the upper water dispensers is collected, in use, in the receptacle portion of the of the upper ablution basin, thereby to limit water spillage.

In one embodiment, a first pair of upper water dispensers may comprise a pair of opposing face-level dispensers, each face-level dispenser of the pair of face-level dispensers being located on a particular different one of the opposing lateral extension portions of the upper basin and each being configured and positioned for delivering water to a particular different one of the sides of a user's face, when the user uses the ablution apparatus, in use.

In a particular embodiment, a second pair of upper water dispensers may comprise a pair of opposing arm-level water dispensers, each arm-level water dispenser of the pair of arm-level water dispensers being located on a particular different one of the opposing lateral extension portions and each being configured and positioned for delivering water to a particular different one of the user's arms, when the user uses the ablution apparatus, in use.

The upper ablution basin may include a back extension portion which extends upwardly from the receptacle portion thereof, the back extension portion extending between the pair of opposing lateral extension portions.

In a particular embodiment, the at least one upper water dispensers may include a face-level water dispenser located on the back extension portion at a location between the pair of opposing face-level water dispensers.

The ablution apparatus may further include a faucet having a water outlet located operatively above the receptacle portion of the upper ablution basin.

The lower ablution basin may include a pair of opposing lateral extension portions which project upwardly from the receptacle portion of the lower ablution basin at opposing opposite sides of the receptacle portion thereof. As such, said at least one lower water dispenser may comprise one or more pairs of lower water dispensers, each lower water dispenser of the one or more pairs of lower water dispensers being located on a particular different one of the extension portions of the lower ablution basin.

Each pair of lower water dispensers may be configured and arranged relative to the lower ablution basin such that water dispensed by the lower water dispensers is collected, in use, in the receptacle portion of the of the lower ablution basin, thereby to limit water spillage.

In one embodiment, a first pair of lower water dispensers may comprise a pair of opposing feet-level water dispensers, each feet-level water dispenser of the pair of feet-level water dispensers being located on a particular different one of the opposing lateral extension portions and each being configured for delivering water to a particular different one of the sides of a user's feet, when the user uses the ablution apparatus, in use.

The lower ablution basin may include a back extension portion which extends upwardly from the receptacle portion of the lower ablution basis, the back extension portion extending between the pair of opposing lateral extension portions. In a particular embodiment, the at least one lower water dispensers may include a feet-level dispenser located on the back extension portion of the lower ablution basin at a location between the pair of opposing feet-level water dispensers.

The ablution apparatus may further include a pedestal upon which the upper ablution basin and the lower ablution basin are mounted. The pedestal may include feet or a plinth for raising the pedestal from the ground.

According to a second aspect of the invention there is provided an ablution system including the ablution apparatus, as described and defined hereinabove, in accordance with the first aspect of the invention; and

at least two motion sensors, each motion sensor of said at least two motion sensors being configured and arranged to activate a particular one or more of said at least one upper water dispenser, said at least one lower water dispenser and said faucet, for controlling dispensing of water therethrough. Each motion sensor may be in the form of an infra-red sensor.

More specifically, the ablution system may include at least three motion sensors, each motion sensor of said at least three motion sensors being arranged and configured for dispensing water through a particular one of the upper water dispensers, faucet and feet-level water dispensers, in response to motion detection. As such, the ablution system may include a control system for controlling water flow through the water dispensers and faucet. The control system may comprise said at least three motion sensors and three solenoid valves for controlling water flow, each solenoid valve being associated with a particular one of the upper water dispensers, faucet, and the feet-level water dispensers, and each being configured for controlling water flow therethrough. As

such, the ablution system may include a power supply for supplying electrical power to the solenoid valves and the motion sensors.

The ablution system may further include a stool which can be placed, in use, adjacent the lower ablution basin, to facilitate ease of use of the lower ablution basin.

## BRIEF DESCRIPTION OF DRAWINGS

Further features of the invention are described hereinafter by way of a non-limiting example of the invention, with reference to and as illustrated in the accompanying schematic drawings. In the drawings:

Figure 1 shows a perspective view of an ablution apparatus, in accordance with a first aspect of the invention; and an ablution system, in accordance with the second aspect of the invention;

Figure 2 shows a front view of an upper ablution basin and lower ablution basin forming part of the ablution apparatus of Figure 1, with inset of Figure 2 showing a fragmentary enlarged view of a nozzle of the upper ablution basin of Figure 2;

Figure 3 shows a schematic side view of the ablution apparatus of Figure 1 and the ablution system of Figure 1, illustrating a control system of the ablution system of Figure 1;

Figure 4 shows a detailed internal view of the control system of figure 3, showing interior components to illustrate the working of the system;

Figure 5 shows a fragmentary enlarged view of a nozzle accessory for use with the apparatus of Figure 1; and

Figure 6 shows another embodiment of an ablution apparatus, in accordance with a first aspect of the invention and an ablution system, in accordance with the second aspect of the invention

## DETAILED DESCRIPTION OF THE DRAWINGS

With reference to the drawings, an ablution system, in accordance with the second aspect of the invention is designated generally by the reference numeral 10 and an ablution apparatus, in accordance with the first aspect of the invention is designated by the reference numeral 12.

The ablution system 10 includes the ablution apparatus 12, motion sensors in the form of infrared sensors 14 for detecting motion, a control system 16 for controlling water flow in response to detection of motion, a power supply 18 for supplying electrical power, and a stool 20, the purposes of which will be explained hereinbelow.

The ablution apparatus 12 includes an upper ablution basin 22, a lower ablution basin 24, upper water dispensers 26 associated with the upper ablution basin 22, lower water dispensers 28 associated with the lower ablution basin 24, and a faucet 30.

The upper ablution basin 22 is made of a ceramic or similar material. The upper ablution basin 22 includes a receptacle portion 32, in which the water from the associated water dispensers 26 and faucet 30 is collected, a water outlet 31 , a pair of lateral extension portions 34 and a back extension portion 36 which extends between the pair of opposing lateral extension portions 34, as best illustrated in Figure 1 of the drawings.

The receptacle portion 32 is arranged beneath and configured for collecting water from the associated dispensers 26 and faucet 30 for minimizing spillage of water.

The pair of opposing lateral extension portions 34 project upwardly from the receptacle portion 32 of the upper ablution basin 22 at opposing opposite sides of the receptacle 32, as shown in Figure 1 of the drawings.

The back extension portion 36 extends upwardly from the receptacle 32 and extends between the pair of opposing lateral extension portions 34.

The lower ablution basin 24 is configured for collecting water and is located, in use, beneath the upper ablution basin 22.

The lower ablution basin 24 is made of a ceramic or similar material. The lower ablution basin 24 includes a receptacle portion 38, in which the water from the associated water dispenser 28 is collected, a water outlet 39, a pair of lateral extension portions 40 and a back extension portion 41 which extends between the pair of opposing lateral extension portions 40, as best illustrated in Figure 1 of the drawings.

The receptacle portion 38 is arranged beneath and configured for collecting water from the associated lower water dispensers 28 for limiting water spillage. The water outlet 39 is configured for releasing water collected in the receptacle portion 38, in use.

The pair of opposing lateral extension portions 40 project upwardly from the receptacle portion of the basin at opposing opposite sides of the receptacle portion 38, as shown in Figure 1 of the drawings.

The back extension portion 41 extends upwardly from the receptacle portion 38 and extends between the pair of opposing lateral extension portions 40.

The upper water dispensers 26 and lower water dispensers 28 are in the form of water dispensing nozzles, more particularly adjustable water dispensing nozzles configured for delivering a fine mist spray. Referring to Figures 2 and 3 of the drawings, the upper water dispensers 26 include three face-level nozzles 42, and two arm-level nozzles 44.

More particularly, the face-level nozzles 42 include a pair of face-level nozzles comprising face-level nozzles 42.1 located on opposite inner sides of the extension portions 34 and a face-level nozzle 42.2 located on the back extension portion 41 of the upper ablution basin 22. Each one of the pair of face-level nozzles 42.1 are configured and positioned for delivering water to a particular different one of the sides of a user's face, when the user uses the ablution apparatus, in use. The face-level nozzle 42.2 is configured for delivering water to the front of the user's face.

As best illustrated in Figures 2 and 3 of the drawings, the arm-level nozzles 44 include a pair of arm-level nozzles 44 located on opposite inner sides of the extension portions 34. Each arm-level nozzle 44 of the pair of nozzles 44 is configured and positioned for delivering water to a particular side of the user's arms, when the user uses the ablution apparatus, in use.

The lower water dispensers 28 include two pairs of opposing feet-level nozzles 50.1. 50.2, each nozzle of each pair being located on a different one of the opposing lateral extension portions 40 of the lower ablution basin 24 and a feet-level nozzle 50.3 located on the back extension portion 41 of the lower ablution basin 24.

Each feet-level nozzle 50.1, 50.2, 50.3 is configured and arranged for delivering water to different sides of a user's feet, when the user uses the ablution apparatus, in use.

Each nozzle of the face-level nozzles 42, the arm-level nozzles 44 and feet-level nozzles 50.1,50.2, 50.3 are substantially identical. More specifically, each nozzle comprises a water jet 51 (see Figure 2) and a nozzle accessory 53 (see Figure 5).

An enlarged view of one of the water jets 51 of one of the nozzles of the pair of arm-level nozzles 44 is shown in Figure 2 of the drawings. Each water jet has an adjustable water outlet which can be adjusted from 3 mm to 7mm.

As mentioned, all of the nozzles of the upper water dispensers 26 and lower water dispensers 28 are substantially identical and each comprises a water jet substantially identical to the water jet 51 of nozzle 44 shown in Figure 2 for illustration purposes and a nozzle accessory in the form of adjustable nozzle attachment 53 shown in Figure 5 of the drawings. More specifically, the adjustable nozzle attachment 53 has a threaded body 57 which is threadedly received in a complementary thread (not shown) provided therefore on the upper ablution basin 22 and lower ablution basin 24, in an arrangement permitting the adjustable nozzle attachment 53 to be rotated for positioning an outlet 55 of the adjustable nozzle attachment 53 in a desired location, for directing water flow in accordance with the user's requirements. In use, the nozzle attachment ensures that each nozzle produces a fine mist in a dispensing angle of 45°. Furthermore, the nozzle attachment allows for an adjustable apertures sizes from 0.2 mm to 0.7 mm for delivering a fine mist of water.

The faucet 30 has a spout configured for delivering a highly reduced volume of water flow, compared to conventional spouts used in domestic applications and is activated in response to activation of the associated sensor, as will be explained in more detail hereinbelow.

The infrared sensors 14 are configured for detecting motion and are conventional and known in the art and accordingly, no further explanation is required. The infrared sensors 14 include an upper sensor 14.1, a tap sensor 14.2 and lower sensor 14.3.

The control system 16 is configured for controlling water flow through the appropriate nozzle or through the faucet in response to detection of motion by the motion sensor associated with the particular nozzle or faucet.

As best illustrated in Figure 4 of the drawings, the control system 16 includes a water inlet 52 which is connectable to a water supply and through which water can flow into the control system 16, three separate and discreet water outlets 54.1, 54.2, 54.3 water flow circuits through which water can flow towards the upper water dispensers 26; the faucet 30; and the lower water dispensers 28; and three solenoid valves 56.1, 56.2, 56.3 which are electrically activated for controlling water flow through the three water outlets 54.1, 54.2, 54.3, respectively..

As best illustrated in Figure 4 of the drawings, each solenoid valve 56.1, 56.2, 56.3 is associated with a particular one of the water outlets 54.1, 54.2, 54.3 and is activated by a particular one of the sensors 14.1, 14.2 and 14.3, respectively. More specifically, solenoid valve 56.1 is activated by infrared sensor 14.1 and is operable when activated by the sensor 14.1 to allow water to flow through outlet 54.1 for delivering water to the upper water dispensers 26, more particularly to the face-level nozzles 42 and arm-level nozzles 44.

Solenoid valve 56.2 is activated by infrared sensor 14.2 and is operable when activated by the sensor 14.2 to allow water flow through outlet 54.2 for delivering water to the faucet 30.

Solenoid valve 56.3 is activated by infrared sensor 14.3 and is operable when activated by the sensor 14.3 to allow water flow through outlet 54.3 for delivering water to the lower water dispensers 28 comprising the feet-level nozzles 50.1, 50.2, 50.3.

It will be understood that the solenoid valves 56.1, 56.2, 56.3 each include timers whereby once activated by the associated sensor, the solenoid valve remains open for a predetermined time (unless further activation of the sensor occurs).

As such, once activated, the solenoid valve will remain open for a predetermined time, such as, for example 5 seconds, and provided the solenoid valve is not activated again by the senor, the valve will close after expiration of said predetermined time.

In use, the water inlet 52 of the control system 16 is connected to a water source or supply, such as, for example, a domestic water supply in which water is piped for domestic or commercial use.

The power supply 18 is configured for supplying electrical power to the infrared sensors 14.1, 14.2, 14.3 and to the solenoid valves 56.1, 56.2, 56.3 and is configured for drawing power from a domestic electrical supply. It will be understood that the power supply 18 will include all the necessary electrical circuitry to supply the correct and required electrical supply for powering the sensors and solenoid valves. The inventor envisages, that the power supply can, alternatively be adapted for supplying electrical power from a battery or from some other power source (for example solar) if required.

The stool 20 provides for enhanced user experience and comfort and is particularly helpful to the aged and physically challenged individuals who find it very difficult to wash their feet, without getting wet or slipping or falling over.

The Applicant has found that the ablution apparatus and system highly reduces the volume of water dispensed and spilled when performing Wudu using conventional taps and means. As such, due to significantly less spillage and provision of the stool, the risk of falling and slipping is highly reduced, particularly, for the physically challenged and elderly.

The ablution apparatus and system can be advantageously used in Mosques, households and places of prayer ("Musala") found in offices, malls, etc.

The inventor has found that the ablution apparatus 12 and system 10 results in a water saving of approximately 85 % when compared to utilization of flowing "tap water" dispensed from a conventional faucet.

The inventor has found that regular faucets / taps in Mosques consume approximately 20 litres of water per Wudu. In sharp contrast, the ablution apparatus 12 and system 10 enables a person to perform Wudu with as little as 500 ml of water. This translates to a very significant saving of worldwide water resources.

It will be appreciated in this regard that it is particularly wasteful of water when Wudu is performed using a flowing water supply and cupped hands to transfer water to the body. More specifically, the face-level nozzles 42 and arm-level nozzles 44 are particularly beneficial as there is no need to used cupped hands for transferring water to the face and arms. The user can simply allow the face-level nozzles 42 and arm-level nozzles 44 to deliver water directly to the user's arms and face. Similarly, the feet-level nozzles 50.1, 50.2 and 50.3 directly deliver water to the user's feet.

Furthermore, since the user does not use cupped hands to transfer water to the body, spillage and wastage of water is minimized since the upper ablution basin 122, a lower ablution basin 124 are arranged in an arrangement wherein water from the upper water dispenser 26 and lower water dispenser 28 is collected in the upper ablution basin, and lower ablution basis, respectively, in use.

With reference to Figure 6 of the drawings, another embodiment of, an ablution system, in accordance with the second aspect of the invention is designated generally by the reference numeral 110 and an ablution apparatus, in accordance with the first aspect of the invention is designated by the reference numeral 112.

There are many similarities between the ablution system 10 and apparatus 12 of Figures 1 to 5 of the drawings, and ablution system 110 and apparatus 112 of Figure 6 of the drawings. In Figure 6 of the drawings, the features of the ablution system 110 and apparatus 112 which are the same and/or similar to features of an ablution system 10 and apparatus 12 shown in Figures 1 to 5 of the drawings, are designated by the same and/or similar reference numerals in Figure 6 of the drawings. What is stated above with respect to the ablution system 10 and apparatus 12 of Figures 1 to 5 of the

drawings, applies generally to the ablution system 110 and apparatus 112 of Figure 6 of the drawings.

The ablution system 110 includes the ablution apparatus 112, motion sensors in the form of infrared sensors for detecting motion, a control system for controlling water flow in response to detection of motion, a power supply for supplying electrical power, and a pedestal 119, the purpose of which will be explained hereinbelow.

The ablution apparatus 112 includes an upper ablution basin 122, a lower ablution basin 124, upper water dispensers 126 associated with the upper ablution basin 122, lower water dispensers 128 associated with the lower ablution basin 124, and a faucet 130.

The pedestal 119 comprises a stand or backing board upon which the ablution apparatus 112 is mounted in use. The pedestal has feet 125 for raising the pedestal 119 above the ground and a shelf 123.

The ablution system 110 further includes a water pump 129 and bottle127, the purposes of which will be explained below.

The inventor envisages that the pedestal 119 can easily be placed at a desired location at the Mosque to provide ideal ablution facilities. As such, the pedestal 119 can be used to add additional ablution facilities to the Mosque as needed. More specifically, the provision of the pedestal 119 enables the ablution system 110 and ablution apparatus 112 to be easily retro-fitted to existing installations or to expand existing installations.

The shelf 123 can accommodate the water bottle 127 which can be connected to the water inlet of the control system of the ablution system 110, via connecting pipe 121 in flow communication with the bottle 123, and through which water flow into the control system, as described herein above in relation to the ablution system and apparatus of

Figures 1 to 5 of the drawings. The pump 129 is configured for pumping water from the water bottle 127 to the water inlet of the ablution system 110 via pipe 121.

The inventor has advantageously found that the ablution system 110 and apparatus 112 can be used for performing Wudu in accordance with accepted Islamic standards, using only 500 ml of water. This can be demonstrated and verified by using the water bottle 123 filled with only 500 ml of water. As such, users of the ablution system 110 and apparatus 112 can be well informed of the advantages of saving water and can strive to use the ablution system 110 and apparatus 112 in a manner in which the optimal amount of water can be used such that no water is wasted. As such, the water bottle serves as a demonstration of the small volume of water which is required for performing Wudu and can be used in educating users of the manner in which Wudu can be performed without utilizing a wasteful amount of water.

It is important to mention that 500 ml is a very significant volume of water in the context of performing Wudu because according to certain Islamic sources, 500 ml is the minimum amount of water required for properly performing Wudu. Examples of such sources includes General Administration of Endowments (Awqaf) in Qatar; Saudi Standards, Metrology and Quality Organization (SASO) and Council of Senior Scholars in the Kingdom of Saudi Arabia.

The inventor envisages that the provision of the ablution system 10, 110 and apparatus 12, 112 accordingly provides users with a means of saving water while still enabling users to perform Wudu in accordance with the required Islamic standards and norms.

It will be appreciated that the exact configuration of the ablution apparatus and system, in accordance with the invention, may vary greatly while still incorporating the essential features of the invention as described hereinabove.

For example, the inventor envisages that, if desired, the water bottle 127 can be replaced with any other suitable source of water supply, such as, for example, a body of

water, water tanker, etc., in circumstances in which a domestic water supply is not readily available. As such, the ablution system 110 and ablution apparatus 112 can even be used in very remote locations which particularly do not have a readily available domestic water supply. Similarly, the power supply can be adapted for utilizing solar power, for use in remote locations.

Claims:

1. An ablution apparatus including:

an upper ablution basin for collecting water;

at least one upper water dispenser associated with the upper ablution basin, the upper ablution basin and the at least one upper water dispenser being arranged in an arrangement wherein water from said at least one upper water dispenser is collected in the upper ablution basin, in use;

a lower ablution basin for collecting water, said lower ablution basin being located, in use beneath the upper ablution basin; and

at least one lower water dispenser associated with the lower ablution basin, wherein the at least one lower water dispenser and the lower ablution basin are arranged in an arrangement wherein water from said at least one lower water dispenser is collected in the lower ablution basin, in use.

2. The ablution apparatus as claimed in claim 1, wherein, the upper ablution basin and the lower ablution basin each define a receptacle portion in which the water from the associated water dispenser is collected.

3. The ablution apparatus as claimed in claim 1 or claim 2, wherein said at least one upper water dispenser is in the form of a water dispensing nozzle.

4. The ablution apparatus as claimed in any of the preceding claims, wherein said at least one lower water dispenser is in the form of a water dispensing nozzle.

5. The ablution apparatus as claimed in claim 3 or claim 4, wherein the or each water dispensing nozzle is in the form of an adjustable water dispensing nozzle for adjusting an orifice of the nozzle through which water is delivered.

6. The ablution apparatus as claimed in any one of the preceding claims, wherein the or each water dispensing nozzle is configured for delivering a fine mist spray, in use.

7. The ablution apparatus as claimed in any one of claims 2 to 6, wherein the upper ablution basin includes a pair of opposing lateral extension portions which, in the in use configuration thereof, project upwardly from the receptacle portion of the basin at opposing opposite sides of the receptacle portion.

8. The ablution apparatus as claimed in claim 7, wherein said at least one upper water dispenser comprises one or more pairs of upper water dispensers, each water dispenser of the one or more pairs of upper water dispensers being located on a particular different one of the extension portions of the upper ablution basin.

9. The ablution apparatus as claimed in claim 8, wherein each pair of upper water dispensers is configured and arranged relative to the upper ablution basin such that water dispensed by the upper water dispensers is collected, in use, in the receptacle portion of the of the upper ablution basin, thereby to limit water spillage.

10. The ablution apparatus as claimed in claim 8 or claim 9, wherein a first pair of upper water dispensers comprises a pair of opposing face-level dispensers, each face-level dispenser of the pair of face-level dispensers being located on a particular different one of the opposing lateral extension portions of the upper basin and each being configured and positioned for delivering water to a particular different one of the sides of a user's face, when the user uses the ablution apparatus, in use.

11. The ablution apparatus as claimed in any one of claims 8 to 10, wherein a second pair of upper water dispensers comprise a pair of opposing arm-level water dispensers, each arm-level water dispenser of the pair of arm-level water dispensers being located on a particular different one of the opposing lateral extension portions and each being configured and positioned for delivering water to a particular different side the user's arms, when the user uses the ablution apparatus, in use.

12.The ablution apparatus as claimed in any one of claims 8 to 11, wherein the upper ablution basin includes a back extension portion which extends upwardly from the receptacle portion thereof, the back extension portion extending between the pair of opposing lateral extension portions.

13. The ablution apparatus as claimed in any one of claims 8 to 12, wherein the at least one upper water dispensers include a face-level water dispenser located on the back extension portion at a location between the pair of opposing face-level water dispensers.

14. The ablution apparatus as claimed in any one of claims 2 to 13, wherein the ablution apparatus further includes a faucet having a water outlet located operatively above the receptacle portion of the upper ablution basin.

15. The ablution apparatus as claimed in any one of claims 2 to 14, wherein the lower ablution basin includes a pair of opposing lateral extension portions which project upwardly from the receptacle portion of the lower ablution basin at opposing opposite sides of the receptacle portion thereof.

16. The ablution apparatus as claimed in claim 15, wherein said at least one lower water dispenser comprises one or more pairs of lower water dispensers, each lower water dispenser of the one or more pairs of lower water dispensers being located on a particular different one of the extension portions of the lower ablution basin.

17. The ablution apparatus as claimed in claim 16, wherein each pair of lower water dispensers is configured and arranged relative to the lower ablution basin such that water dispensed by the lower water dispensers is collected, in use, in the receptacle portion of the of the lower ablution basin, thereby to limit water spillage.

18. The ablution apparatus as claimed in claim 16 or claim 17, wherein a first pair of lower water dispensers comprises a pair of opposing feet-level water dispensers, each feet-level water dispenser of the pair of feet-level water dispensers being located on a particular different one of the opposing lateral extension portions and each being configured for delivering water to a particular different one of the sides of a user's feet, when the user uses the ablution apparatus, in use.

19. The ablution apparatus as claimed in claim 17 or claim 18, wherein the lower ablution basin includes a back extension portion which extends upwardly from the receptacle portion of the lower ablution basis, the back extension portion extending between the pair of opposing lateral extension portions.

20. The ablution apparatus as claimed in claim 19, wherein said at least one lower water dispenser includes a feet-level dispenser located on the back extension portion of the lower ablution basin at a location between the pair of opposing feet-level water dispensers.

21. The ablution apparatus as claimed in any one of the preceding claims, wherein the ablution apparatus further includes a pedestal upon which the upper ablution basin and the lower ablution basin are mounted.

22. An ablution system including the ablution apparatus, as claimed in any one of claims 1 to 21; and

at least two motion sensors, each motion sensor of said at least two motion sensors being configured and arranged to activate a particular one or more of said at least one upper water dispenser and said at least one lower water dispenser for controlling dispensing of water therethrough.

23. The ablution system as claimed in claim 22, wherein the motion sensor is in the form of an infra-red sensor.

24. The ablution system as claimed in claim 22 or claim 23 (insofar as claim 22 and claim 23 depends from claim 14), wherein the ablution system includes at least three motion sensors, each motion sensor of said at least three motion sensors being arranged and configured for dispensing water through a particular one of the upper water dispensers, faucet and feet-level water dispensers, in response to motion detection.

25. The ablution system as claimed in claim 24, wherein the ablution system includes a control system for controlling water flow through the water dispensers and faucet.

26. The ablution system as claimed in claim 25, insofar as claim 25 depends from claim 14, wherein the control system comprises said at least three motion sensors and three solenoid valves for controlling water flow, each solenoid valve being associated with a particular one of the upper water dispensers, faucet, and the feet-level water dispensers, and each being configured for controlling water flow therethrough.

27. The ablution system as claimed in claim 26, wherein the ablution system includes a power supply for supplying electrical power to the solenoid valves and the motion sensors.

28. The ablution system as claimed in any one of claims 22 to 27, wherein the ablution system further includes a stool which can be placed, in use, adjacent the lower ablution basin, to facilitate ease of use of the lower ablution basin.

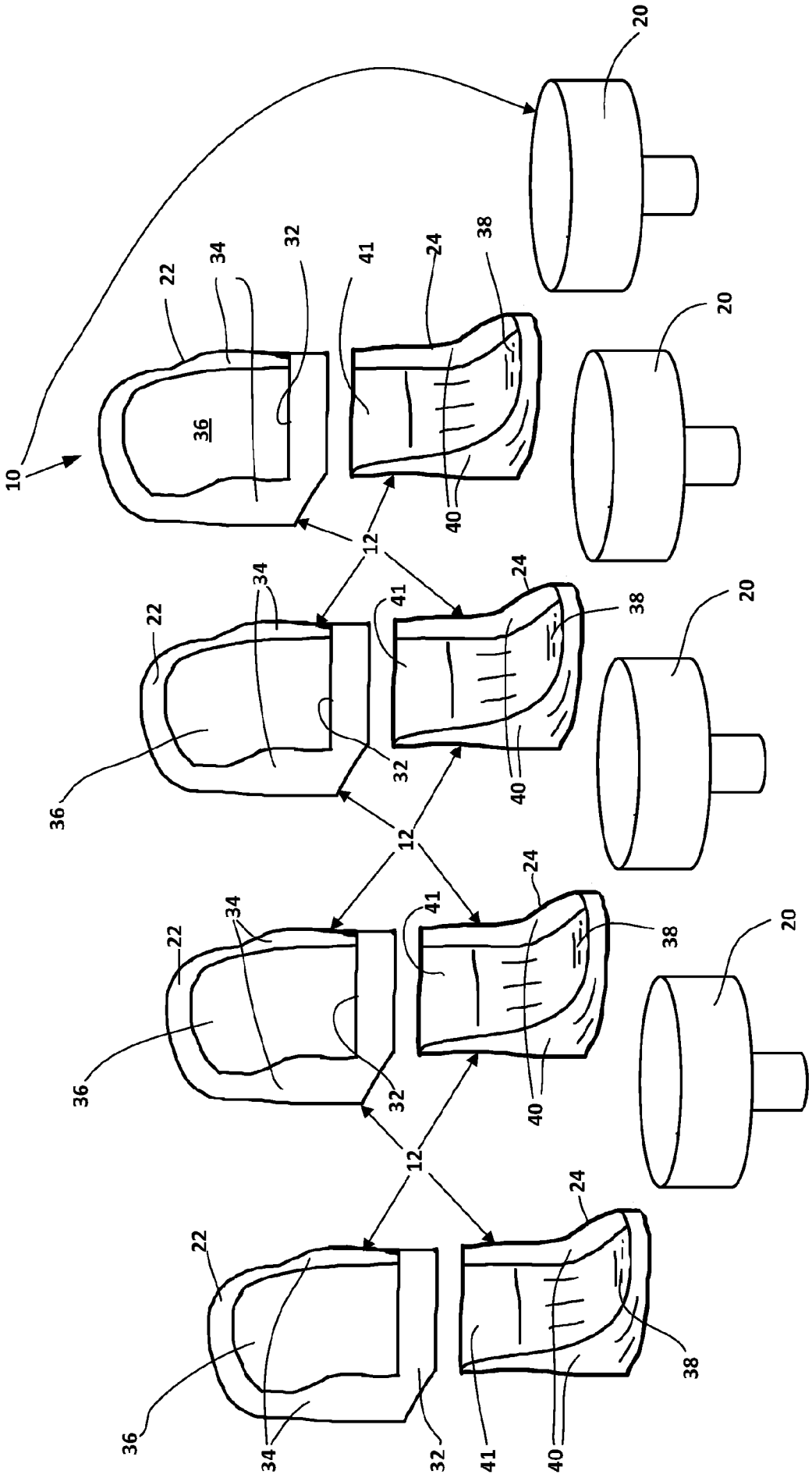


FIG 1

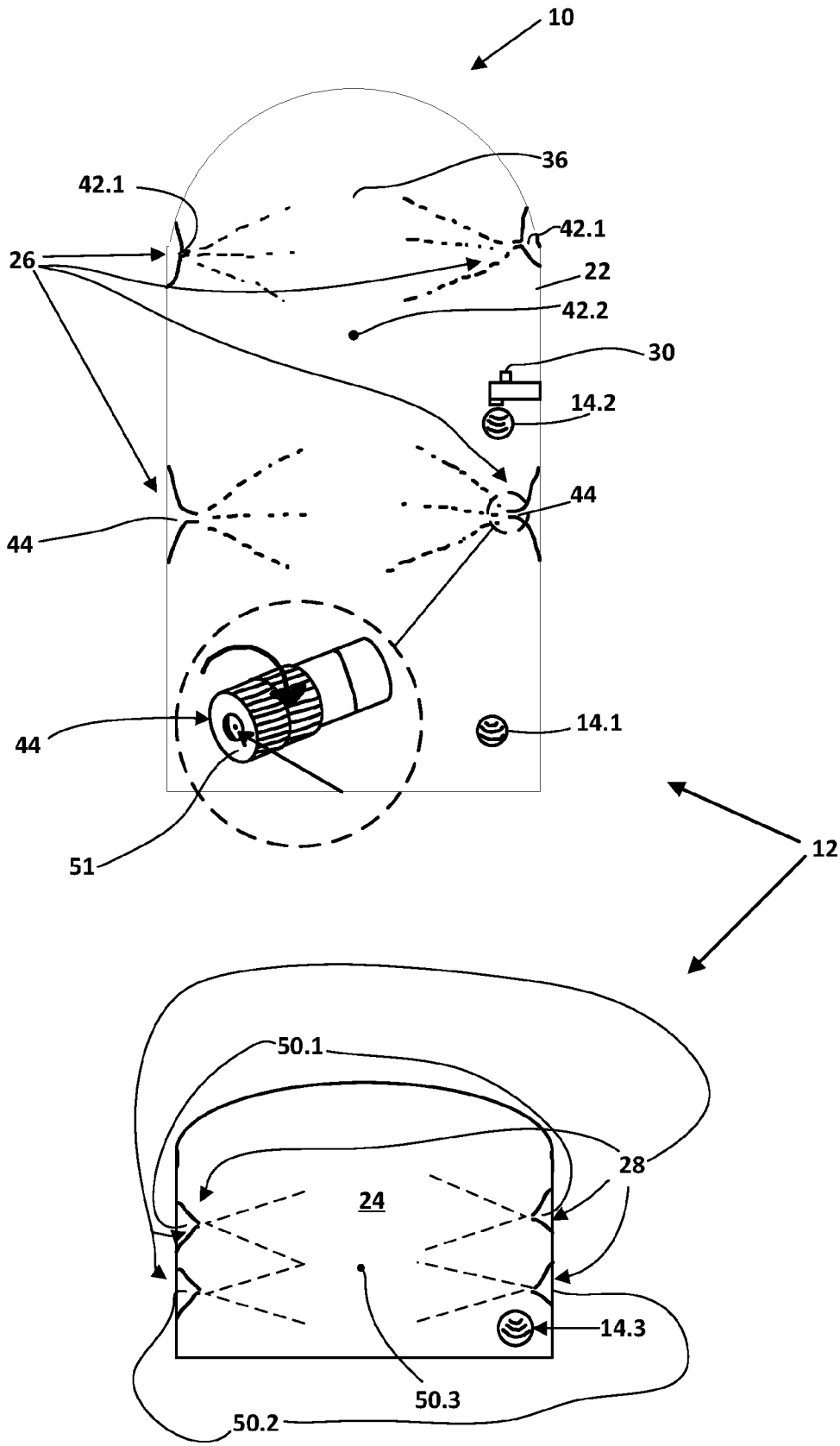
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FIG 2

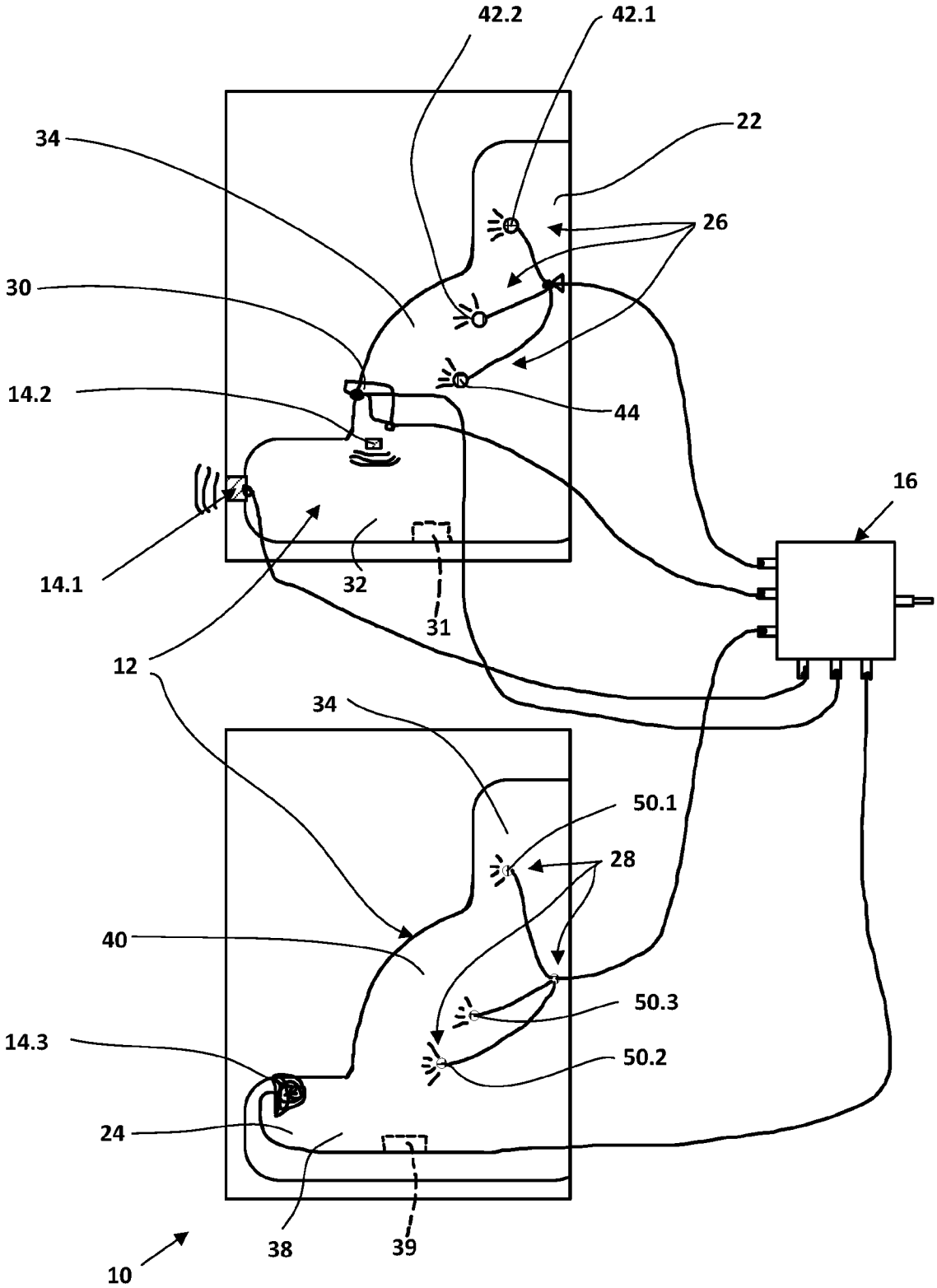
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FIG 3

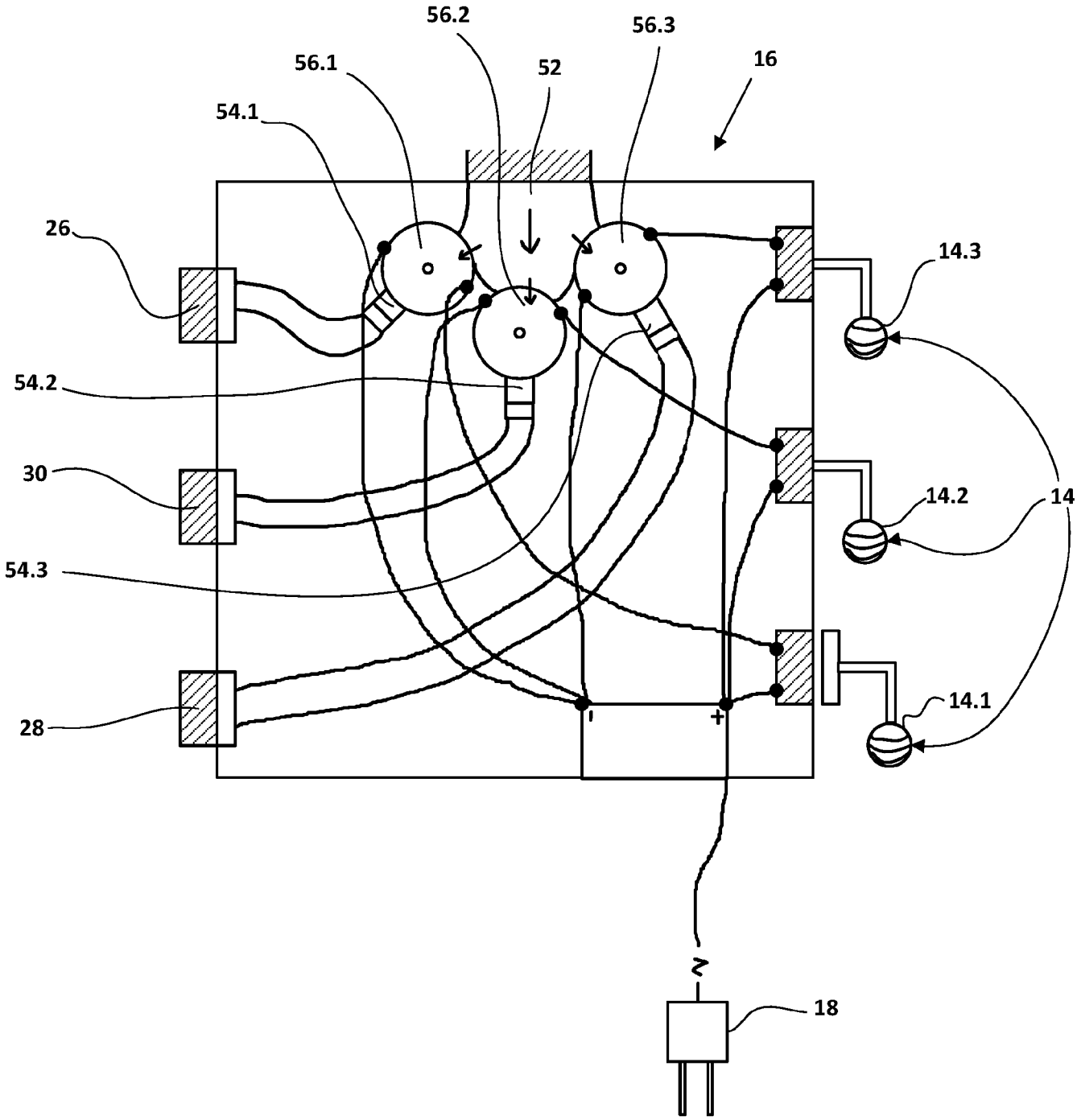


FIG 4

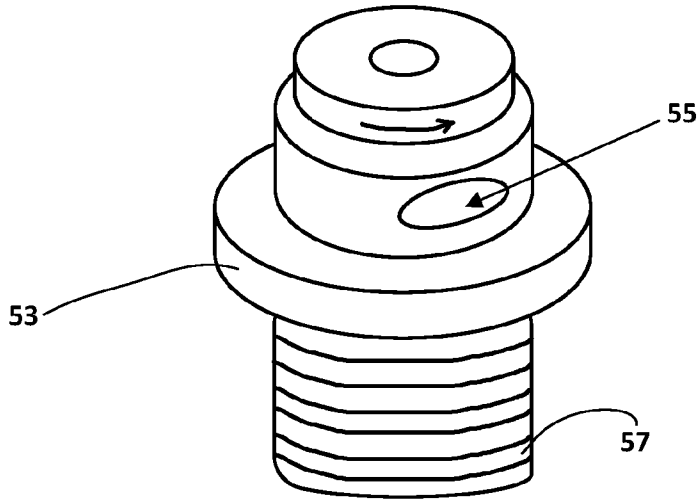


FIG 5

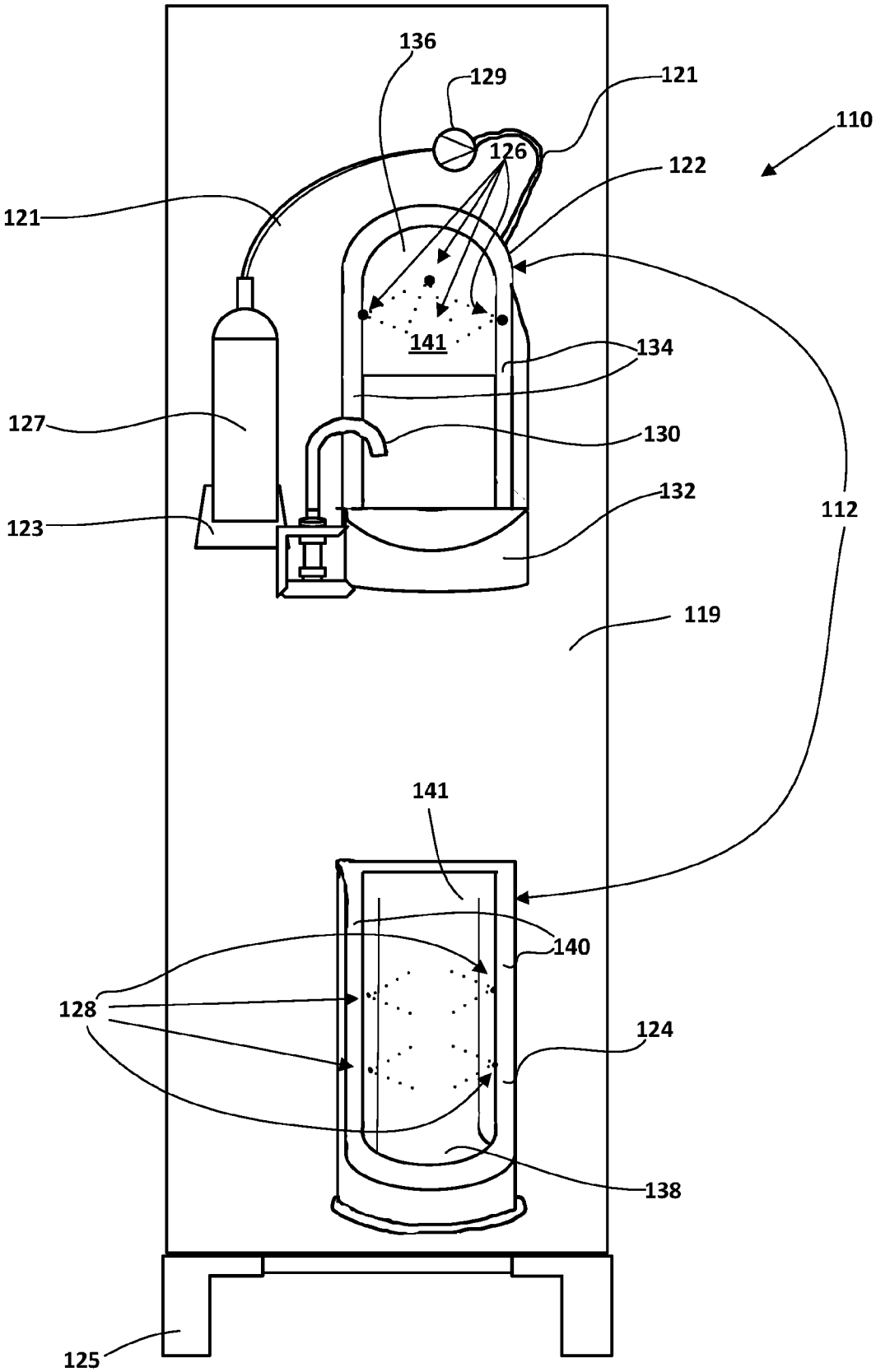
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FIG 6

# INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 2021/060965

A. CLASSIFICATION OF SUBJECT MATTER
IPC: ***A47K 3/022*** (2006.01); ***E03C 1/01*** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A47K, E03C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPIAP, EPODOC, TXTnn

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | US 2014047635 A1 (MASOUD HADI IBRAHIM) 20 February 2014 (20.02.2014)<br>entire document | 1-7,14,15 |
| Y | | 8-13,16-28 |
| X | US 1616313 A (FARMER ARTHUR J) 01 February 1927 (01.02.1927)<br>entire document | 1-7,14,15 |
| X | EP 3524740 A1 (HERIS SERAMIK VE TURIZM SANAYI ANONIM) 14 August 2019 (14.08.2019)<br>entire document | 1-7,14,15 |
| X | CN 201649190 U (BOMIN XUAN) 24 November 2010 (24.11.2010)<br>figures, abstract | 1-7,14,15 |
| Y | WO 2020226868 A1 (AMERICAN UNIV OF SHARJAH) 12 November 2020 (12.11.2020)<br>entire document | 8-13,16-28 |

Further documents are listed in the continuation of Box C. [X] See patent family annex.

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 25 April 2022 (25.04.2022) | 12. May 2022 (12.05.2022 ) |

| Name and mailing address of the ISA/AT | Authorized officer |
|---|---|
| Austrian Patent Office<br>Dresdner Straße 87, A-1200 Vienna<br>Telephone No. +43 (1) 53424 342 | Wagner Sascha<br>Telephone No. +43 1 534 24 381 |

**INTERNATIONAL SEARCH REPORT**

International application No.
PCT/IB 2021/060965

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | WO 2019116332 A1 (HEGRU TRADING CC) 20 June 2019 (20.06.2019)<br>entire document | 1-28 |

**INTERNATIONAL SEARCH REPORT**
Information on patent family members

International application No.
PCT/IB 2021/060965

| Patent document cited in search report | Patent family member(s) | Publication date |
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| | US 9187882 (B2) | 2015-11-17 |
| US 1616313 (A) | US 1616313 (A) | 1927-02-01 |
| EP 3524740 (A1) | EP 3524740 (A1) | 2019-08-14 |
| CN 201649190 (U) | CN 201649190 (U) | 2010-11-24 |
| WO 2020226868 (A1) | WO 2020226868 (A1) | 2020-11-12 |
| WO 2019116332 (A1) | WO 2019116332 (A1) | 2019-06-20 |