Sept. 24, 1940. H. D. DODD 2,215,916

OVERHEAD TANK VALVE

Filed March 9, 1939 2 Sheets-Sheet 1

Fig. 1.

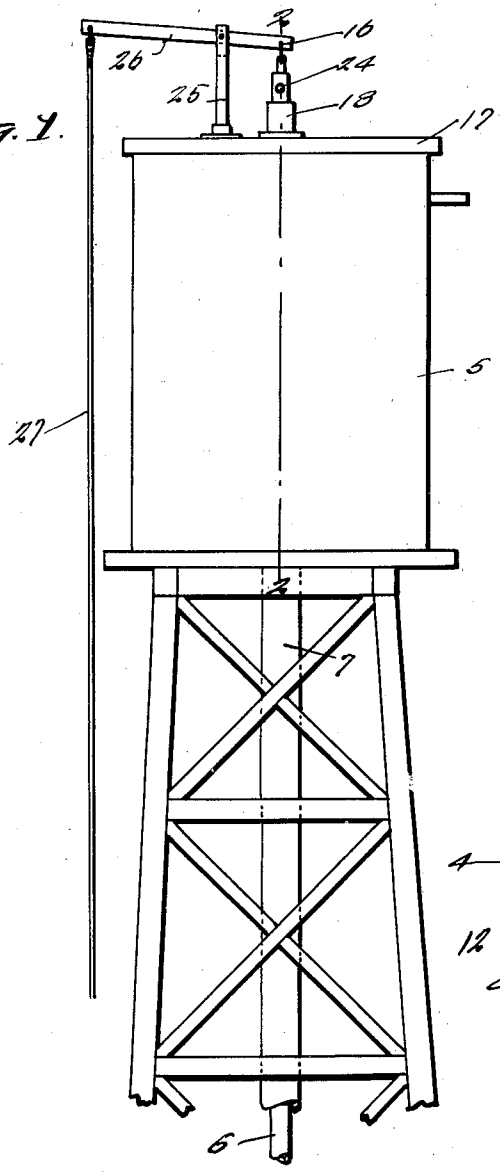


Fig. 3.

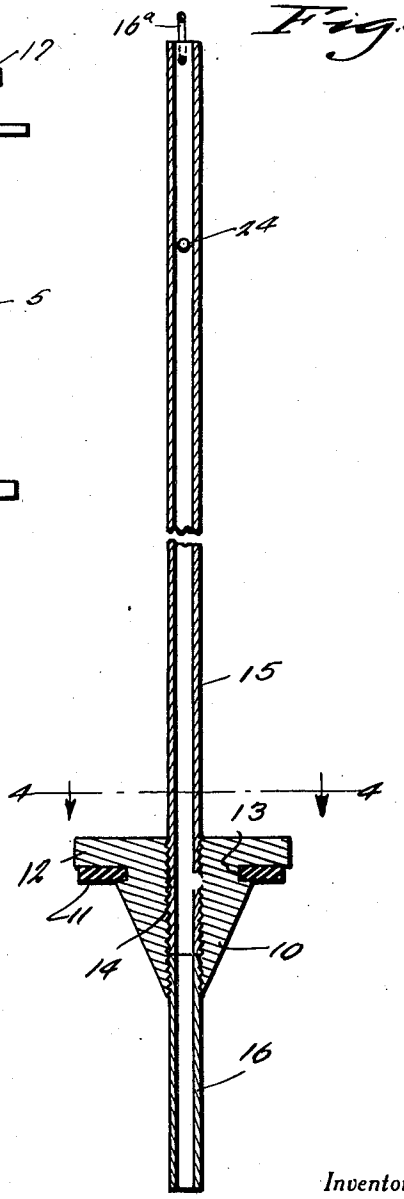
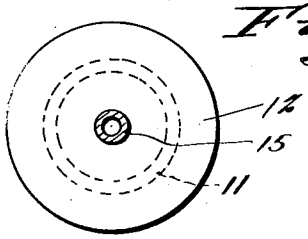


Fig. 4.



Inventor

Harry D. Dodd

By Clarence O'Brien and Hyman Berman

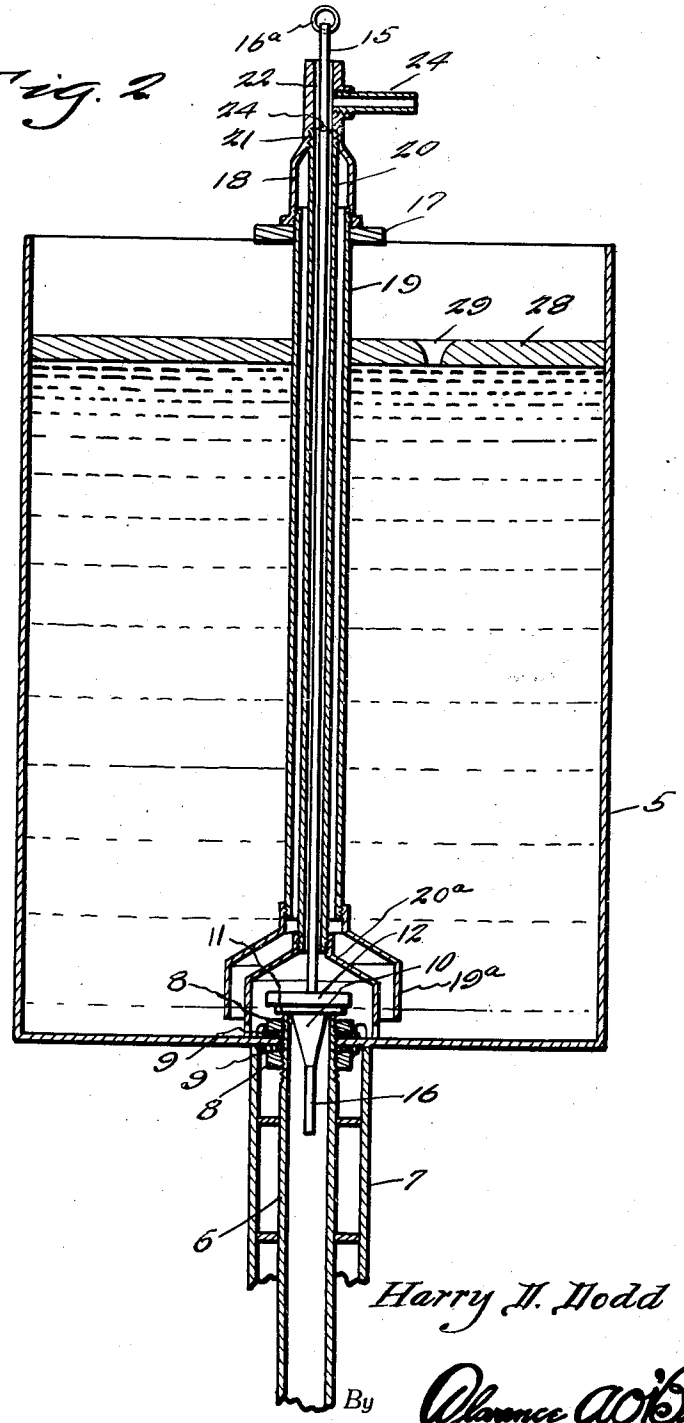
Attorneys

Sept. 24, 1940. H. D. DODD 2,215,916

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Filed March 9, 1939 2 Sheets-Sheet 2

Fig. 2



Inventor

Harry D. Dodd

By Clarence A. O'Brien and Hyman Berman

Attorneys

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OVERHEAD TANK VALVE

Harry D. Dodd, Inman, S. C.

Application March 9, 1939, Serial No. 260,854

1 Claim. (Cl. 137—21)

This invention appertains to new and useful improvements in valve mechanisms for overhead tanks.

The principal object of the present invention is to provide a valve for overhead or tower tanks whereby the valve will be positive acting, foolproof in operation and capable of operating in spite of a frozen condition of the water in the tank.

Other objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a side elevational view of a tank equipped with the valve mechanism.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a longitudinal sectional view through the valve and stem.

Figure 4 is a section on the line 4—4 of Figure 3.

Referring to the drawings wherein like numerals designate like parts it can be seen that the numeral 5 represents the overhead tank from which depends the down pipe 6, which as is common, has the shelter pipe or case 7.

The down pipe 6 extends upwardly through an opening in the bottom of the tank 5 and is threaded to accommodate the nuts 8 and packing washers 9. The upper end of the pipe 6 has a seat for the cone 10. The cone 10 acts as a guide to bring the resilient washer 11 against the upper end of the pipe 6. This cone guide 10 has the head portion 12, between this head portion 12 and the cone proper 10 there being formed a circumferentially extending groove 13 for receiving the inner edge of the said washer 11.

The head 12 and cone 10 has a threaded bore 14 extending therethrough for receiving the lower end of the tubular stem 15 and the upper end of the tubular guide 16.

The top of the tank 5 has a bridge member 17 upon which is mounted the bonnet 18. A barrel 19 extends from the bridge 17 downwardly to terminate in close spaced relation above the upper end of the pipe 6. The upper end of this barrel 19 is disposed through an opening in the bridge 17 and threadedly engaged into the lower portion of the bonnet 18. A tube 20 extends longitudinally in the barrel 19 and in spaced relation thereto and terminates at its lower end in a bonnet 20a internally spaced from the external bonnet 19a at the lower end of the tube 19, this bonnet 20a having its lower edge scalloped to rest on the floor of the tank. The upper end of the tube 20 extends upwardly beyond the upper end of the barrel 19 and threads into the socket 21 at the midportion of the bonnet 18. The passageway through the tube 20 registers with the vertical bore 22 extending vertically in the upper portion of the bonnet 18, and through this bore 22 and through the tube 20 operates the aforementioned valve stem 15 which has the ring 16 at its upper end. Numeral 24 represents an overflow spout extending laterally from the bonnet 18 and the stem 15 has a vent therein denoted by numeral 24a which will always be located in close proximity to the overflow spout 24.

A post 25 rises from the top of the tank 5 and has the rocking beam 26 mounted thereon with one end connected to the ring 16 at the upper end of the valve stem 15 while its other end has the depending cable 27 which can be reached from the ground and pulled to elevate the valve units 10, 11 and 12.

Obviously, the purpose of the barrel 19 is to prevent ice 28 from interfering with the proper operation of the valve stem 15.

Obviously, the overflow pipe 24 has its discharge end overlying the contents of the tank 5 so that when the pump starts up and the tank is frozen over, water will overflow and strike the ice 28 and work an opening 29 therein to break any vacuum condition existing.

Obviously, the purpose of the tubular valve stem 15 is to vent the tank so that there will be no vacuum existing to prevent proper discharge of the water down the down pipe 6.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

In combination with a tank, an outlet, a valve seat at the outlet, a valve operative against the valve seat, said valve being provided with a tubular stem open at its valve attaching end and at its opposite end and means for operating the valve stem and valve from the last mentioned end thereof and a tube through which the said stem is operative, said tube extending vertically in the tank and terminating at its lower end above the seat and a bonnet mounted at the top of the tank and to which the said tube is attached and an overflow pipe extending from the bonnet at a point above the said tube and a protective barrel depending into the tank around the tube and forming a dead air space between itself and the tube.

HARRY D. DODD.