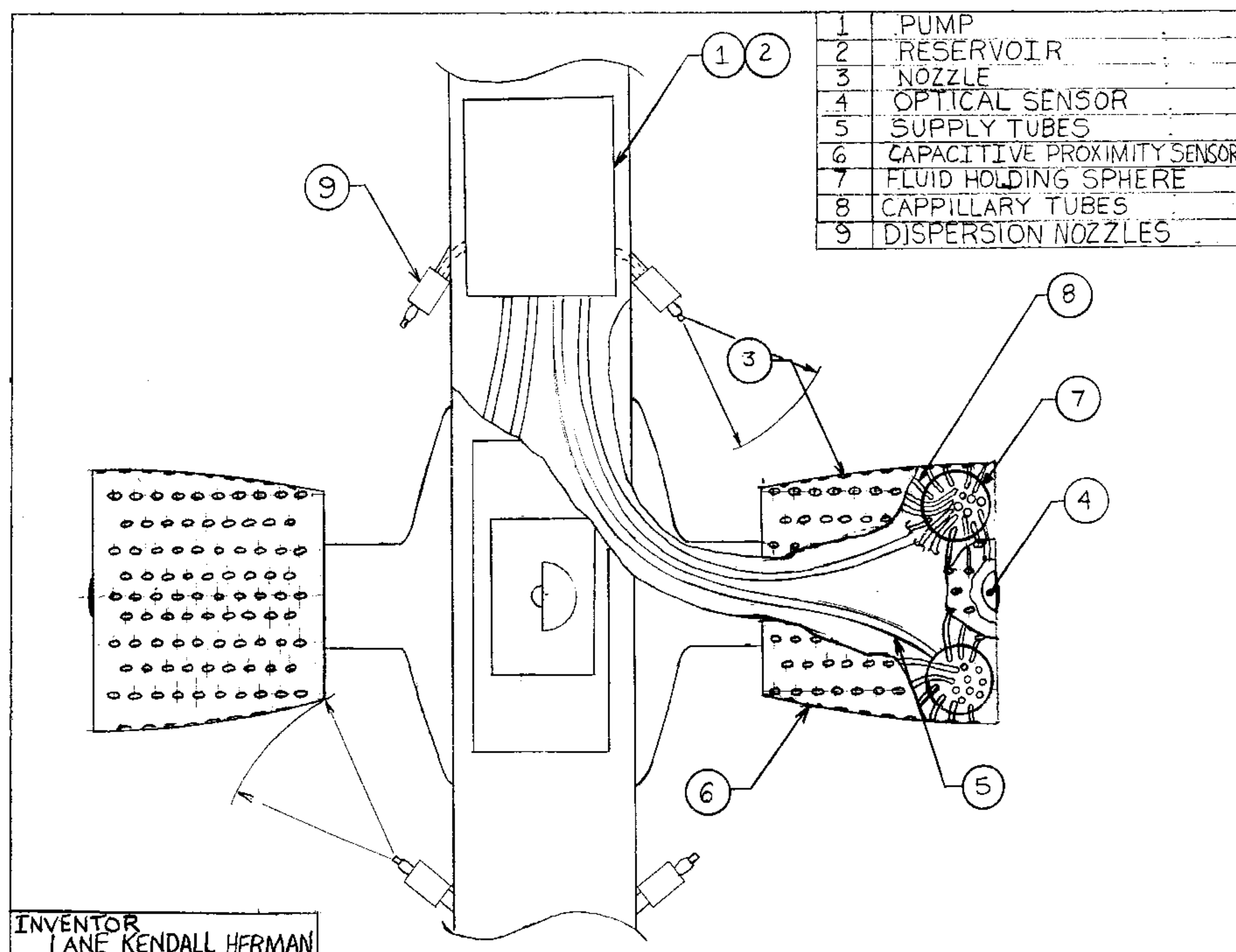




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(51) Int.Cl.⁷ A61L 2/18, A61L 2/24
(54) **LE CONTROLEUR D'HYGIENE**
(54) **THE HYGIENE CONTROLLER**



(57) The concept of my invention will have many different applications which I will list. The concept that I have designed is that of making our enviroment cleaner and safer for everyone. The invention is designed to kill germs and bacteria on the surfaces that we touch with our hands each and every day of our life. It will be designed to operate with sensors and nozzles that will release an alcohol based sanitizer that will evaporate after a small amount of time. This sanitizer will be similar to the alcohol based sanitizer which is used on a persons hands. It is my belief that this type of an object cleaner will reduce sickness and disease worldwide. Many infections and illnesses which make us sick are not from airborne infectious agents but rather from the objects that we touch, passed on by other people. Sometimes when people go to the bathroom they do not wash their hands properly or not at all. The result is that when someone else uses the washroom and even if they wash their hands, when they leave the washroom and touch the door handle or knob they will pick up the germs that the previous person or persons have left, who may not have washed their hands. If a person then consumes food or rubs their eyes, the germs are then transmitted into the persons body. I believe that a practical explanation for many health illnesses would originate from a persons hands and if we can reduce the number of these germs on our hands I think we would all be a lot healthier. Furthermore, in hospitals where many people are sick these types of devices would be invaluable.

Abstract

The concept of my invention will have many different applications which I will list. The concept that I have designed is that of making our environment cleaner and safer for everyone. The invention is designed to kill germs and bacteria on the surfaces that we touch with our hands each and every day of our life. It will be designed to operate with sensors and nozzles that will release an alcohol based sanitizer that will evaporate after a small amount of time. This sanitizer will be similar to the alcohol based sanitizer which is used on a persons hands. It is my belief that this type of an object cleaner will reduce sickness and disease worldwide. Many infections and illnesses which make us sick are not from airborne infectious agents but rather from the objects that we touch, passed on by other people. Sometimes when people go to the bathroom they do not wash their hands properly or not at all. The result is that when someone else uses the washroom and even if they wash their hands, when they leave the washroom and touch the door handle or knob they will pick up the germs that the previous person or persons have left, who may not have washed their hands. If a person then consumes food or rubs their eyes, the germs are then transmitted into the persons body. I believe that a practical explanation for many health illnesses would originate from a persons hands and if we can reduce the number of these germs on our hands I think we would all be a lot healthier. Furthermore, in hospitals where many people are sick these types of devices would be invaluable.

Specification

The basic principles of the invention are as follows. First you have a surface which has a potential for germ or bacteria build up. The design would have either a number of orifices or a few nozzles from which the antibacterial agent would be released. The agent would then cover the surface, disinfecting it, then it would evaporate on its own. There would be no residue left over and after a few seconds the surface would be dry and hygiene safe to touch.

The inventive idea which this process embodies is the idea of disinfecting surfaces that most people don't even think about as being unhealthy. I'm sure that many people, after washing their hands don't even consider that the door handle they touch when leaving the bathroom is full of bacteria from the person who left before them who may have not washed their hands. A surface will be disinfected after someone has touched it. This will be achieved by a sensor (activated by a persons touch, similar to how a urinal flushes after a person walks away) a few seconds after the surface has been touched. Also, an electronic eye will prohibit the cleaner from being emitted just before or while some may be touching the surface. There will be a pump and a reservoir located near the surface which will distribute the disinfecting agent to the surface.

Brief Description of Drawings

Drawing number 1 (invention called "Hygiene Knob") illustrates a typical door knob with the hygiene package. There are 2 different designs shown in this drawing. One design is to have small orifices on the door knob. After someone has touched the door knob the "Capacitive Proximity Sensor" will signal the pump to activate the alcohol cleaner. The fluid will then run down the sides of the door handle thus disinfecting it and ultimately drying and evaporating. The second design, and I think the preferred design is to have small misting nozzles surrounding the door knob (approx. 4 nozzles). The pump would be activated by the sensor once someone has made contact with it (similar to urinal automatic flushes). The pump would then pump the disinfecting agent from the reservoir and the dispersion nozzles would spray a fine mist onto the outside of the door knob, once again disinfecting it and then drying and evaporating. The optical sensor is incorporated to make sure that the the nozzles or the orifices don't release any fluid just before a person is about to touch it or is touching it.

Drawing number 2 (invention called "The Hygieny" illustrates a second related invention based on the same principle. A small plastic case would contain the alcohol based cleaner and would be totally portable and pocket sized (drawing at 1:4 scale). It would contain a small pump and reservoir (to hold the disinfecting agent) which would be powered by a small battery. A switch located on the side of the plastic outer shell will activate the pump and the cleaning fluid will be released into the palm of a person's hand. He then would clean his hands with the cleaner and avoid having to go to the bathroom to clean their hands.

Drawing number 3 depicts a toilet seat with the cleaning system attached to it. Again, different personal hygiene styles could lead to contamination of a toilet seat, which could intern, contaminate an individual's clothing. This toilet seat would work on the same concept as the illustration in drawing number 1. After a person had complete

using the toilet the Sensor would activate the pump, which would spray out the cleaning solution from a reservoir onto the toilet seat. The solution would disinfect the toilet seat and then evaporate. There is also an alternate design with this application where small nozzles would be located on the seat emitting a stream of liquid. The seat would have to be formed so that the liquid would be distributed evenly, disinfect the surface and the evaporate and disappear. Also attached to the toilet would be an electronic eye which would prevent any spraying of the toilet seat while someone was using it or about to use it.

Drawing number 4 (invention called "The Hygiene Handle" is a typical door handle located in bathrooms and other places. The two types of designs are again shown in this drawing. Again the "Spray design" I believe is the preferred type of design. Again you would probably required about 4 separate nozzles to hit the required zones of the door handle. Once a person touched the door handle the sensor would activate the spray approximately 10 seconds after someone had touched the handle. The fluid would then disinfect the contacted area and evaporate within seconds. A small pump and reservoir would be located inside the door itself. There would also need to be an access to the reservoir in order to fill it periodically. Furthermore the pump would either have to be powered by a battery or have an electrical connection. The alternate design would have small orifices on the outside of the handle. A small cannister inside the handle would have small capillary tubes required to reach the small orifices. The cannister would be like a small holding tank which would be supplied from the main reservoir.

Drawing number 5 illustrates a typical water tap which also can contain many contaminants. Again, once a person makes contact with the tap handle the sensor would activate the pump which would inturn spray the disinfectant onto the water tap knob. The fluid would disinfect the knob and then evaporate. The Optical sensor would also make sure that the spray was not activated while someone was within a certain distance of the tap.

Other possible uses of my invention:

Car door handles

Computer key board

Telephone receiver

Coffee pot handle

Meat cutting bench

Various areas in Hospitals

I CLAIM:

1. A sanitation system for dispensing a liquid composition over a surface, the sanitation system comprising a liquid delivery system, contact sensing means and proximity sensing means;
 - a) the liquid delivery system being responsive to the contact sensing means and the proximity sensing means,
 - b) the contact sensing means being operatively connected to the liquid delivery system and responsive to direct contact with the surface, and
 - c) the proximity sensing means being operatively connected to the liquid delivery system and responsive to a presence in a vicinity of the surface,whereby an amount of the liquid composition is dispensed over the surface in response to an activation of the contact sensing means subject to an absence of a detected presence by the proximity sensing means.
2. A sanitation system as claimed in claim 1, wherein the liquid delivery system comprises a reservoir holding the liquid composition, a fluid distribution system connected to the reservoir and an activation mechanism responsive to the contact sensing means and the proximity sensing means.
3. A sanitation system as claimed in claim 2, wherein the reservoir comprises a pressurized cartridge

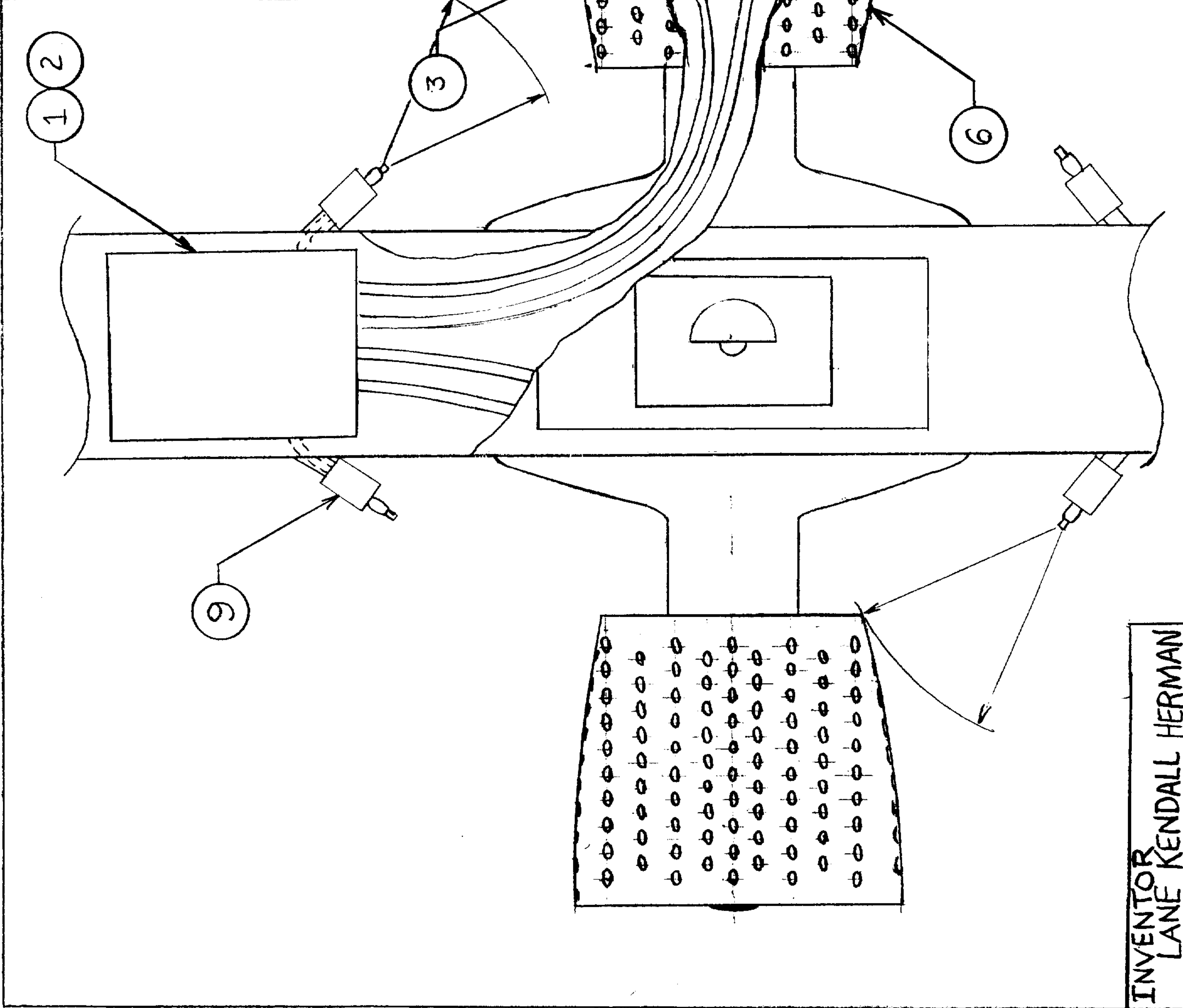
holding an amount of the liquid composition under pressure.

4. A sanitation system as claimed in claim 3, wherein the activation mechanism is a mechanical button enabling an amount of the liquid composition to be dispensed from the pressurized cartridge.
5. A sanitation system as claimed in claim 2, wherein the reservoir comprises a fluid tank holding an amount of the liquid composition.
6. A sanitation system as claimed in claim 5, wherein the fluid distribution system comprises at least one fluid delivery tube and at least one orifice for dispensing the liquid composition over the surface, each orifice being provided with an amount of the liquid composition via a corresponding fluid delivery tube.
7. A sanitation system as claimed in claim 5, wherein the surface further comprises said at least one orifice enabling the liquid composition to be dispensed onto the surface.
8. A sanitation system as claimed in claim 5, wherein the fluid distribution system further comprises at least one nozzle for dispensing the liquid composition over the surface, each nozzle being provided with the amount of the liquid composition via the corresponding fluid delivery tube and comprising said orifice, the nozzle being directed to at least a portion of the surface.

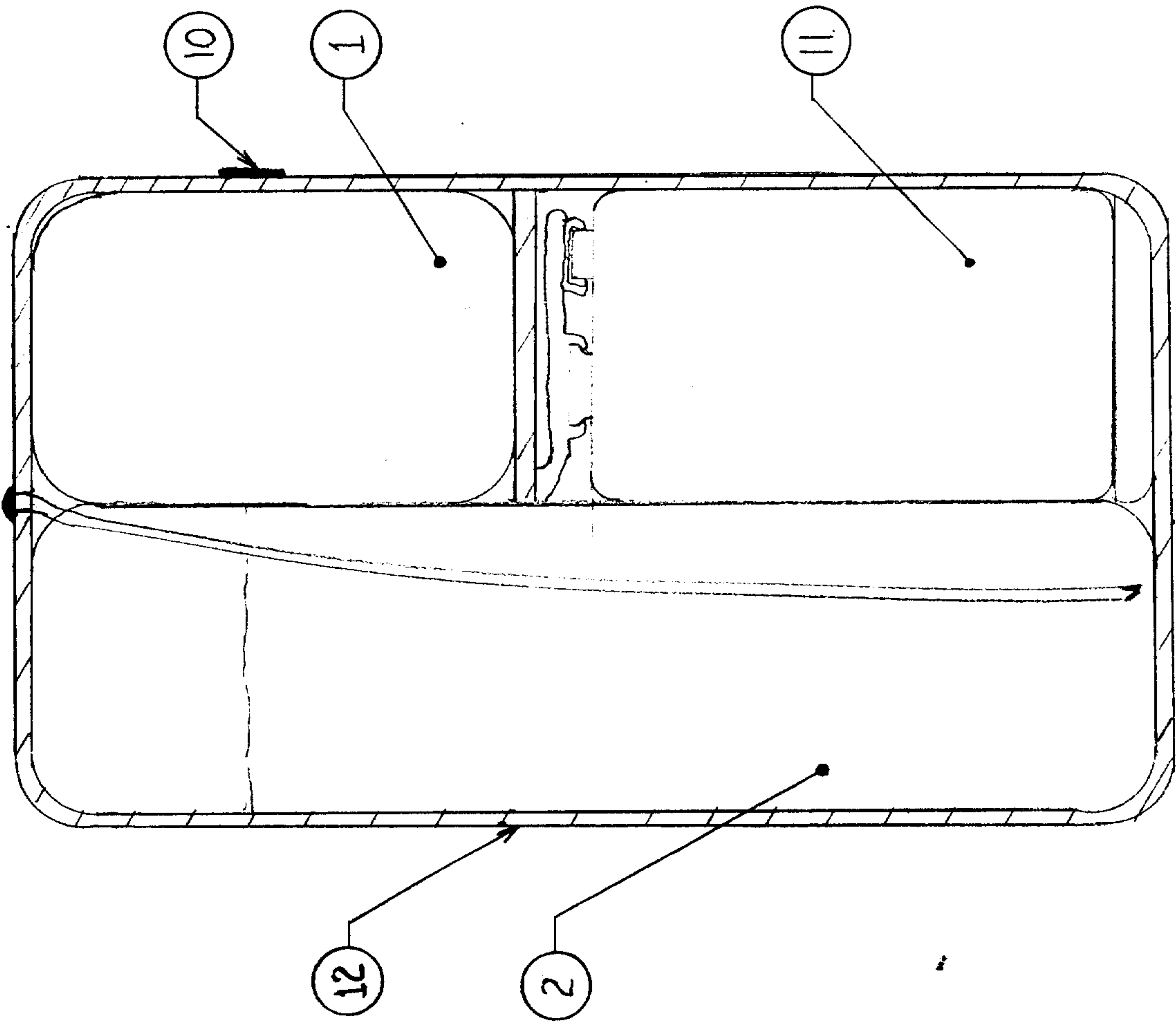
9. A sanitation system as claimed in claim 5, wherein the activation mechanism comprises a fluid pump conveying an amount of the liquid composition from the fluid tank to the at least one fluid delivery tube.
10. A sanitation system as claimed in claim 2, wherein the liquid delivery system further comprises a source of energy providing energy to the activation mechanism.
11. A sanitation system as claimed in claim 1, wherein the contact sensing means comprises a switch.
12. A sanitation system as claimed in claim 1, wherein the contact sensing means comprises a touch sensitive element.
13. A sanitation system as claimed in claim 12, wherein the touch sensitive element comprises a capacitive element sensitive to touch.
14. A sanitation system as claimed in claim 1, wherein the proximity sensing means comprises an optical sensor for detecting a presence within an area.
15. A sanitation system as claimed in claim 1, wherein the proximity sensing means comprises a motion detector for detecting a presence within an area.
16. A sanitation system as claimed in claim 1, wherein the liquid composition comprises a cleaning agent for cleaning the surface when dispensed thereto.

17. A sanitation system as claimed in claim 1, wherein the liquid composition comprises a disinfectant agent for disinfecting the surface when dispersed thereto.
18. A sanitation system as claimed in claim 1, wherein the liquid composition has a high volatility leaving the surface dry upon evaporation.
19. A method of using the sanitation system claimed in claim 1 comprising the steps of:
 - a) activating the sanitation system,
 - b) preventing a discharge of the liquid composition for as long as a presence is detected in the vicinity of the surface, and
 - c) dispensing an amount of the liquid composition onto the surface subsequent to a presence being no longer detected in the vicinity of the surface,whereby the surface is sanitized by the dispensed liquid composition.

1	PUMP
2	RESERVOIR
3	NOZZLE
4	OPTICAL SENSOR
5	SUPPLY TUBES
6	CAPACITIVE PROXIMITY SENSOR
7	FLUID HOLDING SPHERE
8	CAPPILLARY TUBES
9	DISPERSION NOZZLES

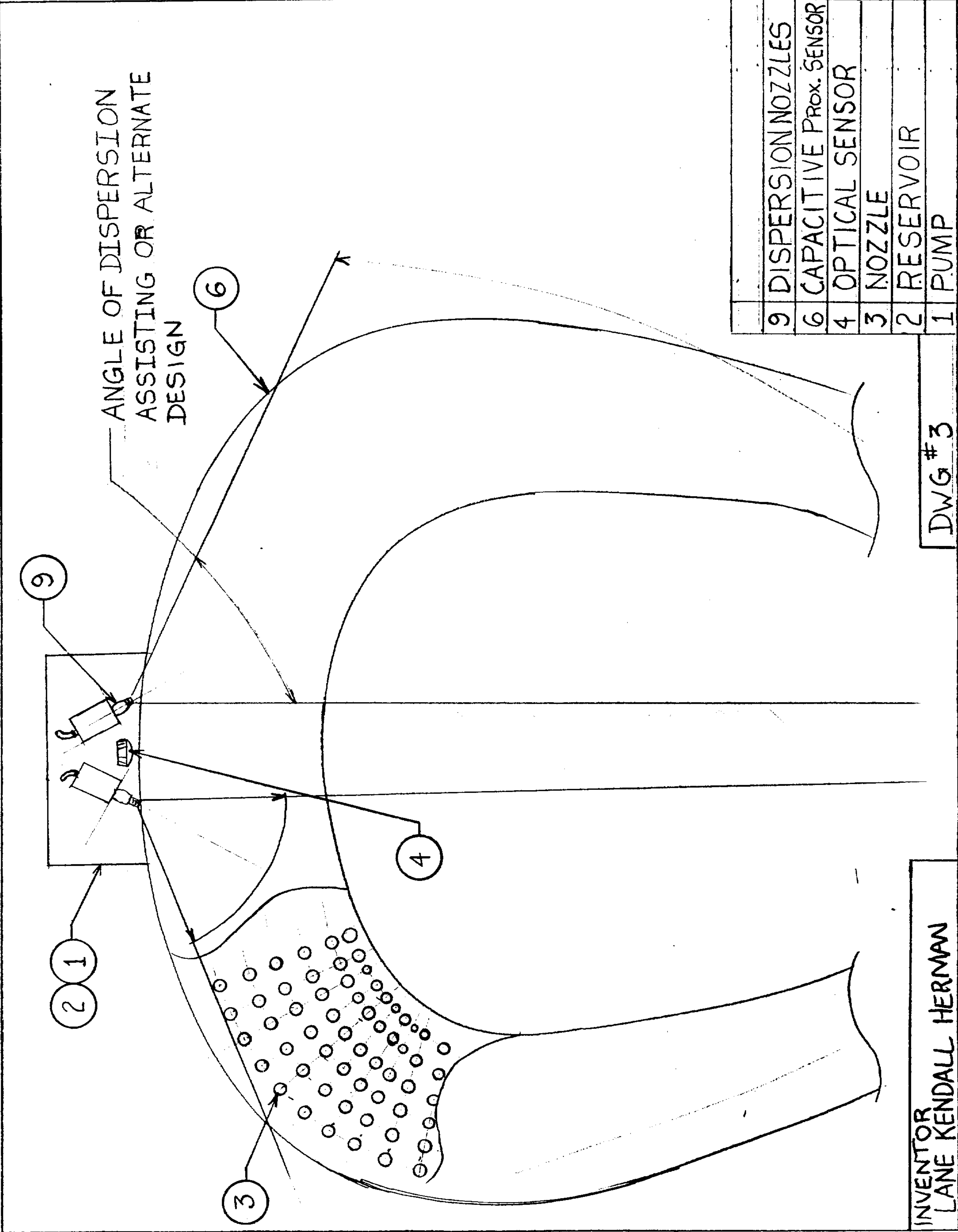


1	PUMP
2	RESERVOIR
10	DISPENSING SWITCH
11	BATTERY
12	OUTER CASE

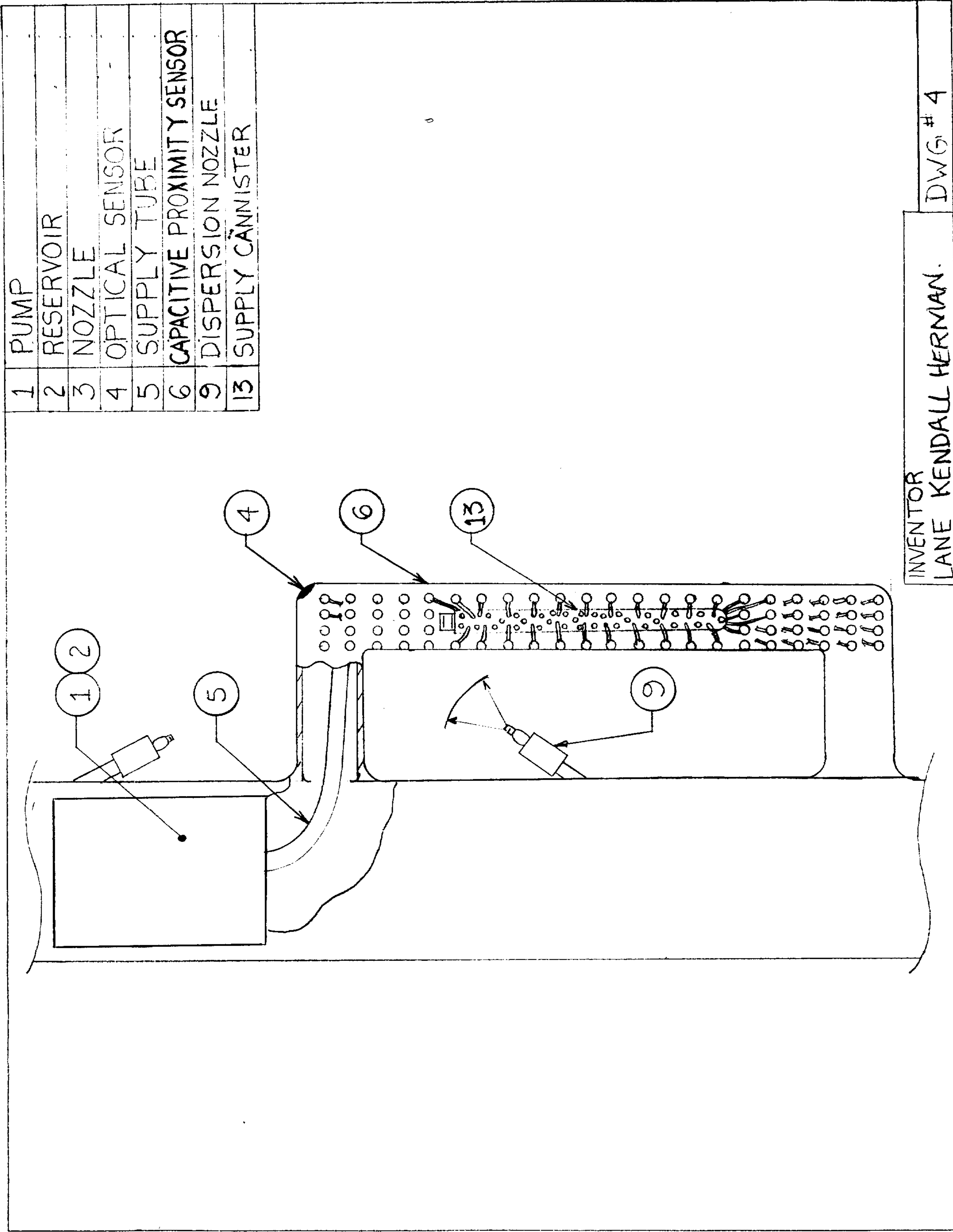


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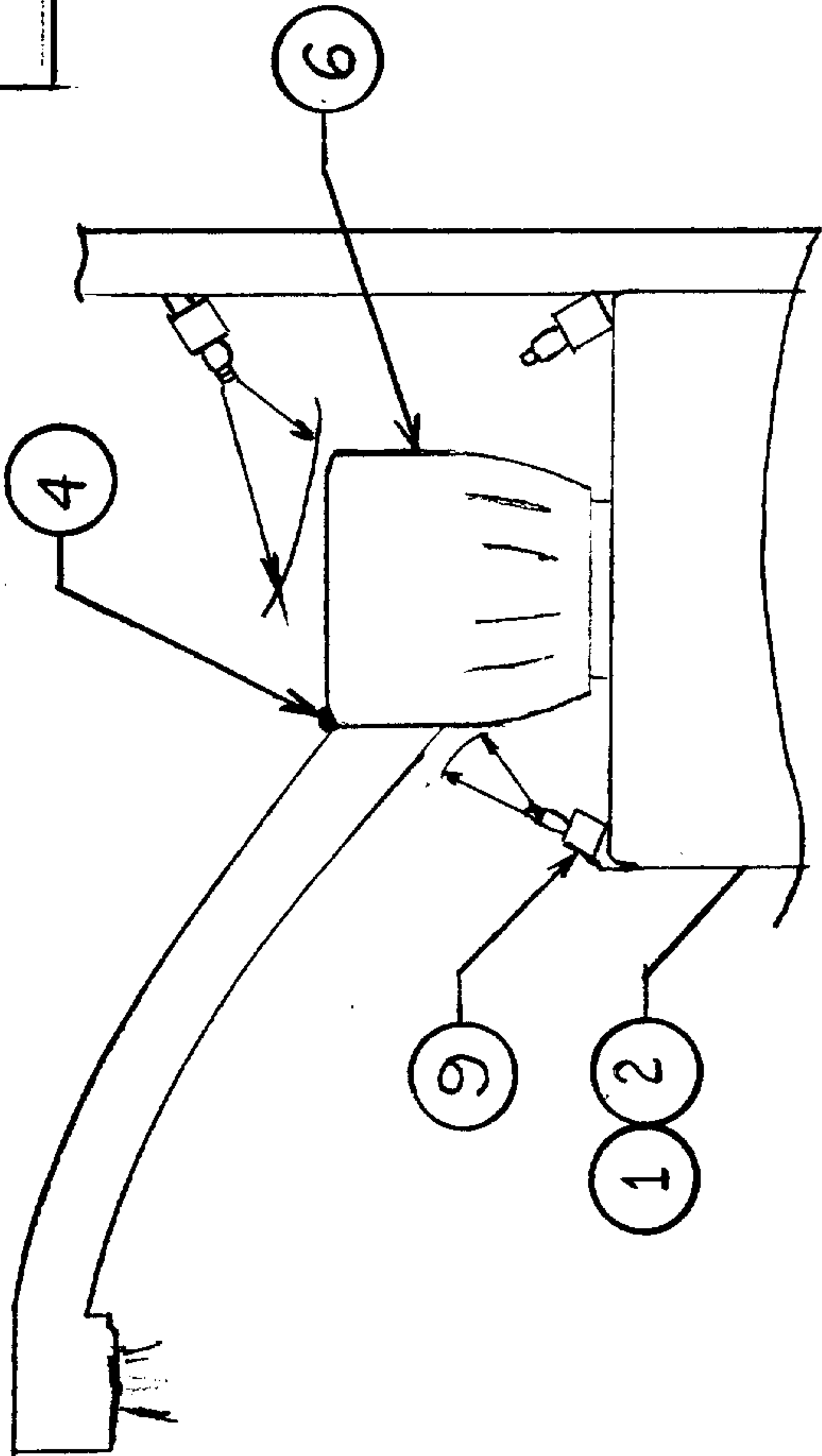
DWG # 2



9	DISPERSION NOZZLES
6	CAPACITIVE PROX. SENSOR
4	OPTICAL SENSOR
3	NOZZLE
2	RESERVOIR
1	PUMP



1	PUMP
2	RESERVOIR
4	OPTICAL SENSOR
6	CAPACITIVE PROXIMITY SENSOR
9	DISPERSION NOZZLE



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DWG # 5