

(No Model.)

F. C. JONES.
STOCK WATERING TROUGH.

No. 542,260.

Patented July 9, 1895.

Fig. 1.

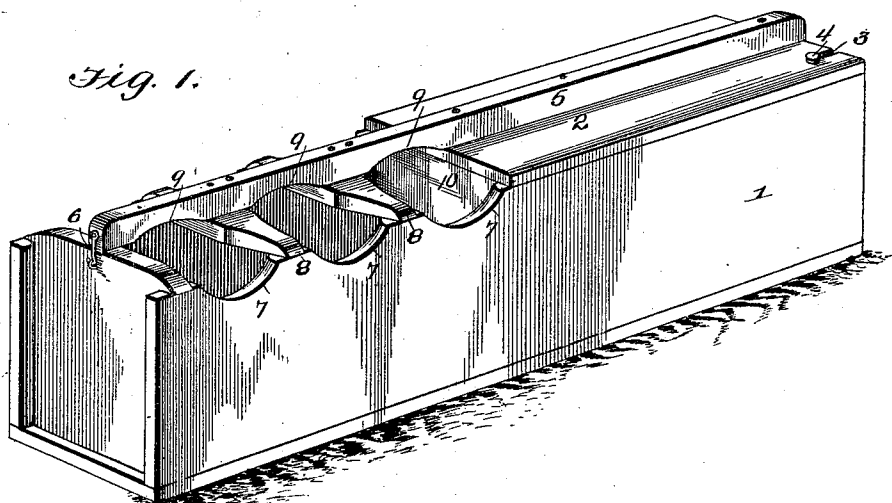


Fig. 2.

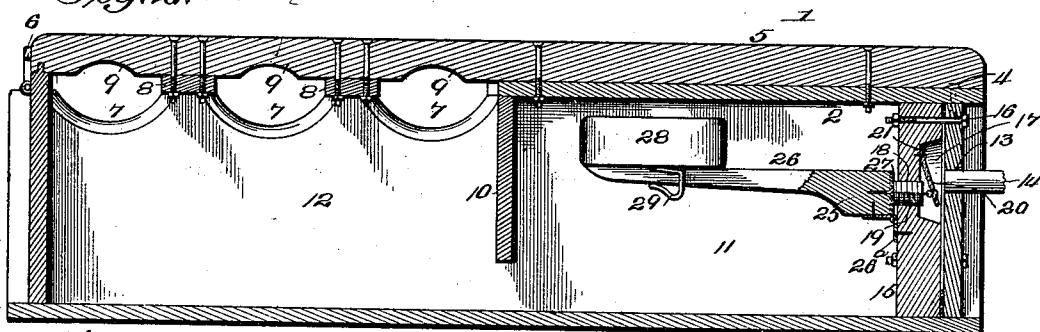


Fig. 3.

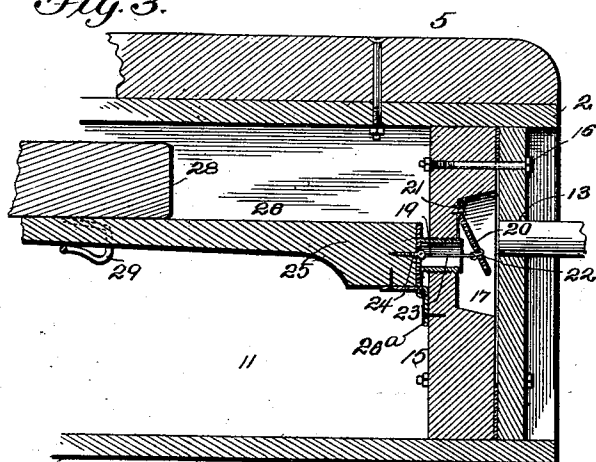
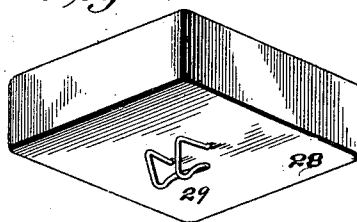


Fig. 4.



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Witnesses

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STOCK-WATERING TROUGH.

SPECIFICATION forming part of Letters Patent No. 542,260, dated July 9, 1895.

Application filed August 28, 1894. Serial No. 521,523. (No model.)

To all whom it may concern:

Be it known that I, FREMONT C. JONES, a citizen of the United States, residing at Lewis, in the county of Cass and State of Iowa, have invented a new and useful Stock-Watering Trough, of which the following is a specification.

This invention relates to stock-watering troughs; and it has for its object to provide certain improvements in that class of troughs in which the water is constantly maintained at the proper level, while at the same time being prevented from overflowing.

To this end the main and primary object of the present invention is to construct a new and useful stock-watering trough having simple and efficient valve devices for accurately and positively controlling the supply of water to the trough, and one in which the various parts are readily accessible for the purposes of adjustment and repair.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a stock-watering trough constructed in accordance with this invention. Fig. 2 is a central vertical longitudinal sectional view thereof. Fig. 3 is an enlarged detail sectional view of that end of the trough in which are arranged the valve devices for controlling the supply of water to the trough. Fig. 4 is a detail in perspective of the adjustable float.

Referring to the accompanying drawings, 1 designates a substantially rectangular trough-body open at the top and partly inclosed by the cover or lid 2, which is provided at one end with the slots 3, adapted to be detachably engaged over the headed studs or pins 4, secured on one end of the trough-body. Said cover or lid 2 has secured centrally on top thereof the longitudinal guard-rail 5, which extends the entire length of the trough-body and is provided at the end beyond said cover or lid with a suitable catch or lock device 6, which fastens that particular end of the guard-rail to one end of the trough-body, and completes means, together with the slots 3 and pins or studs 4, for detachably fasten-

ing the cover or lid onto the trough-body, and allowing ready access to the interior thereof for the purposes of adjustment or repair.

Beyond one end of the cover or lid 2 the trough-body is uncovered and is provided at opposite side edges with the rounded notches 7, between which notches are located the transverse guard-bars 8, secured at their centers to the under side of the guard-rail 5 to provide drinking spaces or openings for the stock, and between said transverse guard-bars 8 the opposite lower edges of the guard-rail 5 are beveled or rounded out as at 9, so as to complete with the notches 7 a space conforming substantially to the face of the stock, so that the stock will have ready access to the water in the trough without injury to their faces, and at the same time without interference from each other. This arrangement provides a very convenient and useful construction whereby the stock can have ready access to the water in the trough.

The inner end of the cover or lid 2 has secured thereto the depending partition-board 10, that divides the trough-body into a covered supply-chamber 11, and a drinking-chamber 12, to which latter chamber the stock has access. The chambers 11 and 12 communicate with each other, as illustrated in the drawings, so that the same level of water will be maintained in both chambers, and at one end the trough-body 1 is provided with the water-inlet opening 13, in which opening is fitted one end of the water-supply pipe 14, that leads from any suitable reservoir and provides for supplying the trough with the requisite supply of water.

A valve-plate 15 is detachably bolted to one end of the trough-body by means of the bolt 16 or other securing means, and is located within the trough-body over the inner end of the water-inlet opening 13. The said valve-plate 15 is provided in one side thereof with the central valve recess 17, communicating with the inlet-opening 13 and also with the valve-opening 18, that pierces the said valve-plate. The valve-opening 18 accommodates therein the adjustable valve-seat nipple 19, that is exteriorly threaded for adjustment within the said valve-opening and has the opposite valve-seat ends thereof project beyond the opposite ends of the valve-opening 18.

The valve-seat end of the nipple 19, that projects into the recess 17, has working thereover the safety flap-valve 20, that is secured at one edge, as at 21, to one side of the valve-plate 15 at the base of the valve recess 17.

The safety flap-valve 20, that works within the recess 17 over one end of the nipple 19, is provided centrally at one side thereof with the eye 22, to which is loosely connected one end of the valve-connecting link 23. The valve-connecting link 23 works longitudinally within the nipple 19 and is loosely connected at its opposite end to the eye 24, fitted to the squared valve end 25 of the float-lever 26. The float-lever 26 is arranged to work within the supply-chamber 11 of the trough-body, and is hinged at the valve end 25 by the hinge 26^a to one side of the valve-plate 15. The hinge 26^a is located below the valve-opening 18, and the end of the float-lever 26 above the hinge has fitted thereto a leather or other suitable valve-disk 27, that works over the valve-seat end of the nipple 19, opposite the safety flap-valve 20.

The float-lever 26 has adjustably mounted thereon the float 28, that is provided on its under side with the spring-clip 29, that embraces the lever 26 and provides for securing the float in any adjusted position on the said lever. By reason of the adjustment of the float it will be obvious that the leverage may be increased or diminished to render the action of the valves either more or less susceptible to the rise and fall of the water, and by reason of disposing the hinge of the valve-lever as near to the valve-seat as possible, it will be obvious that the valve end of the float-lever will work positively and quickly.

It will be understood that during the normal working of the valves, when the water is at the proper height in the trough-body, the valve 27 closes over one end of the valve-seat nipple 19, and when the water lowers the flap-valve 22 will not interfere with the water running into the supply-chamber to make up the deficiency; but in the event of the float-lever dropping to the bottom of the trough or being torn off by the stock, as sometimes happens, the valve 22 closes and will be kept closed by the pressure of the water, so that there will be no waste of the supply from which the water is obtained.

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.

At this point attention is directed to the fact that the adjustment of the valve-seat nipple 19 allows said nipple to be properly adjusted to suit any thickness of valve-disk 27 that may be fitted on the hinged end of the float-lever 26, so that the position of the hinge of the lever or the valve-plate will not have to be disturbed at any time.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a stock watering trough, the combination of the trough body provided at one end with a water inlet opening, a valve plate attached to one end of the trough body over the inlet opening thereof and provided with a valve opening, a valve seat nipple fitted in said valve opening and projecting beyond both ends thereof, a float lever arranged within the trough body and working at one end over one end of said valve seat nipple, a safety flap valve attached to one side of the valve plate and working over one end of the valve seat nipple opposite the valve end of the float lever, and a connection between the valve end of the float lever and said flap valve, substantially as set forth.

2. In a stock watering trough, the combination of the open trough body provided at one end with a water inlet opening, a valve plate attached to one end of the trough body over said opening and provided with a valve opening, a float lever hinged at one end to said valve plate and working within the trough body, a float provided with a clip adjustably embracing said lever, the hinged end of said lever forming a valve working over one end of said valve opening, a safety flap valve attached to said valve plate and working over the opposite end of said valve opening, and a connection between the valve end of said lever and said flap valve, substantially as set forth.

3. In a stock watering trough, the combination of the trough body provided at one end with a water inlet opening, a valve plate detachably secured to one end of the trough body and provided with a valve opening, and a valve recess formed in one side and communicating with said valve opening and the water inlet opening, a valve seat nipple adjustably fitted in said valve opening and projecting beyond both ends thereof, a safety flap valve attached to one side of the valve plate within the valve recess and working over one end of said nipple, a float lever working within the trough body and hinged at one end to one side of the valve plate immediately below the valve opening, the hinged end of said lever being provided with a valve disk working over one end of the nipple opposite the flap valve, and a valve connecting link loosely connected at its ends to one side of said flap valve and to the valve end of the float lever, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FREMONT C. JONES.

Witnesses:

M. H. ELLIOTT,
H. C. CANE.