June 23, 1925. 1,543,375

F. F. FILER

STOCK FOUNTAIN

Filed April 2, 1923

Fig. 1

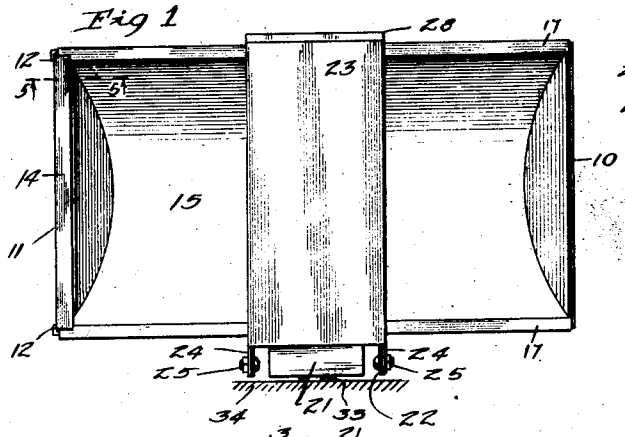


Fig. 4

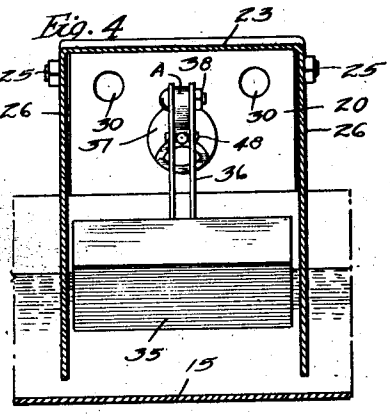


Fig. 2

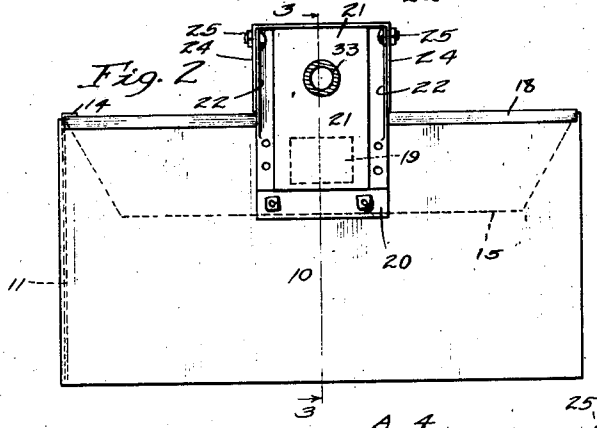


Fig. 5

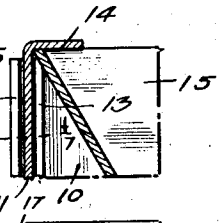


Fig. 6

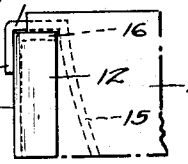


Fig. 3

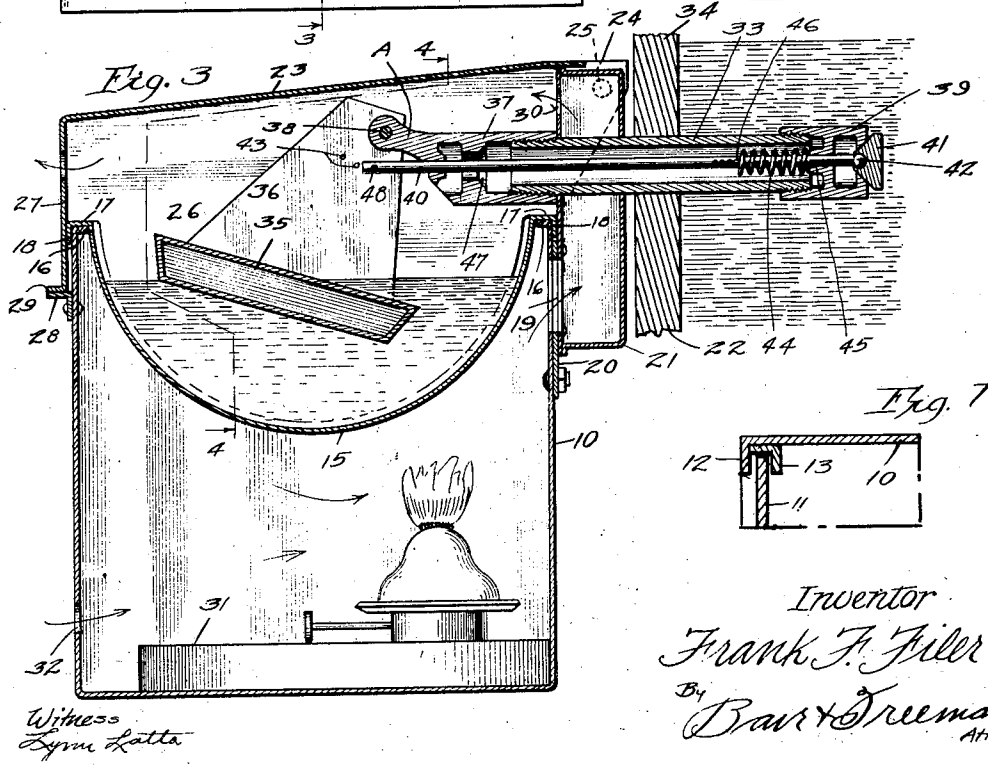


Fig. 7



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Patented June 23, 1925. 1,543,375

# UNITED STATES PATENT OFFICE.

FRANK F. FILER, OF MARSHALLTOWN, IOWA.

## STOCK FOUNTAIN.

Application filed April 2, 1923. Serial No. 629,342.

*To all whom it may concern:*

Be it known that I, FRANK F. FILER, a citizen of the United States, and a resident of Marshalltown, in the county of Marshall and State of Iowa, have invented a certain new and useful Stock Fountain, of which the following is a specification.

The object of my invention is to provide a stock fountain of simple, durable and comparatively inexpensive construction.

More particularly, my invention relates to a stock fountain or waterer in which the supply pipe is automatically regulated by a float structure, the float structure being mounted in a compartment which may be heated.

Still a further object is to provide a trough, which can be removed from the casing for permitting it to be easily cleaned.

Still another object is to provide a hinged cover member for a portion of the trough, wherein there is formed a compartment in the trough in which is mounted the float structure, the compartment being capable of being heated for insuring against the freezing of the waterer in the trough around the float structure.

Still a further object is to provide a float structure in which a spring is employed for normally tending to hold the valve in closed position wherein the movement of the valve from closed to open position is quite sensitive.

It is also an object of my invention to provide a stock fountain of this kind which will be simple in operation and construction, thereby enabling it to be manufactured and marketed at a comparatively low cost.

With these and other objects in view, my invention consists in the construction and arrangement of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a top, plan view of my improved stock fountain.

Figure 2 is a plan view of the back side of the same.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is a sectional view taken on line 4—4 of Figure 3 showing the compartment formed by the cover member.

Figure 5 is a detail, sectional view taken on line 5—5 of Figure 1.

Figure 6 is an enlarged, detail view of one corner of the casing; and

Figure 7 is a detail, sectional view taken on line 7—7 of Figure 5.

In the accompanying drawings, I have used the reference numeral 10 to indicate generally a casing which is provided with a pair of side walls, a bottom and one end wall. A removable end wall 11 is provided for completing the walls of the casing 10.

The side walls of the casing are provided on their free edge with inturned flanges 12. An angle strip 13 is secured to the inner surfaces of the side walls of the casing 10. The inturned flanges 12 and angle strips 13 form guides for retaining the removable end wall 11 in proper position.

The upper edge of the removable end wall 11 is provided with a flange 14. A trough 15 rests upon the upper edge of the sides of the casing 10. The upper edge of the sides of the casing are provided with inturned flanges 16 for reinforcing purposes as well as providing a surface on which the trough 15 may rest.

The trough 15 is substantially U-shaped in cross section and is provided with a pair of horizontal flanges 17 arranged to rest upon the flanges 16.

The free edges of the flanges 17 are downturned for forming the flanges 18.

From the construction of the parts just described, it will be seen that the flanges 18 prevent any spreading apart of the side walls of the casing 10. The trough 15 also prevents any inward movement of the walls of the casing.

The flange 14 on the removable wall 11 projects over the upper edge of one of the ends of the trough 15, as clearly shown in Figure 5 of the drawings.

The removable end wall 11 holds the trough against sliding movement. The main body portion of the trough 15 is narrow enough so it clears the inturned flanges 12.

The casing 10, on the back side thereof, is provided with an opening 19. A plate 20 is secured to the casing 10 and extends around the opening 19. The plate 20 is provided with an opening, which registers with the opening 19.

An auxiliary casing 21 is secured to the

casing 10 and encloses the opening 19. The auxiliary casing 21 projects up beyond the upper edge of the trough 15 as well as the casing 10.

The sides of the auxiliary casing 21 are provided with flanges or projecting portions 22, the purpose of which will be hereinafter more fully set forth.

A cover member 23 is provided with a pair of ears 24 which rest against the projecting portions 22 and are secured together by means of the bolts 25. The entire cover member is capable of swinging movement on the bolts 25.

The cover member 23 is provided with a pair of side walls 26 which project down into the trough 15. The lower edges of the side walls 26 are curved so as to conform to the contour of the trough 15, as clearly shown in Figure 3 of the drawings.

The cover member 23 is provided with a front wall 27, which rests upon an angle iron 28. The lower edge of the front wall is provided with a short flange 29.

The cover member 23 covers only a portion of the trough 15 so that there are open portions on each side of the cover member 23 wherein stock may gain access to the water within the trough.

The auxiliary casing 21 is provided with an opening which registers with the opening 19 in the casing 10 and is also provided with openings 30 which lead into the compartment formed by the cover member 23. In this connection, it may be mentioned that the cover member 23 forms a complete compartment over a portion of the trough 15.

The casing 10 is provided with a heater 31 which can be placed in position by removing the end wall 11.

An inlet opening 32 is formed in the casing 10 so that there will be a circulation of air within the casing 10 below the trough 15. The heated air will pass through the opening 19 into the auxiliary casing 21 and from there, through the openings 30 into the compartment formed by the cover memebr 23.

From the construction of the parts just described, it will be seen that the heater serves to heat the entire trough from below as well as a portion of the water within the trough from above.

Mounted below the cover member 23 is a float structure A for controlling the supply pipe 33 which leads from a reservoir 34. The supply pipe passes through the auxiliary casing 21.

The float structure A includes a float member 35 which has a pair of upwardly extending members 36 which are spaced apart.

A member 37 is secured to the supply pipe 33. The member 37 has one end projecting between the pair of members 36 and is secured thereto by means of the bolt 38.

Within the reservoir 34 and on the supply pipe 33 is mounted a valve seat member 39.

A rod 40 is connected to the upright members 36 on the float 35 and is secured to the valve member 41 by means of a ball and socket joint 42. The rod 40 may be selectively fastened in any of the openings 43 formed in the upright members 36.

A spring 44 is mounted on the rod 40 and is received between a bearing member 45 on the member 39 and a pin 46 mounted in the rod 40. The spring 44 tends to hold the valve member 41 in its closed position.

When the water in the trough is partly consumed, then the float 35 will swing downward for forcing the rod 40 rearwardly against the action of the spring 44 for unseating the valve member 41. Water in the reservoir will then flow into the trough 15.

The providing of the spring 44 gives me a positive as well as a sensitive opening and closing of the valve member 41.

The member 37 is provided with a valve seat 47 so that a valve member may be secured to the rod 40, if desired, for closing the supply pipe at that particular point. It will be understood that a valve member can be positioned on the rod 40 for coacting with the valve seat 47 when desired.

It will be seen that the supply pipe is arranged above the normal water level in the trough 15 so that the supply pipe will normally be drained. The supply pipe passes through the auxiliary casing 21 so that the heated air therein will keep the supply pipe warm.

The cover member 23 may be swung on its pivots for removing the sides 26 thereof from within the trough 15. The float 35 may be swung on the bolt 38 by disconnecting the pin 48 from the rod 40, thereby clearing the float 35 from the trough 15.

When the cover member 23, as well as the float 35, are clear from the trough 15, then the trough 15 may be slid from the casing 10 by removing the end wall 11.

It will be seen that I have provided a very efficient structure for permitting the trough to be removed and at the same time I have provided a float structure which will be positioned in a compartment.

The cover member forms a compartment wherein the waterer will be heated from above as well as from below for preventing the possible freezing thereof around the float structure.

The plate 20 spaces the auxiliary casing 21 a short distance from the casing 10 so as to permit the downturned flange 18 of the trough 15 to be received between the casing 10 and the auxiliary casing 21, as clearly shown in Figure 3.

Some changes may be made in the construction and arrangement of the various parts of my invention, without departing from the real spirit and purpose of my in-

vention and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a waterer of the class described, a casing forming a heating compartment, a trough removably supported thereon to form a closure for the upper part of said casing, an intake pipe supported on the casing above the trough to discharge into the trough from above, and a removable cover shorter than the trough to leave the ends of the trough normally open, resting above the trough and forming a compartment receiving the discharge end of said pipe, a float structure including a float and supporting means therefor constructed to permit the float to be moved out of the way of the free removal of the trough, a valve for controlling flow of water through the pipe adapted to be closed when the float is so moved, and means for operatively connecting the float and valve.

2. In a device of the class described, a casing having a lower portion forming a compartment for a heater, a trough detachably mounted in the upper part of said casing, an intake pipe projecting above said trough to discharge there into, a float in said trough, means for pivotally supporting said float on said pipe for permitting the float to be swung out of the way of the movement of the trough, a valve for controlling water flowing through said pipe, and means for operatively connecting the float and valve.

3. In a waterer comprising a casing having a removable end wall and with its top open, a removable trough slidably mounted on the casing, a supply pipe leading into said trough, a float structure for regulating flow through the supply pipe, a cover member for a portion of the trough having sides arranged to project into the trough for forming a compartment, said cover member being capable of being swung to position where its sides will be clear of the trough for permitting sliding movement thereof, said float structure being positioned in the compartment formed by the cover member and a heater in the casing for heating the water in the trough from below and for heating the water in the trough within the compartment from above and a passage through which said pipe extends, leading from the casing below the trough to said compartment.

4. In a device of the class described, a casing, a trough slidably mounted thereon and forming a compartment therewith, a movable cover having walls arranged to project into said trough to coact with the trough for forming a compartment, an intake pipe extended into said second compartment, a float, means for pivotally supporting said float on the intake pipe for permitting the float to be tilted out of the way when the cover is moved from its normal position, so that the float will not interfere with the free sliding movement of the trough, and an auxiliary compartment communicating with the first and second compartments and surrounding the intake pipe adjacent to the trough for providing direct passage of heated air from the first compartment to the intake pipe and thence to the second compartment.

5. In a waterer comprising a casing having a removable end wall and with its top open, a removable trough slidably mounted on the casing, a supply pipe leading into said trough, a float structure for regulating the supply pipe, a cover member for a portion of the trough having sides arranged to project into the trough for forming a compartment, said cover member being capable of being swung to position where its sides will be clear of the trough for permitting sliding movement thereof, said float structure being capable of being swung clear of the trough for permitting the trough to be slid out, said float structure being positioned in the compartment formed by the cover member and a heater in the casing for heating the water in the trough from below and for heating the water in the trough within the compartment from above and a passage through which said pipe extends, leading from the casing below the trough to said compartment.

FRANK F. FILER.