

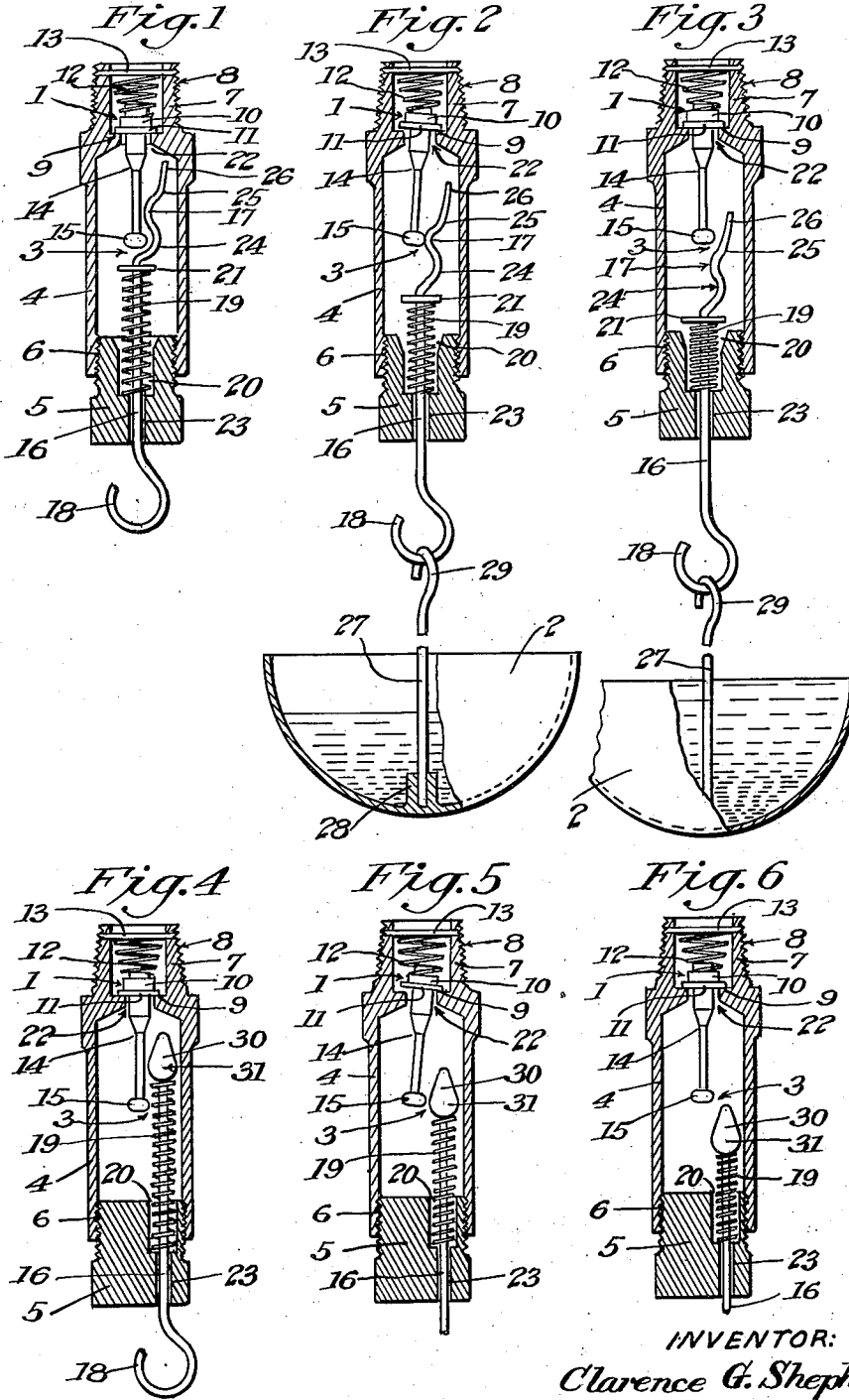
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DRINKING FOUNTAIN

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DRINKING FOUNTAIN

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This invention relates to watering apparatus, and the general object of the invention is to provide an improved drinking fountain for automatically supplying fresh drinking water to poultry and domestic animals.

A more particular object is to provide a drinking fountain of the character stated including a detachable drinking receptacle which may be readily detached for shutting off the water to the fountain or for cleaning out said receptacle.

Other objects and advantages will appear hereinafter as this specification progresses.

The invention is illustrated in the annexed drawing, which forms a part of this specification, and in which:

Fig. 1 is a longitudinal section of my invention with the drinking receptacle detached therefrom and the water supply valve automatically closed.

Fig. 2 is a longitudinal section of my invention showing the water supply valve open and the drinking receptacle partly filled with water.

Fig. 3 is a longitudinal section of my invention showing the drinking receptacle filled with water and the water supply valve automatically closed.

Fig. 4 is a longitudinal section of a modification of my invention with the drinking receptacle detached from the water-supply valve and said valve closed.

Fig. 5 is a longitudinal section of the modification of my invention shown in Fig. 4, with the water supply valve opened by the weight of the drinking receptacle and water partly filling the same (not shown).

Fig. 6 is a longitudinal section of the modification of my invention shown in Figs. 4 and 5, with the water-supply valve closed by the weight of the water completely filling the drinking receptacle (not shown).

Referring more particularly to the drawing, in which corresponding parts are designated by the same reference numerals in all of the figures, my invention, as shown in Figs. 1 to 3, inclusive, includes a water-supply valve 1, a drinking receptacle 2, and valve-opening means 3 for opening said valve until said drinking receptacle is completely filled with water, the supply of which is automatically controlled by said valve.

The valve 1 is located in the upper end of a barrel 4, while the valve-opening means 3 is located partly in said barrel and partly in a screw plug 5 threaded in the lower end of said barrel, as at 6. The upper end of the barrel is formed with a hollow male coupling member 7 which is externally threaded, as at 8, which coupling is screw seated in a threaded female coupling of a water pipe or hydrant (not shown). The valve 1 comprises a horizontal seat 9, formed in the upper end of the barrel 4, and a weighted

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valve-closing member 10 formed with an external horizontal base flange 11, which rests upon said seat for closing said valve, there being an inverted conical valve spring 12, located in the hollow coupling member 7, with the upper end of said spring bearing against a pin 13 driven through the upper end of said coupling member, and with the lower end of said spring extending over the valve closing member 10 against its base flange 11 and normally holding said valve closing member upon its seat 9 and the valve 1 closed.

The valve-opening means 3 includes a depending weighted valve stem 14, formed on its lower end with a cam-engaging head 15, a spring plunger rod 16 formed with a cam 17 on its upper end and a hook 18 on its lower end, and a spring 19, surrounding said plunger, with the lower end of said spring extending into a central recess 20 and the upper end of the plug 5 and bearing against the lower end wall of said recess, and with the upper end of said spring bearing against a collar 21 on the upper portion of the plunger rod 16.

The depending valve stem 14 extends downwardly from the valve-closing member 10 through the opening 22 surrounded by the valve seat 9, which opening is of sufficiently larger diameter than the stem 14 to permit said stem to be swung to one side at an angle, with one side of the base flange 11 of the valve-closing member 10 resting upon the seat 9, so that the opposite side of said base flange will be raised above said seat and the valve 1 will be opened sufficiently to permit water to pass downwardly from the coupling 7 through the seat opening 22 into the barrel 4. The plunger rod 16 extends upwardly centrally into the barrel 4 through a central bore 23 and the recess 20 in the plug 5, said bore extending upwardly in said plug from the lower end thereof to the lower end of said recess 20. The plunger rod 16 is bent in serpentine form from a point immediately above the spring engaging collar 21, forming first a depressed portion 24, then a raised portion, which is the cam 17, above said depressed portion, and then a depressed portion 25 above said cam, which depressed portion terminates in an upward extension 26.

The drinking receptacle 2 may be of semi-spherical form, and a suspension rod 27 is secured at the lower end in a boss 28 formed on the inner side of the bottom wall of said receptacle at the lowermost point thereof, which rod extends upwardly through said receptacle and is formed with a hook 29 on its upper end above said receptacle, which hook engages the hook 18 on the lower end of the plunger rod 16 for detachably suspending said receptacle from the lower end of said plunger rod.

The operation of my invention as above described is as follows:

With the drinking receptacle 2 detached from the plunger rod 16, by disengagement of the receptacle hook 29 from the plunger rod hook 18, said plunger rod is elevated to its uppermost position by the spring 19 engaging the collar 21 on said plunger rod, in which position of the plunger rod the valve stem cam-engaging head 15 rests within the depressed portion 24 of the plunger rod 16 below the cam 17 and the valve 1 is closed, with its base flange 11 resting upon the valve seat 9 and shutting off the supply of water to the barrel 4, as shown in Fig. 1, from a pipe or hydrant, to which the coupling member 7 is coupled.

When the drinking receptacle 2 is attached to the lower end of the plunger rod 16, by engaging the receptacle hook 29 with the plunger rod hook 18, the weight of said receptacle draws the plunger rod 16 and the cam 17 down against the tension of the spring 19 until the cam 17 engages the valve stem cam-engaging head 15 and swings the valve stem 14 and valve closing member 10 at an angle with one side of the base flange 11 of said valve-closing member resting upon the valve seat 9 and the opposite side of said base flange raised above said seat and opening the valve 1, whereupon water from the supply pipe or hydrant, to which the coupling 7 is coupled, enters said coupling and passes through the valve opening 22 into the barrel 4, and from said barrel the water passes through the recess 20 and the bore 23 in the plug 5 and drops into the drinking receptacle 2, as shown in Fig. 2.

When the water dropped from the barrel 4 into the drinking receptacle fills said receptacle, the weight of said water-filled receptacle draws the plunger rod 16 down to its lowermost position against the tension of the spring 19, whereupon the cam 17 passes below the valve-stem cam-engaging head 15 and said head swings into the upper depressed portion 25 of the plunger rod 16, until the weighted valve stem 14 and the valve closing member 10 assume their normal vertical position coaxial with the barrel 4, with the base flange 11 of said valve closing member 10 resting completely upon the valve seat 9, thus closing the valve 1 and shutting off the supply of water to the barrel 4 and from said barrel to the drinking receptacle 4 as shown in Fig. 3.

When water in the drinking receptacle 2, as shown in Fig. 3, is drunk by poultry or domestic animals down to a predetermined level in said receptacle, as illustrated in Fig. 2 for example, the power of the spring 19 overcomes the weight of the receptacle 2 and the water therein, and said spring elevates the plunger rod 16 and said receptacle to a point where the cam 17 engages the valve-stem cam-engaging head 15 and swings the valve stem 14 and the valve closing member 10 to an inclined position and opens the valve 1, whereupon water passes from the coupling 7 through the valve-seat opening 22 into the barrel 4, and from said barrel through the bore 23 around the plunger rod 16 into the drinking receptacle 2, until said receptacle is again filled and the valve 1 is closed as hereinbefore described, and the above described operation is automatically repeated to maintain a constant supply of fresh water in said drinking receptacle 2.

In the modification of my invention as shown in Figs. 4, 5 and 6 the construction is the same as

that shown in Figs. 1 to 3, inclusive, except that the plunger rod 16, spring 19, spring recess 20 and water-outlet bore 23 are located at one side of the valve-stem 14 and center of the barrel 4, and a cam 30, secured on the upper end of the plunger rod 16, is substituted for the cam 17 and depressed portions 24 and 25 on the upper portion of said plunger rod, which cam 30 is engaged by the upper end of the spring 19. Said cam 30 is of substantially pear shape, converging upwardly and downwardly from its largest diameter, as indicated at 31, for engaging the valve stem head 15 and opening the valve 1, as the plunger rod 16 is moved up or down, respectively, by the spring 19 and the weight of the drinking receptacle 2 and the water therein, for maintaining a constant supply of fresh water to said receptacle, in the manner hereinbefore described in the operation of my invention as shown in Figs. 1 to 3, inclusive.

I claim:

1. A drinking fountain including a barrel constructed and arranged to be connected to a source of water supply, a valve having a horizontal seat, a depending stem and a weight constituting an enlargement at the lower end of the stem and forming a cam-engaging head, a plunger rod formed with a hook on its lower end and a cam on its upper end, a spring engaging a part on said plunger rod, a drinking receptacle constructed with a hook for engaging said plunger-rod hook and suspending said receptacle from said plunger rod, the weight of said receptacle being such as to draw down said plunger rod against said spring to cause said cam to engage and tip said valve stem head and valve to open said valve to admit water through said barrel to said drinking receptacle, until said receptacle is filled with water, and said spring being of such power to raise said plunger rod and drinking receptacle, when a predetermined amount of water is drunk from said filled receptacle, to cause said cam to engage said valve stem to open said valve and admit water through said barrel to fill said drinking receptacle.

2. A drinking fountain as characterized in claim 1 in which a spring normally maintains the valve upon its seat in closed position.

3. A drinking fountain as characterized in claim 1 in which a plug, provided with a water outlet bore, is threaded in the lower end of the barrel, through which bore the plunger rod extends and water flows from the barrel into the drinking receptacle.

4. A drinking fountain as characterized in claim 1, in which a plug is threaded in the lower end of the barrel, said barrel being provided with a recess and a water outlet bore leading from said recess, in which recess rests the lower end of the spring and through which recess and bore the plunger rod extends and water flows from the barrel into the drinking receptacle.

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