

## AUTOMATED TOILET CLEANING DEVICE

The current application claims a priority to the U.S. provisional patent application  
5 serial number 63/594,339 filed on October 30 2023.

### FIELD OF THE INVENTION

10 The present invention generally relates to an automated toilet cleaning device.  
More specifically, the present invention is a device that consistently dispenses the  
appropriate amount of toilet cleaning solution into a toilet tank without hands-on  
intervention, and without any battery or external power sources.

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### BACKGROUND OF THE INVENTION

Toilet cleaning systems encompass a range of solutions designed to enhance  
bathroom cleanliness and hygiene while reducing the manual effort required for  
20 maintenance. Automatic flush systems, for instance, activate the toilet's flush mechanism  
without user intervention, minimizing contact with potentially contaminated surfaces and  
aiding in germ control. Self-cleaning toilets feature mechanisms like UV light  
disinfection or specialized coatings to sanitize the toilet bowl and surfaces. Bidet  
attachments provide water-based cleansing after toilet use, offering a hygienic alternative  
25 to traditional toilet paper. Sensor-activated dispensers control the release of toilet paper,  
reducing touchpoints and waste. Hand dryers and touchless fixtures further promote hand  
hygiene and minimize germ transmission. Overall, these systems aim to improve  
sanitation, user comfort, and convenience in bathrooms across various settings.

It has long been known, that the automated toilet cleaning tablets that many  
30 companies produce, cause serious problems and damage to the rubber gaskets, seals and  
other parts within a toilet, as well as clog the flush valve and fill valve in toilets. The

harmful chemicals, which dissolve at inconsistent rates during the life of the tablet, can cause chemical overload in the toilet tanks during the initial phase of the tablet, and then underperform during the mid and late-stage lifecycle of the tablet. This can cause further damage to the toilet and connected systems. These tablets also require a higher level of  
5 direct hands-on interaction/contact with the chemical elements. Other current automated toilet cleaning products, such as gels, toilet bowl rim attachments, etc., do not bring the actual cleaning solution in contact with the entire desired treatment area, allow human waste residue to accumulate on them, need to be manually applied to the dirty area, are inconsistent in their dosage concentrations per flush, and contain harmful chemicals that  
10 damage the toilets and the systems that the toilets are connected to. The current bottled liquid toilet cleaners which are hung upside-down or fixed into a submerged stand in the toilet tanks are equally inconsistent in their dosage guarantees, require direct hands-on interaction/contact to the chemical affected area, and still contain harmful chemicals that can damage the toilet and the systems that the toilets are connected to.

15 An objective of the present invention is to provide users with a system that is hands-free and without external power, automatically injects the correct amount of cleaning solution during each flush of the toilet. The present invention intends to provide users with a device that cleans and disinfects in a consistent manner to keep the toilet tank and bowl clean and safe. In order to accomplish that, a preferred embodiment of the  
20 present invention comprises a fluid reservoir housing, a water inlet tube, two flow control valves, a check valve, a fluid reservoir outlet assembly, a venturi manifold, and a biodegradable liquid toilet cleaning solution. Thus, the present invention is an automated toilet cleaning system that consistently cleans a toilet during each flush without damaging or clogging parts of the toilet.

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## SUMMARY OF THE INVENTION

The present invention is an automated toilet cleaning system to help with  
30 providing the proper amount of cleaning solution to a toilet. The present invention seeks to provide users with a system that consistently cleans and disinfects a toilet without

external power sources. In order to accomplish this the present invention comprises a fluid reservoir housing which holds a cleaning solution. Further, the water inlet tube flow control valve regulates the amount of water that flows into the fluid reservoir housing inlet assembly. Additionally, the fluid reservoir outlet assembly controls the water/fluid mixture leaving the fluid reservoir housing. Further, the fluid outlet flow control valve regulates the cleaning solution fluid volume into the venturi manifold and the check valve only allows fluid flow when the venturi manifold creates a suction to pull the fluid into the venturi manifold chamber where the water and fluid mix to ensure there is no clogging. Thus, the present invention is an automated toilet cleaning system that consistently cleans a toilet during each flush without damaging or clogging parts of the toilet.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of the present invention for a toilet with a tank.  
FIG. 2 is a rear perspective view thereof.  
FIG. 3 is a side view thereof.  
FIG. 4 is an exploded view thereof.  
FIG. 5 is a block diagram thereof.  
FIG. 6 is a block diagram thereof using a hydraulic pump and a mechanical pump.  
FIG. 7 is a block diagram thereof using a hydraulic generator and a mechanical pump.  
FIG. 8 is a front perspective view of the present invention for a tankless toilet or a urinal.  
FIG. 9 is a rear perspective view thereof.  
FIG. 10 is a side view thereof.  
FIG. 11 is an exploded view thereof.  
FIG. 12 is a block diagram thereof.  
FIG. 13 is a flow diagram view of the present invention.  
FIG. 14 is a flow diagram view of the present invention.  
FIG. 15 is a flow diagram view of the present invention.  
FIG. 16 is a top front right perspective view of the present invention.

FIG. 17 is a bottom rear left perspective view of the present invention.

FIG. 18 is a front view of the present invention.

FIG. 19 is a rear view of the present invention.

FIG. 20 is a right-side view of the present invention.

5 FIG. 21 is a left-side view of the present invention.

FIG. 22 is a top view of the present invention.

FIG. 23 is a bottom view of the present invention.

10 DETAILED DESCRIPTION OF THE INVENTION

All illustrations of the drawings are for the purpose of describing selected versions of the present invention and are not intended to limit the scope of the present invention.

15 As can be seen in FIGS. 1-12, an automated toilet cleaning device is an apparatus that dispenses a proper amount of cleaning solution into the water that is refilling an excrement-related plumbing fixture (e.g., a toilet tank, a toilet bowl, or a urinal). Thus, the automated toilet cleaning device comprises a source bypass 2, a fluid reservoir 10, a venturi manifold 12, a bypass flow-control mechanism 20, a reservoir flow-control  
20 mechanism 26, a flow-check valve 50, and a discharging port 52. The source bypass 2 allows water from the internal workings of an excrement-related plumbing fixture to flow through the present invention and to be tapped by the present invention. The fluid reservoir 10 is used to retain a quantity of liquid antiseptic agent 54, which may further compose an aesthetic coloring, an aromatic agent, or a combination thereof. The venturi  
25 manifold 12 uses Bernoulli's principle to mix a proper amount of water tapped from the source bypass 2 and a proper amount of liquid antiseptic agent 54 from the fluid reservoir 10. The venturi manifold 12 also uses Bernoulli's principle to output a quantity of cleaning solution that is then dispensed by the discharging port 52 into water retained for flushing by an excrement-related plumbing fixture. The bypass flow-control mechanism  
30 20 is used to adjust a flow rate of water entering the venturi manifold 12 from the source bypass 2. The reservoir flow-control mechanism 26 is used to adjust a flow rate of liquid

antiseptic agent entering the venturi manifold **12** from the fluid reservoir **10**. The flow-check valve **50** is used to toggle between allowing a liquid antiseptic agent to flow from the fluid reservoir **10** into the venturi manifold **12** and preventing the liquid antiseptic agent to flow from the fluid reservoir **10** into the venturi manifold **12**.

5           In order to route fluid through the source bypass **2**, the source bypass **2** comprises a bypass inlet **4**, a bypass outlet **6**, and a bypass tap **8**. The bypass inlet **4** allows water to enter the source bypass **2**. The bypass outlet **6** allows water to exit the source bypass **2**. The bypass tap **8** allows a bit of water flowing through the source bypass **2** to be used for a cleaning solution. As a first example, if an excrement-related plumbing fixture is a  
10   toilet with a tank, a refill tube would be connected into the bypass inlet **4**, and an overflow tube would receive fluid flow from the bypass outlet **6**. In addition, this first example would require that the bypass outlet **6** and the discharging port **52** are positioned offset from each other, which allows water to flow out of the bypass outlet **6** and into the overflow tube and allows a cleaning solution to flow out of the discharging port **52** and  
15   into the tank. Moreover, this first example uses a frame hook **58** that allows the fluid reservoir **10** to be hung within the tank, and the frame hook **58** is externally connected to the fluid reservoir **10**. As a second example, if an excrement-related plumbing fixture is a tankless toilet or a urinal, the source bypass **2** would be spliced into a supply line so that the bypass inlet **4** would receive fluid flow from the supply line and so that the bypass  
20   outlet **6** would send fluid flow back into the supply line. In addition, this second example would require that the bypass outlet **6** and the discharging port **52** are in fluid communication with each other, which allows water flowing out of the bypass outlet **6** to combine with cleaning solution flowing out of the discharge port **52** back into the supply line. Moreover, this second example uses a wall mount **60** that allows the fluid reservoir  
25   **10** to be mounted on a wall adjacent to the tankless toilet or the urinal, and the wall mount **60** is externally connected to the fluid reservoir **10**.

          In order to route fluid through the venturi manifold **12**, the venturi manifold **12** comprises a high-pressure manifold inlet **14**, a low-pressure manifold inlet **16**, and a manifold outlet **18**. The high-pressure manifold inlet **14** allows fluid to enter the venturi  
30   manifold **12** at high pressure but low velocity. The high-pressure manifold inlet **14** preferably uses a high-pressure nozzle to generate a fluid flow into the venturi manifold

**12** at high pressure but low velocity. The low-pressure manifold inlet **16** allows fluid to enter the venturi manifold **12** at low pressure but high velocity and is used to create enough vacuum pressure in order to draw fluid into the venturi manifold **12**. The manifold outlet **18** allows fluid to exit the venturi manifold **12**.

5           The general configuration of the aforementioned components allows the present invention to effectively and efficiently clean an excrement-related plumbing fixture during each flush without damaging or clogging parts of the excrement-related plumbing fixture. The bypass inlet **4** is in fluid communication with the bypass tap **8** and the bypass outlet **6**, which allows water from the internal workings of an excrement-related  
10 plumbing fixture to primarily flow from the bypass inlet **4** to the bypass outlet **6** but also allows some of this water to be rerouted through the bypass tap **8** and used by the present invention. The bypass tap **8** is in fluid communication with the high-pressure manifold inlet **14** through the bypass flow-control mechanism **20**, which allows the bypass flow-control mechanism **20** to adjust how much rerouted water from the source bypass **2** enters  
15 the venturi manifold **12**. The fluid reservoir **10** is in fluid communication with the low-pressure manifold inlet **16** through the reservoir flow-control mechanism **26** and through the flow-check valve **50** so that the reservoir flow-control mechanism **26** is able to adjust how much liquid antiseptic agent from the fluid reservoir **10** enters the venturi manifold **12** and so that the flow-check valve **50** is able to simply turn on/off the flow of liquid  
20 antiseptic agent from the fluid reservoir **10** into the venturi manifold **12**. The manifold outlet **18** is in fluid communication with the discharging port **52**, which allows a proper amount of cleaning solution to flow from the venturi manifold **12** and out of the present invention into water retained for flushing by an excrement-related plumbing fixture.

          The bypass flow-control mechanism **20** may comprise a bypass flow-control  
25 valve **22** and a bypass valve control **24**. The bypass flow-control valve **22** is the actual mechanical component that controls the amount of fluid flow from the source bypass **2** to the venturi manifold **12**. Thus, the bypass tap **8** needs to be in fluid communication with the bypass flow-control valve **22**, and the bypass flow-control valve **22** needs to then be in fluid communication with the high-pressure manifold inlet **14**, all of which define the  
30 fluid flow from the source bypass **2** to the venturi manifold **12**. In addition, the bypass valve control **24** is operatively coupled to the bypass flow-control valve **22**, wherein the

bypass valve control **24** is used to adjust an amount of fluid flow through the bypass flow-control valve **22**. More specifically, the bypass valve control **24** allows a user to manually adjust the amount of fluid flow through the bypass flow-control valve **22**. The bypass valve control **24** is preferably a turn dial.

5           The reservoir flow-control mechanism **26** may preferably comprise a reservoir flow-control valve **28** and a reservoir valve control **30**. The reservoir flow-control valve **28** is the actual mechanical component that controls the amount of fluid flow from the fluid reservoir **10** to the venturi manifold **12**. Thus, the fluid reservoir **10** needs to be in fluid communication with the reservoir flow-control valve **28**, the reservoir flow-control valve **28** needs to be in fluid communication with the flow-check valve **50**, and the flow-check valve **50** needs to be in fluid communication with the high-pressure manifold inlet **14**, all of which define the fluid flow from the fluid reservoir **10** to the venturi manifold **12**. Moreover, the reservoir valve control **30** is operatively coupled to the reservoir flow-control valve **28**, wherein the reservoir valve control **30** is used to adjust an amount of fluid flow through the reservoir flow-control valve **28**. More specifically, the reservoir valve control **30** allows a user to manually adjust the amount of fluid flow through the reservoir flow-control valve **28**. The reservoir valve control **30** is preferably a turn dial.

          The reservoir flow-control mechanism **26** may alternatively comprise a reservoir flow-control valve **28**, a reservoir valve control **30**, a hydraulic motor **32**, a motor flow-control valve **34**, a motor valve control **36**, and a mechanical pump **48**. The hydraulic motor **32** is used to convert hydraulic power into rotational kinetic power. Thus, the hydraulic motor **32** needs to be in fluid communication with the source bypass **2**, which allows the water flowing through the source bypass **2** to rotate a rotor of the hydraulic motor **32**. In addition, the reservoir flow-control valve **28** is the actual mechanical component that controls the amount of fluid flow from the fluid reservoir **10** to the venturi manifold **12**, while the mechanical pump **48** is used to draw fluid from the fluid reservoir **10** and is then used to drive the fluid into the venturi manifold **12**. Thus, the fluid reservoir **10** needs to be in fluid communication with the reservoir flow-control valve **28**, the reservoir flow-control valve **28** needs to be in fluid communication with the mechanical pump **48**, the mechanical pump **48** needs to be in fluid communication with the flow-check valve **50**, and the flow-check valve **50** needs to be in fluid communication

with the high-pressure manifold inlet **14**, all of which define the fluid flow from the fluid reservoir **10** to the venturi manifold **12**. Moreover, in order to power the mechanical pump **48**, the hydraulic motor **32** is operatively coupled to the mechanical pump **48**, wherein the hydraulic motor **32** is used to rotationally drive the mechanical pump **48** and is consequently used to adjust an amount of fluid flow through the mechanical pump **48**. Furthermore, the reservoir valve control **30** is operatively coupled to the reservoir flow-control valve **28**, wherein the reservoir valve control **30** is used to adjust an amount of fluid flow through the reservoir flow-control valve **28**. More specifically, the reservoir valve control **30** allows a user to manually adjust the amount of fluid flow through the reservoir flow-control valve **28**. The reservoir valve control **30** is preferably a turn dial. Also, the motor flow-control valve **34** is the actual mechanical component that controls the amount of fluid flow from the source bypass **2** to the hydraulic motor **32**. Thus, the hydraulic motor **32** needs to be in fluid communication with the source bypass **2** through the motor flow-control valve **34**. In addition, the motor valve control **36** is operatively coupled to the motor flow-control valve **34**, wherein the motor valve control **36** is used to adjust an amount of fluid flow through the motor flow-control valve **34**. More specifically, the motor valve control **36** allows a user to manually adjust the amount of fluid flow through the motor flow-control valve **34**. The motor valve control **36** is preferably a turn dial.

The reservoir flow-control mechanism **26** may alternatively comprise a reservoir flow-control valve **28**, a reservoir valve control **30**, a hydraulic generator **38**, a generator flow-control valve **40**, a generator valve control **42**, a regulating controller **44**, an electric motor **46**, and a mechanical pump **48**. The hydraulic generator **38** is used to convert hydraulic power into electrical power. Thus, the hydraulic generator **38** needs to be in fluid communication with the source bypass **2**, which allows the water flowing through the source bypass **2** to rotate a rotor of the hydraulic generator **38**. In addition, the reservoir flow-control valve **28** is the actual mechanical component that controls the amount of fluid flow from the fluid reservoir **10** to the venturi manifold **12**, while the mechanical pump **48** is used to draw fluid from the fluid reservoir **10** and is then used to drive the fluid into the venturi manifold **12**. Thus, the fluid reservoir **10** needs to be in fluid communication with the reservoir flow-control valve **28**, the reservoir flow-control

valve **28** needs to be in fluid communication with the mechanical pump **48**, the mechanical pump **48** needs to be in fluid communication with the flow-check valve **50**, and the flow-check valve **50** needs to be in fluid communication with the high-pressure manifold inlet **14**, all of which define the fluid flow from the fluid reservoir **10** to the venturi manifold **12**. Moreover, in order to power the mechanical pump **48**, the hydraulic generator **38** needs to be electrically connected to the regulating controller **44**, and the regulating controller **44** needs to be electrically connected to the electric motor **46**. The regulating controller **44** is used to regulate voltage between the hydraulic generator **38** and the electric motor **46**. The regulating controller **44** is preferably a printed circuit board (PCB). The electric motor **46** is used to convert electric power into rotational kinetic power. Thus, the electric motor **46** is operatively coupled to the mechanical pump **48**, wherein the electric motor **46** is used to rotationally drive the mechanical pump **48** and is consequently used to adjust an amount of fluid flow through the mechanical pump **48**. Furthermore, the reservoir valve control **30** is operatively coupled to the reservoir flow-control valve **28**, wherein the reservoir valve control **30** is used to adjust an amount of fluid flow through the reservoir flow-control valve **28**. More specifically, the reservoir valve control **30** allows a user to manually adjust the amount of fluid flow through the reservoir flow-control valve **28**. The reservoir valve control **30** is preferably a turn dial. Also, the generator flow-control valve **40** is the actual mechanical component that controls the amount of fluid flow from the source bypass **2** to the hydraulic generator **38**. Thus, the hydraulic generator **38** needs to be in fluid communication with the source bypass **2** through the generator flow-control valve **40**. In addition, the generator valve control **42** is operatively coupled to the generator flow-control valve **40**, wherein the generator valve control **42** is used to adjust an amount of fluid flow through the generator flow-control valve **40**. More specifically, the generator valve control **42** allows a user to manually adjust the amount of fluid flow through the generator flow-control valve **40**. The generator valve control **42** is preferably a turn dial.

The present invention may further comprise a refill lid **56**, which is used to access or close off a refilling hole **11** of the fluid reservoir **10**. The refilling hole **11** allows the fluid reservoir **10** to be replenished with liquid antiseptic agent.

*Supplemental description*

As shown in FIGS. 13-23, the present invention is a system to consistently dispense an amount of toilet cleaning solution into a tank water volume. An objective of the present invention is to provide users with an automated toilet cleaning system. The present invention intends to provide users with a device that does not utilize a battery or electricity to function. To accomplish this the present invention comprises a fluid reservoir housing, a water inlet tube, a fluid reservoir outlet assembly, two flow control valves, a check valve, a venturi manifold, and a biodegradable liquid toilet cleaning solution. The water inlet tube and fluid reservoir outlet assembly are connected to the fluid reservoir housing. Thus, the present invention is an automated toilet cleaning system that consistently cleans a toilet during each flush without damaging or clogging parts of the toilet.

The present invention holds a biodegradable liquid toilet cleaning solution with-in the fluid reservoir housing. The fluid reservoir housing is designed with a rectangular shape and plastic material. The fluid reservoir housing comprises a fluid reservoir, a fluid sight glass, a plurality of mounts, and a top cover cap. The fluid reservoir holds the biodegradable liquid toilet cleaning solution and comprises a fluid outlet where the biodegradable liquid toilet cleaning solution can leave the reservoir. The fluid sight glass is positioned adjacent to the fluid reservoir. The fluid sight glass is a tube that attaches to the top and bottom of the fluid reservoir with a see-through material to indicate the amount of biodegradable liquid toilet cleaning solution within the fluid reservoir. The plurality of mounts is positioned along the rear side of the fluid reservoir housing. The plurality of mounts is a clip device that allows for the fluid reservoir housing to secure to the side of a toilet tank without being permanently affixed. The top cover cap is a threaded cap or hatch that opens and closes the fluid reservoir to allow the reservoir to refill as needed as seen in FIG. 13. It should be further noted that the fluid reservoir housing can be created in many various shapes and sizes while still staying within the scope of the present invention.

The water inlet tube is positioned along the top of the present invention to receive an external water supply. In its preferred embodiment, the water inlet tube comprises a

water inlet flow control valve. The water inlet flow control valve is designed to regulate water flow into the fluid reservoir housing inlet and the inlet water bypass. The water inlet flow control valve is accessible from outside of the fluid reservoir housing by the user allowing them to adjust the flow of water entering the present invention. The water  
5 bypass is designed to allow for excess water to be redirected within the water inlet flow control valve and to be expelled into the toilet overflow tube.

The fluid reservoir outlet assembly is positioned along the bottom of the fluid reservoir housing as seen in FIG. 17. The fluid reservoir outlet assembly creates a pathway and allows for the biodegradable liquid toilet cleaning solution to leave the fluid  
10 reservoir. The fluid reservoir outlet assembly comprises a fluid reservoir outlet tube, a cleaning fluid flow control valve, a spring check valve, and a venturi manifold. In its preferred embodiment the fluid reservoir outlet tube is connected to the bottom of the fluid reservoir. The cleaning fluid flow control valve is positioned along the terminal end of the fluid reservoir outlet tube opposite the fluid reservoir. The cleaning fluid flow  
15 control valve controls the amount of biodegradable liquid toilet cleaning solution is mixed into the external water supply. The spring check valve is positioned along the terminal end of the cleaning fluid flow control valve opposite the fluid reservoir outlet tube.

The venturi manifold is connected to the water inlet tube and the fluid reservoir  
20 outlet assembly. The venturi manifold is designed to mix the biodegradable liquid toilet cleaning solution with the water supply at a constant ratio to ensure proper disinfecting/cleaning treatment. In its preferred embodiment the venturi manifold comprises a venturi manifold high pressure nozzle, a fluid reservoir inlet, and a discharge tube. The biodegradable liquid toilet cleaning solution is a high viscous  
25 disinfecting/cleaning solution with a water softener. The biodegradable liquid toilet cleaning solution is designed with various colors and scents to add to the customer enjoyment properties. In an alternative embodiment a hydro motor is utilized and positioned adjacent to the water inlet flow control valve. The hydro motor is powered by the incoming water supply and is coupled to a pump. This design allows for the system to  
30 utilize the pump to pull fluid from the fluid reservoir while reducing the pressure going into the venturi manifold. In an alternative embodiment a hydrogenator is positioned

adjacent to the water inlet flow control valve and is coupled to a PCB as seen in FIG. 15. The PCB controls an electric motor that is mechanically connected to a pump which pulls fluid from the fluid reservoir. As the toilet is flushed the water flows through the external toilet refill tube into the fluid reservoir. At the water inlet tube the flow of water is  
5 controlled by the water inlet flow control valve. The cleaning fluid flow control valve controls the flow of biodegradable liquid toilet cleaning solution mixing with the flow of water. In another alternative embodiment the present invention is mounted along the outside of a toilet tank, with a water supply hose connection being positioned in the wall, connecting into the water inlet side of the present invention, and the water inlet flow  
10 control valve bypass side, and/or a water cleaning fluid mix discharge nozzle of the present invention connecting to the hose from the toilet fill valve stem positioned on the toilet. With all the components working in tandem with each other it can be seen that thus, the present invention is an automated toilet cleaning system that consistently cleans a toilet during each flush without damaging or clogging parts of the toilet.

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Although the invention has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. An automated toilet cleaning device comprising:
  - a source bypass;
  - a fluid reservoir;
  - 5 a venturi manifold;
  - a bypass flow-control mechanism;
  - a reservoir flow-control mechanism;
  - a flow-check valve;
  - a discharging port;
  - 10 the source bypass comprising a bypass inlet, a bypass outlet, and a bypass tap;
  - the venturi manifold comprising a high-pressure manifold inlet, a low-pressure manifold inlet, and a manifold outlet;
  - the bypass inlet being in fluid communication with the bypass tap and the
  - 15 bypass outlet;
  - the bypass tap being in fluid communication with the high-pressure manifold inlet through the bypass flow-control mechanism;
  - the fluid reservoir being in fluid communication with the low-pressure manifold inlet through the reservoir flow-control mechanism and through the
  - 20 flow-check valve; and
  - the manifold outlet being in fluid communication with the discharging port.
2. The automated toilet cleaning device as claimed in claim 1 comprising:
  - 25 the bypass flow-control mechanism comprising a bypass flow-control valve and a bypass valve control;
  - the bypass tap being in fluid communication with the bypass flow-control valve;
  - the bypass flow-control valve being in fluid communication with the high-
  - 30 pressure manifold inlet; and

the bypass valve control being operatively coupled to the bypass flow-control valve, wherein the bypass valve control is used to adjust an amount of fluid flow through the bypass flow-control valve.

- 5        3. The automated toilet cleaning device as claimed in claim 1 comprising:  
the reservoir flow-control mechanism comprising a reservoir flow-control valve and a reservoir valve control;  
the fluid reservoir being in fluid communication with the reservoir flow-control valve;  
10        the reservoir flow-control valve being in fluid communication with the flow-check valve;  
the flow-check valve being in fluid communication with the high-pressure manifold inlet; and  
the reservoir valve control being operatively coupled to the reservoir flow-control valve, wherein the reservoir valve control is used to adjust an amount of  
15        fluid flow through the reservoir flow-control valve.
4. The automated toilet cleaning device as claimed in claim 1 comprising:  
the reservoir flow-control mechanism comprising a reservoir flow-control  
20        valve, a reservoir valve control, a hydraulic motor, and a mechanical pump;  
the hydraulic motor being in fluid communication with the source bypass;  
the fluid reservoir being in fluid communication with the reservoir flow-control valve;  
the reservoir flow-control valve being in fluid communication with the  
25        mechanical pump;  
the mechanical pump being in fluid communication with the flow-check valve;  
the flow-check valve being in fluid communication with the high-pressure manifold inlet;

the reservoir valve control being operatively coupled to the reservoir flow-control valve, wherein the reservoir valve control is used to adjust an amount of fluid flow through the reservoir flow-control valve; and

5 the hydraulic motor being operatively coupled to the mechanical pump, wherein the hydraulic motor is used to rotationally drive the mechanical pump and is consequently used to adjust an amount of fluid flow through the mechanical pump.

5. The automated toilet cleaning device as claimed in claim 4 comprising:

10 the reservoir flow-control mechanism further comprising a motor flow-control valve and a motor valve control;

the hydraulic motor being in fluid communication with the source bypass through the motor flow-control valve; and

15 the motor valve control being operatively coupled to the motor flow-control valve, wherein the motor valve control is used to adjust an amount of fluid flow through the motor flow-control valve.

6. The automated toilet cleaning device as claimed in claim 1 comprising:

20 the reservoir flow-control mechanism comprising a reservoir flow-control valve, a reservoir valve control, a hydraulic generator, a regulating controller, an electric motor, and a mechanical pump;

the hydraulic generator being in fluid communication with the source bypass;

25 the fluid reservoir being in fluid communication with the reservoir flow-control valve;

the reservoir flow-control valve being in fluid communication with the mechanical pump;

the mechanical pump being in fluid communication with the flow-check valve;

30 the flow-check valve being in fluid communication with the high-pressure manifold inlet;

the hydraulic generator being electrically connected to the regulating controller;

the regulating controller being electrically connected to the electric motor; and

5 the electric motor being operatively coupled to the mechanical pump, wherein the electric motor is used to rotationally drive the mechanical pump and is consequently used to adjust an amount of fluid flow through the mechanical pump.

10 7. The automated toilet cleaning device as claimed in claim 6 comprising:

the reservoir flow-control mechanism further comprising a generator flow-control valve and a generator valve control;

the hydraulic generator being in fluid communication with the source bypass through the generator flow-control valve; and

15 the generator valve control being operatively coupled to the generator flow-control valve, wherein the generator valve control is used to adjust an amount of fluid flow through the generator flow-control valve.

8. The automated toilet cleaning device as claimed in claim 1 comprising:

20 the bypass outlet and the discharging port being positioned offset from each other.

9. The automated toilet cleaning device as claimed in claim 1 comprising:

25 the bypass outlet and the discharging port being in fluid communication with each other.

10. The automated toilet cleaning device as claimed in claim 1 comprising:

a quantity of liquid antiseptic agent; and

30 the quantity of liquid antiseptic agent being retained within the fluid reservoir.

11. The automated toilet cleaning device as claimed in claim 1 comprising:  
a refill lid;  
the fluid reservoir comprising a refilling hole; and  
the refilling lid being hermetically attached across the refilling hole.
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12. The automated toilet cleaning device as claimed in claim 1 comprising:  
a frame hook; and  
the frame hook being externally connected to the fluid reservoir.
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13. The automated toilet cleaning device as claimed in claim 1 comprising:  
a wall mount; and  
the wall mount being externally connected to the fluid reservoir.