

UNITED STATES PATENT OFFICE.

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SUPPLY-TANK FOR WATER SERVICE.

SPECIFICATION forming part of Letters Patent No. 769,550, dated September 6, 1904.

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To all whom it may concern:

Be it known that I, PETER JAROME LEITHAUSER, a citizen of the United States, and a resident of Clarendon, in the county of Donley and State of Texas, have invented a new and Improved Supply-Tank for Water Service, of which the following is a full, clear, and exact description.

This invention relates to supply-tanks for water service; and it consists, substantially, in the construction and combinations of parts hereinafter particularly described, and pointed out in the claims.

In many towns and villages and other places the water service of a house or other establishment frequently includes a supply-tank located at a proper height or elevation to derive the desired head or fall of water therefrom, the water being usually pumped into the tank from time to time as occasion may require. In some instances, however, the tank is constructed entirely open at the top, so that during rainfalls the same will be kept plentifully supplied with water without the use of a pump, and for reasons of economy and strength it is not uncommon to construct the tank of wooden staves held together by bands of metal encircling the same. Being situated in the open, the tank is of course subjected to different thermal changes or conditions, and it not infrequently happens (especially in warm seasons) that due to the water therein remaining at a low level for a long time (there being no occasion for pumping more water into the same) the sides thereof above the water become so dry by evaporation as to cause the staves to shrink and warp to such an extent as to produce leakages therebetween, thereby incapacitating the tank for further use.

One of the principal objects of my invention, therefore, is to overcome the above-mentioned disadvantage and objection and to provide a tank of the character referred to which is thoroughly effective and reliable in use, besides being of simple embodiment and possessing the capacity for long and continued service.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in

which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical sectional elevation of a supply-tank for water service, embodying my improvements. Fig. 2 is a top plan view, and Fig. 3 is a sectional view in detail on the line 3 3 of Fig. 1.

Before proceeding with a more detailed description it may be stated that in the form of my improvement herein shown I employ a tank preferably constructed of wooden staves properly held together, and fitted in the bottom of the tank is a hollow plug for connection a with pump or the like, the upper end of which plug constitutes a seat for a valve at the lower end of a rod working at its upper portion in suitable means therefor at the upper end of a pipe which is provided at or a little below the upper edge of the tank with a specially-constructed device for effecting the spraying of the inner surface of the tank when desired, said pipe being also provided at or near said valve-seat with a specially-constructed draining device therefor, and while I have herein shown a certain selected embodiment of my improvements it will be understood, of course, that I am not limited to the precise details thereof in practice, since immaterial changes therein may be resorted to coming within the scope of my invention.

Specific reference being had to the drawings by the designating characters marked thereon, 1 represents a tank constructed of vertical wooden staves 2 and bands 2^a and provided with a bottom 3 and open at the top, as shown. Fitted in any suitable manner in a central opening therefor in said bottom is a hollow plug 4, the lower and outer extremity of which is externally threaded at 5 for the attachment thereto of any suitable connection from a pump, (not shown,) and the upper and inner extremity of which is preferably enlarged at 6 and also externally threaded for connection thereto of the lower internally-threaded extremity of the sides of a valve-chamber 7, the upper extremity of the sides of which is internally threaded at 8 for connection therewith of the externally-threaded end portion of a vertical pipe 9, the upper end of which extends to a suitable height within the tank.

Fitted to the said upper end of this pipe is a hollow coupling 10, to which are detachably connected at 11 the inner communicating ends of a series of radially-disposed hollow branch pipes 12, having hollow T-couplings 13 at the outer ends thereof connecting the ends of curved members 14, constituting a hollow ring at or near the upper edge of the tank and close to the inner surface of the sides thereof, said members having perforations therein adjacent to such surface. Fitting in the upper end of said coupling 10 is a stuffing-box 16, through which works a valve-rod 17, having at its lower end a valve 18, cooperating with a seat 19 therefor at the upper end of the hollow plug 4, said rod also working in a guide 20, located interiorly of the lower part of the pipe 9 and having its upper projecting end in movable connection with the slotted end 21 of the inner and shorter arm 22 of an elbow-lever fulcrumed or pivoted at 23 at the upper end of a bracket 24, secured in any suitable manner at 25 to one side of the said coupling 10, the outer and longer arm 26 of said lever extending downwardly within the tank and being provided at the end thereof with a weighted float 27, as shown.

The valve-chamber 7 is formed in one side thereof with an opening 28, and fitted to said side by means of a hollow connection 29 is a casing 30, having a port 31, communicating with said valve-chamber, and a port 32 in communication with the inner end of a drain-pipe 33, leading out through an opening therefor in the side of the tank. The upper part of said casing 30 is provided also with a stuffing-box 34, through which works another valve-rod 35, having at its lower end a valve 36 for opening and closing said port 32, the upper portion of this valve-rod working in a guide 37 on the bracket 24, and the upper end thereof being in movable connection at 38 with the said longer arm 26 of the elbow-lever.

In the use of my improved structure it will of course be easy to determine from the quantity of water taken from the tank at different times approximately the level of water therein at any given time, and consequently whenever such level becomes very much reduced the weighted float 27 will be in a correspondingly lowered position and the valve 18 elevated or raised from its seat. To then prevent shrinking or warping of the staves of the tank, due to the drying out of the portions thereof above the water-level, it is simply necessary to force water upwardly through the hollow plug 4 and into and through the pipe 9 and through the branch pipes 12 into the curved members 14 of the hollow ring, from which it is discharged through the perforations of said members against the inner sides of the staves and by flowing downwardly and raising the level of water in the tank causes the float to be again elevated and the

valve 18 closed. When said valve is thus closed, any water remaining above the same in pipe 9 will be drained off through pipe 33, it being apparent that at this time the valve 36 will be at an elevated position from its seat or open. In said open position of the valve last named air will be permitted to pass the same and enter the valve-chamber 7, thus preventing both valves from freezing in cold weather.

The tank may be provided with any suitable outlet connection, as shown in dotted lines at 38, or, if desired, I may employ substantially the form of outlet and cut-off shown and described in my former Letters Patent No. 737,941, granted on the 1st day of September, 1903.

It is thought the construction and operation of my improvements will be fully understood without further elucidation.

Inasmuch as ready access to the stuffing-box 34 cannot be had when the tank is full, I may sometimes dispense with said stuffing-box and provide in its stead an ordinary pipe 40 (see dotted lines, Fig. 1) for inclosing the valve-rod 35, the lower end of said pipe being suitably fitted within the casing 30 and the upper end thereof reaching near to the upper end of the tank.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a tank, of a supply-pipe extending therethrough, a spraying device in the supply-pipe near the upper portion of the tank, a drain-pipe leading from the supply-pipe below the spraying device, and valves in the supply and drain pipes operable through variations in the contents of the tank.

2. In a supply-tank for water service, a vertical pipe supported within the tank for external connection with a pump, and provided at its upper end with a spraying device extending close to the upper part of the inner surface of the tank, and a drain-pipe leading through the side of the tank from the side of said pipe.

3. In a supply-tank for water service, a vertical pipe supported within the tank for external connection with a pump, and provided at its upper end with a spraying device extending close to the upper part of the inner surface of the tank, and a drain-pipe leading through the side of the tank from the side of said pipe and provided with a valve.

4. In a supply-tank for water service, a vertical pipe supported within the tank for external connection with a pump, and provided at its upper end with communicating radial arms supporting at their outer ends a hollow ring located close to the upper part of the inner surface of the tank and perforated adjacent to such surface.

5. In a supply-tank for water service, a vertical pipe supported within the tank for ex-

ternal connection with a pump, and provided at its upper end with communicating radial arms supporting at their outer ends a hollow ring located close to the upper part of the inner surface of the tank and perforated adjacent to such surface, and a drain-pipe leading through the side of the tank from the side of said pipe.

6. In a supply-tank for water service, a vertical pipe supported within the tank for external connection with a pump, and provided at its upper end with communicating radial arms supporting at their outer ends a hollow ring located close to the upper part of the inner surface of the tank and perforated adjacent to such surface, and a drain-pipe leading through the side of the tank from the side of said pipe, and provided with a valve.

7. In a supply-tank for water service, a vertical pipe supported within the tank for external connection of its lower end with a pump, and having at its upper end a spraying device extending close to the upper part of the inner surface of the tank, said pipe also having a valve-seat and a stuffing-box, a valve cooperating with said seat and having a rod working through the stuffing-box, and a pivoted elbow-

lever having its shorter arm in movable connection with said rod, and its longer arm provided with a float.

8. In a supply-tank for water service, a vertical pipe supported within the tank for external connection of its lower end with a pump, and having at its upper end a spraying device extending close to the upper part of the inner surface of the tank, said pipe also having a valve-seat and a stuffing-box, a valve cooperating with said seat and having a rod working through the stuffing-box, a pivoted elbow-lever having its shorter arm in movable connection with said rod, and its longer arm provided with a float, and a drain-pipe leading through the side of the tank from said vertical pipe, and having a valve provided with a rod in movable connection with said longer arm of the elbow-lever.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER JAROME LEITHAUSER.

Witnesses:

W. B. TRUCE,
H. B. WHITE.