

978,648.

Fig. 1

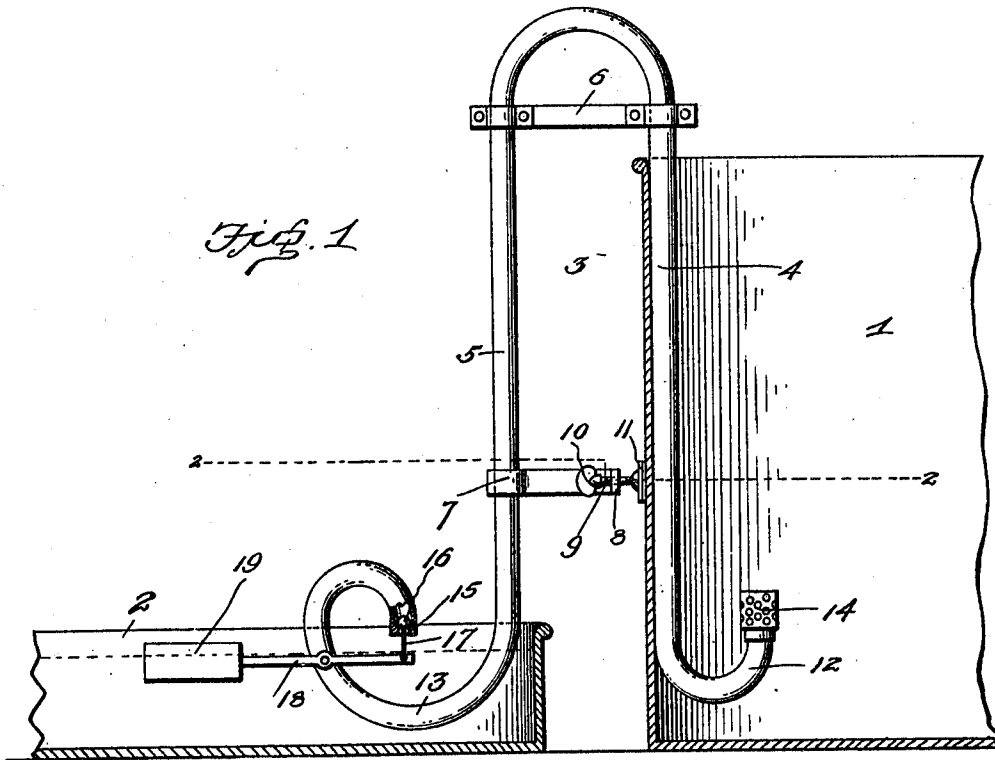
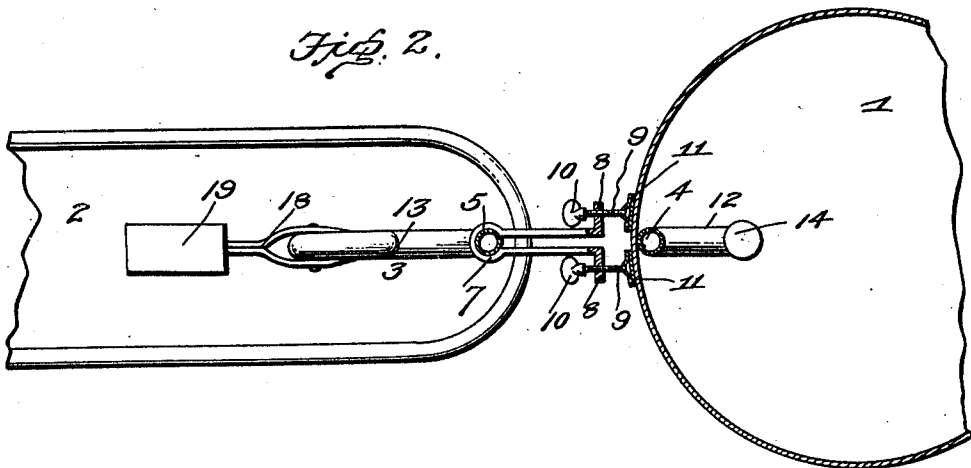


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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SIPHON FEEDING MECHANISM.

978,648.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed January 3, 1910. Serial No. 535,931.

To all whom it may concern:

Be it known that I, EDWIN A. RHOADS, a citizen of the United States, residing at Goodland, in the county of Sherman and State of Kansas, have invented certain new and useful Improvements in a Siphon Feeding Mechanism; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in automatically operated siphon feeding mechanism and is designed particularly for the purpose of automatically transferring water or other fluid from one tank or receptacle to another.

One object of the invention is to provide a device of this character which may be employed in connection with stock watering tanks whereby water from a high tank may be automatically supplied to a lower or smaller tank wherein the water may be reached by hogs or small stock.

Another object is to provide a siphon feed mechanism having means whereby the siphon will remain continuously charged and the siphon action thereof prevented from being broken should either end of the siphon become exposed.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a vertical section of a stock watering tank and trough showing my automatic siphon feed mechanism applied thereto, parts of the latter being shown in section; Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1.

Referring more particularly to the drawing, 1 denotes a high tank from which large stock may drink and 2 denotes a smaller tank or trough adapted for the use of hogs or small stock. In order that the small tank or trough 2 may be continuously supplied with water from the large tank, I provide an automatically operated water transferring mechanism comprising a siphon 3, the tubes or legs 4 and 5 of which are secured together by an adjustable brace 6, which is arranged thereon as shown. In arranging

the siphon for use, the tube 4 thereof is arranged in the tank 1 adjacent to one side thereof, while the lower end of the other tube 5 is arranged in the trough or tank 2 as shown. The siphon is detachably held in position in the tanks 1 and 2 as herein described by means of a suitable supporting mechanism comprising a plate or bar bent midway its ends to form a tube engaging loop 7, the outer end of which is bent into substantially circular form to closely fit the tube 5 of the siphon with which the support is engaged. The plate or bar 7 is preferably constructed of spring metal and the looped end of the same is sprung around the tube 5 and firmly grips the same.

The ends of the looped member 7 are bent laterally in opposite directions at substantially right angles to the loop to form bracing lugs 8 in which are formed threaded apertures to receive the pressure bolts 9 which are engaged therewith and which are provided on their outer ends with heads 10, whereby they may be readily screwed inwardly or outwardly through the threaded apertures in the lugs 8. On the inner ends of the bolts are arranged swiveled plates 11 which are adapted to be screwed up into tight engagement with the outer sides of the tank 1, thereby drawing the tube 4 of the siphon into tight engagement with the inner side of the tank, thus clamping the side of the tank between the swiveled plates of the bolts and the tube 4 of the siphon whereby the latter is rigidly supported and held in position in the tanks without the necessity of forming any bolt holes or other apertures therein.

The lower ends of the tubes 4 and 5 of the siphon are turned upwardly to form water traps or seals 12 and 13, whereby should the water in either of the tanks fall below the lower ends of the tubes, the water held in the turned up ends or traps thereof will prevent the air from breaking the siphon so that the latter will remain continuously charged for action. On the end of the trap 12 of the tube 4 in the tank 1 is preferably arranged a strainer 14. The upwardly turned end 13 of the trap 5 is curved around and turned downwardly again and in said downwardly turned end is formed a valve seat 15, with which is engaged a cut-off valve 16, the stem 17 of which projects downwardly and is connected to the inner

end of a valve operating lever 18 pivotally mounted on the upwardly turned end 13 of the tube 5 as shown.

On the outer end of the lever 18 is secured a float 19 which is operated by the water in the trough 2 and through the lever 18 operates the valve 16, whereby when the water in the trough 2 is removed and the float thus caused to lower, the lowering movement of the float will rock the lever 18 and cause the latter to lift the valve 16 from its seat, thereby opening the end of the siphon which being charged by the water held therein will immediately start to flow, thus drawing the water from the large tank 1 to the trough 2 until the float in said trough has again been raised to the proper level for closing the valve and thus cut off a further supply of water until the float has again been lowered.

While the invention is herein shown and described as being used in connection with stock watering tanks, it is obvious that a continuously charged automatically operated siphon constructed in accordance with my invention may be employed in connection with other devices and for other purposes.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the inven-

tion will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claim.

Having thus described my invention, what I claim is:—

A device for transferring liquids from one receptacle to another, comprising a siphon having the free end of one leg curved upwardly and the free end of the other leg curved upwardly and then downwardly, a valve seat arranged on said down curved end, a valve arranged on said seat, a lever fulcrumed intermediately of its ends to the upwardly curved portion of said siphon leg provided at one end with a float and connected at its other end to said valve, and means for securing said siphon in operative position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWIN A. RHOADS.

Witnesses:

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JAMES A. SPRAGUE.