

A Coffee Machine And A Method Of Brewing Coffee

Cross-Reference to Related Applications

[0001] The present application claims the benefit of Chinese Patent Application No. CN201911424787A filed December 31, 2019; all of which are incorporated by reference herein.

Technical Field

[0002] The present invention relates to a coffee machine and a method of brewing coffee.

Background

[0003] With the advancement of technology, the technology of coffee machines has improved over the years. Coffee machines have been able to automate the whole process of brewing coffee such as grinding, pressing, filling, brewing, and removing residues.

[0004] However, while there are coffee machines on the market to make various types of coffee, due to the limitation of the machines, it is not possible to achieve the taste and aroma of certain coffee. For example, hand-made Nanyang coffee.

[0005] Hence, the present invention aims to overcome the limitation.

Summary

[0006] According to various embodiments, the present invention provides a coffee machine including a mixing chamber adapted to mix coffee powder in heated water to form a coffee mixture, the mixing chamber includes a chamber inlet adapted to receive the coffee powder, a water inlet adapted to receive the heated water, and a mixture outlet comprising a mixture outlet valve adapted to dispense the coffee mixture. The coffee machine includes an oscillating mechanism including a holder adapted to hold a filter, such that the oscillating mechanism is adapted to oscillate the holder between an upper position and a lower position,

wherein the coffee mixture is being dispensed through the filter to obtain filtered coffee, and a beverage container adapted to contain the filtered coffee, such that the beverage container includes a dispensing valve adapted to dispense the filtered coffee, wherein in the upper position, the filter is disposed above the filtered coffee, and in the lower position, the filter is submerged at least in part in the filtered coffee.

[0007] According to various embodiments, the mixture outlet valve is adapted to be opened to dispense the coffee mixture when the holder is oscillated to the upper position and closed when the holder is away from the upper position.

[0008] According to various embodiments, the coffee machine may further include a fluid pump adapted to pump the heated water into the mixing chamber.

[0009] According to various embodiments, the coffee machine may further include a platform adapted to support a cup for receiving the filtered coffee from the beverage container, such that the platform may include a weight sensor adapted to sense the weight of the cup.

[0010] According to various embodiments, the mixing chamber may include a plurality of mixing elements adapted to mix the coffee powder and the heated water.

[0011] According to various embodiments, the mixing chamber may include a fluid level sensor adapted to sense the level of coffee mixture therein.

[0012] According to various embodiments, the mixture outlet valve may include a through hole and a stopper adapted to close the through hole in a closed position to stop the coffee mixture therethrough, such that the stopper may be biased against the through hole and may be actuated by the holder to an open position by the holder to allow the coffee mixture through when the holder is in the upper position.

[0013] According to various embodiments, the present invention provides a method of brewing coffee. The method includes receiving coffee powder in a coffee chamber, receiving the heated water in the coffee chamber, mixing coffee powder in the heated water to form a

coffee mixture in the mixing chamber, dispensing the coffee mixture through a filter to obtain filtered coffee, oscillating a holder holding the filter between an upper position and a lower position, and dispensing the filtered coffee into a beverage container, such that in the upper position, the filter is disposed above the filtered coffee, and in the lower position, the filter is submerged at least in part in the filtered coffee.

[0014] According to various embodiments, the method may further include opening the mixture outlet valve to dispense the coffee mixture when the holder is oscillated to the upper position and closing the outlet valve when the holder is away from the upper position.

[0015] According to various embodiments, the method may further include pumping the heated water into the mixing chamber.

[0016] According to various embodiments, the method may further include sensing the weight of the cup.

[0017] According to various embodiments, the method may further include sensing the level of coffee mixture in the mixing chamber.

Brief Description of Drawings

[0018] Fig. 1 shows an elevation view of an exemplary embodiment of a coffee machine.

[0019] Fig. 2 shows a perspective view of the coffee machine in Fig. 2.

[0020] Fig. 3 shows an exemplary embodiment of the mixing chamber.

[0021] Fig. 4 shows an exemplary embodiment of a plurality of mixing elements 118E of the mixing chamber.

[0022] Fig. 5A and Fig. 5B shows a partial sectional view of the mixing chamber of Fig. 3.

[0023] Fig. 5C shows an exemplary method of making coffee.

[0024] Fig. 6 shows an exemplary block diagram of the peripheral circuitry of the coffee machine.

[0025] Fig. 7 shows a schematic diagram of the power supply circuit and the filter circuit.

[0026] Fig. 8 shows a schematic diagram of the weighing circuit.

[0027] Fig. 9 shows a schematic diagram of the keyboard interface circuit.

[0028] Fig. 10A and Fig. 10B show a schematic diagram of the input circuit.

[0029] Fig. 11A – Fig. 11C show a schematic diagram of the output amplifier circuit.

[0030] Fig. 12 shows a schematic diagram of the communication circuit.

Detailed Description

[0031] Fig. 1 shows an elevation view of an exemplary embodiment of a coffee machine 100. Coffee machine 100 includes a mixing chamber 110 adapted to mix coffee powder in heated water to form a coffee mixture, the mixing chamber 110 includes a chamber inlet 110N adapted to receive the coffee powder, a water inlet (not shown in Fig. 1) adapted to receive the heated water, and a mixture outlet (not shown in Fig. 1) having a mixture outlet valve (not shown in Fig. 1) adapted to dispense the coffee mixture. The coffee machine 100 includes an oscillating mechanism 120 including a holder 122 adapted to hold a filter (not shown in Fig. 1), such that the oscillating mechanism 120 is adapted to oscillate the holder 122 between an upper position and a lower position, such that the coffee mixture is being dispensed through the filter to obtain filtered coffee, and a beverage container (hidden) adapted to contain the filtered coffee, such that the beverage container includes a dispensing valve (not shown in

Fig. 1) adapted to dispense the filtered coffee, such that in the upper position, the filter is disposed above the filtered coffee, and in the lower position, the filter is submerged at least in part in the filtered coffee.

[0032] Coffee machine 100 may include a housing 102 adapted to house the abovementioned components of the coffee machine 100. Coffee machine 100 may be segregated into a plurality of portions. Coffee machine 100 may include a water preparation portion 102A for preparing the heated water, a beverage portion 102B for holding the coffee. Water preparation portion 102A may be at the top portion of the housing 102. Beverage portion 102B may be disposed below the water preparation portion 102A and may be at the bottom portion of the housing 102.

[0033] Coffee machine 100 may include a water heater 140 adapted to heat the water to a pre-determined temperature. Mixing chamber 110 may be disposed below the water heater 140 so that water dispensed from the water heater 140 may be received by the mixing chamber 110 by gravity. Oscillating mechanism 120 may be disposed below the mixing chamber 110. Oscillating mechanism 120 may oscillate the holder 122 between the upper position and the lower position. Filter 124 may be attached to the holder 122 such that the filter 124 may be oscillated between the upper position and the lower position at the same time the holder 122 is being oscillated. Beverage container 130 may be disposed below the oscillating mechanism 120. Coffee machine 100 may include a platform 150 adapted to support a cup 20 for receiving the filtered coffee from the beverage container 130. Platform 150 may be disposed below beverage container 130 and spaced from the beverage container 130 so that the cup 20 may be placed therebetween.

[0034] Water heater 140 may be disposed at the top portion of the housing 102 so that the heated water may flow into the mixing chamber 110 which is disposed in the housing 102 under gravity. Water heater 140 may be disposed at the water preparation portion 102A. Water heater 140 may include a water inlet valve (not shown in Fig. 1) adapted to control the inflow of water thereinto. Water heater 140 may include a water filter (not shown in Fig. 1) adapted to filter the water entering the water heater 140. Water heater 140 may include a water outlet valve (not shown in Fig. 1) adapted to control the dispensation of the heated

water. Water heater 140 may include a thermal sensor to sense the temperature of the heated water. Coffee machine 100 may include a fluid pump adapted to pump the heated water from the water heater 140 into the mixing chamber 110. When the heated water is pumped into the mixing chamber 110, the heat water impacts the coffee powder to simulate the brewing process of the coffee powder when the coffee is brewed. Water heater 140 may be connected to piped water supply or a water tank. Water heater 140 may include a flow meter to detect the flow rate of the heated water.

[0035] Fig. 2 shows a perspective view of the coffee machine 100 in Fig. 2. As shown in Fig. 2, the holder 122 may be adapted to hold the filter 124. Oscillating mechanism (not shown in Fig. 2) may lower the holder 122 such that the filter 124 may be lowered into the beverage container 130 (in the lower position) or raise the holder 122 to lift the filter 124 to be above the beverage container 130 (in the upper position). When the filter 124 is in the beverage container 130, the coffee residue may be soaked in the filtered coffee in the beverage container 130. When the filter 124 is above the beverage container 130, the coffee residue may be out of the filtered coffee in the beverage container 130. Platform 150 may include a sink adapted to receive overflow coffee from the cup 20 and a perforated layer extending over the sink and adapted to support the cup 20 thereon. Platform 150 may include a drainage opening at the bottom of the sink and connected to a drainage pipe for draining the content in the sink. Platform 150 may include a weight sensor adapted to sense the weight of the cup 20 of filtered coffee.

[0036] Coffee machine 100 may include a second fluid pump, and a second water outlet valve, which may be connected to the controller. Controller may be configured to control the second fluid pump and second water outlet valve to control the amount of heated water into the mixing chamber 110 in addition to the heated water from the fluid pump and the water outlet valve.

[0037] Fig. 3 shows an exemplary embodiment of the mixing chamber 110. Mixing chamber 110 may include a container 110C, a chamber inlet 110N adapted to receive the coffee powder, the water inlet (not shown in Fig. 3) in fluid communication with the water heater 140 and adapted to receive heated water thereinto, and the mixture outlet 110U adapted to

discharge the coffee mixture. Chamber inlet 110N may include an up-facing funnel adapted to receive and channel the coffee powder thereinto. Mixing chamber 110 may include a mixture inlet valve 112 adapted to control the inflow of heater water thereinto. Mixture chamber 110 may include a mixture outlet valve 114 adapted to control the dispensing of the coffee mixture.

[0038] Fig. 4 shows an exemplary embodiment of a plurality of mixing elements 118E of the mixing chamber 110. Mixing chamber 110 may include the plurality of mixing elements 118E adapted to mix the coffee powder and the heated water. Mixing chamber 110 may include a motor adapted to rotate the plurality of mixing elements 118E. Each of the plurality of mixing elements 118E may include a hook profile so as to achieve a better mixing effect as the bottom portion of each blade has a wider surface area and is able to stir the coffee powder easier and mix it better. As shown in Fig. 4, there may be four mixing elements 118E. There may be more or less than four mixing elements 118E. Mixing chamber 110 may include a fluid level sensor 119 adapted to sense the level of heated water therein.

[0039] Fig. 5A and Fig. 5B shows a partial sectional view of the mixing chamber 110 of Fig. 3. Fig. 5A and Fig. 5B shows an exemplary embodiment of the mixture outlet valve 114. Mixture outlet valve 114 may be adapted to be opened to dispense the coffee mixture when the holder 122 is oscillated to the upper position and closed when the holder 122 is away from the upper position. Referring to Fig. 5A, the mixture outlet valve 114 may include a through hole 114T and a stopper 114S adapted to close the through hole 114T, e.g. abut against the container 110C, in a closed position to stop the coffee mixture therethrough, such that the stopper 114S is biased against the through hole 114T. Referring to Fig. 5B, the stopper 114S may be actuated by the holder (not shown in Fig. 5B) to an open position by the holder to allow the coffee mixture through when the holder is in the upper position. Mixing chamber 110 may include a resilient member 114R adapted to bias the stopper 114S against the through hole 114T. Stopper 114S may include a shoulder 114SS adapted to abut the resilient member 114R. Resilient member 114R may be compressed and disposed between the shoulder 114SS and the container 110C. Holder may be adapted to push the shoulder 114SS of the stopper 114S upwards (as shown by the arrow) when oscillated towards the upper position and indirectly compresses the resilient member 114R and displaces the stopper

114S away from the container 110C to open the through hole 114T to allow the coffee mixture to flow therethrough. When the holder is being oscillated away from the upper position, the resilient member 114R may be uncompressed and biased the stopper 114S against the container 110C thus closing the through hole 114T to cease the flow of the coffee mixture through the through hole 114T. Resilient member 114R may include a spring. As shown in Fig. 5A, the container 110C of the mixing chamber 110 may include an inclined base to channel the coffee mixture towards the through hole 114T.

[0040] Referring to Fig. 1, the oscillating mechanism 120 may include an actuator (not shown in Fig. 1) adapted to actuate the holder 122 between the upper position and lower position. Holder 122 may be attached to the oscillating mechanism 120. Filter 124 may be attached to the holder 122. Filter 124 may include a ring frame and a V-shaped sock extending away or downwardly from the ring frame. Holder 122 maybe a ring such that the ring frame may be adapted to rest on the ring and the sock is adapted to extend through the ring towards the beverage container 130. When the coffee mixture is dispensed through the filter 124, the coffee residue may be retained within the sock and filtered coffee may be contained in the beverage container 130.

[0041] Beverage container 130 may be disposed in the beverage portion 102B. Beverage container 130 may include an opening at the top part thereof and the dispensing valve may be disposed at the bottom part opposite the top part. Beverage container 130 may include a drainage outlet adapted to drain the filtered coffee. Beverage container 130 may include a beverage temperature sensor configured to sense the temperature of the filtered coffee being dispensed from the beverage container 130. Beverage container 130 may include a drainage valve adapted to drain unwanted filtered coffee. Beverage container 130 may include a level sensor to sense the level of filtered coffee in the beverage container 130.

[0042] Coffee machine 100 may include a controller configured to control the operation thereof. Controller may include a processor, a memory in communication with the processor for storing instruction executable by the processor, an operating system and control program stored in the memory. Control program may be configured to control the processor to execute instruction to control the operation of the coffee machine 100. Controller may be configured to communicate with the thermal sensor to receive the temperature data of the heated water,

the fluid pump to control the pump pressure and impact time of the heated water into the mixing chamber 110 to control the taste of the coffee, the water inlet valve to control the water supply into the water heater 140, the water outlet valve to control the heated water out of the water heater 140, the flow meter to receive the flow rate data of the heated water. Controller may be configured to communicate with the mixture inlet valve 112 to control the inflow of heated water into the mixing chamber 110, the mixture outlet valve 114 to control the outflow of coffee mixture out of the mixing chamber 110, the motor to control the spin rate of the plurality of mixing elements 118E, the fluid level sensor 119 to receive the level data of the coffee mixture in the mixing chamber 110. Controller may be configured to communicate with the actuator of the oscillating mechanism 120 to control the oscillation of the holder 122 between the upper position and the lower position. Controller may be configured to communicate with the weight sensor of the platform 150 to receive the weight data of the cup 20 and the filtered coffee therein, the dispensing valve to control the dispensing of the filtered coffee, the beverage temperature sensor to receive the temperature data of the filtered coffee that is being dispensed, the drainage valve to control the discharge of unwanted filtered coffee, the level sensor to receive the level data of the filtered coffee in the beverage container 130. Processor may include a 51 ARM or STM8 chip. Preferably, the 51 ARM chip is used. The abovementioned valves may be solenoid valves.

[0043] Referring to Fig. 1 and Fig. 2, the coffee machine 100 may include a tea machine 200 adapted to brew tea. Housing 102 may include the tea machine 200. Tea machine 200 may include a similar set up as the coffee machine 100. Tea machine 200 may be in fluid connection with the water heater 140 to receive heated water for brewing the tea. Water heater 140 may include another water outlet valve adapted to control the flow of heated water into a tea bag 224. Water heater 140 may include another flow meter adapted to measure the flow rate of the heated water into the tea bag 224. Tea machine 200 may include the oscillating mechanism 120 adapted to oscillate the holder 122, such that the holder 122 is adapted to hold the tea bag 224. Oscillating mechanism 220 may be adapted to oscillate the holder 222 between the upper position and the lower position, such that in the upper position, the tea bag 224 may be above the brewed tea in the beverage container 230 and in the lower position, the tea bag 224 may be in the brewed tea. Oscillating mechanism 120 may be disposed below the another water outlet valve, such that the holder 122 may be disposed below the another water outlet valve so that the tea bag 224 may receive the heated water

discharged from the another water outlet valve. Tea machine 200 may include the beverage container 230 adapted to contain brewed tea. Tea machine 200 may include a circulating pump adapted to circulate the brewed tea from the beverage container 230 back to the another water outlet valve to discharge the brewed tea into the tea bag 224. The another water outlet valve may be a three-way valve adapted to be in fluid communication with the water heater 140 and the circulating pump and discharge the heated water or the brewed tea into the tea bag 224. Beverage container 230 may include a drainage opening with a drainage valve connected to the drainage pipe to drain unwanted brewed tea. Beverage container 130 may include another dispensing valve adapted to dispense the brewed tea into the cup 20. The another dispensing valve may be connected to the dispensing valve such that brewed tea may be dispensed via the another dispensing valve. The another flow meter, the oscillating mechanism 220, the another outlet valve, the circulating pump, the drainage valve and the another dispensing valve may be connected to the controller to be monitored and controlled. Tea machine 200 may include the platform 250 as described for the coffee machine 100, e.g. the platform 250 may include a weight sensor. Water heater 140 may include another second fluid pump and another second water outlet valve connected to the controller. Controller may control the another second fluid pump and the another second water outlet valve to control the amount of heated water into the tea bag 224 in addition to heated water from the another fluid pump and the another water outlet. Beverage container 230 may include a level sensor to sense the level of brewed tea in the beverage container 130. Level sensor may be connected to the controller to transmit the level data thereto.

[0044] Tea machine 200 may be operated similarly to the coffee machine 100. Instead, the tea machine 200 may circulate the brewed tea in the beverage container back into the tea bag if thicker brewed tea is required.

[0045] Coffee machine 100 may include a control panel 160 configured to communicate with the controller. Control panel 160 may include a keyboard interface to receive user input. Control panel 160 may include an indicator, e.g. a light, adapted to indicate that coffee powder is required in the mixing chamber 110. Indicator may be connected to the controller. Coffee machine 100 may include a heated water faucet 170, which may be in fluid communication with the water heater 140. Coffee machine 100 may include a cold water faucet 172. Cold water faucet 172 may be in fluid communication with the water supply of

the water heater 140. Coffee machine 100 may include castor wheels 104 attached to the housing 102 to allow the coffee machine 100 to be displaceable.

[0046] Coffee machine 100 is designed to be compact and reduce the time and resources in brewing the coffee while achieving the desired taste and aroma of the coffee.

[0047] Fig. 5C shows an exemplary method 1000 of making coffee. Coffee powder may be received into the mixing chamber 110 via the chamber inlet 110N in block 1010. Coffee powder may be received manually (from a user) or automatically via a powder dispenser in block 1020. Coffee machine 100 may channel the heated water from the water heater 140 into the mixing chamber 110 by opening the water outlet valve. Coffee machine 100 may activate the fluid pump to pump the heated water into the mixing chamber 110 for a pre-determined pressure and duration. Coffee machine 100 may mix the coffee powder in the heated water to form the coffee mixture in the mixing chamber 110 in block 1030. Coffee machine 100 may sense the level of the coffee mixture in the mixing chamber 110 via the fluid level sensor 119 and control the water outlet valve to control the amount of heated water into the mixing chamber 110. Coffee machine 100 may sense the temperature of the heated water and heat the water to a pre-determined temperature. Coffee machine 100 may sense the flow rate of the heated water and control the fluid pump to control the flow rate of the heated water into the mixing chamber 110. Coffee machine 100 may control the rotation speed of the motor to control the speed of rotation of the mixing elements 118E and the duration of the mixing.

[0048] Coffee machine 100 may activate the oscillating mechanism 120 to the upper position to open the mixture outlet valve 114 to dispense the coffee mixture from the mixing chamber 110. Coffee mixture may be dispensed through the filter 124 to obtain filtered coffee in block 1040. Filtered coffee may be collected in the beverage container 130. Depending on the conditions required for brewing the filtered coffee, the coffee machine 100 may activate the second fluid pump and the second water outlet valve to dispense more heated water into the mixing chamber 110. As the coffee mixture is being dispensed into the filter 124, the coffee machine 100 may activate the oscillating mechanism 120 to oscillate the holder 122 towards the lower position, whereby the filter 124 may be partially submerged in the filtered coffee in the beverage container 130. At the same time when the holder 122 is away from the mixture outlet valve 114, the mixture outlet valve 114 may be closed, and the dispensing of the coffee

mixture may be ceased. After the dispensing of the coffee mixture is ceased, the coffee machine 100 may drain the coffee mixture from the mixing chamber 110.

[0049] Coffee machine 100 may oscillate the holder 122 between the upper position and lower position without reaching the upper position to dip the filter 124 into and out of the filtered coffee in the beverage container 130. Coffee machine 100 may be programmed to oscillate the holder 122 for a pre-determined duration based on the taste of the filtered coffee to be achieved. Coffee machine 100 may detect the presence of the cup 20 by sensing the weight of the cup 20. If the cup 20 is present, the coffee machine 100 may activate the dispensing valve to dispense the filtered coffee into the cup 20. Coffee machine 100 may monitor the weight of the cup 20 with the filtered coffee until a pre-determined weight is reached before turning off the dispensing valve. Coffee machine 100 may detect the level of filtered coffee in the beverage container 130 to determine if there is sufficient filtered coffee to be dispensed into a cup 20. Coffee machine 100 may drain the filtered coffee from the beverage container 130 via the drainage valve when the filtered coffee remains in the beverage container 130 for a pre-determined duration to maintain the freshness of the filtered coffee. Coffee machine 100 may sense the temperature of the filtered coffee and drain the filtered coffee if the temperature of the filtered coffee is below a pre-determined temperature.

[0050] Fig. 6 shows an exemplary block diagram of the peripheral circuitry 600 of the coffee machine 100. Peripheral circuitry 600 may be connected to the processor 602. Peripheral circuitry 600 may include a power supply circuit 610 and a filter circuit 620 for supplying the processor and other peripheral circuits power supply, a weighing circuit 630 for weighing the weight of the filtered coffee, a fluid level detection circuit 640 for detecting the coffee mixture level in the mixing chamber 110, a keyboard interface circuit 650 for receiving input instruction from the control panel 160, a communication circuit 660 mainly for communicating between different control systems and communication with external devices, e.g. computers, an input circuit 670 for detecting external input signals, an output amplifier circuit 680 for increasing the output capability of the IO port, an analog circuit 690 for reading the temperature value of the temperature sensors.

[0051] Fig. 7 shows a schematic diagram of the power supply circuit 610 and the filter circuit 620. Coffee machine 100 may include a power source. Power source may be of 220V alternating current, which outputs 24V through a switch circuit. Power source is supplied to the power supply circuit 610 and the filter circuit 620. Power supply circuit 610 and the filter circuit 620 may be configured to convert the power source to an output power supply of 12V, 5V and 3.3V.

[0052] Fig. 8 shows a schematic diagram of the weighing circuit 630. Weighing circuit 630 comprises an analog/digital (A/D) converter chip dedicated to HX711 electronic scale, a DOUT pin connected to the processor 602, a PDSLK pin connected to a clock signal, a INA and INB pin connected to the weight sensor.

[0053] Fig. 9 shows a schematic diagram of the keyboard interface circuit 650. Keyboard interface circuit 650 may be configured to receive input information from the keyboard interface. Keyboard interface circuit 650 may include an 8-channel digital isolator chip, IN1-5 configured to change according to the voltage input of the KIN1-5 pin. The voltage may be high or low. When the voltage is lower than 3.3V, a LED light may be turned on.

[0054] Fig. 10A and Fig. 10B show a schematic diagram of the input circuit 670. Input circuit 670 may include a photoelectric isolation input circuit. Input circuit 670 may be configured to detect external input signals. Input circuit 670 may include PS2801-4 optical coupler chip for synchronizing input and output levels.

[0055] Fig. 11A-Fig. 11C show a schematic diagram of the output amplifier circuit 680. Output 680 may be configured to increase the output capability of the IO port.

[0056] Fig. 12 shows a schematic diagram of the communication circuit 660. Communication circuit 660 may be configured to communicate between different control systems and with an external computer, e.g. setting the weight of each cup 20 of coffee and the ratio between coffee and heated water via the external computer. Communication circuit 660 may include SP202EEN datasheet and may use the dual way RS232 transceiver settings for communication.

[0057] A skilled person would appreciate that the features described in one example may not be restricted to that example and may be combined with any one of the other examples.

[0058] In the following examples, reference will be made to the figures, in which identical features are designated with like numerals.

[0059] The present invention relates to a coffee machine and a method of brewing coffee generally as herein described, with reference to and/or illustrated in the accompanying drawings.

Claim

1. A coffee machine comprising:
 - a mixing chamber adapted to mix coffee powder in heated water to form a coffee mixture, the mixing chamber comprising a chamber inlet adapted to receive the coffee powder, a water inlet adapted to receive the heated water, and a mixture outlet comprising a mixture outlet valve adapted to dispense the coffee mixture,
 - an oscillating mechanism comprising a holder adapted to hold a filter, wherein the oscillating mechanism is adapted to oscillate the holder between an upper position and a lower position, wherein the coffee mixture is being dispensed through the filter to obtain filtered coffee, and
 - a beverage container adapted to contain the filtered coffee, wherein the beverage container comprises a dispensing valve adapted to dispense the filtered coffee,
 - wherein in the upper position, the filter is disposed above the filtered coffee, and in the lower position, the filter is submerged at least in part in the filtered coffee.
2. The coffee machine of claim 1, wherein the mixture outlet valve is adapted to be opened to dispense the coffee mixture when the holder is oscillated to the upper position and closed when the holder is away from the upper position.
3. The coffee machine of claim 1 or 2, further comprising a fluid pump adapted to pump the heated water into the mixing chamber.
4. The coffee machine of any one of claims 1 to 3, further comprising a platform adapted to support a cup for receiving the filtered coffee from the beverage container, wherein the platform comprises a weight sensor adapted to sense the weight of the cup.
5. The coffee machine of any one of claims 1 to 4, wherein the mixing chamber comprises a plurality of mixing elements adapted to mix the coffee powder and the heated water.

6. The coffee machine of any one of claims 1 to 5, wherein the mixing chamber comprises a fluid level sensor adapted to sense the level of coffee mixture therein.
7. The coffee machine of claim 1, wherein the mixture outlet valve comprises a through hole and a stopper adapted to close the through hole in a closed position to stop the coffee mixture therethrough, wherein the stopper is biased against the through hole and is actuated by the holder to an open position by the holder to allow the coffee mixture through when the holder is in the upper position.
8. A method of brewing coffee, the method comprising:
 - receiving coffee powder in a coffee chamber,
 - receiving the heated water in the coffee chamber,
 - mixing coffee powder in the heated water to form a coffee mixture in the mixing chamber,
 - dispensing the coffee mixture through a filter to obtain filtered coffee,
 - oscillating a holder holding the filter between an upper position and a lower position, and
 - dispensing the filtered coffee into a beverage container,
 - wherein in the upper position, the filter is disposed above the filtered coffee, and in the lower position, the filter is submerged at least in part in the filtered coffee.
9. The method of claim 8, further comprising opening the mixture outlet valve to dispense the coffee mixture when the holder is oscillated to the upper position and closing the outlet valve when the holder is away from the upper position.
10. The method of claim 8 or 9, further comprising pumping the heated water into the mixing chamber.
11. The method of any one of claims 8 to 10, further comprising sensing the weight of the cup.
12. The method of any one of claims 8 to 11, further comprising sensing the level of coffee mixture in the mixing chamber.