F. C. SMITH.

EXPANSION TANK.

APPLICATION FILED SEPT. 11, 1912.

1,067,492. Patented July 15, 1913.

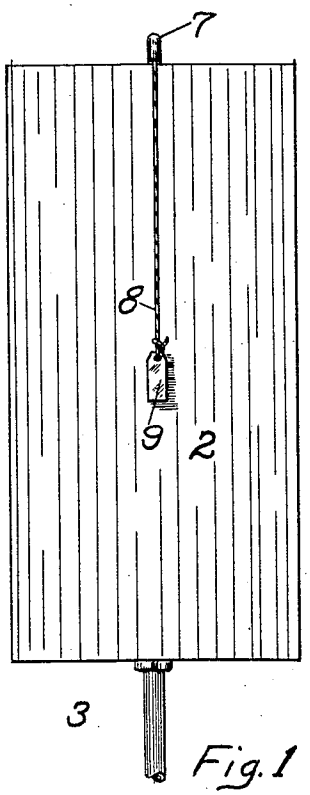


Fig. 1

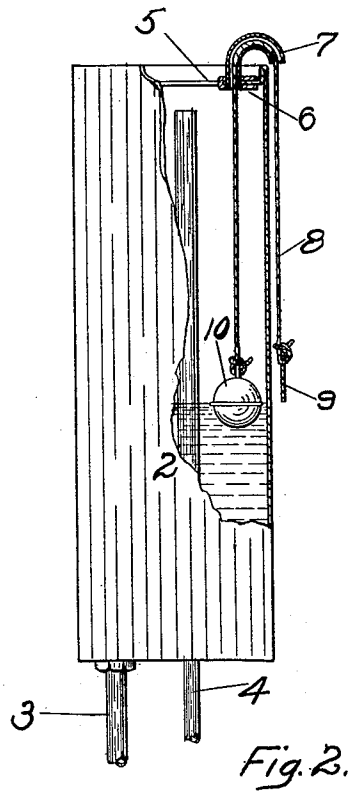


Fig. 2.

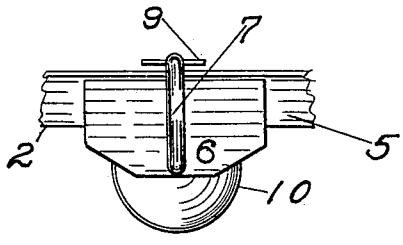


Fig. 4.

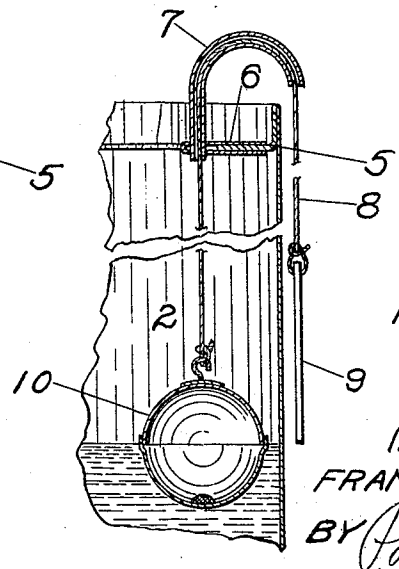


Fig. 3.

WITNESSES

K. E. Lambert

G. E. Sorensen

INVENTOR

FRANK C. SMITH

BY Paul & Paul

ATTORNEYS

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK C. SMITH, OF MINNEAPOLIS, MINNESOTA.

EXPANSION-TANK.

1,067,492. Specification of Letters Patent. Patented July 15, 1913.

Application filed September 11, 1912. Serial No. 719,755.

To all whom it may concern:

Be it known that I, FRANK C. SMITH, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Expansion-Tanks, of which the following is a specification.

Expansion tanks for use in connection with hot water heating systems are usually provided with water gages mounted on the outside of the tank to indicate the height of the water in the tank. These gages are frequently broken in shipping the tank from place to place and as they are permanently mounted on the tank it is often difficult to place the tank where the gage is plainly visible.

The primary object of my invention is to provide an indicating device for an expansion tank which will dispense entirely with the ordinary water gage.

A further object is to provide an indicating device which can be mounted at any point on the walls of the tank.

A further object is to provide an indicating device which can be readily removed from the tank and packed therein for convenience in shipping.

My invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a front elevation of an expansion tank with my invention applied thereto, Fig. 2 is an end elevation, with a portion of the wall of the tank broken away, illustrating the indicating device in position thereon, Fig. 3 is a detail sectional view, showing the preferred manner of mounting the indicating device on the tank, Fig. 4 is a top or plan view, showing the clip engaging the wall of the tank and the guide mounted thereon.

In the drawing, 2 represents an expansion tank having the usual inlet pipe 3 and overflow 4. At the top of the tank the walls are preferably bent inwardly and downwardly, terminating in a horizontal flange 5.

6 is a clip, formed preferably by folding a piece of sheet metal upon itself, and adapted to receive the edge of the flange 5, there being sufficient tension in the loop between the plates of the clip to hold it securely on the flange. This is the preferred construction on account of its simplicity and durability, but any other suitable form of clip may be provided if desired. On the inner portion of this clip I mount a tube 7, bent into the form of a goose neck, the upper portion being outwardly curved and overhanging the upper wall of the tank. A cord 8 or other flexible means is adapted to slide in this goose neck and is attached at one end to a plate 9 upon which suitable advertising matter may be placed, if desired, said plate being adapted to slide up and down on the outer surface of the tank and indicate the level of the water therein. A hollow float 10 is attached to the other end of the cord and rests on the surface of the water in the tank. As the water rises and falls in the tank, the float will change its level and the cord, sliding freely on the inner curved surface of the tube 7, will allow the plate 9 to descend as the water rises in the tank and indicate to the observer that the tank is full.

I am aware that telltale devices of various kinds have been provided in connection with water tanks and I do not claim broadly the invention of such a mechanical appliance. In most cases, however, these telltale devices are permanently mounted on the tank and are not adapted without radical change in their construction to application to an expansion tank.

I do not wish to be confined to the manner of mounting this device on the tank wall, as with slight modification it can be applied to the wall of a tank of different construction from that shown herein.

I claim as my invention:—

1. The combination, with a hot water heating expansion tank, of a clasp removably mounted on the upper portion of said tank, a guide carried by said clasp and removable therewith, flexible means passing over said guide, a float attached to one end of said flexible means within said tank, and an indicating device attached to the other end of said flexible means and vertically movable on the outer surface of said tank.

2. The combination, with an expansion tank adapted to contain a supply of water and having an inwardly turned upper edge terminating in a horizontal flange, a clasp detachably mounted on said flange, a guide mounted on said clasp and upwardly and outwardly curved therefrom, a float arranged within said tank, an indicator movable on the outer surface of said tank, and

flexible means supported in said guide and connected at one end with said float and at the other end with said indicator.

3. The combination, with an expansion tank having an inwardly and downwardly turned edge terminating in a horizontal flange, a clip having jaws to bear upon said flange, a tube mounted on said clip and extending upwardly and curved outwardly to a point beyond the wall of said tank, a cord sliding in said tube, a float attached to one end of said cord, and an indicator attached to the other end of said cord.

4. The combination, with a hot water heating expansion tank, of a clasp mounted on the upper portion of said tank, a tube mounted on said clasp and extending upwardly therefrom, and curved outwardly and overhanging a wall of said tank, a cord sliding in said tube, a float attached to one end of said cord within said tank and an indicator attached to the other end of said cord on the outside of said tank.

In witness whereof, I have hereunto set my hand this 7th day of September, 1912.

FRANK C. SMITH.

Witnesses:
GENEVIEVE E. SORENSEN,
EDWARD A. PAUL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."