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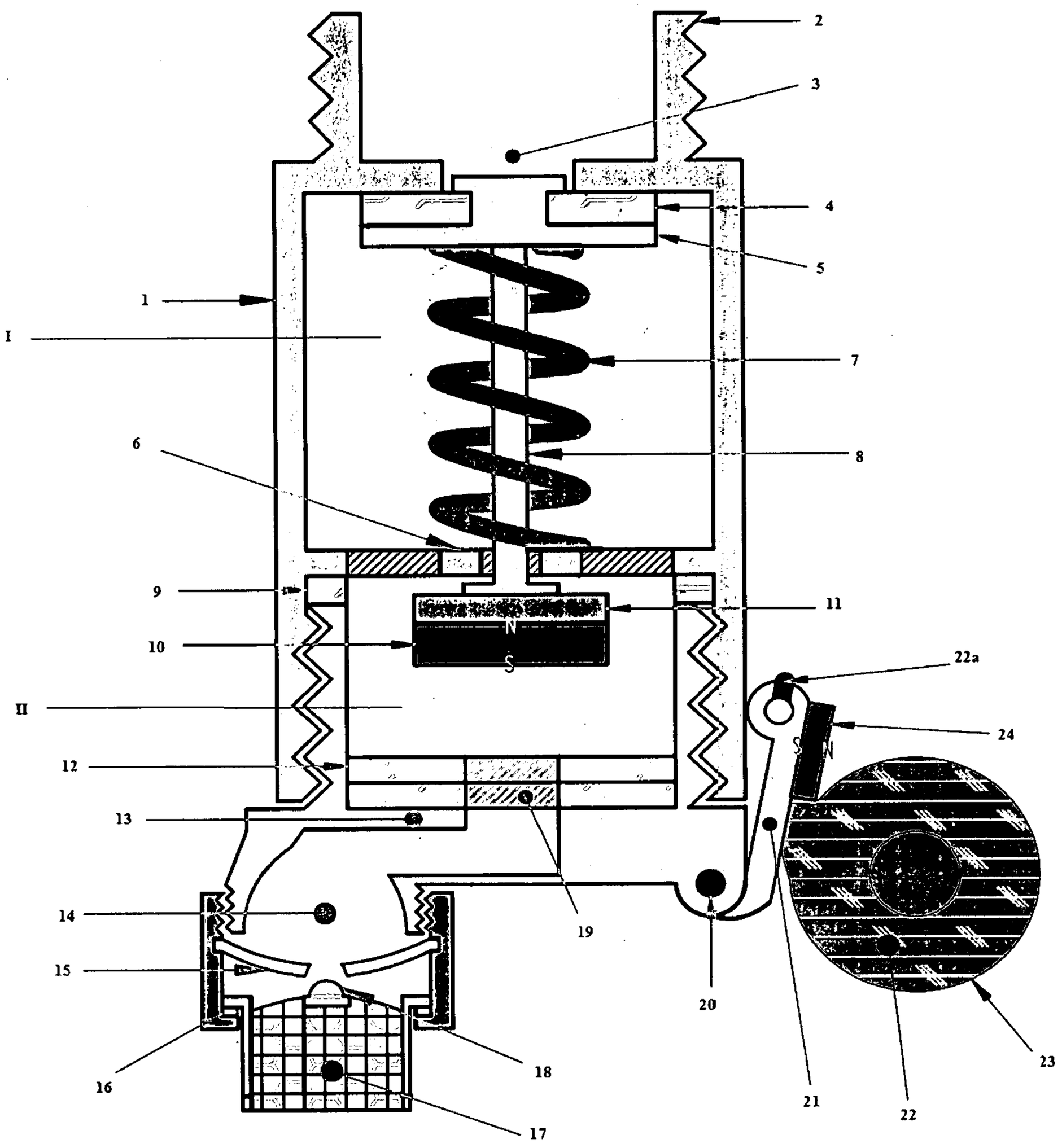


Figure 1(a)

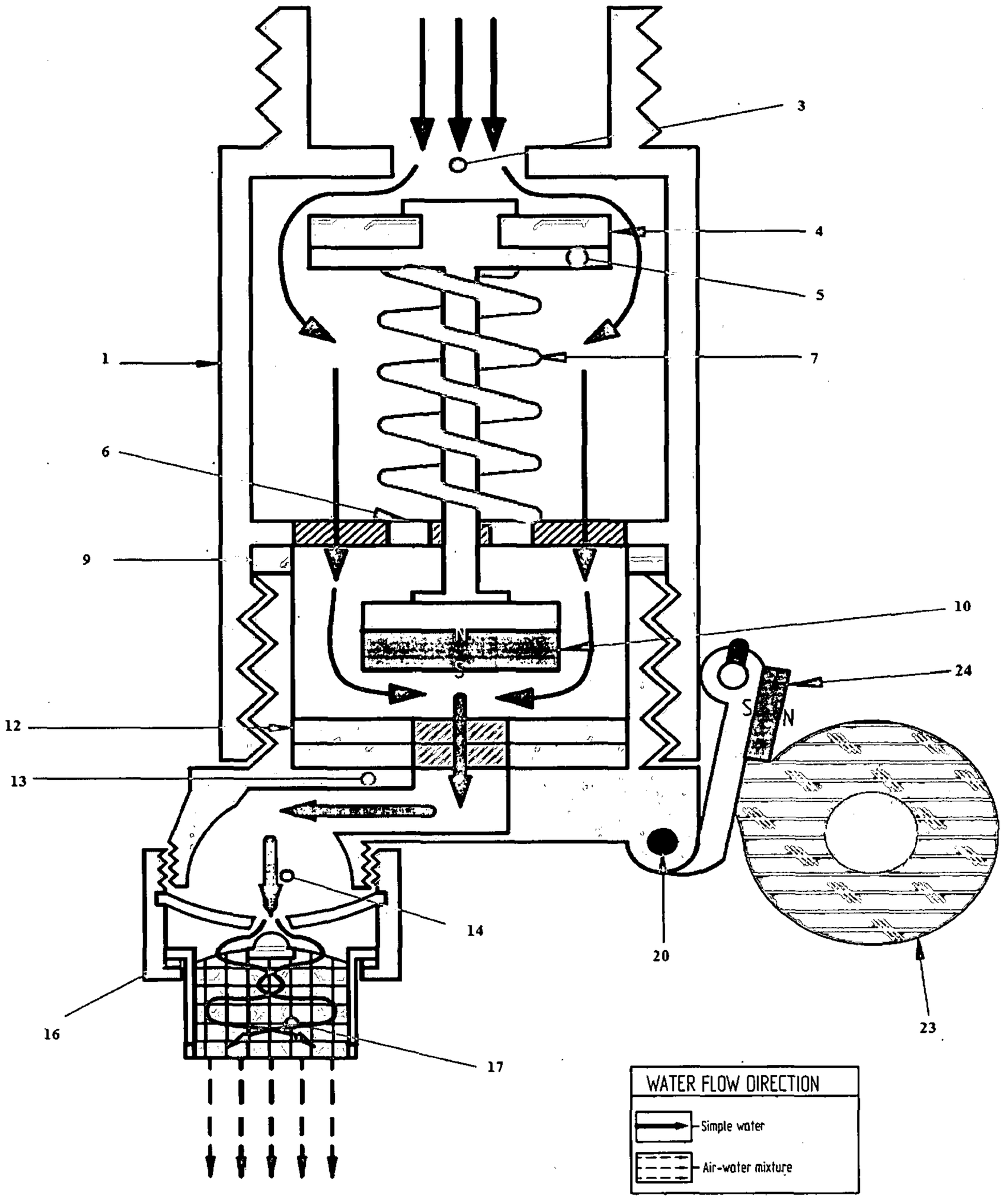

3
4
5
1
7
6
9
10
24
12
13
14
20
16
17
23
WATER FLOW DIRECTION
Simple water
Air-water mixture

Figure 1(b)

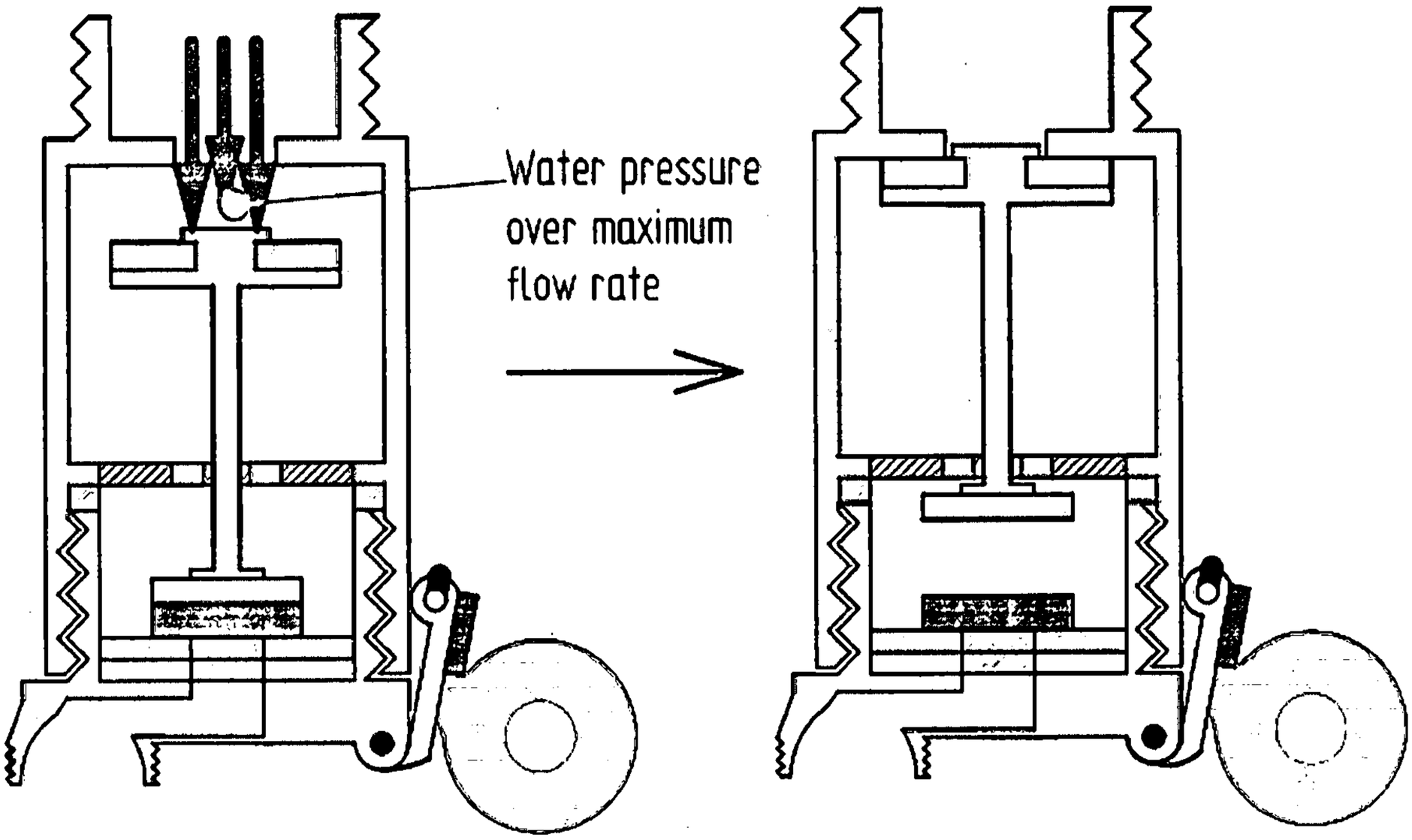


Figure 2

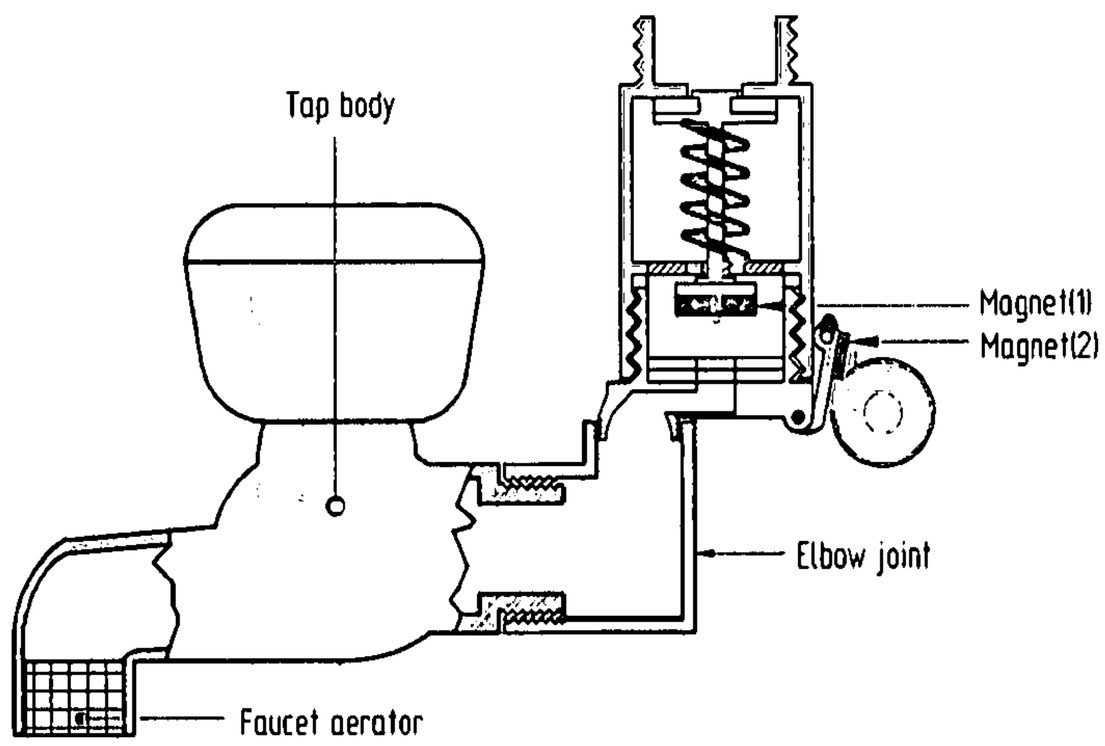
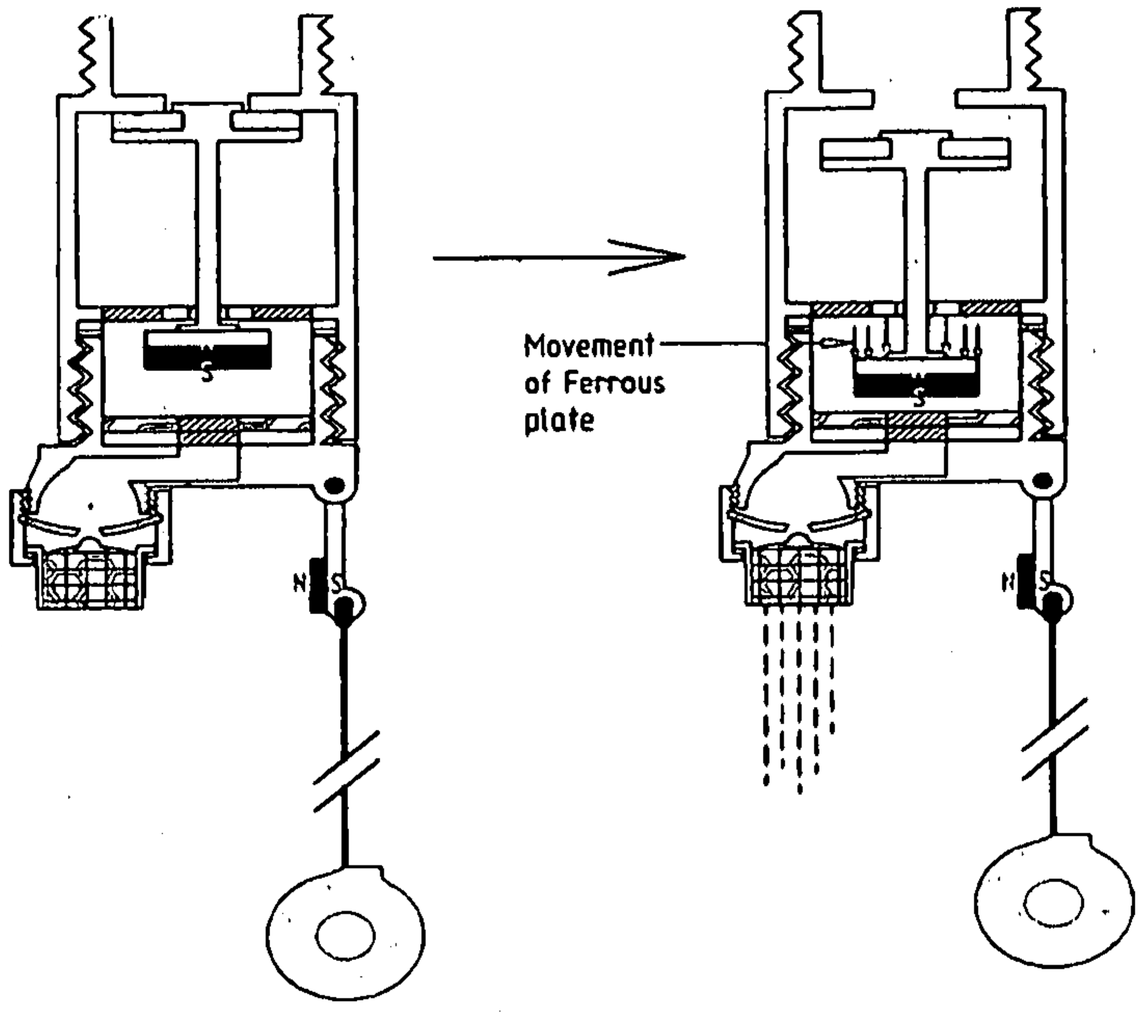
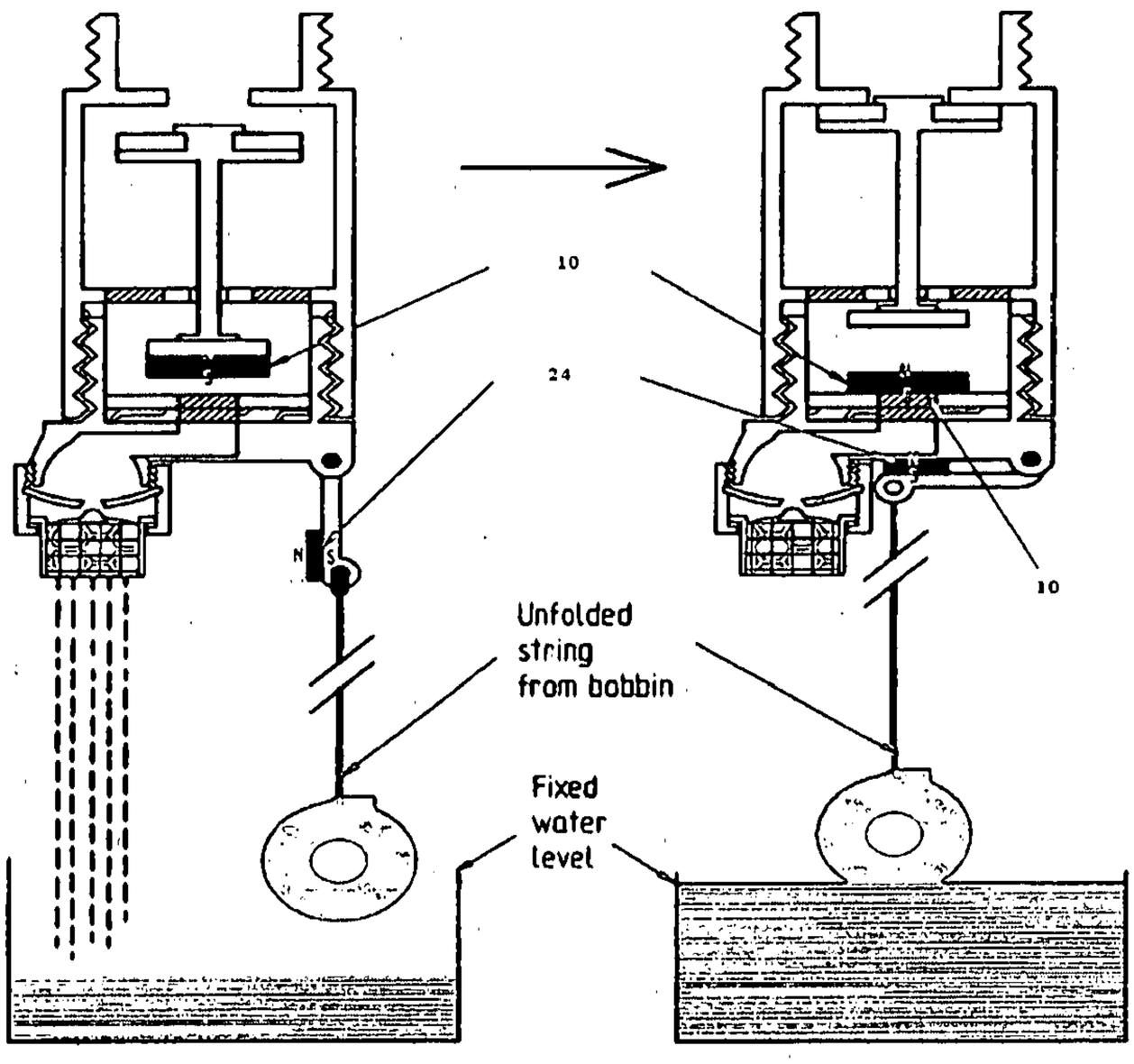


Figure 3



(a) (b)

Figure 4



(a) (b)

Figure 5

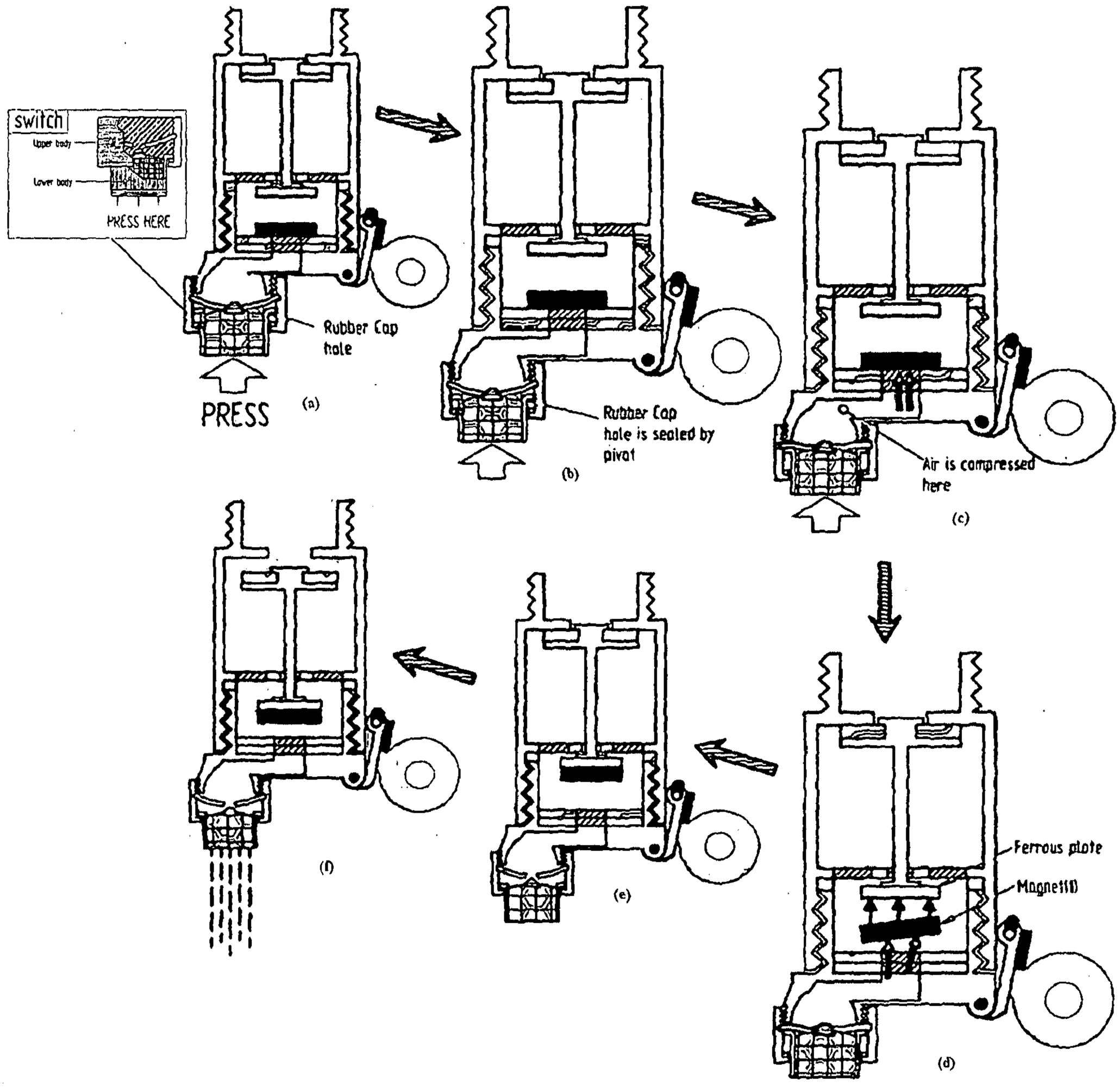
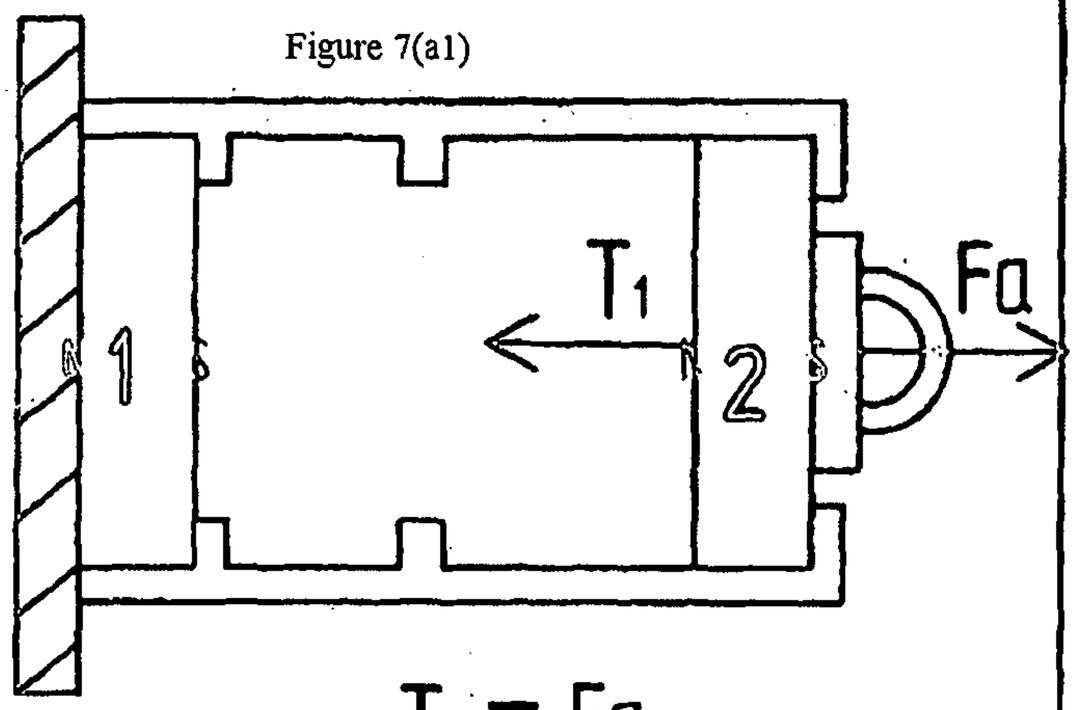

switch
Upper body
Lower body
PRESS HERE
Rubber Cap hole
PRESS
(a)
Rubber Cap hole is sealed by pivot
(b)
Air is compressed here
(c)
(f)
(e)
Ferrous plate
Magnet(0)
(d)

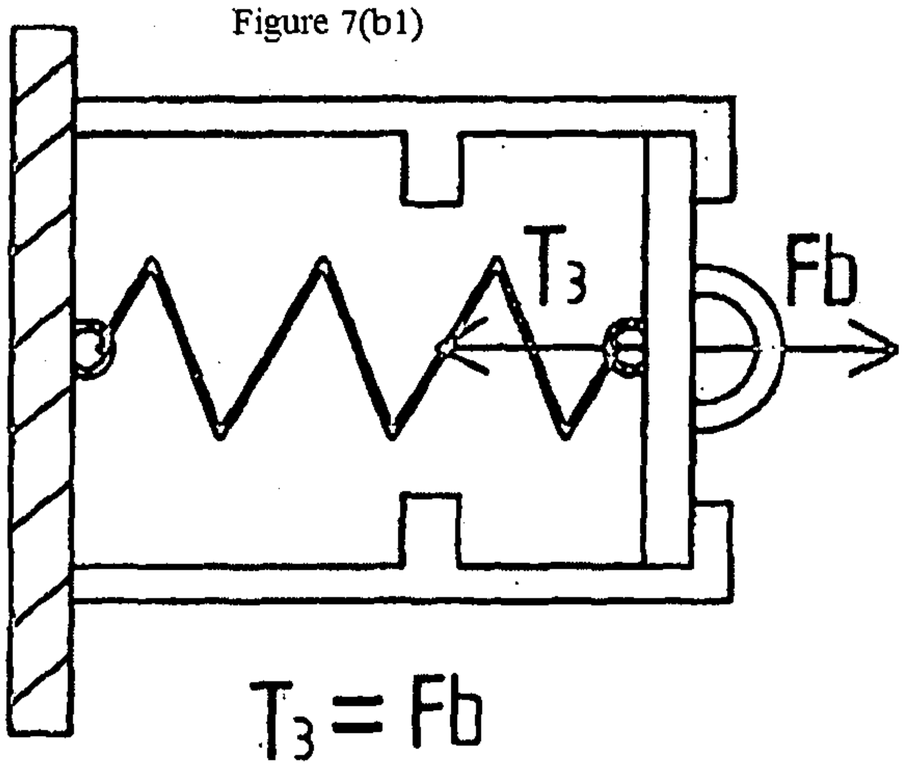
Figure 6

Figure 7(a1)



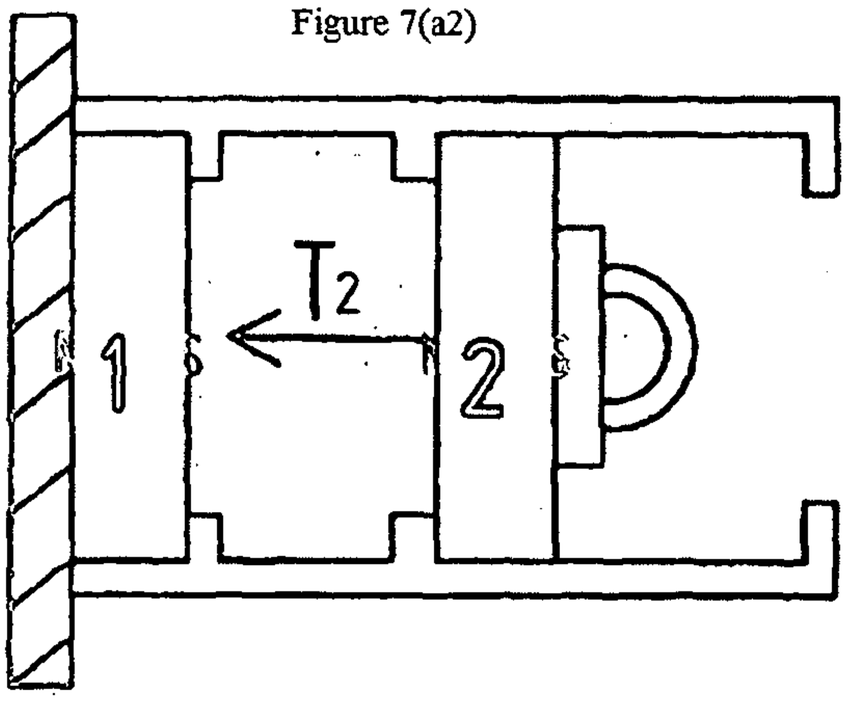
$T_1 = Fa$

Figure 7(b1)



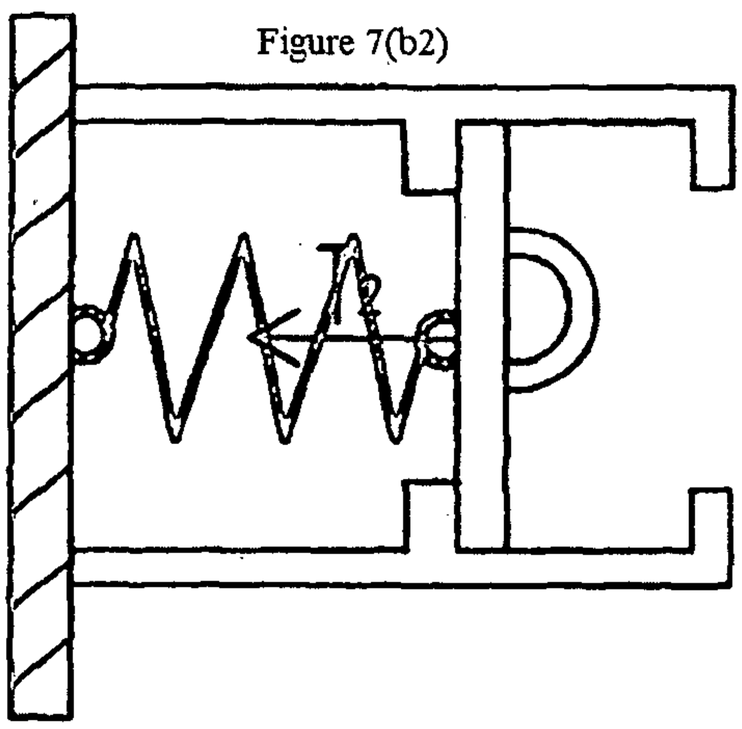
$T_3 = Fb$

Figure 7(a2)



$T_1 < T_2$

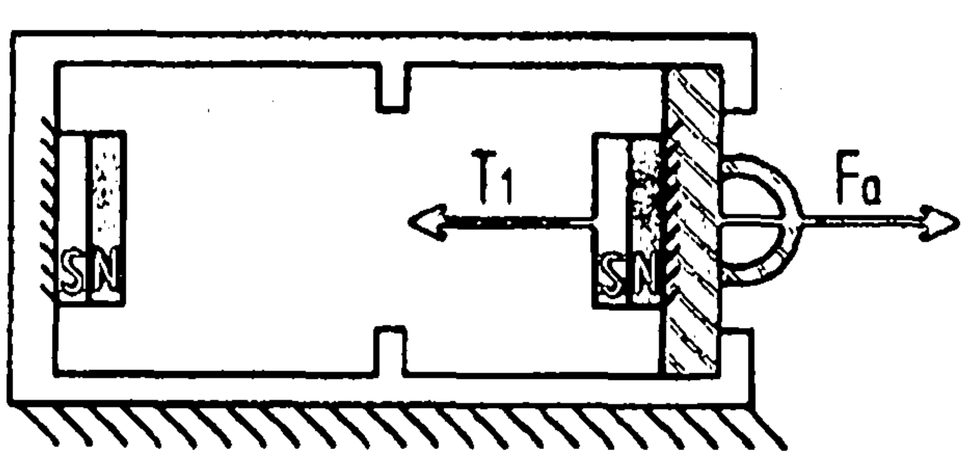
Figure 7(b2)



$T_3 > T_2$

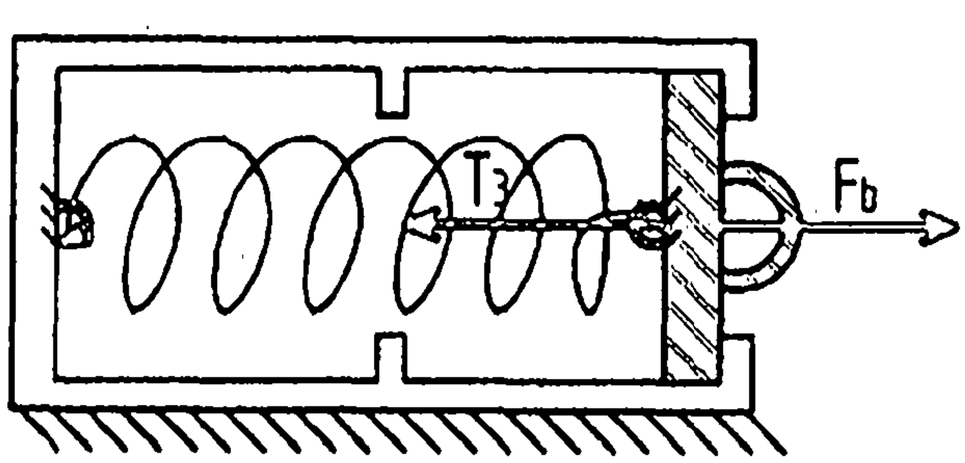
$Fa << Fb$

Figure 8(a1)



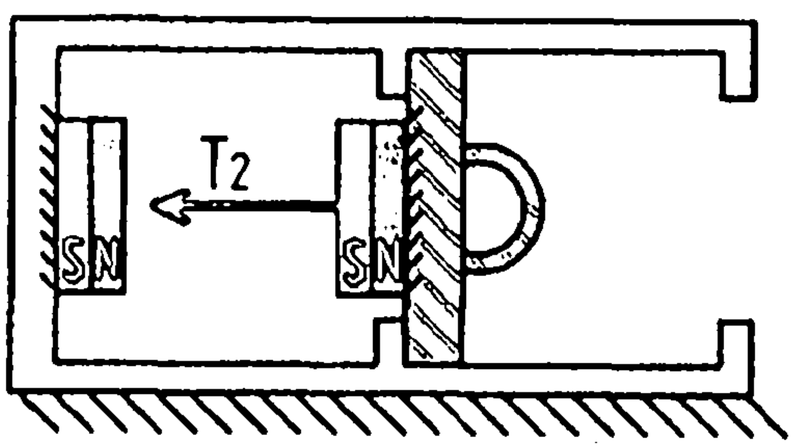
$T_1 = F_a$

Figure 8(b1)



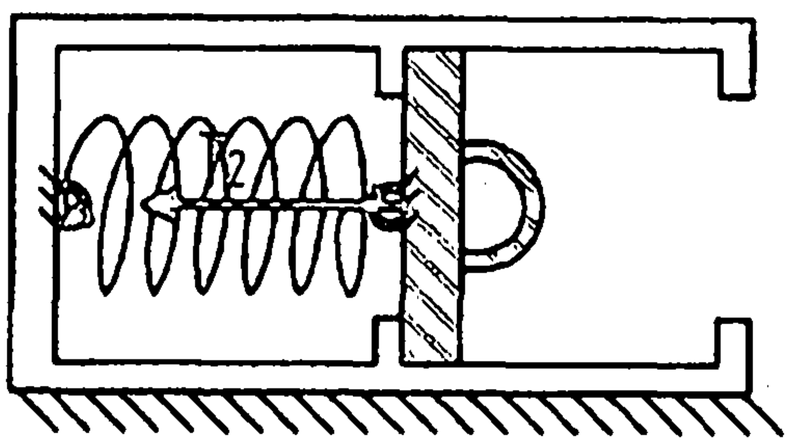
$T_3 = F_b$

Figure 8(a2)



$T_1 < T_2$

Figure 8(b2)



$T_2 < T_3$

$T_1 < T_2 < T_3$

$F_a << F_b$

TITLE: AUTOMATIC FLUID FLOW CONTROLLING DEVICE FOR STOPPING FLOW OF RUNNING FLUID.

FILED OF THE INVENTION:

The present invention relates to a technology for automatically controlling flow of running fluid. In particular, the present invention is directed to develop an automatic fluid flow controlling device adapted for stopping flow of the running fluid when the fluid flow exceed a certain flow rate as well as stopping flow of the running fluid flow when fluid level in a vessel wherein the running fluid is being delivered reaches a certain height.

BACKGROUND OF THE INVENTION:

There are many instances wherein flow of a fluid medium running through a guiding means or tubing systems needs to be regulated to restrict overuse/wastage of the fluid. Desirably, such automated control of flow of the running fluid should maintain an initially set flow rate of the running fluid and automatically stop the flow of the running fluid upon detecting the flow rate exceeding the initially set flow rate.

The presently available automated system for controlling flow of fluid/water running through a guiding means or tubing systems involves complex instrumentation and operates only with the assistance of sophisticated electronics devices. Therefore, presently available automated systems for controlling flow of fluid/water running through a guiding means or tubing systems can only be applied where corresponding supports such as electric power, complex instrumentation implementing facility and like are available.

In the modern civilization, the excessive use or consumption of water from running tap in houses, railway stations, hotels and other public and industrial establishments is a serious problem considering the limited resource of useable water. Water overfilling in container is one of the major reasons of water wastage. Modern float valve based water overfilling preventing device are getting smaller day by day but they are still bulky and they have lack of flexibility. The main drawback in the modern float valve based water overfilling preventing device is that they need to be attached with the container or vessel wall and has limited range of adjustable fluid height.

It is thus, there has been a need for developing a reliable, non electric, cheap and simplistic device for automatically restricting and/or stopping flow of the running fluid when the fluid flow exceed a certain flow rate as well as stopping flow of the running fluid flow when fluid level in a vessel/container wherein the running fluid is being delivered reaches a certain height without the need of contact with the container or vessel for functioning and should have a unlimited range of adjustable fluid height at the flow needs to stop.

OBJECT OF THE INVENTION:

It is thus the basic object of the present invention is to develop an automatic fluid flow controlling device which would be adapted to stop flow of the running fluid when the fluid flow exceed a certain flow rate.

Another important object of the present invention is to develop an automatic liquid flow controlling device which would be adapted to stop flow of the running liquid flow when liquid level in a vessel wherein the running liquid is being delivered reaches a certain height adjustable according to the requirement by involving negative tensile spring mechanism in device operation.

Another object of the present invention is to develop an automatic fluid flow controlling device which would be adapted to operate without involving any electricity or electronic device assistance.

Yet another object of the present invention is to develop an automatic fluid flow controlling device which would be adapted to operate as a multi tasking water saving device and involve spring and valve based mechanism in which whenever water flow inside the device it will observes the flow rate of the water and can check the overflow of water, in such a condition the valve gets closed, whenever there is extra flow of water trough the device, the device acts as a safety valve which can close from inside as soon as the water extends the pressure.

Another object of the present invention is to develop an automatic fluid flow controlling device for stopping flow of the running liquid when the liquid flow exceed a certain flow rate which would be reliable in operation, cheap and easy to fabricate.

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Another object of the present invention is to develop an automatic fluid flow controlling device for stopping flow of the running fluid when the fluid flow exceed a certain flow rate which would be adapted to

SUMMARY OF THE INVENTION:

Thus according to the basic aspect of the present invention there is provided a device for flow control of fluid in pipelines to various utility fluid outlets like water taps, on line systems and the like by blocking fluid flow from a pipeline to the utility fluid outlet when the flow exceeds a predetermined flow rate comprising:

a top chamber vertically arranged over a bottom chamber with a separating member partitioning the chambers, said top chamber comprises an entrance hole for receiving running fluid into the top chamber from the pipeline;

an inner supporting stem having at its one end confined within the top chamber a spring biased pressure releasable valve plate seal adapted to block the entrance hole while the other end of the inner supporting stem extends into the bottom chamber through an opening in the separating member;

the end of the inner supporting stem extending into the bottom chamber having a catcher plate with a detachably secured flow controlling first magnet attached with the catcher plate under magnetic interaction;

the bottom chamber having a base with a bottom outflow opening,

wherein when the fluid flow pressure in the pipeline acts on the spring biased pressure releasable valve plate seal to displace the same with the inner supporting stem extending into the bottom chamber to bring the flow controlling first magnet connected at the catcher plate of the other end of said inner supporting stem closer to the bottom outflow opening and allows flow through the bottom opening until the allowable pre-determined flow rate through the pipeline and upon reaching the pre-determined flow rate the flow controlling first magnet reached the bottom opening to thereby lock the outflow opening of the bottom chamber to thereby disconnect the fluid flow to said utility outlet , the magnetic attractive force between the catcher plate and the first magnet being reduced with respect to the tension of the catcher plate under extended position of its spring bias enabling automatized

detachment of the first magnet from the catcher plate from its connection to the inner supporting stem thereby releasing the inner supporting stem with the catcher plate to revert back to its position to block the entrance hole in the top chamber by the spring biased pressure releasable valve plate seal to block any reverse flow through said entrance hole and close the pipeline communication.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, the catcher plate is a magnetically active ferrous plate.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, further comprising means to release the first magnet's releasable blocking of the bottom outlet for subsequent flow and reattachment of the first magnet to the catcher plate under magnetic attraction,

said means to release the first magnet is in cooperation with any utility outlet communicatively connected to the bottom outlet and enables release of the first magnet from the outflow opening of the bottom chamber and its cooperative reassembling with respect to the catcher plate connected to the inner supporting stem under magnetic interaction therebetween the two upon freeing of the first magnet from the outflow opening of the bottom chamber.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, comprises a common housing for the top and bottom chamber with the separating member separating the chambers and having water a parsing hole through which the inner supporting stem extending into the bottom chamber and the bottom chamber having the bottom outflow opening in a support plate with cooperative washers.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, the top chamber is provided with an externally threaded portion to connect to any liquid or water pipeline to receive running liquid or water; and an entrance

hole provided within the externally threaded portion through which the running liquid or water enters into the top chamber.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, the flow rate is based on a gap therebetween the first magnet and the top of the bottom outlet opening with or without a washer such that for greater flow rate of fluid, said gap is more while for desired slower flow the gap is reduced.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, the maximum flow rate can be controlled by varying the thickness of the first magnet or the washer on top of the bottom outlet or a number of washers.

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According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, further comprising

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at least one magnetic actuator for cooperating with the first magnet for any utility fluid outlet outflow control based on fluid level control, said magnetic actuator comprises

a second magnet mounted on a support bar, the support bar is attached at one end with a hinge joint on the device and is attached at an other end with a freely suspending string; and

a spring powered self-rolling bobbin in a waterproof cover attached to the other end of the string, the bobbin placed in a vessel to which the running liquid is delivered.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, a hinged disposition of the second magnet on the support bar holds the second magnet at a distance from the first magnet within their magnetic force of attraction by a tensile force produced by the weight of the bobbin;

wherein when the liquid level in the vessel reaches the bobbin, buoyancy forces reduce the weight causing the second magnet to move towards the first magnet which rapidly increases the attraction force between the two magnets and further causing the attraction force between the first magnet and the second magnet to exceed the attraction force between ferrous plate and the first magnet resulting in the first magnet moving towards the direction of the second magnet and away from the ferrous plate and fixing of the first magnet with the washer locking the outflow opening of the bottom chamber to stop the liquid outflow.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, height of the liquid level to stop the liquid outflow is adjusted by adjusting the length of the freely suspended string.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets, the means to release the first magnet comprises

a rubber cap with hole;

a faucet aerator with supportive airtight seal;

pivot; and

a switch on the faucet aerator for unlocking the outflow opening of the bottom chamber by a compressive force based release of the first magnet from the outflow opening of the bottom chamber and its cooperative reassembling with the ferrous plate under magnetic interaction therebetween upon freeing of the first magnet from the outflow opening of the bottom chamber.

According to another aspect in the present device for flow control of liquid in pipelines to various utility fluid outlets,

wherein the switch on the faucet aerator is operatively connected to the utility outlet of the outflow opening of the bottom chamber;

wherein pressing of the switch pressing of the switch on the faucet aerator enables the pivot to seal the rubber cap hole and compresses inner air of the utility outlet by involving the airtight rubber cap which creates air pressure on the first magnet on the washer against the pressure of stagnant liquid, whereby the air pressure combined with the magnetic force of attraction between the first magnet and the ferrous plate on exceeding the pressure of the stagnant liquid on the first magnet enables the first magnet to go back to its previous position and resume flow of the liquid..

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS:

Figure 1(a) shows a preferred embodiment of the automatic fluid flow controlling device for stopping flow of the running fluid when the fluid flow exceed a certain flow rate in accordance with the present invention.

Figure 1(b) shows direction of fluid flow within the present automatic fluid flow controlling device in accordance with the present invention.

Figure 2(a) and (b) shows operation of the present device for stopping the flow of the running fluid upon detecting the flow rate exceeding the initially set flow rate.

Figure 3 shows a preferred embodiment of the present automatic fluid flow controlling device installed between a tap and running water pipe for stopping flow of the running water.

Figure 4(a) and (b) shows configuration of the present automatic fluid flow controlling device along with the means for determining liquid level in a vessel wherein the running liquid is being delivered.

Figure 5(a) and (b) shows operation of the present device along with the means for determining liquid level in a vessel wherein the running liquid is being delivered.

Figure 6(a)-(f) shows a preferred manner of resetting of the present automatic flow controlling device after stopping flow of the running liquid/fluid in accordance with the present invention.

Figure 7 and 8 illustrates negative tensile spring mechanism in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION WITH REFERENCE TO THE ACCOMPANYING DRAWINGS:

The present invention discloses a device for flow control of fluid in pipelines to various utility fluid outlets like water taps and the like by blocking fluid flow from pipeline to said utility fluid outlet when the flow exceeds a predetermined flow rate. In other word, the present invention discloses an automatic fluid flow controlling device for restricting or stopping flow of the fluid medium running through the guiding means or the tubing system when fluid flow exceed a certain flow rate as well as stopping flow of the running liquid flow when liquid level in the vessel wherein the running liquid is being delivered reaches a certain height.

Reference is first invited from the accompanying figure 1(a) which shows a preferred embodiment of the automatic flow controlling device for stopping flow of the running fluid when fluid flow exceed a certain flow rate. As shown in the accompanying figure 1, the main structure of the present device includes a housing body (1) for enclosing the device components. The housing body (1) can be considered as combination of a top chamber (**I**) vertically arranged over a bottom chamber (**II**) and separated by a separating member i.e. supporting plate (6). The top chamber (**I**) includes an connecting provision preferably externally or internally threaded portion (2) adapted to be attached with the guiding means or the tubing system such as water/fluid pipeline to receive the running fluid or water and an entrance hole (3) which is provided within the top threaded portion (2) through which the running water/fluid enter into the top chamber (I) of the cylindrical body (1).

As shown in the accompanying figure 1, a pressure release valve plate seal (4) fixed on a valve plate (5) is provided within the body (1) adjacent to the entrance hole (3) which moves back due to pressure of the running fluid and allowing the running fluid to enter within the top chamber. The valve plate seal (4) biased with a compressing spring (7) and an inner supporting stem (8). Other end of the compressing spring (7) is supported to the supporting plate (6).

Below of this supporting plate (6), the body (1) includes a bottom internally threaded portion wherein the bottom chamber (**II**) housing is threadably attached and waterproofed by using a seal (9). The compressing spring (7) is confined within the top chamber while the inner supporting stem (8) is extended into the bottom chamber (**II**) through one hole defined in the supporting plate (6). Around this hole, one or more water passing holes are provided in the supporting plate (6).

A catcher plate (11) preferably a ferrous plate is attached on the inner supporting stem (8) end which rests within the bottom chamber (**II**). A freely movable first magnet (10) is temporarily attached with the ferrous plate (11) by using magnetic interaction. A rubber washer (12) is provided on a bottom outflow opening (19) on base of the bottom chamber housing and secured over a washer support base (13). The fluid/water can coming out from the housing body (1) through the bottom outflow opening and reach at exit hole (14) wherein a fluid/water discharging device can be attached with the chamber housing.

The fluid/water discharging device preferably includes a rubber cap (15) with hole, a faucet aerator (17) with supportive airtight seal (16) and pivot (18).

Reference is next invited to the accompanying figure 1(b) which shows flow direction of fluid/water within the present automatic fluid flow controlling device and operation of the device components in order to restrict and/or stop flow of the running fluid when the fluid flow exceed the certain flow rate. As shown in the referred figure, the running water/fluid which enter into the cylindrical body through the entrance hole (3) creates a pressure on the valve plate seal (4) which causes back motion of the valve plate (5) and compression of the spring (7) with the inner stem (8) which directs the ferrous plate with the first magnet (10) towards the rubber washer (12). It is thus, when the flow rate of running water/fluid increases the distance between the first magnet (10) and the rubber washer (12) decreases and with increasing flow rate if the magnet (10) touches the rubber washer (12) when the flow rate just exceeds the maximum flow rate i.e. situation shown in the accompanying figure 2(a) then it will act like a check valve and stops the water/fluid flow using as shown in figure 2(b).

It is not required that the diameter of the ferrous plate (11) and the first magnet (10) should be equal. As the first magnet block the outflow opening as a check valve, it gets attached tightly to the outflow opening (19). As the fluid outflow stops, fluid pressure in the chambers and at the entrance hole became same, so the pressure on the valve plate seal (4) is removed and thus the compressing spring (7) starts expand. As the expansion tension of the spring (7) is greater than magnetic attraction force between the first magnet (10) and the ferrous plate (11), the magnet (10) separated from the ferrous plate water and expansion of the spring (7) directs the ferrous plate (11) and the pressure release valve plate seal (4) to original position for stopping reverse flow of the fluid.

The maximum flow rate of the device can be decreased by increasing the thickness (or number) of the washer.

Reference is next invited from the accompanying figure 3 which shows a preferred embodiment of the present automatic flow controlling device installed between a tap and running water pipe for restricting and/or stopping flow of the running water. As shown in the referred figure, faucet aerator of the water discharging device decreases the flow rate of water (which is normally above the maximum flow rate of the device) through the device. So that, if the aerator or the tap is broken or removed, then the flow rate will exceed the maximum flow rate of the device, as a result the flow rate of water stops automatically.

In a preferred embodiment, the present device comprises a means for determining liquid level in a vessel wherein the running liquid is being delivered and accordingly stopping the flow of the running fluid based on fluid level in the vessel wherein the running liquid is being delivered.

The means is externally attached with the housing body (2) and includes a second magnet (24) fixed with a support bar (21). One end of the bar (21) is attached with a hinge joint (20) from device and other end is attached with a string knot (22a). Other end of the string (22) is also attached with a spring powered self rolling bobbin (23) in a waterproof cover. The accompanying figure 4(a) (before flow start) and (b) (after flow start) shows configuration of the present device along with the said means for determining liquid level in a vessel wherein the running liquid is being delivered.

The working principle of the above said means includes negative tensile spring mechanism. The accompanying figure 5(a)-(b) illustrates the working principle of the means for determining liquid level in a vessel wherein the running liquid is being delivered and accordingly stopping the flow of the running liquid based on liquid level in the vessel wherein the running liquid is being delivered. Here, the second magnet (24) is held in a distance from the first magnet (10) within their magnetic force of attraction using a minimal tensile force (just above zero) produced by the weight of the covered bobbin as shown in figure 5(a). When the water/liquid level reaches the bobbin, buoyancy force reduce the weight as a result the second magnet (24) starts to move towards the first magnet (10) which results in rapidly increasing tension force between the two magnets. In a momentary period of time the attraction force between the first magnet (10) and second magnet (24) exceeds the attraction force between ferrous plate and the first magnet (10). As a result the first magnet

(10) moves towards the direction of the second magnet (24) away from ferrous plate and fixes itself with the rubber washer (because rubber washer here acts as an obstruction in the direction of movement of the first magnet (10) which acts as a check valve and water stops flowing (shown in figure 5(b).

In the present system, the mechanism for resetting the fluid flow comprises releasing the fluid pressure on top of said first magnet blocking the bottom outlet opening by cooperative outlet means for draining out fluid from said bottom chamber to thereby release of the first magnet from said outflow opening of said bottom chamber and its cooperative reassembling with respect to the ferrous plate connected to the inner supporting stem under magnetic interaction there between the two upon freeing of the first magnet from said outflow opening of said bottom chamber.

Reference is next invited to the accompanying figure 6(a)-(f) which shows a preferred operative sequences associated with resuming flow of the fluid/water after stopping flow of the running fluid in the present automatic flow controlling device by involving compressive force means in the fluid/water discharging device. As shown in the referred figures, upon pressing of switch (shown inset of fig 6a) provided on the faucet aerator (17), the pivot (18) will first seal the rubber cap hole (15) as shown in figure 6(b). Then the airtight rubber cap will compress the air as shown in figure 6(c) which creates a little amount of pressure on the first magnet (10) against the pressure of the stagnant water/fluid. But according to "negative tensile spring" mechanism, here ferrous plate (11) is held in a distance from the magnet (10) within its magnetic force of attraction (which is slightly below the water pressure) using a tensile force produced by water/fluid pressure. So the little amount of air pressure combined with the magnetic force of attraction exceed the huge pressure of the water/fluid as shown in the figure 6(d) and the magnet (10) will go back to its previous position as shown in figure 6(e) and the water/fluid starts flowing normally as shown in figure 6(f).

The negative tensile spring mechanism as referred hereinbefore is a specific combination between two magnets or between one magnet and one magnetic material i.e. when one magnet is held in a distance with another magnet or magnetic material within their magnetic force of attraction using a tension force (Fa) which should be greater than zero. The

situation can be compared with a tensile tension spring held in tension using tensile force (Fb) which should be lower than its elastic limit (shown in figure 7b1; 8b1). After removing the tensile force, except the opposite behavior, the magnetic combination almost works like a simple tensile spring, so it is mentioned as negative tensile spring. The negative tensile spring has minimum tension (T_1) in its initial state (figure 7a1; 8a1) and maximum tension (T_2) in its final state (figure 7a2; 8a2). But tensile spring has maximum tension (T_3) in its initial state (figure 7b1; 8b1) and minimum tension (T_2) in its final state (fig. 7b2; 8b2). So, this mechanism can be used as a substitute of tensile spring (held in tension), in those situation where one can apply a small amount of force (may be just greater than zero) but it is needed to apply or produce huge amount of compressive force to fulfill our mechanical requirement for the small, sensitive, high performance mechanical devices. It is also long lasting because of the minimum tension in its initial state.

While the present invention may have been described through reference to specific embodiments, the invention is not limited to these specific embodiments. Other changes and modifications known to those of ordinary skill are intended to be included within the scope of the present invention.

WE CLAIM:

1. A device for flow control of fluid in pipelines to various utility fluid outlets like water taps, on line systems and the like by blocking fluid flow from a pipeline to the utility fluid outlet when the flow exceeds a predetermined flow rate comprising:

a top chamber vertically arranged over a bottom chamber with a separating member partitioning the chambers, the top chamber comprises an entrance hole for receiving running fluid into the top chamber from the pipeline;

an inner supporting stem having at its one end confined within the top chamber a spring biased pressure releasable valve plate seal adapted to block the entrance hole while the other end of the inner supporting stem extends into the bottom chamber through an opening in the separating member;

the end of the inner supporting stem extending into the bottom chamber having a catcher plate with a detachably secured flow controlling first magnet attached with the catcher plate under magnetic interaction;

the bottom chamber having a base with a bottom outflow opening,

wherein when the fluid flow pressure in the pipeline acts on the spring biased pressure releasable valve plate seal to displace the same with the inner supporting stem extending into the bottom chamber to bring the flow controlling first magnet connected at the catcher plate of the other end of said inner supporting stem closer to the bottom outflow opening and allows flow through the bottom opening until the allowable pre-determined flow rate through the pipeline and upon reaching the pre-determined flow rate the flow controlling first magnet reached the bottom opening to thereby lock the outflow opening of the bottom chamber to thereby disconnect the fluid flow to said utility outlet , the magnetic attractive force between the catcher plate and the first magnet being reduced with respect to the tension of the catcher plate under extended position of its spring bias enabling automatized detachment of the first magnet from the catcher plate from its connection to the inner supporting stem thereby releasing the inner supporting stem with the catcher plate to revert back to its position to block the entrance hole in the top chamber by the spring biased pressure releasable valve plate seal to block any reverse flow through said entrance hole and close the pipeline communication.

2. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 1 wherein the catcher plate is a magnetically active ferrous plate.

3. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 2, further comprising means to release the first magnet's releasable blocking of the bottom outlet for subsequent flow and reattachment of the first magnet to the catcher plate under magnetic attraction,

said means to release the first magnet is in cooperation with any utility outlet communicatively connected to the bottom outlet and enables release of the first magnet from the outflow opening of the bottom chamber and its cooperative reassembling with respect to the catcher plate connected to the inner supporting stem under magnetic interaction therebetween the two upon freeing of the first magnet from the outflow opening of the bottom chamber.

4. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 1 comprising a common housing for the top and bottom chamber with the separating member separating the chambers and having water a parsing hole through which the inner supporting stem extending into the bottom chamber and the bottom chamber having the bottom outflow opening in a support plate with cooperative washers.

5. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 1, wherein the top chamber is provided with an externally threaded portion to connect to any liquid or water pipeline to receive running liquid or water; and an entrance hole provided within the externally threaded portion through which the running liquid or water enters into the top chamber.

6. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 1, wherein the flow rate is based on a gap therebetween the first magnet and the top of the bottom outlet opening with or without a washer such that for greater flow rate of fluid, said gap is more while for desired slower flow the gap is reduced.

7. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 6, wherein the maximum flow rate can be controlled by varying the thickness of the first magnet or the washer on top of the bottom outlet or a number of washers.

8. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 1, further comprising

at least one magnetic actuator for cooperating with the first magnet for any utility fluid outlet outflow control based on fluid level control, said magnetic actuator comprises

a second magnet mounted on a support bar, the support bar is attached at one end with a hinge joint on the device and is attached at an other end with a freely suspending string; and

a spring powered self-rolling bobbin in a waterproof cover attached to the other end of the string, the bobbin placed in a vessel to which the running liquid is delivered.

9. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 8, wherein a hinged disposition of the second magnet on the support bar holds the second magnet at a distance from the first magnet within their magnetic force of attraction by a tensile force produced by the weight of the bobbin;

wherein when the liquid level in the vessel reaches the bobbin, buoyancy forces reduce the weight causing the second magnet to move towards the first magnet which rapidly increases the attraction force between the two magnets and further causing the attraction force between the first magnet and the second magnet to exceed the attraction force between ferrous plate and the first magnet resulting in the first magnet moving towards the direction of the second magnet and away from the ferrous plate and fixing of the first magnet with the washer locking the outflow opening of the bottom chamber to stop the liquid outflow.

10. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 9, wherein height of the liquid level to stop the liquid outflow is adjusted by adjusting the length of the freely suspended string.

11. The device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claims 3, wherein the means to release the first magnet comprises

a rubber cap with hole;

a faucet aerator with supportive airtight seal;

pivot; and

a switch on the faucet aerator for unlocking the outflow opening of the bottom chamber by a compressive force based release of the first magnet from the outflow opening of the bottom chamber and its cooperative reassembling with the ferrous plate under magnetic interaction therebetween upon freeing of the first magnet from the outflow opening of the bottom chamber.

12. A device for flow control of liquid in pipelines to various utility fluid outlets as claimed in claim 11,

wherein the switch on the faucet aerator is operatively connected to the utility outlet of the outflow opening of the bottom chamber;

wherein pressing of the switch pressing of the switch on the faucet aerator enables the pivot to seal the rubber cap hole and compresses inner air of the utility outlet by involving the airtight rubber cap which creates air pressure on the first magnet on the washer against the pressure of stagnant liquid, whereby the air pressure combined with the magnetic force of attraction between the first magnet and the ferrous plate on exceeding the pressure of the stagnant liquid on the first magnet enables the first magnet to go back to its previous position and resume flow of the liquid.