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(54) **Title:** AUTOMATIC FLUSHING AND TOILET SEAT CLEANING AND DESINFECTING DEVICE - DESINFECTOR

(57) **Abstract:** Automatic flushing and toilet seat cleaning and disinfecting device consists of case (1), to which the toilet (2) is at-  
tached with the inlet pipe (3) for flushing of the toilet (2), which is connected via collector (4) to the expansion tank (5), with the  
pressure in the range of 4-5 bar, which provides for safe and quality flushing of the toilet (2). Flushing starts automatically after the  
user steps away 80 cm - 100 cm from the toilet (2). The toilet (2) has a toilet seat (6), which is connected to the motor-reducer (7),  
which uses electronic impulse (8) after flushing the toilet (2), to rotate the toilet seat (6) horizontally and enter the case (1). During  
the movement, the toilet seat (6) is washed by high-pressure spray (9) with water (5) mixed with the disinfectant (10). When the toi-  
let seat (6) reaches the sensor switch, it stops and starts moving back to its starting position on the toilet (2). During that movement,  
the toilet seat (6) is completely dried by a drier (11), using the air compressed by a high power fan (12). The inner part of the toilet  
seat (6) has hinged doors (13), which close off the inside of the case for safety and aesthetic purposes. All of the above are the con-  
tents of the device - disinfectant, and ensure the process of cleaning and disinfecting toilet seats and flushing of the toilet.



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## **AUTOMATIC FLUSHING AND TOILET SEAT CLEANING AND DESINFECTING DEVICE – DESINFECTOR**

### **DESCRIPTION**

#### *FILED OF THE INVENTION*

Scope of device falls within the field of sanitary equipment, which is not otherwise provided for, i.e. area of devices for lifting and lowering the toilet seats, their disinfection and drying.

#### *TECHNICAL PROBLEM*

Technical problem addressed in this application consists of how to introduce a variety of handy and automated solutions to use in the toilet, but that at the same time ensure the necessary hygiene levels. Above technical problem is solved with the automatic toilet seat cleaning and disinfection.

#### *STATE OF ART*

Known technical solutions have:

- Toilet, without the toilet seat, which rotates vertically or horizontally into the technical cleaning space.
- A construction which uses an automated 'hand' to wipe the toilet.
- Lid lowered onto the toilet seat, which is squirting water mixed with cleaning liquid, etc.

The solution according to this patent improves the quality of cleaning and drying, making it simpler and faster, also reducing the number of engine assemblies and guides therefor simplifying electronic controls, compared to current solutions.

#### *SUMMARY OF THE INVENTION*

Providing toilet users with using the clean and disinfected toilet seat in public toilets and other places with a large number of toilet users, such as schools, restaurants, coffee shops, camps, hospitals, homes.

The device is shown in 3D presentation marked with numbers

Photo 1 – shows the closed device from the front side, ready for use;

Photo 2 – shows the device from the back –view from the left side;

Photo 3 - shows the device from the back – view from the right side;

Photo 4 – initial condition

Photo 5 – rotation of the toilet seat into the module case

Photo 6 –washing of the toilet seat

Photo 7 - drying of the toilet seat

Photo 8 – rotation of the toilet seat into its initial position

The device as an invention ensures the requirement to guarantee a high level of hygiene, which uses mechanical and chemical actions. Mechanical action consists of

activating the flushing with water under high pressure (removing all impurities); chemical action consists of using a disinfectant mixed with water to ensure cleaning of germs such as bacteria and the like.

#### *DETAILED DESCRIPTION OF INVENTION*

Now we will refer to the details of the supposed mode for carrying out the invention, with one of the examples illustrated in the attached drawings.

Automatic flushing and toilet seat cleaning and disinfecting device consists of case (1), to which the toilet (2) is attached with the inlet pipe (3) for flushing of the toilet (2), which is connected via collector (4) to the expansion tank (5), with the pressure of 4-5 bar, which provides for safe and quality flushing of the toilet (2). Flushing starts automatically after the user steps away 80-100 cm from the toilet (2). The toilet (2) has a toilet seat (6), which is connected to the motor-reducer (7), which uses electronic impulse (8) after flushing the toilet (2), to rotate the toilet seat (6) horizontally and enter the case (1). During the movement, the toilet seat (6) is washed by high-pressure spray (9) with water (5) mixed with the disinfectant (10). When the toilet seat (6) reaches the sensor switch, it stops and starts moving back to its starting position on the toilet (2). During that movement, the toilet seat (6) is completely dried by a drier (11), using the air compressed by a high power fan (12). The inner part of the toilet seat (6) has hinged doors (13), which close off the inside of the case for safety and aesthetic purposes. All of the above are the contents of the device – disinfectant, and ensure the process of cleaning and disinfecting toilet seats and flushing of the toilet.

#### *LIST OF POSITIONS*

1. Case
2. Toilet
3. Inlet pipe
4. Collector
5. Expansion tank
6. Toilet seat
7. motor-reducer
8. Electronic cabinet
9. Water spray
10. Disinfectant tank
11. Drier
12. Fan
13. Hinged doors

#### *APPLICATION OF THE INVENTION*

The device provides permanent quality cleaning – disinfection solution of the toilet seat, which provides for a complete and safe using experience for a larger number of people. The device – disinfectant can be installed as a whole which includes the toilet seat, and the installation can be performed by practically anybody.

**AUTOMATIC FLUSHING AND TOILET SEAT CLEANING  
AND DESINFECTING DEVICE - DESINFECTOR**

**PATENT CLAIMS**

1. Automatic toilet seat cleaning and disinfecting device is characterized by the case (1), attached to the toilet (2), with the inlet pipe (3), for the flushing of the toilet (2), which is connected to the expansion tank (5), with the pressure in the range of 4-5 bar, via collector (4), which provides for the safe and quality flushing of the toilet (2), which is performed automatically after the user steps away in the range of 80 cm – 100 cm from the toilet (2), where on the said toilet (2), a toilet seat (6) is placed, which is connected to the motor-reducer (7), which uses the electronic impulse (8), to rotate the toilet seat (6) horizontally into the case (1), after flushing the toilet (2) whereas during the toilet seat (6) rotation, high-pressure water spray (9) mixed with disinfectant (10), washes the seat.
2. Automatic toilet seat cleaning and disinfecting device according to claim 1, wherein when the toilet seat (6) reaches the sensor switch, it stops and starts moving to its initial position on top of the toilet (2), all while the toilet seat (6) is being dried completely by the drier (11), using the air compressed by a high power fan (12), with the hinged doors (13) placed on the inner part of the toilet seat (6), which close off the inside of the case for safety and aesthetic purposes.

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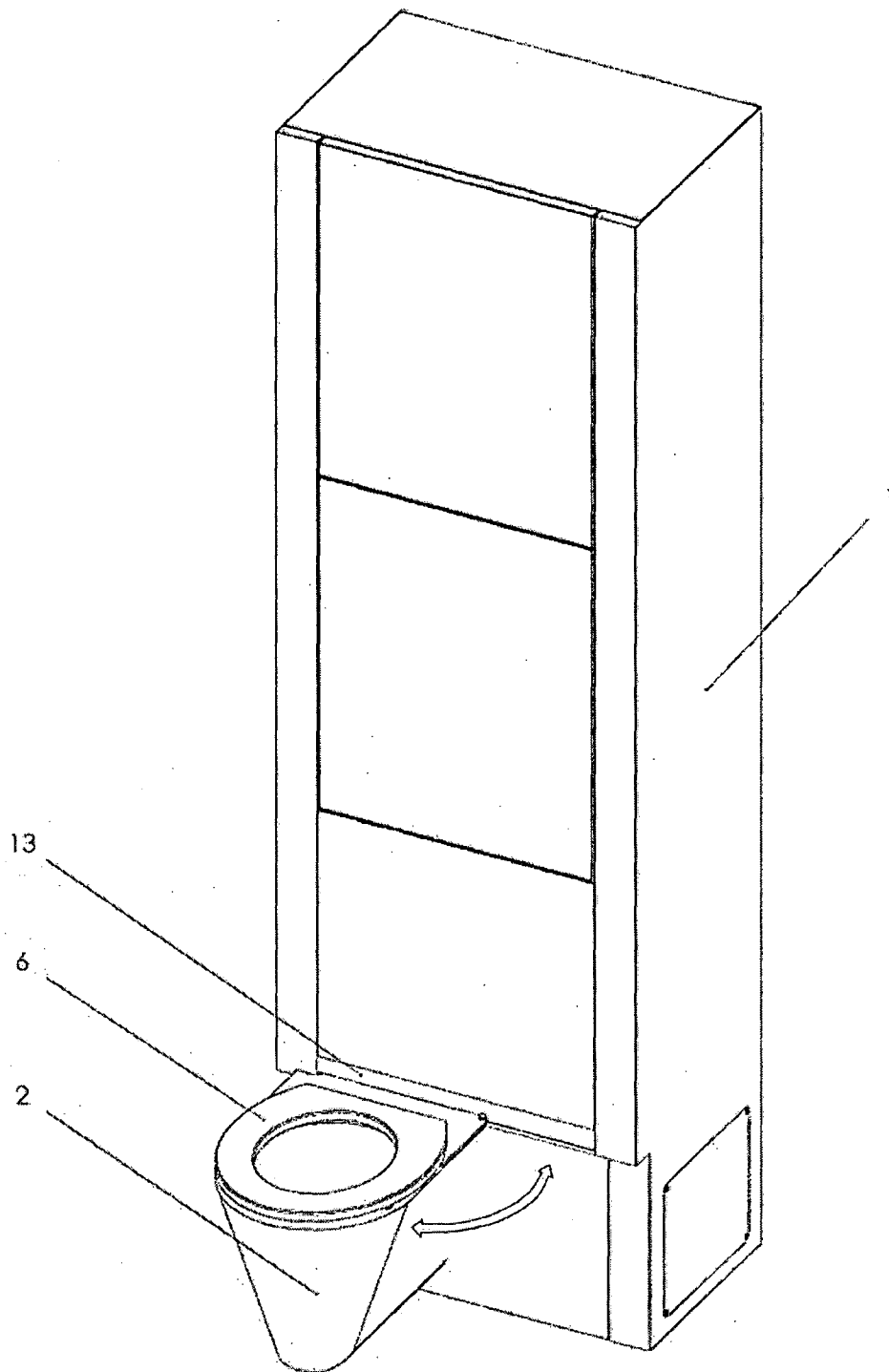


FIG. 1

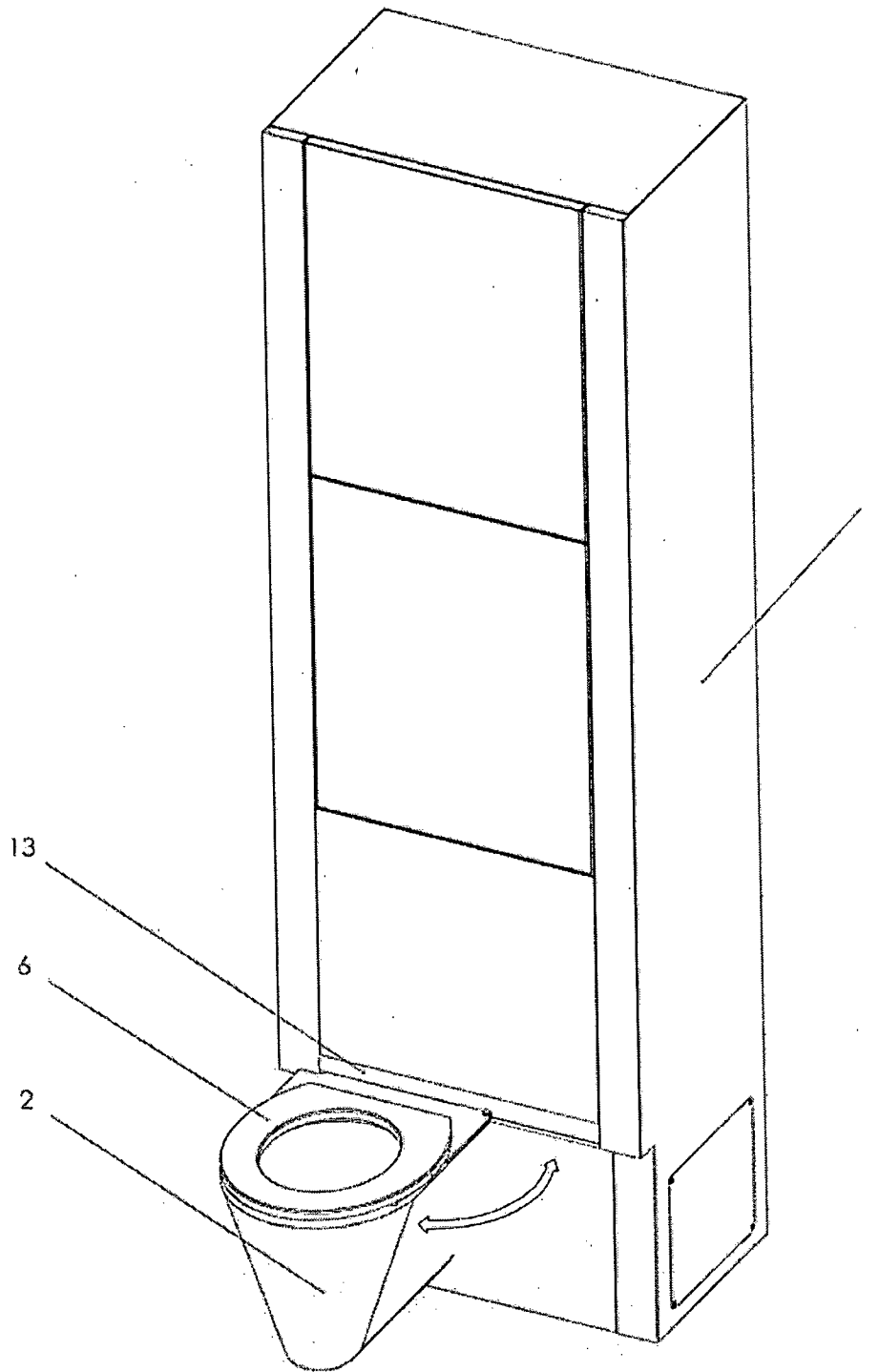


FIG. 2

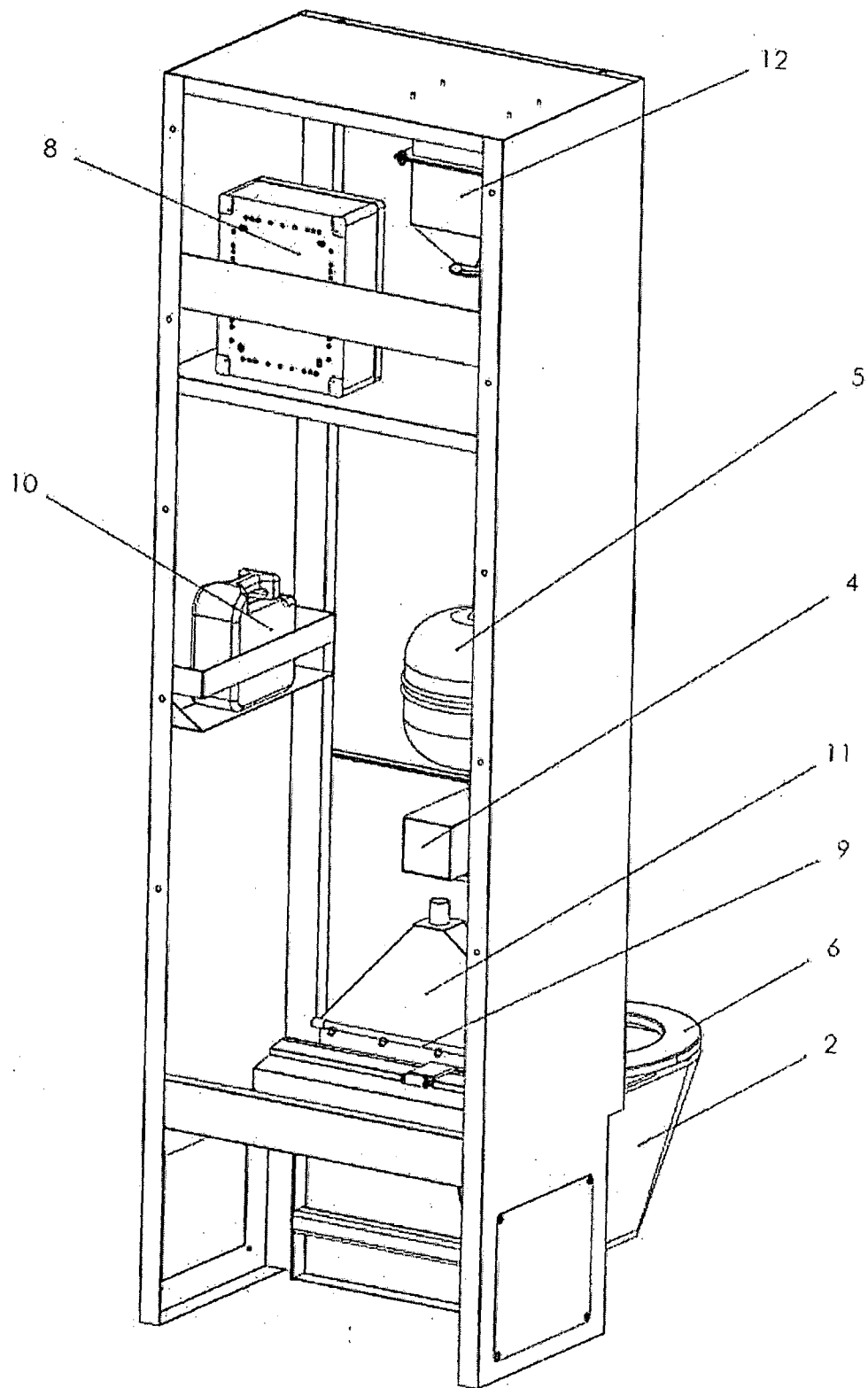


FIG. 3

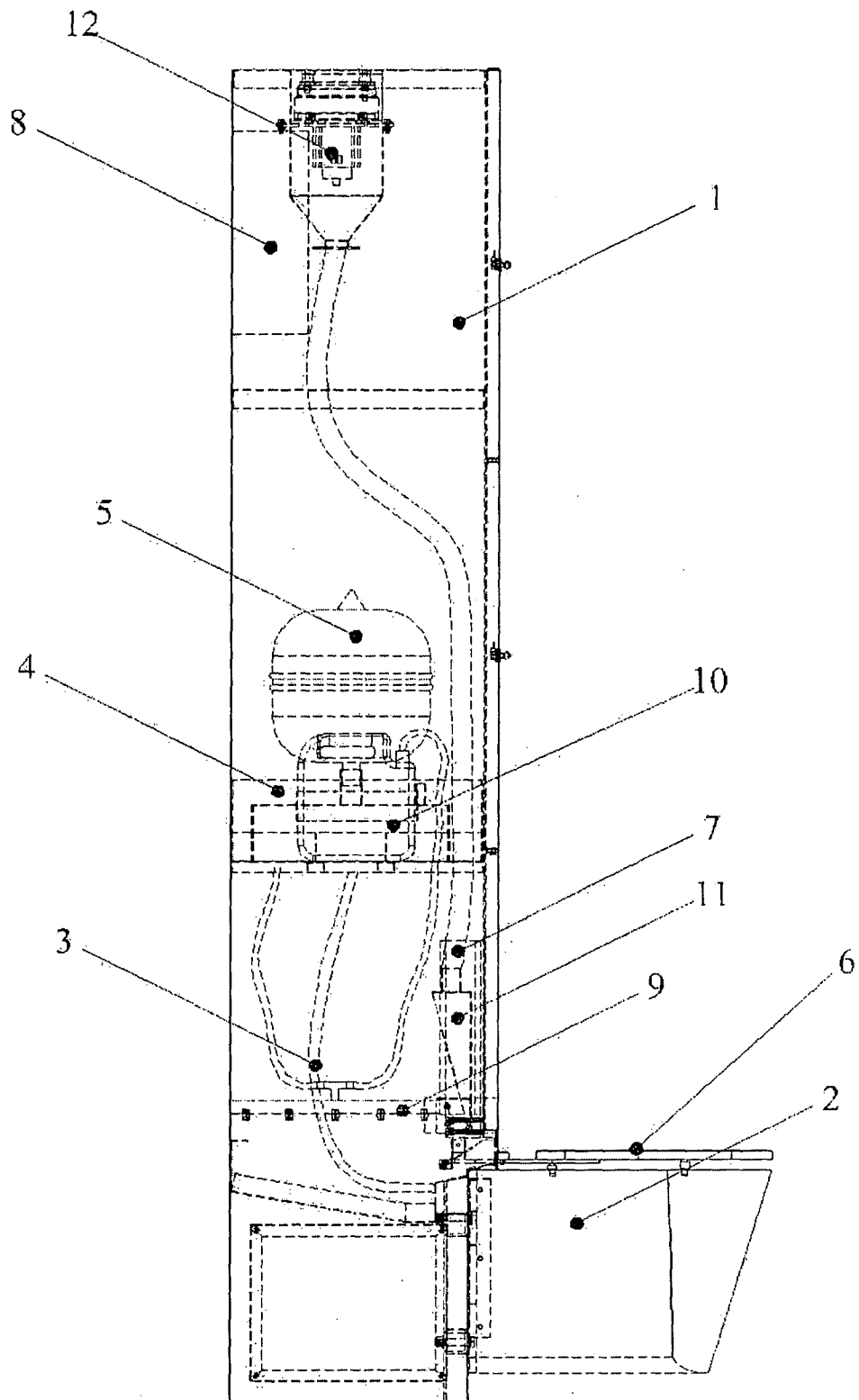


FIG. 4

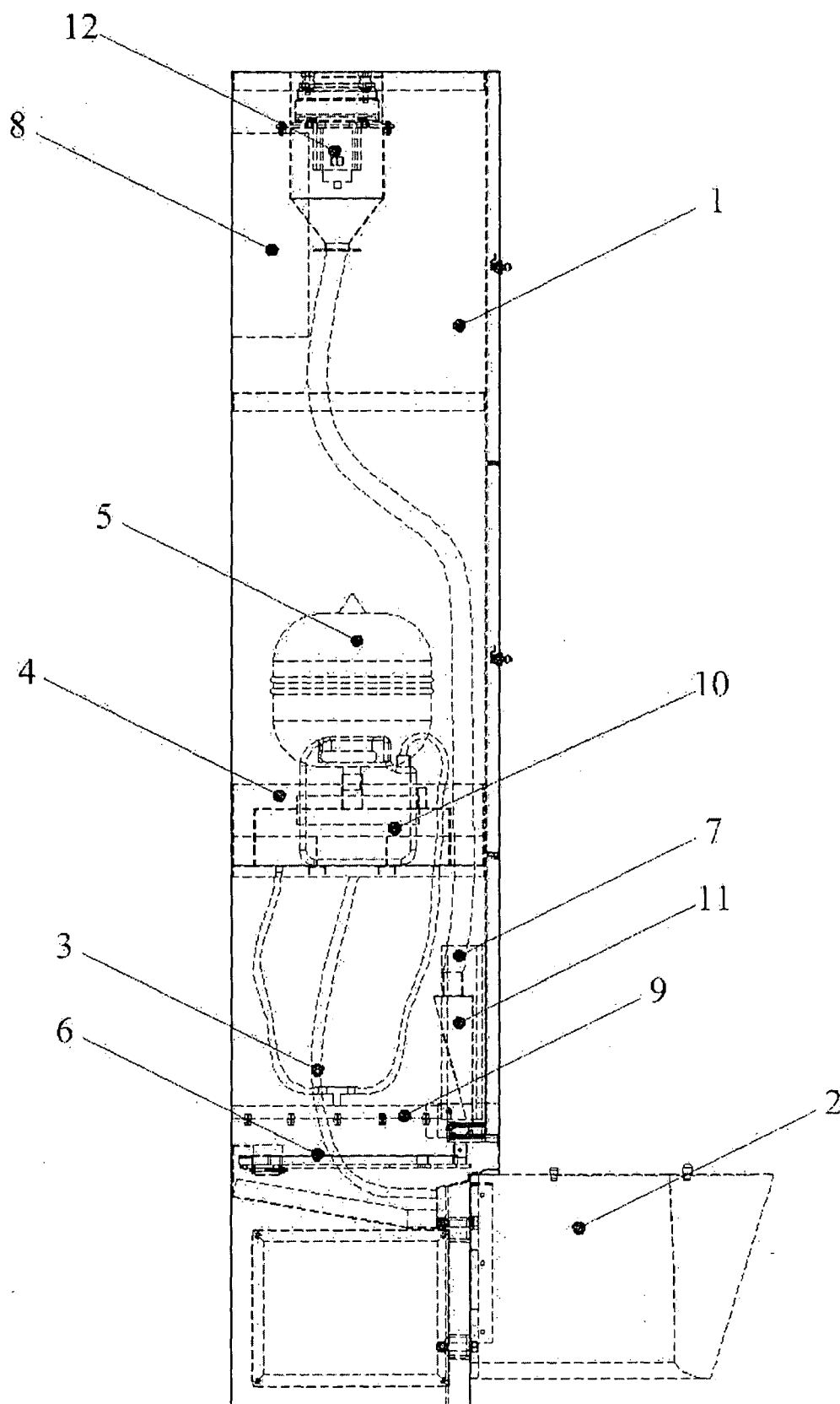


FIG. 5

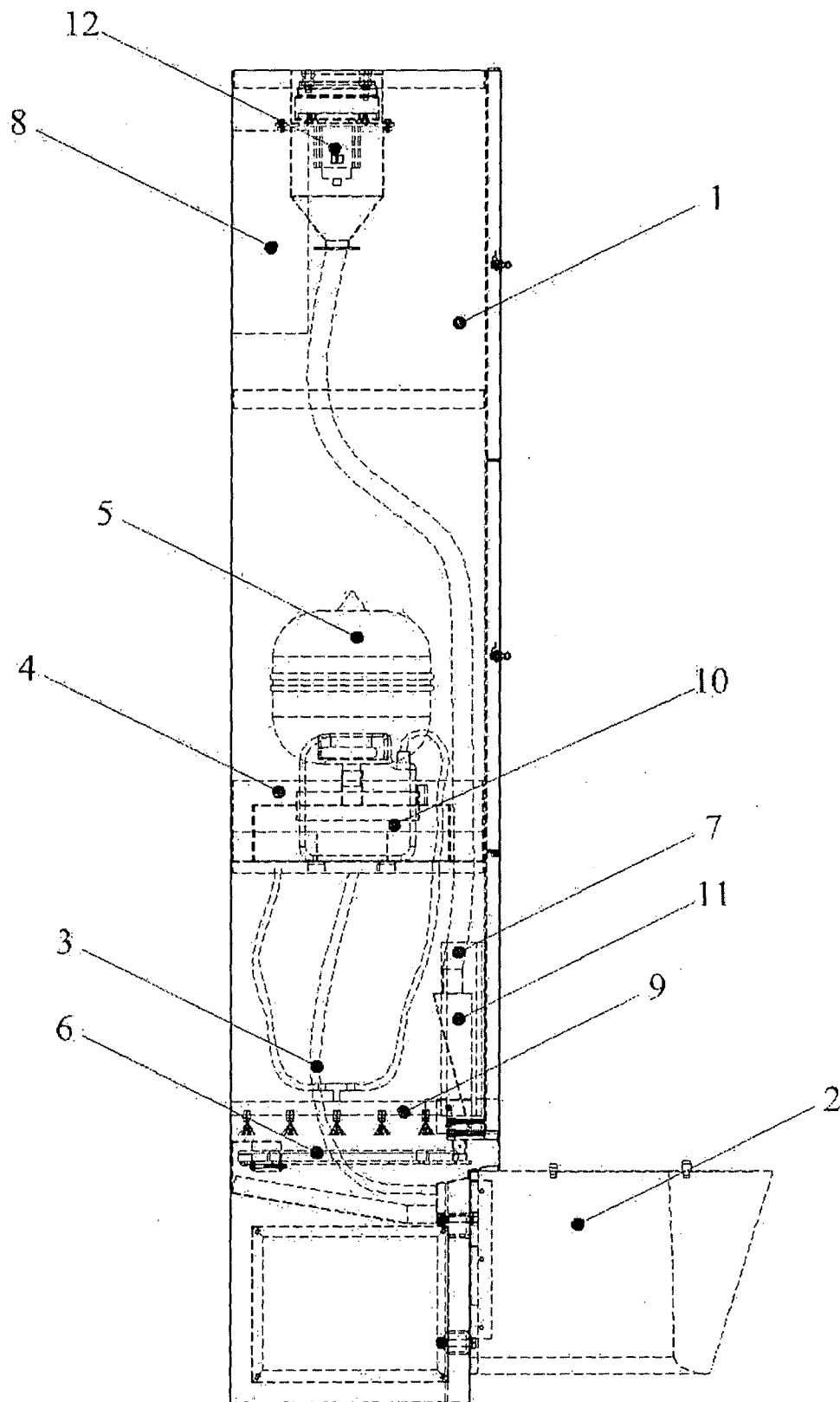


FIG. 6

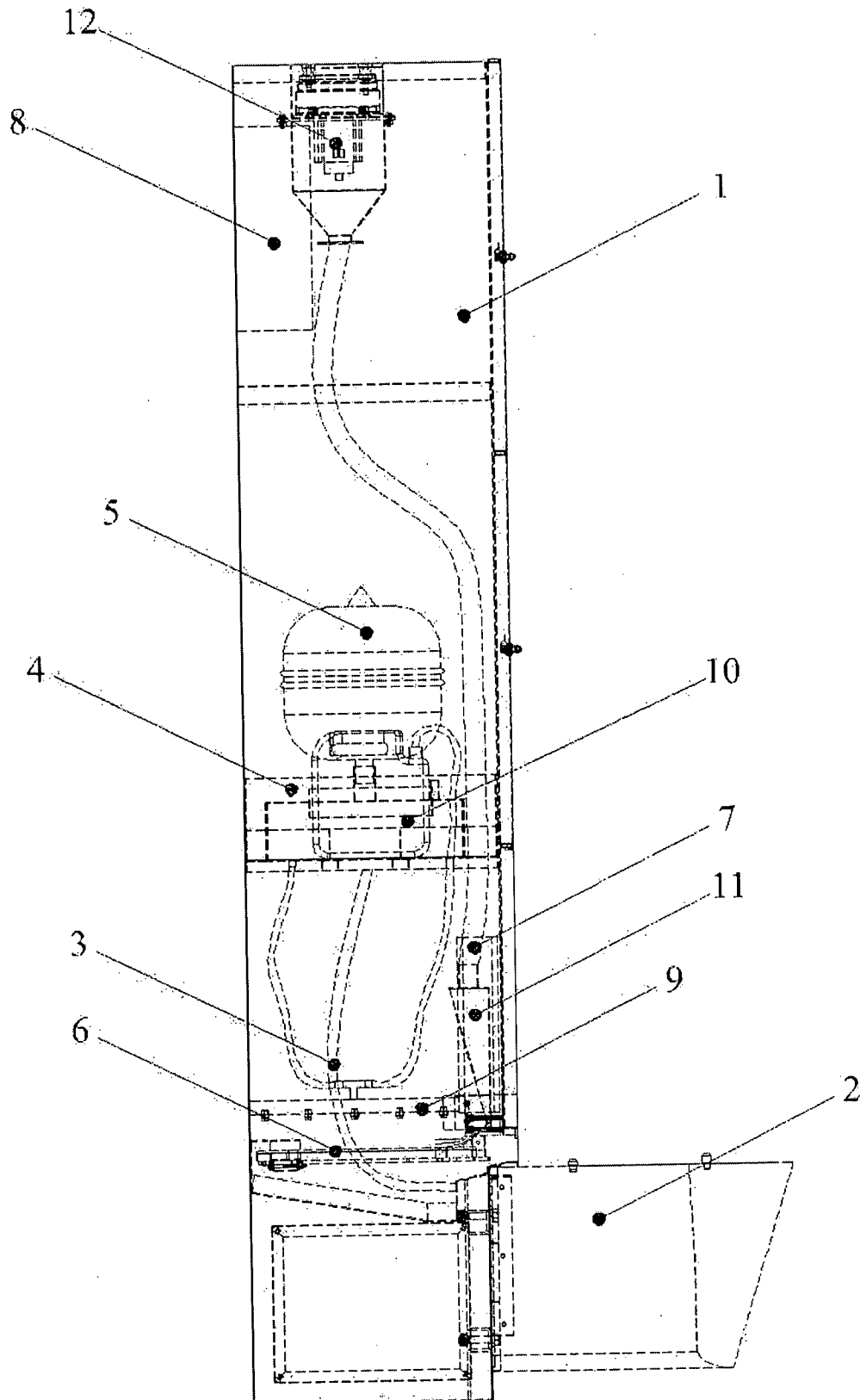


FIG. 7

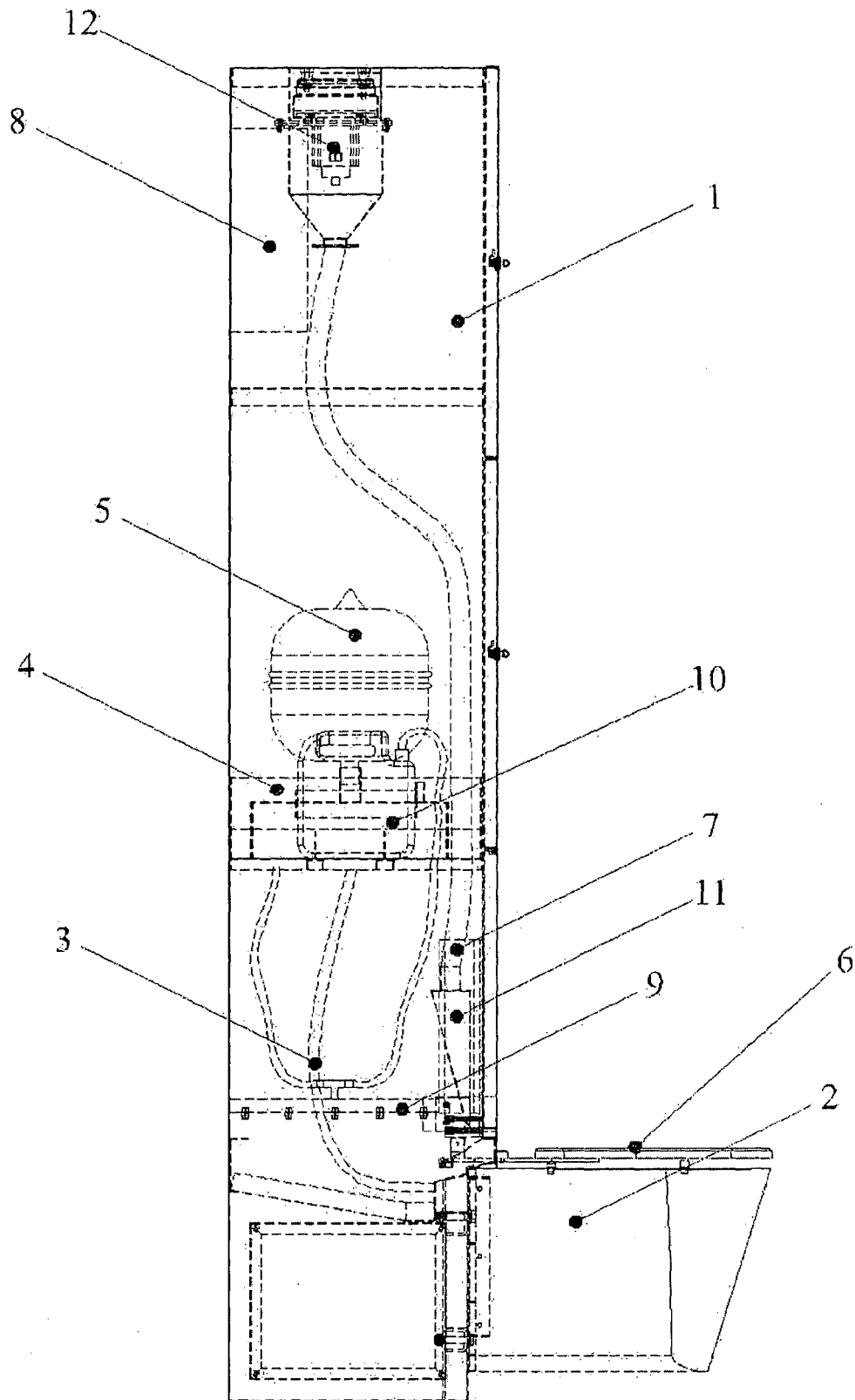


FIG. 8