

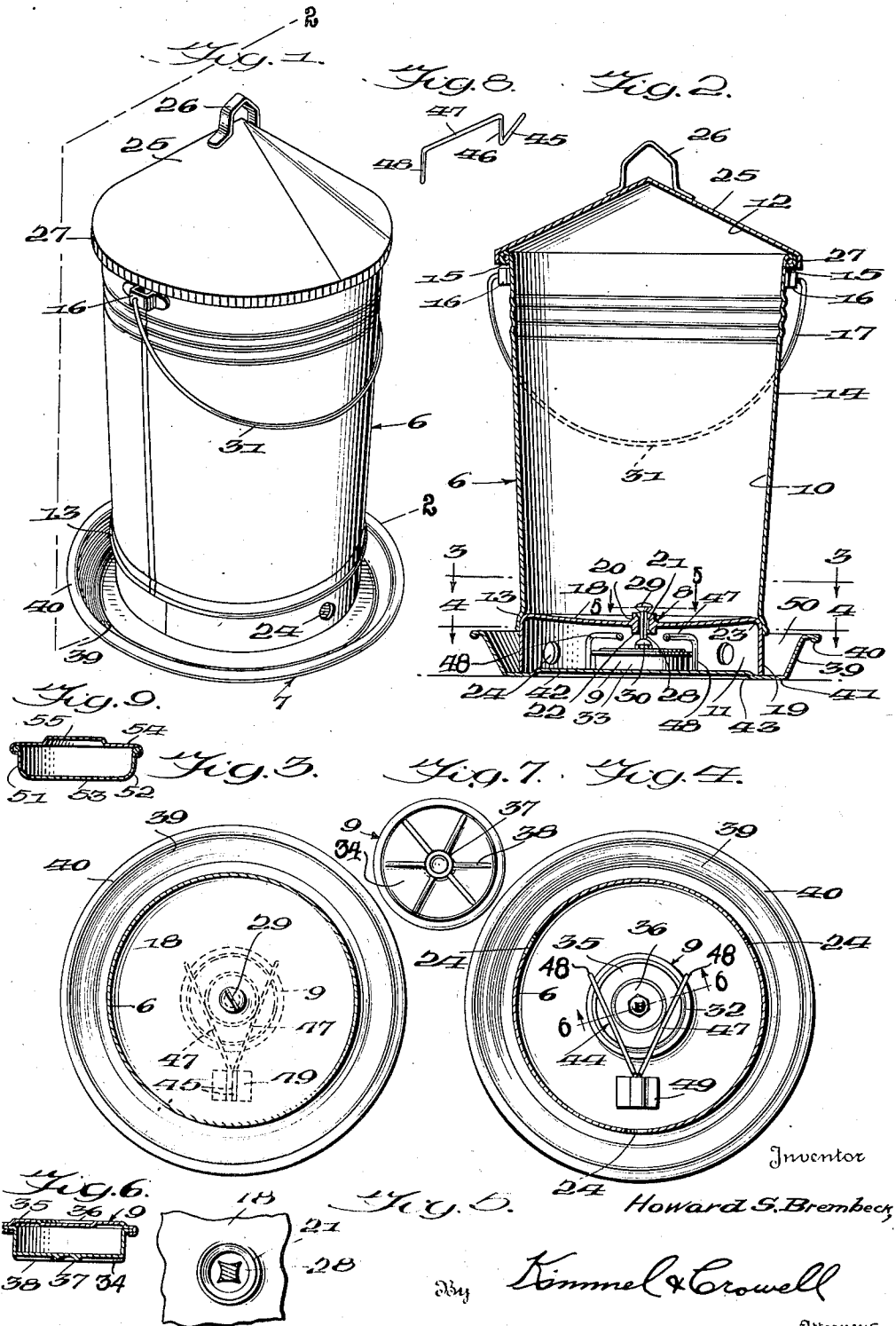
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FLOAT-CONTROLLED DRINKING FOUNTAIN

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FLOAT CONTROLLED DRINKING FOUNTAIN

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This invention relates to a float controlled drinking fountain of the pail type for poultry.

The invention has for one of its objects to provide, in a manner as hereinafter set forth, a fountain of the class referred to including a water receiver element having arranged therein and loosely connected thereto a float element, a valve controlled water container element for seating in and having its lower portion encompassed in spaced relation by said water receiving element and with the controlling valve for the container element operated to water feeding position by the float element. The said water container element is so constructed that when set on the floor or ground the valve thereof will not be shifted in a direction to permit of the leakage of water therefrom.

A further object of the invention is to provide, in a manner as hereinafter set forth, a fountain of the class referred to including a water outlet valve and a loosely confined float element free of connection to and for operating said valve to water feeding position.

A still further object of the invention is to provide, in a manner as hereinafter set forth, a fountain of the class referred to including a water container element having a valve structure including a vertically movable stem interposed between and connected to a pair of alternately operating shut-off valves and with the stem so constructed to form a set of spaced flutes constituting a set of independent water outlets whereby such valve structure possesses the advantage of practically eliminating the complete clogging thereof to prevent the feed of water from the water container element to the water receiver element when such structure has been shifted to water feeding position.

A still further object of the invention is to provide, in a manner as hereinafter set forth, a fountain of the class referred to including a water supply controlling valve structure and means free of and connecting with said structure to always insure a supply of water when occasion requires to the water receiver element which constitutes a drinking pan.

The advantages of using, as a part of the fountain, a freely movable confined float element free of but coacting with the controlling valve structure of the water container element are that the float element is always level even though the water receiver element may rest in an unlevel position; that as the float element is absolutely level, free advantage is taken of its buoyancy which is not the case when in an unlevel position; that as

the float element is always level, no friction is had on the valve stem against the housing or bushing for the stem as would be the case when a float element is attached to the stem; that having the float element attached to the water receiver element and not to the underside of the bottom of the water container element permits the container element to be readily placed elsewhere without discharging; and as well as overcoming the distorting of the float element which would be the case if the float element was connected with the bottom of the water container element when the latter is removed from the receiver element and seated upon a rough surface or a surface formed with an upstanding portion.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a float controlled drinking fountain of the pail type which is simple in its construction and arrangement, strong, durable, compact, thoroughly efficient in the use intended thereby, readily assembled, pleasing in appearance, and comparatively inexpensive to manufacture.

To the foregoing ends essentially and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and are as illustrated in the accompanying drawing wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a perspective view of the fountain, Figure 2 is a vertical sectional view of the fountain on lines 2—2, Figure 1,

Figure 3 is a section on line 3—3, Figure 2,

Figure 4 is a section on line 4—4, Figure 2,

Figure 5 is a section on line 5—5, Figure 2,

Figure 6 is a vertical sectional view of the float element, when removed, but taken on line 6—6, Figure 4,

Figure 7 is an inverted plan of the float element,

Figure 8 is a perspective view of the form of the bars providing the confiner and attacher for the float element, and

Figure 9 is a cross sectional view of a modified form of float.

The fountain includes a water container element 6 constituting a water reservoir, a water receiver element 7 forming a drinking pan, a water feed controlling valve structure 8 connected to the element 6 and a float element 9 loosely

confined on the interior of element 7 for opening and controlling the opening of the structure 8. The element 6 is to be mounted in the element 7 and when so positioned the element 9 will control the opening of the structure 8. When the element 6 is removed from element 7, the structure 8 automatically closes by gravity. The element 9 also acts as a means for closing the structure 8 when elements 6, 7 are in superimposed relation.

The element 6 is in the form of a closed portable pail or bucket and includes a sheet metal body part 10, a sheet metal bottom part 11 and a sheet metal cover part 12.

The body part 10 includes an annular lower portion 13 which increases in diameter from its upper to its lower end and an upper portion 14 which gradually increases in diameter from its lower to its upper end. The upper end of portion 13 merges into the lower end of portion 14. The portion 13 is outset with respect to the lower end of the portion 14. The latter is of materially greater length than the portion 13 and at its upper end is formed with an annular integral peripheral bead 15. The portion 14, in proximity to the bead 15, is provided diametrically thereof with a pair of oppositely laterally extending couplers 16 for pivotally connecting the ends of a bail 17 to body part 10.

The bottom part 11 consists of a horizontally disposed circular concave top portion 18 merging into a vertically disposed depending annulus or rim 19 of the desired height. The portion 18 axially thereof has formed integral therewith a vertically disposed bushing 20 which extends above and depends below the portion 18. The upper end edge and the lower end edge of the bushing 20 are bevelled to provide valve seats 21, 22 respectively. The bushing 20 forms a part of the valve structure 8 and the latter will be more fully described hereinafter. The point of mergence of the portion 18 with the annulus 19 is rounded as at 23. The annulus or rim 19 is provided with spaced water feed openings 24. The bottom part 11 has its upper portion encompassed by the portion 13 of the body part 10. The said portion 13 and bottom part 19 are integrally connected together by welding or otherwise. The bottom edge of the portion 13 of the body part 10 is positioned above the openings 24 in the annulus or rim 19.

The cover part 12 includes a hollow tapered body portion 25 having a handle member 26 at the apex thereof. The body portion 25 merges at its lower end into an annular depending corrugated rim 27 which engages with the bead 15 for detachably securing cover part 12 to the body part 10.

The valve structure 8 includes not only the bushing 20 but also a fluted valve stem 28 which extends through and which is of greater length than the bushing 20. The upper end of the stem 28 carries a valve 29 for engaging the seat 21 to close the upper end of bushing 20. The lower end of the stem 28 carries a valve 30 capable of engaging the seat 22 for closing the lower end of the bushing 20. The lower face of the valve 30 is flat.

The upper portion of the bottom part 11 coacts with the portion 14 of the body part 10 to provide an open top water reservoir 31. The top 18 of the bottom part 11 constitutes the bottom of the reservoir 31. The bushing 20 forms an outlet for the reservoir 31. The corrugations of the rim 27 provide air intakes for the reservoir 31.

The upper end of the latter is closed by the cover part 12.

The float element is in the form of a hollow annular closed top and closed bottom buoyant member having its top indicated at 32, its body at 33 and its bottom at 34. The top 32 is of greater diameter than the body 33 and bottom 34. The body 33 is of the same diameter as the bottom 34. The top 32 extends laterally throughout from the top of body 33 to provide an annular flange functioning to space the body 33 of element 9 from a combined confining, attaching and guiding means to be referred to for said element 9. The top 32 is formed with an upset portion 35 in the form of an annulus which provides the top 32 centrally thereof with a recess 36. The outer edge of the portion 35 is arranged in proximity to the edge of top 32 and the inner edge of the portion 35 provides the side walls of the recess 36. The bottom 34 of the float 9 is formed centrally with a circular rib 37 and a plurality of radially disposed ribs 38 extending from the rib 37. The ribs 37, 38 constitute spacers for a purpose to be referred to.

The element 7 is of pan-like form and includes a flared annular body part 39 formed at its upper end with an outwardly directed annular flange 40 disposed substantially at right angles to said body part 39. The element 7 includes a bottom consisting of an outer portion 41 and an inner portion 42 which is elevated above the portion 41. Interposed between the portions 41 and 42 is an annular upstanding tapered portion 43 which merges at its upper end into the portion 42 and at its lower end in the portion 41. The portion 41 is in the form of an annulus. The portion 42 is of circular form. The diametric cross sectional length of portion 42 is greater than that of section 41.

Connected at its outer end with the upper face of the portion 42 of the bottom of element 7 is the combined confining attaching and guiding element 44 for the float element 9. The element 44 will be referred to as a confiner and is of skeleton form. The confiner 44 consists of an upstanding inverted yoke-shaped body part provided at the lower end of one of its legs or sides with a lateral extension which is coupled to element 7. The confiner 44 is formed from a pair of oppositely disposed bar-like members merging into each other at corresponding ends and said members are termed bars. The bars are of like form and each consists of a horizontal lower end stretch 45, a vertically disposed intermediate stretch 46, a horizontally disposed outwardly inclined intermediate stretch 47 and a vertically disposed end stretch 48. The stretches 46, 48 are substantially of the same height and of greater height than the float element 9. The stretch 46 at its lower end merges into the inner end of the stretch 45. The stretch 47 at one end merges into the upper end of the stretch 46. The other end of the stretch 47 merges into the upper end of the stretch 48. The stretches 45 of the said bars merge into each other at their outer ends, and coact to provide the extension on one of the legs or sides of the body part which is secured on the upper face of the portion 42 of the bottom of element 7 by a keeper 49 which is suitably anchored to element 7. The stretches 48 of the said bars have their lower ends arranged in close proximity to the portion 42 of the bottom of element 9 and are spaced from each other a sufficient distance to engage opposite sides of the float. The stretches 46 are closely related and

engage another side of the float, are parallel with the axis of the float and are disposed centrally with respect to the space formed between the stretches 48. The stretches 47 are oppositely outwardly inclined from the stretches 46 to the stretches 48, arranged over the top of the float and provide the top of confiner 44 of V-shape contour. The stretches 46, 48 arrest the horizontal shift of the float with respect to element 7. The stretches 47 limit the upward movement of the float. The stretches 46, 48 of the bars coact to provide a guide for the element 9. The keeper 49 is arranged in spaced relation to one side of the axis of the portion 42 of the element 7. The edge of the top of element 9 rides against the stretches 46 and 48 of the said bars of the confiner. The element 9 is loosely confined on the element 7 by the confiner 44 in a manner to permit it to shift vertically when occasion requires. The stretches 46, 47, 48 of the bars of the confiner 44 arrest the shifting of element 9 from out of the confiner 44. The stretches 46 form one of the legs or sides of the body of the confiner and the stretches 48 form the other side or leg of the body of the confiner. The stretches 46 are more closely related than the relation between the stretches 48, or in other words the stretches 48 are spaced a greater distance apart than the stretches 46.

The ribs 37, 38 space the bottom of the element 9 from the portion 42 of the element 7 to provide for the passage of water under the float element 9.

The bottom part 11 of the container element 6 is positioned upon the portion 41 of the bottom of element 7. The portion 43 of the bottom of element 7 provides for positioning and retaining the annulus or rim 19 on the portion 41 of the bottom of element 1. The space between the annulus or rim 19 of body part 11 and the body part 39 of the element 7 forms a drinking space 50 for the fowls and such space 50 is open at its top. The annulus or rim 19 forms the inner wall, the portion 41 of element 7 the bottom and body part 39 of the element 7 the outer wall of the drinking space 50.

The openings 24 establish communication between the interior of bottom part 11 of element 6 and the drinking space 50. When the element 6 is removed from element 7 the valve structure 8 lowers by gravity and the valve 29 seats thereby closing the reservoir 31. When element 6 containing water is placed in element 7, the distance between top portion 18 of bottom part 11 and the bottom of element 7 is such that the valve 22 will come in contact with the element 9 and stem 28 will be raised to an extent to move valve 29 from its seat whereby water from reservoir 31 will pass into body part 11 and element 7 and from body part 11 through openings 24 into the drinking space 50. As element 7 fills with water the element 9 will be raised to push stem 28 upwardly to seat valve 30 to shut off the flow of water from reservoir 31 to element 7. As the water is consumed and the water level is lowered, the element 9 will also lower to unseat valve 30, opening reservoir 31 to element 7, water will again flow into the latter until the element 9 is elevated to an extent to provide for the seating of valve 30.

A modified form of float element is generally indicated at 51, Figure 9, and is in the form of a circular hollow closed body consisting of an annular body part 52 peripherally flanged at its upper end, a bottom part 53 and a top part 54 of greater diameter than and connected to the upper end of

body part 52. The top 54 extends laterally throughout from the upper end of and overlaps the flange of body part 52 to form an annular flange for the purpose of spacing the body part 52 from the combined confining, attaching and guiding means 44. The top 54 is formed with a circular upset portion 55 disposed concentrically to the edge thereof and which aligns with the valve 30. The bottom 53 may or may not be provided with ribs.

What I claim is:

1. In a drinking fountain, a float for arranging in a drinking pan and free of connection to and for opening and closing a water discharge controlling valve adapted to be arranged in a water supply leading to the pan, and an inverted upstanding yoke-shaped element of skeleton form adapted to be positioned within the pan, said element of skeleton form having each of its sides and its top formed of a pair of spaced sections, the sections of one side being so spaced to engage opposite sides of the float, the sections of the other side being closely related and engaging another side of the float and the sections of the top being arranged over the float, one of the sides of said body being formed at its lower end with a lateral extension and means coacting with said extension for connecting said element to the pan, said sides arresting the horizontal shift of the float and providing a guide for the latter, and said top limiting the upward movement of the float.

2. In a drinking fountain, a float for arranging in a drinking pan and free of connection to and for opening and closing a water discharge controlling valve adapted to be arranged in a water supply leading to the pan and an inverted upstanding yoke-shaped element of skeleton form adapted to be positioned within the pan, said element of skeleton form having each of its sides and its top formed of a pair of spaced sections, the sections of one side being so spaced to engage opposite sides of the float, the sections of the other side being closely related and engaging another side of the float and the sections of the top being arranged over the float, one of the sides of said body being formed at its lower end with a lateral extension and means coacting with said extension for connecting said element to the pan, said sides arresting the horizontal shift of the float and providing a guide for the latter, and said top limiting the upward movement of the float, said top being of V-shape contour.

3. In a drinking fountain of that type including a float for arranging in a drinking pan and free of connection to and for opening and closing a water discharge controlling valve adapted to be arranged in a water supply leading to the pan, the combination of an inverted yoke-shaped combined confining, attaching and guiding element for the float formed of a pair of upstanding closely related parts, a pair of upstanding parts spaced a greater distance apart than said closely related parts, a pair of upper parts merging at one end into the upper ends of said closely related parts and at their other ends into the upper ends of said other parts and a lateral extension at the lower end of said closely related parts, and means coacting with the extension for connecting the element to and within the pan.

4. In a drinking fountain of that type including a float for arranging in a drinking pan and free of connection to and for opening and closing a water discharge controlling valve adapted to be arranged in a water supply leading to the

pan, the combination of an inverted yoke-shaped combined confining, attaching and guiding element for the float formed of a pair of upstanding closely related parts, a pair of upstanding
5 parts spaced a greater distance apart than said closely related parts, a pair of upper parts merging at one end into the upper ends of said closely related parts and at their other ends into the up-

per ends of said other parts and a lateral extension at the lower end of said closely related parts, and means coacting with the extension for connecting the element to and within the pan, the said upper parts being disposed at oppositely outward inclinations. 5

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