

June 19, 1923.

1,459,142

C. L. CRUZEN ET AL

STOCK WATERER

Filed March 13, 1922

Fig. 1

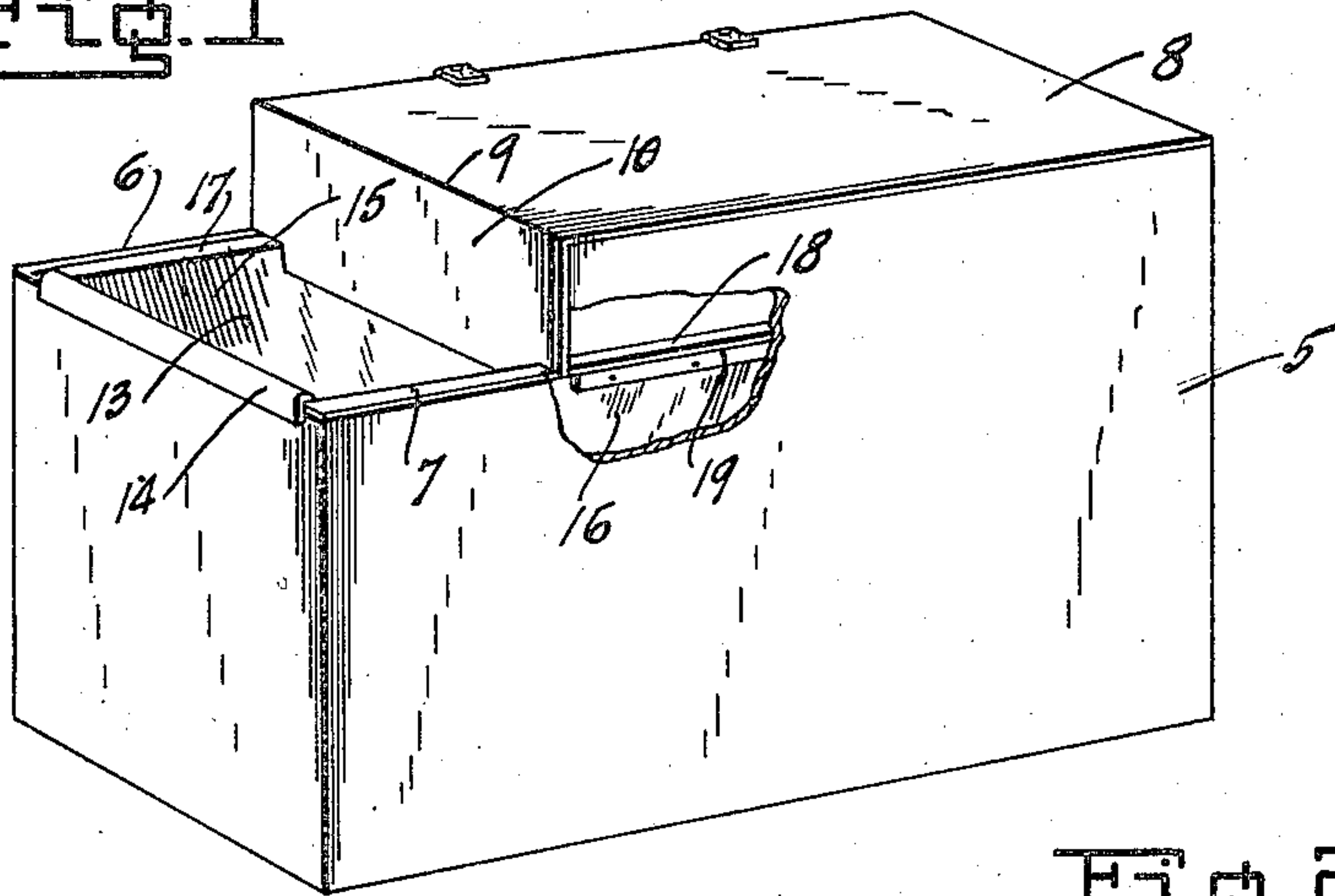


Fig. 2.

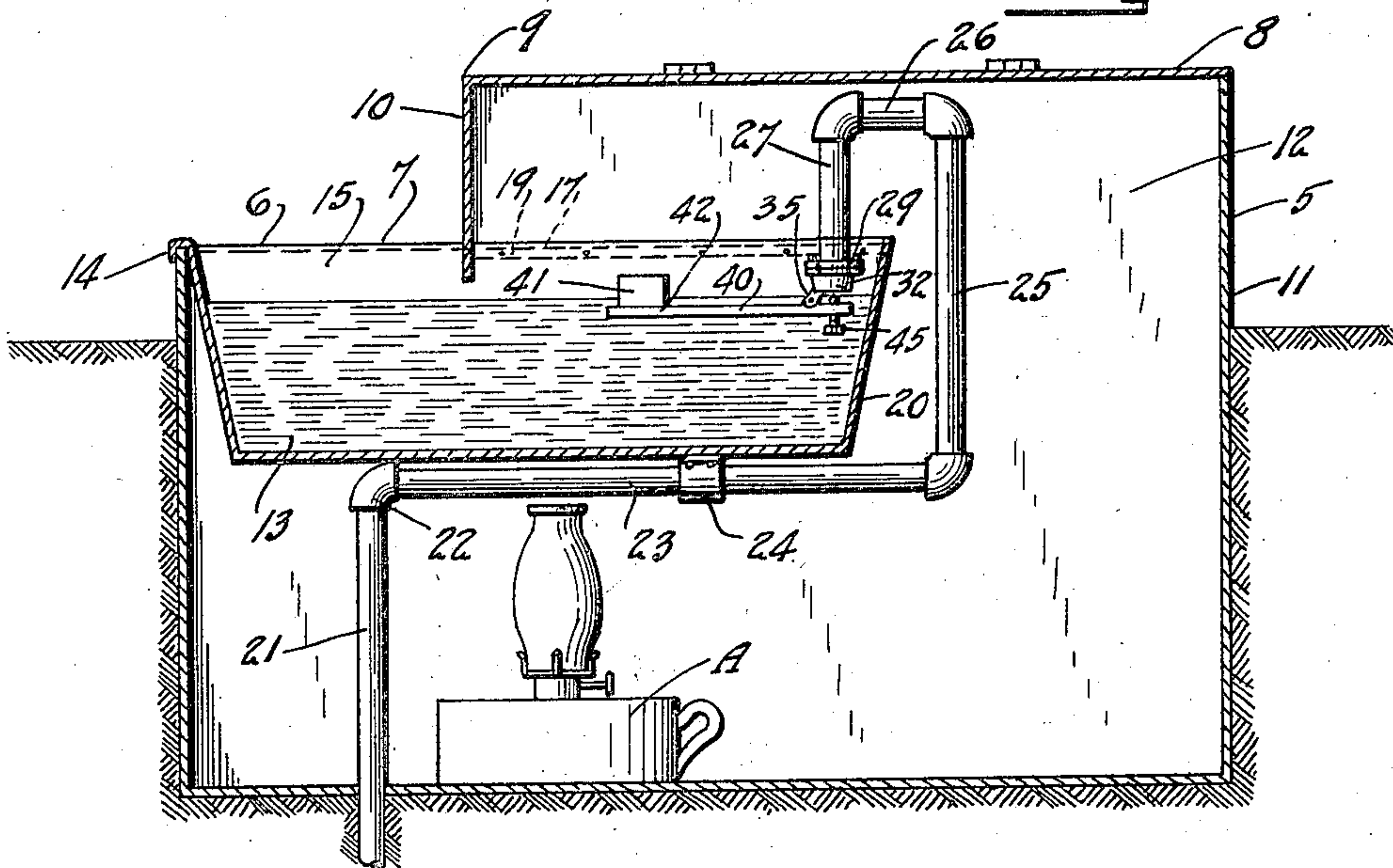
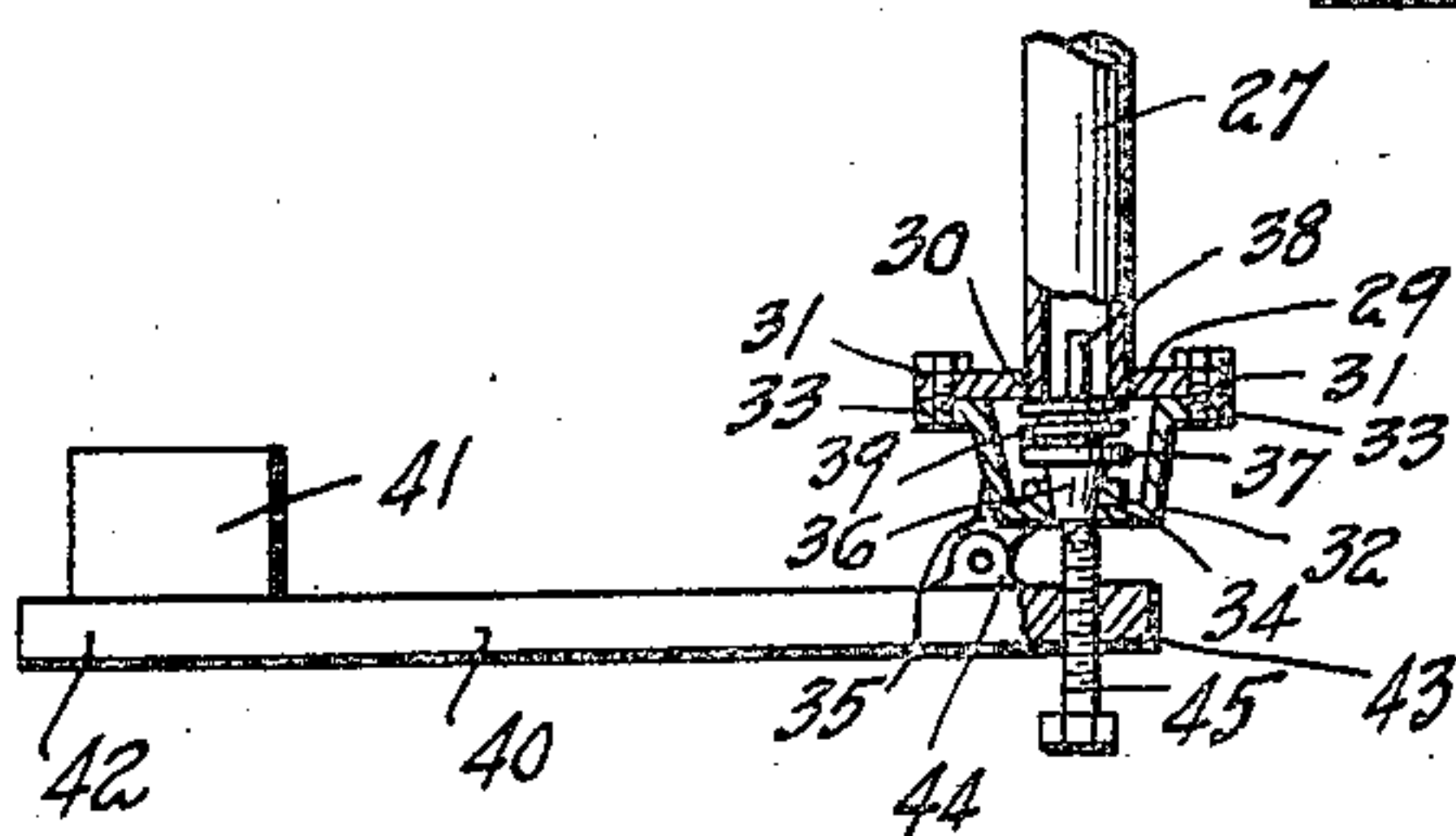


Fig. 3.



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CALVIN L. CRUZEN AND CLARENCE E. GAY, OF LACEY, IOWA.

STOCK WATERER.

Application filed March 13, 1922. Serial No. 543,330.

To all whom it may concern:

Be it known that we, CALVIN L. CRUZEN and CLARENCE E. GAY, citizens of the United States, residing at Lacey, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Stock Waterers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to stock waterers, and has for its object to provide a device of this character, wherein the water is prevented from freezing in cold weather.

Another object is to provide a device of this character including a housing adapted to receive a receptacle, the flow of water into the receptacle being automatically controlled.

It is also an object of the invention to provide a device of this character including a housing having a removable receptacle, and wherein only a portion of the receptacle is exposed to permit the stock to obtain water, the housing preventing contact of the stock with the regulating means of the supply conduit and the entrance of the stock into the receptacle.

With these and other objects in view, the invention consists in the improved construction and arrangement of parts to be hereinafter more particularly described, fully claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a stock waterer constructed in accordance with an embodiment of the invention;

Figure 2 is a longitudinal sectional view; and

Figure 3 is a detailed and sectional view of the valve mechanism.

Referring to the drawings, 5 designates a housing adapted to receive the water receptacle and heating means of the waterer. One end portion of each side of the housing is cut away as at 6, while the upper end portion of the end 7 of the housing is also cut away to permit access of the stock to the waterer. A top 8 is hinged to one of the sides of the housing, the forward end portion 9 of said top being provided with a front wall 10 which extends substantially inwardly of the housing, but at right angles to the top. The lid 8 and wall 10 cooperate with the side walls and end 11 of the housing to provide a compartment 12, the purpose of which will be hereinafter described.

It will also be noted that the wall 10 terminates at the edge of the reduced portion 6 of the side walls. The housing 5 is intended to be inserted in an opening in the ground for a considerable distance, or in other words, so that the cut away portion 6 of the housing is disposed closely adjacent the ground, to permit relatively small animals to obtain water without ascending an incline.

In connection with the housing 5, a receptacle 13 is used, the width of said receptacle corresponding to the width of the housing, while the length of the receptacle is less than the length of the housing. One end of the receptacle 13 is extended downwardly to provide a flange 14 adapted to engage the edge of the end 6 of the housing, the sides 15 and 16 of the receptacle also having their edges extended to provide flanges 17 and 18, said flanges being arranged to engage cleats 19 carried by the housing, the cleats being disposed flush with the edge of the cut away portion 6 of the sides of the housing and extended inwardly thereof to properly support a receptacle. It will be noted that a considerable portion of the receptacle extends inwardly of the wall 10 of the housing, while the end 20 of the receptacle terminates in spaced relation to the end wall 11 of the housing. The receptacle 13 is just deep enough to permit a quantity of water sufficient for the animal to quench the thirst, but not sufficient to drown small animals in case the small animals, such as pigs, should fall into the receptacle.

In order to permit a supply of water to be constantly maintained in the receptacle, without requiring the attention of an operator at regular intervals, there is provided a novel form of water supply, comprising a conduit or pipe 21 which extends from a source of water supply, through the bottom of the housing upwardly to the bottom of the receptacle 13. An L 22 is provided to connect the second section of pipe 23 to the main section 21. A bracket 24 is carried by the bottom of the receptacle 13 for supporting the section 23, said section 23 extending beyond the end 20 and has a section 25 connected thereto, the section 25 being disposed between the end wall 20 of the receptacle and the end wall 11 of the housing. A smaller section 26 is extended from the section 25 over and above the receptacle, while a still longer section 27 extends from the section 26 downwardly and

into the receptacle 13. To maintain the water at the proper level and prevent overflow, in addition to permitting the supply to be replenished, there is provided a novel valve mechanism comprising a plate 29 having a threaded opening 30 adapted to receive the lower end of the pipe section 27, the plate 29 having ears 31. A valve casing 32 is provided, said casing having ears 33 adapted to be connected to the ears 31 of the plate to hold the casing in connection with the pipe section 27. The bottom of the casing 32 is provided with a central valve seat 34, while projecting from the bottom adjacent one side of the casing, is a pair of ears 35. A tapered valve 36 is adapted to engage the valve seat 34, said valve having a flange 37, while projecting from the top of the valve is a pin 38. A coil spring 39 is engaged with the flange 37 and retained in position by means of the pin 38, the opposite end of the spring being adapted to engage the plate 29 so as to constantly urge the valve into engagement with the valve seat 34. In order to overcome the resistance of the spring and permit automatic operation of the valve, an operating lever 40 is provided, said lever having a float 41 on its end 42. Projecting from the lever adjacent the opposite end 43 is an ear 44 adapted to be pivotally mounted between the ears 35 of the valve casing. An adjusting screw 45 is threaded in the end 43 of the lever and is intended to engage the end of the valve 36 so as to operate the valve against the tension of the spring, according to the supply of water within the receptacle.

In the use of the device, as previously stated, the housing 5 is partially buried in the ground, a lamp A being placed beneath the receptacle and the pipe section 23 to generate the heat within the receptacle, the receptacle, together with the top 8 and wall 10, preventing escape of the heat and at the same time permitting the heat to circulate not only below the front and around the sides, but in the compartment 12 and over a greater portion of the water contained within the receptacle. By this means, every portion of the receptacle receives a quantity of the heat, so that freezing of the water in very cold weather is prevented. When the supply of water is diminished, the float 41 of course goes down with the water, thereby causing the screw 45 to engage and lift the valve 36 against the tension of the spring 39 and permit a new supply of water to enter the receptacle. The float, of course, rises with the water so that after the desired quantity has been received, the float causes the screw 45 to move away from the valve, thereby permitting the spring 39 to close the valve and shut off the supply of water. By the use

of an adjusting screw 45 it is possible to adjust the lever so as to increase or decrease the supply of water. It will also be noted that the sections 25, 26 and 27 of the supply conduit are disposed within the compartment 12, while the float and lever 40 are not only disposed within the receptacle 13, but behind the wall 10, so that there is no danger of the animal biting, or coming in contact with the float. This eliminates injury to the automatic valve mechanism and at the same time protects it from the elements.

From the foregoing it will be readily seen that this invention provides a novel form of stock waterer which is simple in construction and wherein the parts of the waterer are protected by a novel form of housing, the lid of the housing being movable so as to permit removal of the sections if necessary, and also permitting the various parts of the waterer to be readily reached. The lamp A of the waterer is inserted, when the top is raised, the lamp being passed between the end 20 of the receptacle and the end wall 11 of the housing, no other opening being required, so that it is not necessary to remove the housing from the ground each time it is desired to disassemble or remove the parts of the waterer.

What is claimed is:—

A stock waterer comprising a housing including side and end walls, said housing being open at its top, one of the corresponding upper corner portions of each side wall being cut away, the upper portion of the end wall adjacent said corners of the side walls being cut away to correspond with the cut away portions of the side walls and co-operating with said portions of the side walls to provide a trough opening, a lid hinged to the projecting upper portion of one of the side walls inwardly of the trough opening and adapted to extend over and engage the opposite side wall, a front member carried by the forward edge of the lid, the corner portions of said front member being cut away, a trough disposed within said housing, said trough having flanges adapted to engage the upper edge of said front wall and the adjacent edges of the cut away portion of the side walls, the remaining portions of the flanges of the trough being adapted to engage flanges projecting from the inner face of the side members beneath the lid, the cut away portions of the front member being adapted to engage the flanges of the trough to assist in holding said trough within the housing.

In testimony whereof we hereunto affix our signatures.

CALVIN L. CRUZEN.
CLARENCE E. GAY.