(No Model.)

J. W. BARNUM.

CISTERN.

No. 295,330. Patented Mar. 18, 1884.

Fig. 1

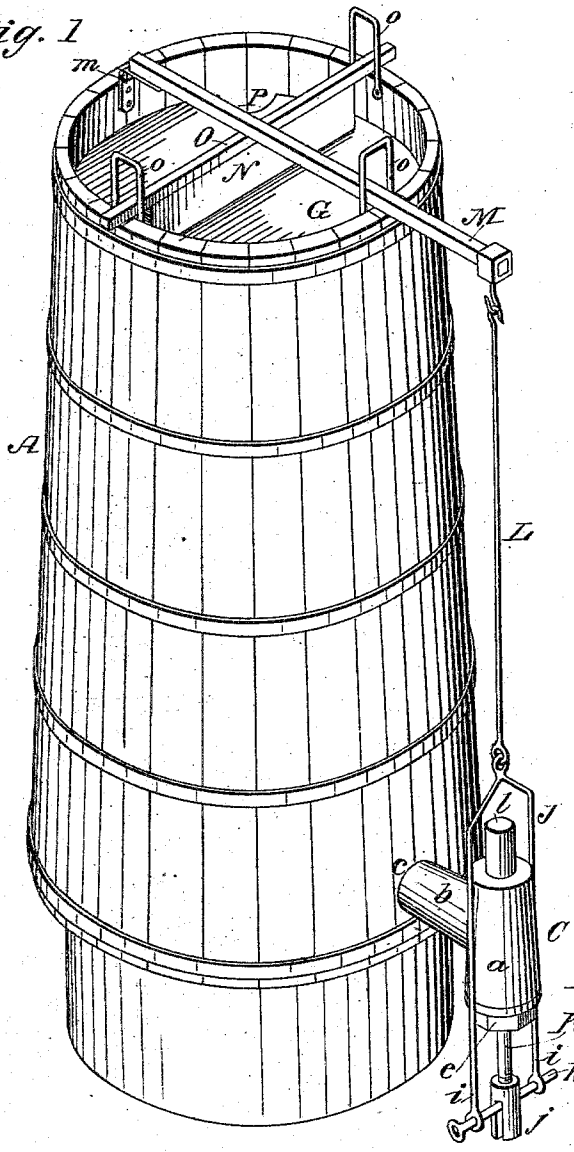


Fig. 3.

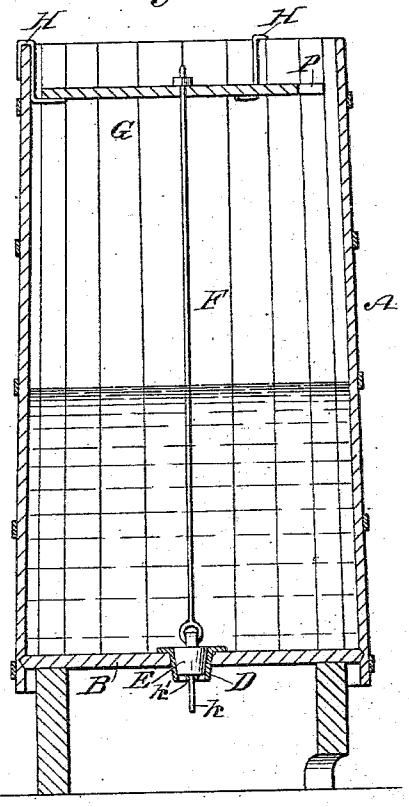


Fig. 2.

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JAMES WESTFALL BARNUM, OF NEW ORLEANS, LOUISIANA.

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SPECIFICATION forming part of Letters Patent No. 295,330, dated March 18, 1884.

Application filed August 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. BARNUM, of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Cisterns, of which the following is a full, clear, and exact description.

This invention relates more especially to house-cisterns that receive water from the roof of the building.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a cistern-tank having my invention applied thereto. Fig. 2 is a detailed sectional elevation of a part of the same, showing the construction of the cock or valve; and Fig. 3 is a sectional elevation of the tank, showing a modified form of valve.

The cistern or tank A may be of the ordinary or of any approved construction. In the form of cistern shown in Figs. 1 and 2, I provide the tank at one side, just above the bottom B, with the cock or valve C. In the form shown in Fig. 3, I fit in the bottom B of the tank A the conical thimble D, and in this thimble I fit the conical plug or stopper E, which is connected by means of the rod F to the float G, held near the top of the tank A, when the water in the cistern is below the float, upon the inner ends of the hooks H H, placed over the upper edge of the tank.

The cock or valve C, which is the form I prefer, is composed of the hollow casting *a*, which has the hollow extension *b*, which is screw-threaded and adapted to be screwed into the opening *c*, made through the tank, as shown clearly in Fig. 3. At its lower end the casting *a* is open and internally screw-threaded, as shown at *d*, to receive the externally screw-threaded annular plug *e*. The inner wall of the annular plug is made slightly conical to receive the conical stopper *f*, which fits water-tight in the annular plug *e*, and when closed prevents all escape of water from the cistern through the cock or valve C.

J is a yoke which, when in place, straddles the cock or valve C, as shown in Fig. 1, and is connected at its lower end to the conical stopper *f* by means of the cross-rod *h*, which passes through the eyes *i i*, formed at the lower ends of the yoke J, and through the notched or divided head *j*, screwed upon the lower end of the guide-rod K, to which the stopper *f* is secured inside of the casting *a*. The upper end of the yoke J is connected by means of the rod L to the outer free end of the lever M, which is hinged by means of the flap-hinge *m* to the upper edge of the tank A, and lies across the tank, as shown in Fig. 1.

The float G, in the construction shown in Fig. 1, is provided upon its upper side with the vertically and centrally placed board N, and also with the cross-bar O, secured to the edge of the board N. The board N and bar O are placed at right angles to the lever M, and the bar O is of a length greater than the diameter of the upper end of the tank A, and when the water in the tank is below the float G the bar O rests at its ends upon the edges of the tank, and supports the float near the top of the tank, as illustrated in Fig. 1. When the water in the tank A is below the float G, the conical stopper *f* or E, as the case may be, will prevent all escape of water from the tank at the bottom; but when the water rises in the tank, so as to lift the float G, the float will lift the stopper *f* or E from its seat and permit the water to flow out at the bottom of the tank as fast as it enters the tank from the roof. In the construction shown in Fig. 3, the float G acts to lift the stopper E directly through the rod F, the stopper being guided by the pin or short rod *k*, attached thereto, which passes through a small hole made in the cross-plate *k'*, formed at the lower end of the thimble D. In the construction shown in Fig. 1, the float acts to lift the stopper *f* through board N, bar O, lever M, rod L, yoke J, rod *h*, and rod K, which latter also serves as a guide to the up-and-down movement of the stopper by being fitted at its upper end in the cup *l*, made at the top or closed end of the hollow casting *a*, and at its lower end in a small hole made in the cross-plate *l'*, formed at the lower end of the hollow casting *a*, as shown clearly in Fig. 2. The cross-bar O and the lever M are guided in their up-and-down movement, due to the

raising and lowering of the water in the tank A, by the loops *o o*, attached to the upper edge of the tank, as shown in Fig. 1, so that the lever M and float G cannot get out of place. P represents a semicircular opening made in the float G, through which the pipe which leads the water from the roof into the tank A reaches into the tank. Constructed in this manner, it will be seen that all danger of the tank overflowing during hard or continuous rains is obviated, and that, during hard or continuous rains, the dirt that may have accumulated in the bottom of the tank and the water that may have been in the tank for a long time, when the float G rises, will all pass off from the bottom of the tank, while the pure water enters from above, thus making the tank self-cleaning, so that the tank will be flushed out during every hard and continuous rain, and so that the water contained in the tank will at all times be comparatively pure; and, furthermore, it will be seen that the tank requires no attention whatever.

I am aware that it is not new in water-tanks to connect a bottom valve with a float by a lever; but

What I do claim as new and of my invention is—

1. The combination, with a tank and an overflow-valve at the lower end of the tank, of a float connected with said overflow-valve, and means, substantially as shown and described, for holding the float near the top of the tank when the water is below the same, as set forth.

2. The body *a*, having the hollow externally-threaded extension *b*, the top cup, *l*, and the internally-threaded lower end, the externally screw-threaded plug *e*, made conical on the inside, and the conical stopper having an upper and lower stem, in combination with a cistern-valve and suitable mechanism to connect it with the stopper-stem, for the purpose specified.

3. The combination, with the cock-stopper *f*, having a downward stem, K, and slotted head *j*, of the cross-rod *h*, the yoke J, having eyes *i*, the pivoted rod L, the lever M, hinged at *m*, the board N, the cross-bar O, and the float G, as and for the purpose specified.

4. In a cistern, the combination, with the tank A, provided with the guides *o*, and the cock-stopper *f*, of the float G, provided with the bar O, for holding the same near the top of the tank, and the lever M, hinged to the tank, and having its free end connected to the said cock-stopper, substantially as herein shown and described, and for the purpose set forth.

JAMES WESTFALL BARNUM.

Witnesses:
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JNO. IWARD.