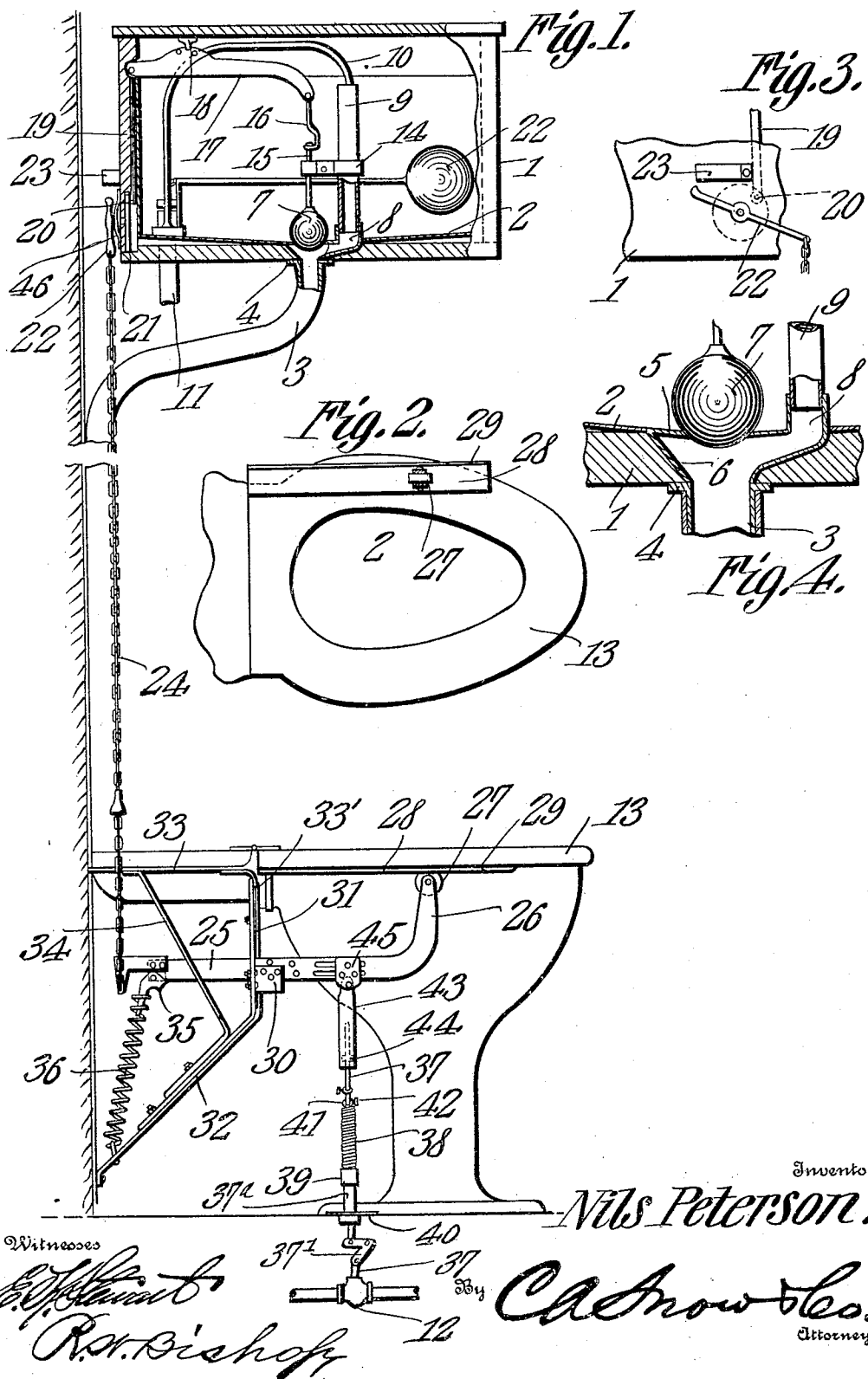


N. PETERSON.  
ANTIFREEZING CLOSET.  
APPLICATION FILED JULY 13, 1909.

956,729.

Patented May 3, 1910.



# UNITED STATES PATENT OFFICE.

NILS PETERSON, OF MOSCOW, IDAHO, ASSIGNOR OF ONE-THIRD TO CHARLES L. THOMPSON, OF MOSCOW, IDAHO.

## ANTIFREEZING-CLOSET.

956,729.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed July 13, 1909. Serial No. 507,390.

*To all whom it may concern:*

Be it known that I, NILS PETERSON, a citizen of the United States, residing at Moscow, in the county of Latah and State of Idaho, have invented a new and useful Antifreezing-Closet, of which the following is a specification.

This invention relates to improvements in anti-freezing closets, and has special reference to improvements in the construction disclosed in the patent granted to me October 13, 1908, Number 901,255.

The object of the present invention is to provide means whereby the tank may be positively and completely drained to prevent freezing and also to improve the construction of the operating parts.

With these objects in view, the invention consists in certain novel features of the mechanism illustrated in the accompanying drawings, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional elevation of my improved apparatus. Fig. 2 is a bottom plan view of the seat. Fig. 3 is an enlarged detail elevation of a portion of the operating mechanism, and Fig. 4 is an enlarged detail section of the waste pipe.

The tank 1 is secured in position within the building in the usual manner and may be of any desired material and form, having its bottom wall inclined downward to the waste pipe, as indicated at 2, so as to direct all the water in the tank into the waste pipe, as will be readily understood. The waste pipe 3 may be of any desired diameter and is connected at its upper end with a plug 4 which passes through the bottom of the tank and has its upper end suitably beveled to correspond to the incline of the bottom of the tank, as will be readily understood, and as clearly shown at 5 in Fig. 4. This beveled edge 5 is provided at the upper end of a flared portion 6 of the plug, which flared portion forms a seat for the valve 7 which is in the form of a rubber ball or other convex body so that when the valve is raised, even to a slight degree, from the end of the waste plug, an opening will be provided for the escape of the water which may be in the tank. In this manner I provide for the complete discharge of all water in the tank so that there will be none left therein to freeze and cause bursting of the tank. The waste plug is also provided with

a lateral off-set or elbow 8 which has an upturned end and to the said upturned end I secure the vertical overflow pipe 9 so that, should the water continue to flow into the tank after the valve 7 has been seated, the excess flow will pass down through the said pipe 9 and thence through the elbow or off-set 8 into the waste plug below the valve, as will be readily understood on reference to Figs. 1 and 4. It will be understood that this overflow pipe 9 serves to prevent the water rising above a predetermined level, and in order to further guard against overflow I provide the small feed pipe 10 which leads from the inlet valve over to the upper end of the overflow pipe, as clearly shown. The inlet or supply pipe 11 extends downward from the tank and is controlled through a suitable supply valve, at 12, which is operated by the movements of the seat 13 in a manner disclosed in my aforesaid patent.

Upon the overflow pipe 9 I secure a guide 14 through which the stem 15 of the valve 7 passes so as to be maintained in proper position to effect the desired engagement with the waste plug, and the said valve stem is supported by a hanger 16 from the end of the operating lever 17 which is fulcrumed on a suitable bracket 18 on the top of the tank and is connected at its outer end with a chain or similar device 19 which depends from the lever and has its lower end attached to a crank pin 20 on a disk or wheel 21, the axle of which is journaled within the wall of the tank and projects through the same, the outer end of the axle carrying a lever or handle 22. It will be readily seen that by properly turning the handle or lever 22, the disk 21 will be rotated so as to cause its crank pin to pull downward on the chain or other connection 19 and thereby raise the inner end of the lever 17 and consequently lift the valve 7 from the waste plug so as to permit the water in the tank to escape. As the water passes from the tank, the usual float 22 therein will descend so as to uncover the end of the supply pipe 11 and thereby permit the tank to refill when the supply valve is opened, as will be readily understood. It will be understood that a slight movement of the lever 22 will raise the valve 7 from its seat and thereby permit the escape of the water in the ordinary use of the apparatus, but if it be desired to

provide for the escape of the entire body of the water so that no small portion of the same will remain in the tank, the handle or lever 22 is turned to such an extension as to  
 5 cause its free end to engage a holding device 23 by which the lever will be held in such a position that the valve 7 will be prevented from dropping onto its seat and thereby arresting the flow of the water.

10 In order to accomplish the automatic control of the flow of the water set forth in my previously mentioned patent, I attach to the end of the lever 22 a chain or other flexible connection 24 which passes downward and  
 15 is attached to the rear end of an operating lever 25, the front end of which is turned upward, as shown at 26, and carries a roller 27 arranged to bear against a metallic plate or lining 28 on the underside of the seat 13,  
 20 having a depending flange 29 so as to prevent the said roller slipping from its position against the plate, the said plate serving also to prevent wear on the wooden body of the seat and thereby prolong the life of  
 25 the same.

The lever 25 is fulcrumed on a lug 30 projecting forward from a vertically disposed portion 31 of a bracket which is secured to the wall, or the supporting frame for the  
 30 seat 13, and has a depending portion 32 which is attached to the wall and a horizontal upper portion 33 attached to the seat frame. The said bracket is composed of two similarly shaped metallic plates bolted  
 35 or riveted together, one of the said plates having a cut-away portion, as indicated at 33' to form a slot, through which the lever 25 passes so that the said lever will be maintained in a vertical plane during its move-  
 40 ment, as will be readily understood. The bracket is further provided with a brace 34 by which rigidity is imparted to the structure. At the rear end of the lever 25 I secure the finger 35, to which is attached  
 45 the upper end of a spring 36 having its lower end secured to the depending inclined portion 32 of the bracket. It will be readily understood that the object of this spring is to draw the inner end of the lever 25 down-  
 50 ward and thereby pull on the chain 24 so as to cause a similar movement of the lever 22 and thereby raise the valve 7 from its seat to permit the discharge of the water from the tank. By shifting the angular position  
 55 of the finger 35 relative to the lever 25 the tension of the spring 36 may be readily adjusted to the desired degree.

The supply valve 12 is provided with a stem or rod 37 which passes from the valve  
 60 casing and is pivotally attached to an angle lever 37' which is fulcrumed upon any convenient support below the floor and connected to a rod 37<sup>a</sup> passing up through the floor. A spring 38 is coiled around the rod  
 65 37<sup>a</sup> between a floor plate 40 and a collar 41

adjustably secured to the rod by means of a set screw 42 so that the tension of the spring 38 may be varied by shifting the position of the collar upon the rod. The upper end of the rod 37<sup>a</sup> plays in a sleeve 43 and is se-  
 70 cured therein by means of a set screw 44, as will be readily understood, so that the rod and the sleeve will move together in the operation of the device. The upper end of the sleeve 43 is attached to a plate 45 having a  
 75 pin and slot connection with the lever 25, as shown, and as will be readily understood. The spring 38 holds the valve 12 normally open and the floor plate is provided with a  
 80 depending tube 40' through which the rod 37<sup>a</sup> passes the structure presenting an attractive finish and preventing wear on the floor opening. The angle lever 37' permits the inlet to be placed at the most convenient  
 85 point without requiring any particular arrangement of the supply pipe.

In order to prevent the lever 22 wearing against the side of the tank, I provide a washer plate 46 secured to the side of the tank around the axle of the disk 21 and  
 90 serving as an additional bearing for the said axle. This washer plate projects somewhat from the side of the tank and thereby holds the lever or handle 22 out of contact with  
 95 the same.

The operation of the device will be readily understood. When the seat is in its normal raised position, the action of the springs 36 and 38 will cause the lever 25 to move down-  
 100 ward and thereby actuate the valve 7, as before described, to discharge the water from the tank and also to raise the valve rod 37 so as to close the supply valve and thereby cut off further inflow of the water. When the seat is lowered the forward end of the lever  
 105 25 will be depressed and the valve 7 will consequently be permitted to again seat itself on the waste plug and the supply valve will be opened so as to permit the filling of the tank.  
 110

By my present construction, the operating lever 25 is effectually guided in its move-  
 115 ments, a very strong supporting bracket is provided, and adjustment of the supply valve rod is facilitated. Furthermore, the construction of the waste plug provides for an efficient drainage of the tank and the provision of the lever or handle 22 and the holder 23 permits the waste valve to be held  
 120 from its seat for any desired period so that the seating of the valve before the tank has been completely drained may be prevented.

Having thus described my invention, what I claim is:

1. The combination with a supporting  
 125 bracket, of an operating lever fulcrumed on and passing through the said bracket, an outlet valve connected with and operated by the rear end of the lever, an inlet valve connected with and operated by the front end  
 130

of the lever, a hinged seat bearing upon the front end of the lever to operate the same, a finger adjustably secured to the rear end of the lever, and a spring having one end secured to the said finger and its other end secured below the lever.

2. The combination of a bracket composed of angular plates secured together, one of said plates having a cut-away portion to provide a guiding slot, and the other plate being provided with a projection on its front side adjacent the said slot, a lever fulcrumed upon the said projection and passing through the said slot, and inlet and outlet valves connected with and operated by the opposite ends of the said lever.

3. The combination of a bracket, an operating lever fulcrumed on and passing through the said bracket, an outlet valve

connected with the rear end of the lever, a supply valve arranged below the front end of the lever, a vertically disposed rod connected with the supply valve, a sleeve adjustably secured to the upper end of the said rod and having a pin and slot connection with the front end of the operating lever, a guide for the valve rod, a spring coiled around the rod above the said guide and bearing on the guide, and a collar adjustably secured on the rod and bearing against the upper end of the spring.

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

NILS PETERSON.

Witnesses:

J. M. THOMPSON,  
FRANK NEELY.