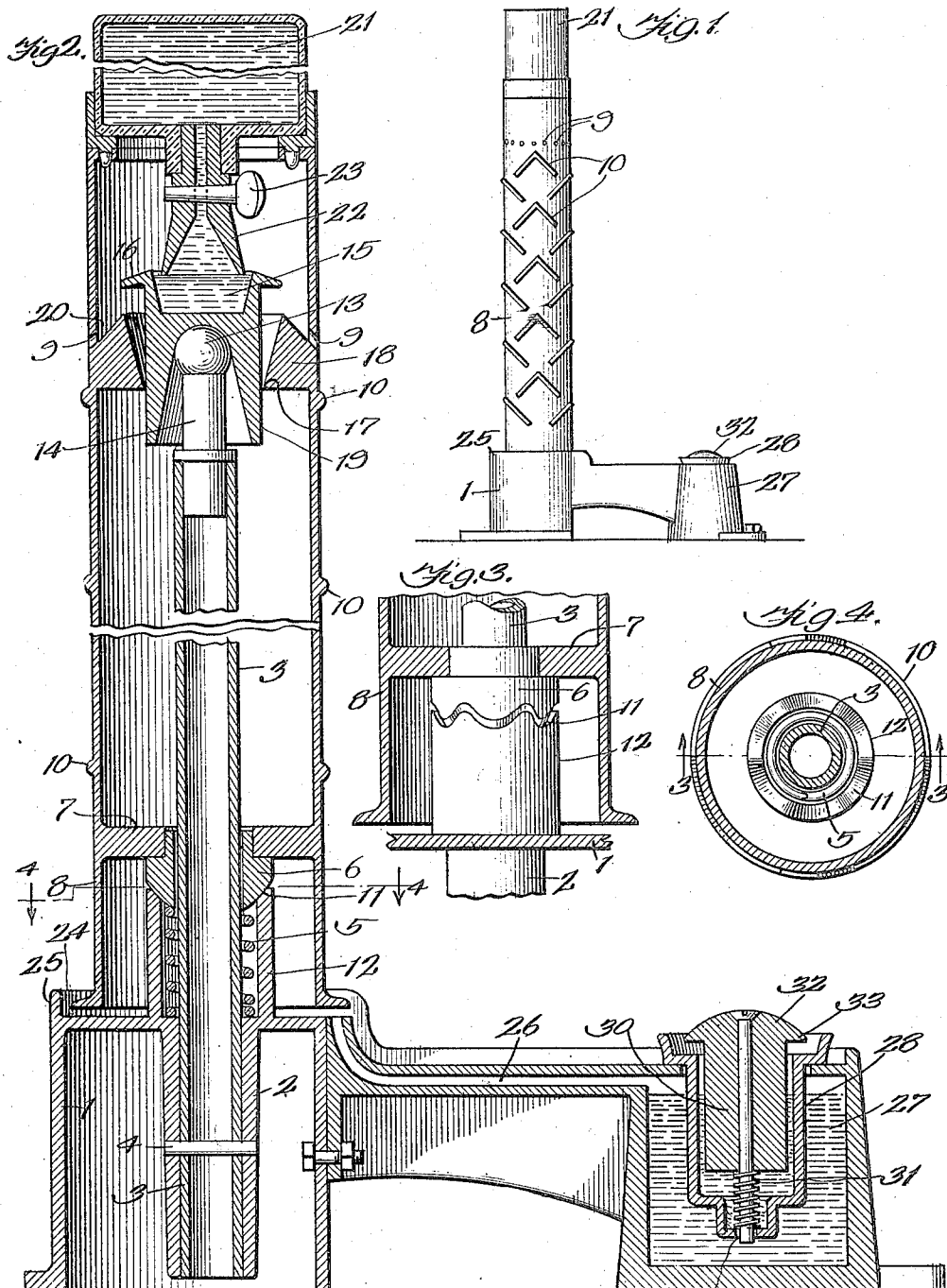


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ANIMAL OPERATED LIQUID DISTRIBUTER.
APPLICATION FILED SEPT. 29, 1916.

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UNITED STATES PATENT OFFICE.

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ANIMAL-OPERATED LIQUID-DISTRIBUTER.

1,301,904.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM C. BURRELL, citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented a certain new and useful Improvement in Animal-Operated Liquid-Distributers, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to animal operated liquid distributers and, in one aspect, comprises a rubbing bar that may be tilted, and a liquid containing cup that may be tilted by the rubbing bar when tilted and positioned to discharge liquid upon the rubbing bar.

In another aspect the device of my invention includes a rubbing bar that may be elevated by an animal rubbing upon the same, a liquid containing cup, and means for effecting the discharge of liquid from said cup which is operated by the bar when moved up and down.

In the preferred embodiment of the invention the rubbing bar is tubular and the cup is mounted within the bar in a manner to be tilted by the bar when the bar is tilted, there being also means to effect the flow of oil from the cup when the bar is merely moved up and down. In the preferred embodiment of the invention I employ a barometric feed inclusive of an inverted receptacle and means, preferably the aforesaid cup, for normally sealing the same to prevent the down flow of liquid therefrom, the seal of the container or receptacle being broken whenever the bar is tilted or moved up and down.

I will explain my invention more fully by reference to the accompanying drawing showing the preferred embodiment thereof and in which Figure 1 is a view in elevation of the preferred form of the invention; Fig. 2 is a vertical sectional view on a larger scale, parts being broken away owing to lack of room; Fig. 3 is a detail view of a part of the structure taken on line 3 3 of Fig. 4; and Fig. 4 is a view on line 4 4 of Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

The pedestal 1 is provided with a depending tubular anchorage formation 2 to which the standard 3 is anchored by means

of a pin 4 the standard 3 being desirably tubular and cylindrical and in close fit within the bore of the tubular anchorage so that the standard will not oscillate. The lower portion of this standard is surrounded by a coiled spring 5 which rests at its lower end upon the pedestal above the anchorage 2, the upper end of this spring engaging the lower end of spring abutment 6 which is carried by the heavy bridge portion 7 that is integrally formed with a rocker bar or post 8 which is preferably tubular and cylindrical and upon the exterior surface of which oil or other liquid is to be fed. In the form of the invention shown the oil finds access from the interior of the post through holes 9 from which it flows onto ribs 10 that guide the oil in various directions over the bar or post whereby the post is thoroughly covered with oil to be transferred to the body of a hog when rubbing against the same. The spring 5 exerts an upward pressure upon the post 8 through the spring seat 6 that is almost sufficient to offset the weight of the post and the parts carried thereby but which permits the seat 6 normally to rest upon an annular seat 11 provided in the upper end of the upper cylindrical continuation 12 of the pedestal 1. This construction enables the post readily to be turned when the hog rubs against it horizontally and as the seat 11 is wavy and the pressure of the seat 6 upon the seat 11 is comparatively light the post will rise and fall as it is turned about its axis. The seat 6 is sufficiently free from the standard 3 to permit this seat to rock upon the seat 11 when the hog rubs the post up and down.

The hog in its various movements against the post will thus either tilt the post or turn it upon its seat 11 or cause the combination of these two movements to follow with the result that oil will be caused to flow through the openings 9 by means of the construction now to be set forth. The standard 3 terminates at its upper end in a ball 13 having a stem 14 received in the bore of the cylindrical portion of the standard 3 and upon this ball 13 there is carried an oil cup or basin provided with a downwardly sloping rim 16. Whenever the rubbing post or bar 8 is tilted the edge 17 (that is preferably below the center of ball 13) of the inner annular collar 18 fixedly carried within the post is brought against the skirted portion 19 de-

pending from the cup 15 whereby the cup is turned or tilted (preferably toward the animal) upon the stationary center of the ball 13 to discharge some oil from the cup into the gutter formed by the upper portion of the collar 18 and the adjacent portion of the cylinder 8. The oil will flow from this gutter through the holes 9 upon the ridges 10, thence on to the exterior rubbing surface of the post.

The oil within the cup is desirably replenished by a barometric feeding operation to which end I employ an oil containing inverted bottle or receptacle 21 whose discharge mouth 22 at the bottom thereof that is desirably in the form of an inverted funnel that extends a slight distance below the limiting level of the oil in the cup. The oil flows from the receptacle 21 through the neck of the funnel and the mouth thereof into the cup 15 whenever any of the oil is displaced from the cup upon the tilting of the cup, the barometric seal which is normally established by the projection of the funnel 22 below the normal level of the oil in the cup 15 being broken upon the side of the funnel where the cup is tilted downward. The mouth of the funnel is wide and as the center of the ball 13 is coincident with the axis of the funnel the gap between the liquid in the tilted cup and the peripheral portion of the funnel on the side where the cup is tilted downward will be larger (for a given tilting movement of the bar) at the periphery of the wide mouth of the funnel than if the bottle mouth were a mere small pipe. By this construction a comparatively small tilting movement of the rubbing bar will be accompanied by the occurrence of an effective unsealing of the gap between the bottle mouth 22 and the surface of the liquid in the cup. As long as this seal is broken the oil will flow from the receptacle 21 into the tilted cup and from this cup into the gutter 20 but when the post is restored to its normal vertical position the cup 16 will automatically restore itself to its normal vertical position owing to the righting effect of the weighting skirt 19 and the restoring engagement of collar 18 upon skirt 19 whereupon the lower end of the funnel 22 will be sealed by the oil in the cup 15 to stop the flow of oil from the receptacle 21. When the post is raised by the animal the funnel 22 will be elevated above the normal level of the oil in the cup 15 again to break the barometric seal normally established by the funnel 22 again to permit oil to flow from the receptacle 21 into the cup 15 from which cup it flows into the gutter 20 without necessarily tipping the cup. When the post is restored to its normal lower position the funnel 22 will again enter the cup 15 and re-establish the barometric seal to cause the flow of oil from the receptacle to cease. The

mouth of the receptacle may be equipped with a valve 23 to regulate the freedom with which the oil may flow from the receptacle 21, the opening established by the valve being made larger in the winter (when the oil is thicker) than in the summer (when the oil is thinner), it being assumed that the post is located out doors.

The oil that is not taken up by the hogs drips from the rubbing post into the drip pan that is formed by means of the upwardly projecting rim 25 rising above the pedestal 1. This oil that drips from the post flows through the duct 26 into a chamber 27. A barrel 28 projects into the chamber 27, the barrel being open at its bottom or inner end whereby oil may flow from the chamber 27 into the interior of the barrel, the communicating opening being illustrated at 29. A plunger 30 is located in the barrel and is pressed to an upper or outer and normal position by a spring 31. The top or outer end of the plunger is dome shaped as indicated at 32, this dome overhanging the main portion of the plunger to form an annular shoulder 33 that limits the extent to which the plunger may be depressed against the force of the spring 31. The upper end of the barrel 28 terminates in a pan to catch the returning oil after it is squirted upward consequent upon the depression of the plunger. The hogs use this portion of the structure by climbing upon it and pressing downward upon the plunger 32 to cause the oil to squirt upwardly to oil the underneath parts of the hogs, the spring restoring the plunger to or toward normal position whenever the pressure which a hog is exerting thereupon is sufficiently relieved.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

1. An animal operated liquid distributor including a rubbing bar mounted to be elevated by an animal rubbing upon the same; a liquid receptacle carried by the bar and movable upwardly therewith, this liquid receptacle having a discharge mouth at the bottom thereof; and a liquid containing cup located beneath the discharge mouth and receiving such mouth, when the bar is lowered, to seal the same normally to prevent liquid from being discharged from said receptacle and from which cup the mouth is removed when the bar is raised.

2. An animal operated liquid distributor including a rubbing bar mounted to be elevated by an animal rubbing upon the same; a liquid receptacle carried by the bar and

movable upwardly therewith, this liquid receptacle having a discharge mouth at the bottom thereof; and a liquid containing cup located beneath the discharge mouth and receiving such mouth, when the bar is lowered, to seal the same normally to prevent liquid from being discharged from said receptacle, and from which cup the mouth is removed when the bar is raised, said cup and bar both being mounted to tilt, the bar being in engagement with the cup, when the bar is tilted, to tilt the cup to effect flow of liquid from the cup upon the bar.

3. An animal operated liquid distributor including a tubular rubbing bar mounted to tilt; means for restoring the rubbing bar to its normal position; a liquid holding cup; and a support within the bar and upon which the cup is mounted to tilt, the cup having a depending skirted portion projecting below the place of support of the cup, the part of the cup below the place of support of the cup being engageable by the bar when tilted to tilt the cup.

4. An animal operated liquid distributor including a tubular rubbing bar that may be tilted; and a liquid containing cup mounted within the tubular bar to tilt and positioned to discharge liquid upon the interior of the rubbing bar, the rubbing bar being apertured to enable the liquid discharged from the cup to be passed to the exterior of the rubbing bar.

5. An animal operated liquid distributor including a tubular rubbing bar that may be tilted; a liquid containing cup mounted within the tubular bar to tilt and positioned to discharge liquid upon the interior of the rubbing bar, the rubbing bar being apertured to enable the liquid discharged from the cup to be passed to the exterior of the rubbing bar; and a liquid receptacle whose mouth extends to the cup to enable the liquid in the cup normally to seal said mouth.

6. An animal operated liquid distributor including a tubular rubbing bar that may be elevated by an animal rubbing upon the same; a liquid containing cup mounted within the tubular bar; and means for effecting

the discharge of liquid upon said rubbing bar from said cup which is operated by the bar when moved up and down, the rubbing bar being apertured to enable the liquid discharged from the cup to be passed to the exterior of the rubbing bar.

7. An animal operated liquid distributor including a tubular rubbing bar that may be elevated by an animal rubbing upon the same; a liquid containing cup mounted within the tubular bar; means for effecting the discharge of liquid upon said rubbing bar from said cup which is operated by the bar when moved up and down, the rubbing bar being apertured to enable the liquid discharged from the cup to be passed to the exterior of the rubbing bar; and a liquid receptacle whose mouth extends to the cup to enable the liquid in the cup normally to seal said mouth.

8. An animal operated liquid distributor including a rubbing bar mounted to be elevated by an animal rubbing upon the same; a liquid receptacle carried by the bar and movable upwardly therewith, this liquid receptacle having a discharge mouth at the bottom thereof; and a liquid containing cup located beneath the discharge mouth and receiving such mouth, when the bar is lowered, to seal the same normally to prevent liquid from being discharged from said receptacle and from which cup the mouth is removed when the bar is raised, said cup and bar both being mounted to tilt, the bar being in engagement with the cup, when the bar is tilted, to tilt the cup to effect flow of liquid from the cup upon the bar, the cup and receptacle being related to enable the tilting of the cup and flow of liquid from the cup.

In witness whereof, I hereunto subscribe my name this twenty-fifth day of September A. D. 1916.

WILLIAM C. BURRELL.

Witnesses:

G. L. CRAGG,
ETTA L. WHITE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."