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AUTOMATIC WATERING FOUNTAIN

2,662,503

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FIG. 1.

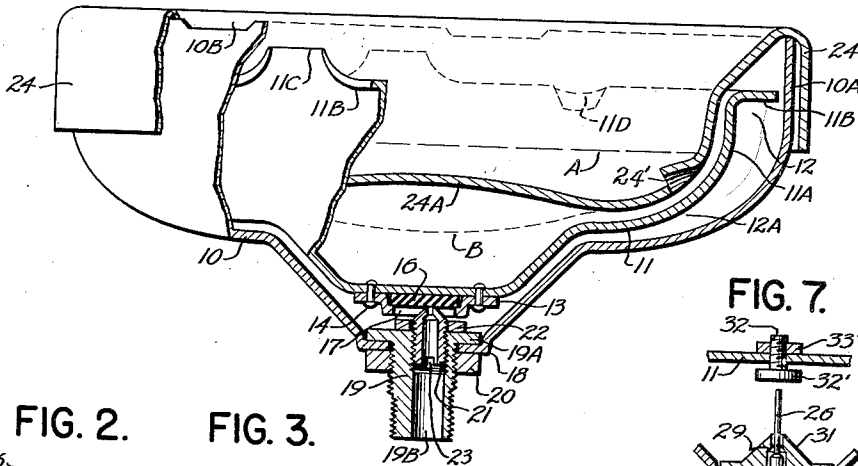
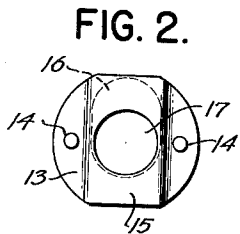
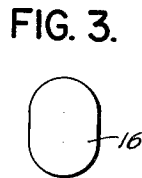
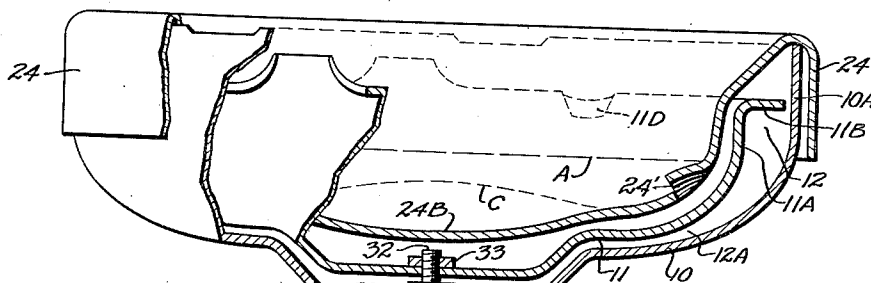
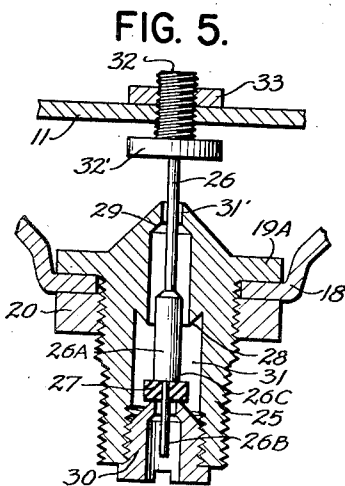
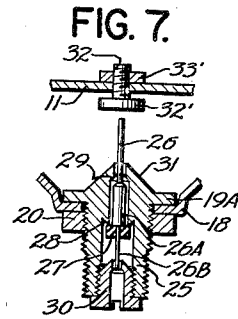


FIG. 4.



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## UNITED STATES PATENT OFFICE

2,662,503

## AUTOMATIC WATERING FOUNTAIN

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Application May 11, 1948, Serial No. 26,277

32 Claims. (Cl. 119—80)

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This invention relates to improvements in water fountains and more particularly to drinking fountains of the type illustrated, described and claimed in my co-pending application Serial No. 493,331 filed July 3, 1943, now abandoned, and my Patent No. 2,452,305 issued October 26, 1946.

My application Serial Number 557,987 discloses a fountain having an upwardly open container having an outer peripheral edge portion, and a reservoir disposed in the container for up and down movement and providing a water space between said reservoir and container; and having a substantially peripheral margin disposable within and lower than said outer peripheral edge portion, said reservoir preventing flow of water from the container into the reservoir except at the upper part thereof. Said reservoir is of a shape and weight to be buoyed by water in the container when less than a predetermined small amount of water is in the reservoir, and to sink in the water when the reservoir receives a predetermined larger amount of water from the container.

An upwardly pointed water supply jet is mounted in the lower part of the container. Water under pressure is supplied through said jet; and a yieldable sealing disc is secured to and under the axial portion of the reservoir and disposed over and adjacent to said jet and is adapted to rest upon the jet to stop water flow therefrom when the reservoir sinks.

A cover mounted on the container is disposed over the reservoir and said space to prevent undesired material from falling into the reservoir and said space and comprising a bowl-shaped intra-marginal part in and spaced from the reservoir, said bowl-shaped part being provided near its bottom with an opening communicating with the reservoir.

An important object of the present invention is to provide a fountain of the general type stated above having a structure whereby a greater buoyancy is applied to the reservoir than was possible in previous structure, thereby resulting in a fountain that is more efficient in operation and which functions on a wider range of water supply pressures and provides a more uniform depth of water within the drinking area.

Another object of the invention is to provide a fountain structure whereby the same cover can be used for shallow water as required for small chicks or for deeper water for larger birds, such as grown turkeys or ducks, simply by pressing the bottom of the cover upward or downward as desired.

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Another object is to provide a fountain structure whereby the operative position of the reservoir can be raised or lowered as means for raising or lowering the water level within the drinking area.

Still another object is to provide a longer lasting and more easily replaceable sealing means than the disc of the above described fountain, the disc of my previous fountain being the only part of the fountain to show wear or deterioration after comparatively long periods of use.

Another object of the invention is to provide a fountain jet structure whereby the flow of water is automatically stopped should the cover be accidentally removed or when the cover and reservoir are removed as in cleaning.

Another object of the invention is to provide a fountain structure that is more easily assembled in manufacture than heretofore, and a structure in which the component parts are easily replaceable should such parts become damaged.

The inventive features for the accomplishment of these and other objects are shown herein as embodied in a drinking fountain which briefly stated includes a container and reservoir so formed as to provide, as compared with my previous fountains, a relatively larger volume of water within the space between their outer and upper portions and relatively less volume of water between their lower portions.

This form has been found to provide a greater buoyancy to the reservoir than previous structure, and this greater buoyancy permits the use of a reservoir that is heavier in weight and results in a fountain that functions on a wider range of water supply pressures and also provides a more uniform depth of water within the drinking area.

The cover with its central portion is so formed that it can be used either curved upwardly for shallow water or curved downwardly when deeper water is desired.

Means are provided to make the jet replaceable and to provide it with an up and down adjustment. Adjustment of the jet slightly up or down correspondingly raises or lowers the operative position of the reservoir which governs the depth of water within the drinking area.

Experience has shown that raising or lowering the operative position of the reservoir as little as  $\frac{3}{8}$  of an inch raises or lowers the drinking area water level approximately  $\frac{1}{4}$  inch in a fountain  $4\frac{1}{2}$  inches in diameter.

In one form of the invention a circular clip is riveted to the lower portion of the reservoir and

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this clip provides an elongated space for a flat elongated piece of rubber forming a sealing member. The clip has a central circular opening exposing only the required area of the piece of rubber approximately  $\frac{2}{3}$  of the length of the space within the clip. This provides a structure whereby the rubber can be moved along within the space when the exposed area becomes worn or damaged, the rubber is also easily removed with the point of a knife or small pointed object when it can be reversed to expose the opposite side or replaced with a new piece. This feature is very important as the area adjacent to the face of the jet must at all times be smooth and level, particularly in the smaller sized fountains.

For fountains providing greater volume of water and drinking capacity a double acting valve is provided. This valve automatically stops the flow of water when the cover is removed and makes it possible to clean the fountain parts without additional water entering the fountain during the cleaning process.

In the accompanying drawing showing by way of example several of the many embodiments of the invention,

Fig. 1 shows a partial vertical axial section, partly in elevation of one form of the invention;

Fig. 2 is a bottom plan of the mounting for sealing member;

Fig. 3 is a face view of the sealing member;

Fig. 4 is a view similar to Fig. 1 showing a modified form of the invention;

Fig. 5 shows a fragmental vertical section, on a larger scale, of a detail of Figure 4 illustrating more clearly the double acting valve in closed operative position;

Fig. 6 shows a vertical section of a detail similar to Figure 5 (not enlarged) illustrating the double acting valve in open operative position, and

Fig. 7 shows a vertical section similar to Figure 6 illustrating the reservoir lifted away from contact with the double acting valve and with the valve in closed position.

In the form of the invention shown in Figures 1, 2 and 3 the container 10 is formed with the vertical upper outer portion 10A extending downward to near the water level A and curving inward toward the reservoir 11. The upper portion 11A of the reservoir 11 curves relatively inwardly and downwardly from the vertical portion 10A of the container 10. This provides for a relatively greater volume of water within space 12 than within space 12A. The water within space 12 and above water level A is the only portion of the water within the fountain that provides the buoyancy to raise the reservoir; and it has been proven by comparative testing that with a greater volume of water within space 12 relative to the volume of water within space 12A a heavier reservoir can be used which results in a fountain that will satisfactorily function on a wider range of water supply pressures than previous structures.

With previous structures, a reservoir weight of approximately  $2\frac{1}{2}$  ounces is required in a fountain  $4\frac{1}{2}$  inches in diameter; while with the improved form of reservoir herein a reservoir weight of approximately 3 ounces can be used in a fountain of the same diameter. This is a very important advantage in this type of fountain.

The lower portion of the reservoir 11 is provided with a circular clip 13 (Fig. 2) which is secured to the reservoir 11 by rivets 14. This clip

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13 provides an elongated space 15 for an elongated rubber disc 16 (Fig. 3) which is approximately  $\frac{2}{3}$  the length of the space 15. A circular opening 17 through the clip 13 exposes a circular area of the rubber disc 16, which can be moved along within the space 15, whereby a different area of the rubber disc is exposed to the circular opening 17.

The lower central portion of the container 10 is provided with a downwardly extending hexagonal recess 18 receiving a hexagonal flange 19A on a threaded tubular connector body 19, made from hexagonal stock leaving the hexagonal flange 19A that rests within the recess 18. A lock nut 20 threaded to fit the connector body 19 is screwed tightly against the outside of the container below the recess 18, thus making a water tight connection. The hexagonal recess 18 serves as a wrench socket for holding the connector body 19 against turning when the nut 20 is tightened.

A replaceable jet 21 is threaded into the upper end of the bore 19B of the connector body 19 and is provided with a lock nut 22. The lower end of the jet 21 is provided with a screw driver slot 23 as a means for turning the jet for raising or lowering the operative position of the reservoir 11 and for holding the jet 21 in the desired position while the lock nut 22 is being tightened. The bore 19B and the jet 21 are located off center with respect to the connector body 19. In use when fountains are cleaned the cover 24 and reservoir 11 are removed, and when replaced are practically always rotated more or less from the previous position with respect to the off-center jet 21. Thus a different spot of the exposed area of the rubber disc 16 contacts the face of the jet 21, each time the angular position of the reservoir 11 is changed, thus changing the position of wear on the disc each time.

The cover 24 is formed with the central portion 24A curved upwardly to provide shallow water space within the drinking area for small chicks. The part 24A may be pressed downward to the curved position shown by dotted line B to provide a deeper drinking space for large fowls. Water flows from the reservoir 11 through the slot 24' into the drinking space.

The upper peripheral edge of the reservoir 11 is provided with an out-turned lip 11B loosely engageable with the vertical portion 10A of the container to position the reservoir for up and down movement. This lip is bent upwardly at spaced places around the lip to provide stops 11C engageable with the cover to limit upward movement of the reservoir. This lip is also turned down as at 11D to provide overflow passages for water flowing up from the container 10 over the lip into the reservoir.

The upper edge of the container 10 is provided with a cut-away 10B forming a passage for air which may be trapped under the upper part of the cover 24.

Figures 4, 5, 6 and 7 show a structure similar to Figure 1 but with the central portion 24B of the cover 24 curved downwardly to provide greater depth and volume of water within the drinking area. This may be pressed upwardly to the curved position shown by dotted line C.

The tubular connector body 25 is secured to the container 10 in the same manner as in Figure 1 but instead of the jet 21 and rubber disc 16, a double acting valve is provided. The body 25 is provided with a three-diameter hole 31; therefore, the larger part of the hole starting from

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the lower and continuing approximately half way through where the diameter of the hole is reduced to form a downward facing conical seat 23. Near the upper end of the connector body 25 the hole 31 is again reduced in diameter as at 31' (Fig. 5) to form an upper shoulder 29. Loosely disposed within the hole 31 and extending above the upper end of the connector body 25 is a valve stem 26 having an elongated enlargement 26A and small lower extension 26B forming a lower shoulder 26C. A rubber washer 27 provided with a central prick hole through which the extension 26B is forced, is forced along the extension 26B to the shoulder 26C. An upwardly pointed jet 30 is threaded into the lower end of the connector body 25, and is engageable by the washer 27. The operative position of the reservoir 11 is raised or lowered by means of an adjusting screw 32 threaded through the lower center of the reservoir 11 and provided with a lock nut 33 and a lower flat head 32' engageable with the upper end of the stem 26.

In operation the lower flat head 32' of the screw 32 normally rests upon the upper end of the valve stem 26 pressing the rubber washer 27 upon the face of the jet 30 stopping flow of water when fountain is filled and reservoir 11 has sunk to its lowest operative position as in Figures 4 and 5. As water is removed from within the drinking space the reservoir 11 rises to its highest operative position as in Figure 6. In this position the water pressure has forced the rubber 27 away from the face of the jet 30, and water flows upwardly around the valve stem 26 and 26A to refill the fountain. Whenever the cover 24 is removed from the fountain the reservoir 11 rises away from the valve stem 26 and the water flow carries the washer 27 and stem 26 upward until the washer 27 presses against shoulder 23 as in Figure 7, stopping the flow of water until the cover is replaced forcing the reservoir 11 and valve stem 26 down to their operative positions as shown in Figure 6.

The improved cover with its central portion curved substantially as illustrated in either 24A or 24B is one and the same structure, and is changeable from an upwardly curved to a downwardly curved form or vice versa by pressing the part 24A downward or the part 24B upward until oppositely curved. This is easily accomplished by comparatively little pressure of the hands.

While herein details of the invention are described in the specification and some of the claims, the invention as described in the broader claims is not limited to these details and various changes may be made without departing from the scope of the invention as claimed in the broader claims.

I claim as my invention:

1. A fountain comprising an upwardly open container and means to supply water therein, a reservoir disposed within and spaced from said container to provide water space between said reservoir and container, said water space being relatively larger for greater volume of water within its upper and outer portion than within its lower portion thereby providing greater buoyancy to said reservoir, said water supply means being controlled by the up and down movement of said reservoir, a cover over said container having a central portion extending downward within the interior of said reservoir and of said container and providing an open water space, inlet means for water to flow from within said reservoir into said open water space, the bottom of said central

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portion of said cover being formed to curve upwardly and remain in an upper position for shallow water within said open water space and to curve downwardly and remain in a lower position for deep water within said open water space.

2. In combination, an upwardly open container; means for maintaining water at a predetermined level in the container; and a cover engaging over the container forming a lower drinking space and having inwardly and downwardly disposed side wall part and an adjustable bottom constructed and adapted to move to and remain in upper and lower positions; said side wall having inlet means to allow water to flow from the container into the drinking space.

3. In a combination as in claim 2, said adjustable bottom being a closed wide concavo-convex central bottom portion integrally joining the wall part and adapted on pressure to move to and remain in an upper or lower position to provide a shallow or deep drinking space.

4. In combination, an upwardly open container; said container having a deep substantially vertical peripheral wall portion, a downwardly pointed frusto-conical lower central portion, and an approximately horizontal annular part between said portions; an upwardly directed jet disposed in the lower part of said container; a reservoir loosely disposed within the container and having an approximately vertical deep upper peripheral portion, a lower portion, and an annular approximately horizontal intermediate part between said portions of the reservoir; and a sealing member on said lower portion adapted to rest on the jet to stop water flow when more than a predetermined amount of water is in the reservoir.

5. In combination, an upwardly open container; an upwardly projecting jet disposed in the lower part of the container; a reservoir loosely disposed within the container and having an approximately vertical deep upper peripheral portion; a downwardly pointed lower frusto-conical central portion having a flat bottom, and a wide annular approximately horizontal intermediate part between said portions of the reservoir; a flat sealing member on said flat bottom adapted to rest on the jet to stop water flow when more than a predetermined amount of water is in the reservoir; the diameter of the reservoir at all parts of said deep peripheral portion being much greater than the diameter of frusto-conical portion, to provide a greater buoyancy volume within the upper and outer parts of the reservoir than in said lower portions, thereby providing greater buoyancy to the reservoir in proportion to its weight, to allow use of a heavier reservoir that functions on a wider range of water supply pressures.

6. In combination, an upwardly open container having a substantially central vertical axis; said container having a deep substantially vertical peripheral wall portion, a downwardly pointed frusto-conical lower central portion, and an approximately horizontal annular part between said portions; a reservoir loosely disposed substantially coaxially within the container substantially out of contact therewith and having an approximately vertical deep upper peripheral portion, a downwardly pointed lower frusto-conical central portion having a flat bottom, and an annular approximately horizontal intermediate part between said portions of the reservoir; said portions and parts of the reservoir normally loosely nesting in corresponding parts of the container; water flow supply means; means con-

trolled by the rise and fall of the weight of the reservoir for allowing and stopping the water flow for maintaining a constant water level in the container; the diameter of the container and reservoir at all parts of said deep peripheral portions being much greater than the diameter of frusto-conical central portions, to provide a greater buoyancy volume within the upper and outer parts of the container and reservoir, thereby providing greater buoyancy to the reservoir in proportion to its weight, to allow use of a heavier reservoir that functions on a wider range of water supply pressures.

7. In combination, an upwardly open container; an upwardly pointed and directed jet in the lower portion of the container; an upwardly open reservoir loosely rotatably disposed within the container and having a closed bottom adapted at its upper part to receive water from the central part of the bottom of the reservoir adapted to rest on the jet, the tip of said jet being sufficiently off-set from the axis of the reservoir to automatically cause said tip to engage different parts of the member when the reservoir is removed and partly rotated and restored in position.

8. In combination, an upwardly open container; an upwardly directed jet in the lower central portion of the container; an upwardly open reservoir loosely disposed within the container and having a closed bottom; a flat sealing member on the central part of the bottom of the reservoir adapted to rest on the jet; said sealing member being horizontally adjustable to bring different parts of the member in contact with the jet.

9. In combination, an upwardly open container; an upwardly directed valve in the lower central portion of the container; an upwardly open reservoir loosely disposed within the container and having an upper part at which water may flow into the reservoir from the container and having a lower part over said valve; said valve comprising a body having a passage therethrough having a large diameter intermediate part forming inwardly disposed upper and lower shoulders; a valve stem in said passage projecting from the top of the passage and engageable by said lower part; said stem carrying an intermediate enlarged diameter sealing part adapted to be pressed on the lower shoulder by pressure of said lower part pressing on the stem, and to be pressed against the upper shoulder by water flow when the reservoir is removed.

10. In combination, an upwardly open container; an upwardly directed valve in the lower central portion of the container; an upwardly open reservoir having a bottom and an upper part and loosely disposed within the container at the upper part of which water may flow into the reservoir from the container; an upwardly downwardly adjustable piece on the central part of the bottom of the reservoir; said valve comprising a body having a passage therethrough having a large diameter intermediate part forming inwardly disposed upper and lower shoulders; a valve stem in said passage projecting from the top of the passage and engageable by said adjustable piece; said stem carrying an intermediate enlarged diameter sealing member adapted to be pressed on the lower shoulder by pressure of said piece pressing on the stem, and to be pressed against the upper shoulder by water flow when the reservoir is removed.

11. A fountain comprising an upwardly open container water supply means therefor, a reservoir disposed within said container providing water space between said reservoir and container, said water space being relatively larger for greater volume of water within its upper and outer portion than within its lower portion and thereby providing greater buoyancy to said reservoir, a vertically adjustable part on the reservoir said water supply means being controlled by the up and down movement of said part for allowing and stopping the flow of said supply means, a cover over said container having a central portion extending downward within the interior of said reservoir and container and providing an open water space, inlet means for water to flow from within said reservoir into said open water space, adjustment of said part serving for raising and lowering the operative position of said reservoir relative to said container and cover for regulating the water depth within said open water space.

12. A fountain comprising an upwardly open container, water supply means therefor, a reservoir disposed within said container, an adjustable connection between the supply means and reservoir, said water supply means is controlled by the up and down movement of said reservoir, a cover over said container having a central portion extending downward within the interior of said reservoir and container and providing an open water space, inlet means for water to flow from within said reservoir into said open water space, said central portion of said cover being formed to curve upwardly and remain in an upper position for shallow water within said open water space and to curve downwardly and remain in a lower position for deeper water within said open water space, said adjustable connection serving for raising and lowering the operative position of said reservoir relative to said container and cover for regulating the water depth within said open water space.

13. A fountain comprising an upwardly open container, water supply means to supply water therein, a reservoir disposed within said container, an adjustable connection between the reservoir and said water supply means controlled by the up and down movement of said reservoir to control the water supply, a cover over said container having a central portion extending downward within the interior of said reservoir and container and providing an open water space, inlet means for water to flow from within said reservoir into said open water space, said connection being adjustable for raising and lowering the operative position of said reservoir relative to said container and cover for regulating the water depth within said open space.

14. A fountain comprising an upwardly open container, a jet adapted to discharge water therein, a reservoir disposed within said container, a sealing means in operative contact with said reservoir and disposed over and adjacent to the face of said jet to control water flow therefrom by the up and down movement of said reservoir, a clip secured to said reservoir and adjustably holding said sealing means said clip providing an elongated space for said sealing means, whereby said sealing means is movable within said space and thereby exposing a different area of said sealing means to said face of said jet, a cover over said container having a central portion extending downward within the interior of said reservoir and container and providing an open water space,

and inlet means for water to flow from within said reservoir into said open water space.

15. A fountain comprising an upwardly open container, a jet adapted to discharge water therein, a reservoir disposed within said container, a sealing means in operative contact with said reservoir and disposed over and adjacent to said jet and adapted to engage the jet to control water flow therefrom by the up and down movement of said reservoir, said jet being off-center relative to the exposed area of said sealing means, whereby a different area of said sealing means is automatically disposed adjacent to said jet by change in the circular position of said reservoir, a cover over said container having a central portion extending downward within the interior of said reservoir and container and providing an open water space, and inlet means for water to flow from within said reservoir into said open water space.

16. A fountain comprising a container and conduit means to supply water therein, a reservoir within and a cover over said container and providing an open water space a double acting valve opened and closed by the up and down movement of said reservoir and adapted to be closed by water flow whereby said water supply is stopped completely by said valve when said reservoir and cover are removed from said container, and inlet means for water flow from within said container into said open water space.

17. A fountain comprising a container, a jet adapted to discharge water therein, a reservoir within and a cover over said container said cover providing an open water space, a clip secured to said reservoir, a sealing means adjustable in the clip, said clip being provided with an opening exposing a portion of said sealing means adjacent to said jet to control water flow therefrom, said clip providing space whereby said sealing means is movable within said space, thereby exposing a different area of said sealing means to the face of said jet, and inlet means for water flow from within said container into said open water space.

18. A double acting valve comprising a body having a three-diameter hole therethrough having an intake end and a discharge end and providing an inwardly faced shoulder near the discharge end of said body and an inwardly faced seat approximately midway within said body, jet member disposed within and near the intake end of said body and spaced from said seat, a valve stem is loosely disposed within said hole having one actuating end extending beyond the discharge end of said body, said stem being provided with a centrally located elongated enlargement and small lower end extension providing a shoulder, said extension having thereon a sealing washer at said shoulder adapted to press upon the face of said jet member as said stem is moved toward said jet member the opposite side of said washer being adapted to press upon said seat as said stem is moved toward said seat.

19. In combination, an upwardly open container; an upwardly directed jet vertically adjustably mounted in the lower central portion of the container; an upwardly open reservoir having a bottom loosely disposed within the container and a flat sealing member on the central part of the bottom of the reservoir adapted to rest on the jet, adjustment of the jet controlling the operative position of the reservoir and the water level therein.

20. In combination, an upwardly open container; an upwardly directed jet in the central

portion of the container; an upwardly open reservoir loosely disposed within the container and having a closed bottom having a flat central portion; a clip of plate material having opposite margins secured flat on the lower face of said flat portion and having the part between said margins downwardly offset and slightly spaced from said flat bottom to provide an elongated space and provided with a large opening over said jet; an elongated disc of rubber fitted in said space and adapted to rest on the jet and to be moved along the space to expose different areas of the rubber at said opening, adjacent to the jet.

21. In combination, an upwardly open container; a water supply means disposed at the lower part of the container having a water passage adapted to discharge upwardly into the container and having an upwardly faced shoulder around the passage; a reservoir loosely disposed within the container and having a shallow, downwardly pointed lower central portion, an annular approximately horizontal intermediate part around said portion, and an approximately vertical deep upper peripheral wall portion more than half as deep as the container and having a diameter about three times the depth of the container providing great water exposure area and buoyancy relative to the depth and diameter of the reservoir at a level within the reservoir between the top and bottom of said wall part; a sealing member adapted to be pressed downwardly on said shoulder to stop the water flow; means carried by the lower central part of said reservoir and cooperating with said sealing member for causing the effective weight of the reservoir to press said sealing member on said jet for closing said passage when the water goes up to said level and raising the sealing member from the jet and opening the passage when the water goes below said level.

22. In combination, an upwardly open container; a water supply means disposed at the lower part of the container having a water passage adapted to discharge upwardly into the container and having an upwardly faced shoulder around the passage, a sealing member adapted to be pressed downwardly on said shoulder to stop water flow through said passage into the container; structure cooperating with said sealing member for pressing said sealing member on said shoulder for closing said passage; a relatively heavy reservoir, on the bottom of which said structure is mounted loosely disposed within the container and having a shallow downwardly pointed lower central portion, an annular approximately horizontal intermediate part around said portion, and an approximately vertical deeper upper peripheral wall portion more than half as deep as the container and having a diameter about three times the depth of the container providing great water exposure area and buoyancy relative to the depth and diameter of the reservoir at a level within the reservoir between the top and bottom of said wall part, whereby the reservoir may be relatively heavy and exert relatively high effective pressure on said structure and high pressure water flow when the water goes up to said level and is sensitive for raising the sealing member from the shoulder and opening the passage when the water goes a relatively small distance below said level.

23. In combination, an upwardly open container; an upwardly directed jet disposed at the

lower part of the container having a water passage adapted to discharge upwardly into the container; a sealing member adapted to be pressed downwardly on said jet to stop the water flow into the container; structure cooperating with said sealing member for pressing said sealing member on said jet for closing said passage; a reservoir to the bottom of which said structure is connected, loosely disposed within the container and having a shallow, downwardly pointed lower central portion, an annular approximately horizontal intermediate part around said portion, and an approximately vertical deeper upper peripheral wall portion more than half as deep as the container and having a diameter about three times the depth of the container providing great water exposure area and buoyancy relative to the depth and diameter of the reservoir at a level within the reservoir between the top and bottom of said wall part whereby the reservoir may be heavy and exert maximum effective pressure on said structure and stop high pressure water flow when the water goes up to said level and is sensitive for raising the sealing member from the jet and opening the passage when the water goes a minimum distance below said level.

24. In combination, an upwardly open container; an upwardly open reservoir loosely disposed to float within the container at the upper part of which water may flow into the reservoir from the container; an upwardly directed valve body in the bottom of the container having a water passage therethrough having a large diameter intermediate part forming inwardly disposed upper and lower shoulders; a valve stem in said passage projecting from the top of the passage and positioned to be pressed down by said container piece, and carrying an intermediate enlarged diameter sealing member constructed and adapted to be pressed by the container on the lower shoulder to close the valve when a predetermined amount of water is in the reservoir, and to be lifted from the lower shoulder by water pressure overcoming the pressure of said piece when less than said amount of water is in the reservoir to cause water flow in the container, said sealing member being positioned and constructed to be pressed against the upper shoulder by water flow to stop the water flow when the reservoir is removed.

25. In combination, an upwardly open container; an upwardly open reservoir loosely disposed to float within the container and to receive water at the upper part from the container; an upwardly directed valve body in the bottom of the container having a water passage therethrough having a large diameter intermediate part forming inwardly disposed upper and lower shoulders; an upwardly downwardly adjustable piece on the bottom of the reservoir; a valve stem in said passage projecting from the top thereof and positioned to be engaged by said piece, and carrying an intermediate sealing member constructed and adapted, when the reservoir sinks and presses said piece on the stem, to be pressed on the lower shoulder to close the valve and adapted to be lifted from the lower shoulder by water pressure when the reservoir floats, said sealing member being positioned and constructed to be pressed against the upper shoulder by water flow to stop the water flow when the reservoir is removed.

26. A double acting valve comprising a body having a hole therethrough having an intake end and a discharge end provided with an in-

wardly faced upper seal near the discharge end of said body and an inwardly faced lower seal near the intake end of said body and spaced from said seat; and a valve stem loosely disposed within said hole having an actuating end extended beyond the discharge end of said body, said stem being provided with a centrally located enlargement for forming a lower shoulder, and a small lower end extension having thereon a sealing washer at said shoulder adapted to press upon the lower seat as said stem is moved downwardly, the opposite side of said washer being adapted to press upon said upper seat as said stem is moved toward said seat.

27. Double acting valve comprising a body having a three-diameter hole therethrough having an intake end and a discharge end providing a reduced diameter portion near the discharge end of said body and an inwardly faced seat intermediately within said body; a jet member adjustably disposed within and near the intake end of said body and spaced from said seat; a valve stem loosely disposed within said hole having a small diameter actuating end extending beyond the discharge end of said body, said stem being provided intermediately with an enlargement forming a shoulder, and a small lower end extension having thereon a sealing washer at said shoulder adapted to press upon the face of said jet member as said stem is moved toward said jet member, the opposite side of said washer being adapted to press upon said seat as said stem is moved toward said seat.

28. In combination, an upwardly open container adapted to be mounted in upright or inclined position; an upwardly open reservoir loosely disposed to float within the container and to receive water at the upper part from the container and having lower structure having a lower flat face; an upwardly directed valve body fast in the bottom of the container and having a water passage therethrough discharging into the container and having an upwardly facing interior shoulder therearound; a valve stem of small diameter in and projecting upwardly from said passage and positioned and adapted when vertical or inclined to be engaged by said flat face and carrying an intermediate sealing member constructed and adapted when the reservoir sinks and presses on the stem, when vertical or inclined, to be pressed on said shoulder to close the valve and stop the water flow, and adapted to be lifted from the lower shoulder by water pressure when the reservoir floats to allow water flow.

29. In combination, an upwardly open container adapted to be mounted in upright or in somewhat inclined position; an upwardly open reservoir loosely disposed to float within the container and to receive water at the upper part from the container; an upwardly directed valve body secured fast in the bottom of the container and having an upwardly directed water passage therethrough and having a large diameter intermediate part forming inwardly disposed upper and lower shoulders; a valve stem of small diameter in and projecting upwardly from said passage and positioned and adapted when vertical or inclined to be engaged by structure of said reservoir and carrying an intermediate sealing member constructed and adapted, when in inclined or upright position, when the reservoir sinks and presses on the stem, to be pressed on the lower shoulder to close the valve and stop the water flow, and adapted to be lifted from the lower

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shoulder by water pressure when the reservoir floats to allow water flow; removal of the reservoir allowing said valve stem to rise and said sealing member to be pressed against the upper shoulder by water flow and stop the water flow.

30. In combination, an upwardly open container; water supply means having a water passage adapted to discharge upwardly into the lower part of the container and having an upwardly facing sealing face therearound; a sealing device engageable with said face to stop water flow; a reservoir loosely disposed within the container; structure operatively connected with the reservoir for pressing said device on said face; said reservoir having a shallow downwardly pointed lower central portion, an annular approximately horizontal intermediate part around said portion and an approximately vertical deep upper peripheral wall portion more than half as deep as the container and having a diameter several times the depth of the container; and a cover mounted on the upper edge of the container and disposed over the container comprising a bowl-shaped intra-marginal part having an inwardly downwardly disposed annular side wall part having a vertical part slightly spaced from said vertical wall portion having water inlet means at the lower part, and a closed wide concave-convex central bottom portion of firm shape integrally joining the lower part of the wall part and closely spaced from said central portion and intermediate part and adapted on sufficient pressure to move from an upper upwardly curved position to a downwardly curved lower position and vice versa to provide a shallow or deeper drinking space.

31. In combination, an upwardly open container; water supply means having a water passage adapted to discharge upwardly into the lower part of the container and having an upwardly facing sealing face therearound; a sealing device engageable with said face to stop water flow; a reservoir loosely disposed within the container; structure operatively connected with the reservoir for pressing said device on said face; said reservoir having a shallow downwardly pointed lower central portion, an annular approximately horizontal intermediate part around said portion and an approximately vertical deep upper peripheral wall portion more than half as deep as the container and having a diameter several times the depth of the container for increasing the sensitivity of movement of the reservoir to change of water level in the reservoir; and a cover on the upper edge of the container and disposed over the container and comprising

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a bowl-shaped intra-marginal part having an inwardly downwardly disposed annular side wall part having a vertical part closely adjacent to and slightly spaced from said vertical wall portion and having water inlet means at the lower part, and a closed wide bottom portion of firm shape joining the wall part and closely spaced from said central portion and intermediate part and adapted on sufficient pressure to be moved from an upper position to a lower position and vice versa to provide a shallow or deeper drinking space or vice versa; the close spacing of the cover to the reservoir causing said cover to coact and cooperate with said reservoir to maintain said sensitivity; and when the bottom is in said lower position to coact and cooperate with the reservoir to increase said sensitivity and when the bottom is in upper position to coact and cooperate to maintain the efficiency of the fountain when the water pressure is restored after being cut off.

32. A drinking fountain comprising an upwardly open supporting container having parts for holding the container upright on the ground; and a cover mounted on the upper edge of the container and disposed over the container comprising a bowl-shaped intra-marginal part having a downwardly inwardly disposed annular side wall part and a closed wide concave-convex central bottom portion of firm shape joining the lower part of the wall part and adapted on sufficient pressure to move from an upper position to a lower position and vice versa to provide a shallow or deeper drinking space.

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