Dec. 26, 1922. 1,440,198

A. J. WISSING.
VALVE.
FILED JULY 3, 1919.

FIG. 1.

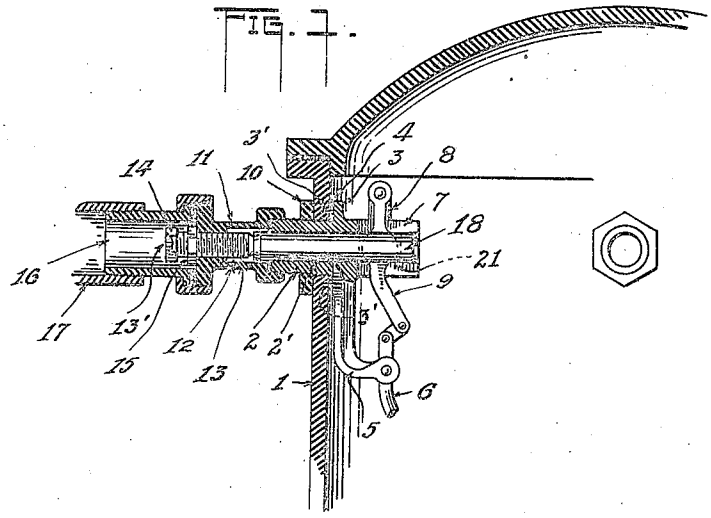


FIG. 2.

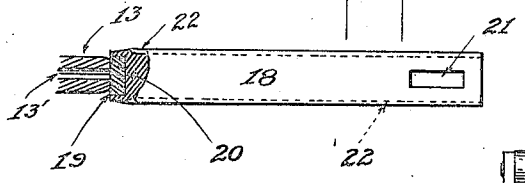


FIG. 3.

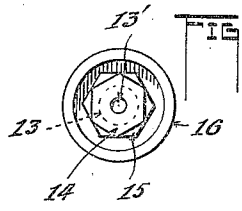


FIG. 4.

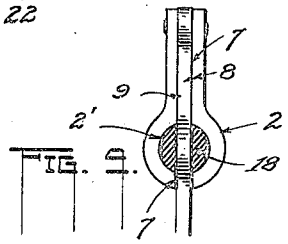


FIG. 5.

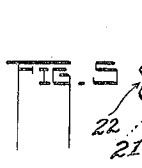
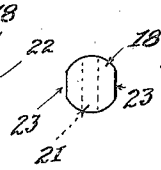


FIG. 6.



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Patented Dec. 26, 1922. 1,440,198

UNITED STATES PATENT OFFICE.

ALPHONS J. WISSING, OF PEORIA, ILLINOIS, ASSIGNOR TO ILLINOIS BATTERY STEAMER CO., OF PEORIA, ILLINOIS, A CORPORATION OF ILLINOIS.

VALVE.

Application filed July 3, 1918. Serial No. 308,447.

To all whom it may concern:

Be it known that I, ALPHONS J. WISSING, citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention pertains to improvements in valves. It relates more particularly to a float-valve for use in connection with a tank to be supplied with a liquid.

One of the objects of the invention is the provision of a valve for use with a float chamber or tank for low steam pressure work, such, for example, as used for steaming storage battery jars, although said valve may be adapted for other uses as well.

Another object is to so construct a float-valve whose valve-seat may be renewed without removing the valve casing from the chamber or tank to which it is attached, and whereby, also, the valve-seat may be adjusted from outside the tank without detaching the structure from said tank.

Other advantages and objects will appear herein aided by the accompanying drawing which illustrates the invention in its preferred form, though it is to be understood that slight changes may be made without departing from the spirit and intent of said invention.

Figure 1 is a longitudinal sectional elevation of my valve and part of a tank or vessel to which it is attached.

Figure 2 is a plan of a plunger or valve showing part of an adjustable member forming a valve-seat in longitudinal section on a much larger scale than in Figure 1.

Figure 3 is an end elevation of part of the structure shown in Figure 1.

Figure 4 is an end elevation of part of the structure also shown in Figure 1, and

Figures 5 and 6 are end elevations of different forms of valves.

My purpose is to construct a so called float-valve particularly adapted for use on a closed tank or vessel or such as is employed wherein to create steam pressure, but adapted also for open tanks for various purposes.

It has been necessary in many cases, to remove the entire valve casing from the tank with which it is connected in order to replace the valve seat or when making such changes as are sometimes required, such removal being necessary due to the construction and relation of the parts of the device.

In my arrangement this removal is entirely obviated by so constructing it throughout that the removal of a portion thereof at its end outside the tank or vessel will expose the parts for the desired change or adjustment. Again, as a new and novel feature, in so far as I am aware, is the peculiar manner of providing for the passage of liquid through the device all of which will appear.

1 indicates the tank or vessel to which my valve structure is attached. 2 is a section of the valve-casing extending through the wall of the tank provided with a bore 2′ and having near one end a flange 3 lying inside the wall, there being a gasket 4 interposed between said flange and said wall for forming a tight joint in the customary manner.

The inner end of the casing 2 carries a depending arm 5 to which any usual float-rod 6 is pivoted for carrying a float, not shown, said end being bifurcated for example, by slotting it as at 7, Figure 4. At each side of the slot is an upstanding arm 8 to which is pivoted a lever 9 whose lower end is linked to the said float-rod all of which is somewhat common practice.

The extended end of the casing 2, or that outside the tank, is threaded and receives a lock-nut 10 by which the structure so far described is secured firmly in place, and preferably the flange 3 is provided with tits 3′ which in practice will engage the metal wall of the tank and prevent movement of the casing especially when the tank is constructed of comparatively soft metal such as aluminum.

11 is a second casing section screwed upon the end of section 2 and having a bore 12 whose axis coincides with that of the latter, being enlarged in that part of said casing lying adjacent the section 2, while at its opposite end the bore is threaded to receive a threaded member 13 having a bore 13′ extending longitudinally therethrough, one end of such member lying within the described enlarged bore, the other end being provided with a head such as 14, or being otherwise constructed for convenient adjustment. 15 is a lock-nut on said member 13 to engage the wall of the casing section 11 for

securing the member in any desired adjustment, although other means for thus securing the member may be used.

16 is any suitable fitting to secure the water-feed pipe 17 to said section 11.

18 is a valve consisting of a length of rod, in this instance, having a recess 19 in one end to receive a disc 20 of yielding material such as leather to bear against the inner end of the member 13, or that end thereof within the enlarged bore of the section 11.

Near its opposite end the valve is provided with a transverse slot 21, for example, through which the lever 9 extends. The valve lies within the bore 2′ and its end having the disc 20 closes the bore 13′ of the member 13.

In the present instance the invention is fitted to a tank for low pressure steam work or the so called "battery steamer," an outfit for rendering flexible the composition of which storage battery jars or cells are constructed. The water in the steamer, the tank 1, being constantly reduced in making steam must be supplied steadily and for this work my device is peculiarly fitted in that the water is fed in small bulk and in such manner that its temperature is raised to near the proper point before being introduced into the tank so that the temperature of the bulk of water in the tank will not be greatly reduced whereby the steam temperature will not be affected to any appreciable extent.

That a steady feed may be maintained, and also in order that the temperature of the water may be raised, the valve 18 is spaced along its longitudinal line from the walls of the bore 2′ either by grooving it in one or more places as 22, Figure 5, or by flattening it at one or more places as 23, Figure 6. The water thus finds a means of ingress to the tank and as the casing is naturally kept quite hot the water in its passage therethrough is highly heated before entering said tank. This manner of feeding the water is found to be quite advantageous since cold water at high pressure can be introduced at a desired high temperature.

Now, since the valve-seat and the seating end of the valve 18 are outside the tank and removed from the heat the leather disc cannot be damaged by such heat and, furthermore, any adjustments or any replacing of parts, such as said disc, can be readily attended to without taking down the apparatus. Merely the removal of the casing section 11 is all that is required for this work. And at any time the water level in the tank may be changed by adjusting the member 13 as will be readily understood.

Having thus described my invention, I claim:

1. In combination with a closed steam making receptacle, a valve-body secured to and extending through the wall of the receptacle, a valve slidable in said body, a float mechanism operatively engaging the valve, an externally threaded member having a valve-seat at one end, said member having an opening extending through it and said seat for the passage of water, the valve adapted to normally rest upon said seat, said member adapted by threaded engagement with the body for adjustment within the latter with respect to the valve, and means to fix the member in position.

2. In combination with a closed steam making receptacle, a valve-body section extending through the wall of the same and having a bore open at its ends both inside and outside of said receptacle, a valve slidable in said body section, float mechanism engaging the valve, a second body section threaded upon the outer end of the first named section, a tubular threaded member engaging said second body section, the same having a seat at one end to receive the valve, means to fix the member in position, and a water conducting section enclosing the opposite end of the member adapted to conduct water thereto, the removal of said last named section exposing the member to permit its adjustment ouside the receptacle with respect to said valve.

3. In combination with a receptacle to be supplied with a fluid, a tubular valve-body section extending through and secured to the wall of the receptacle, a valve lying in the bore of said tubular body and extending outside the receptacle and said body-section, float mechanism within the receptacle operatively engaging and controlling the valve, a second body-section engaging the first said section outside the receptacle housing the valve at its outer end, a tubular threaded member within and engaging said second body-section having a seat at its inner end to receive the valve, its other end extending beyond and lying outside the second body-section, and a tubular fluid carrying section housing the outer end of said member and engaging the said second body-section, the removal of said water carrying section exposing said member.

In testimony whereof I affix my signature in presence of two witnesses.

ALPHONSO J. WISSING.

Witnesses:
L. M. Thurlow,
Vinnie V. Carley.