F. C. SMITH.

EXPANSION TANK.

APPLICATION FILED NOV. 24, 1914.

1,149,865. Patented Aug. 10, 1915.

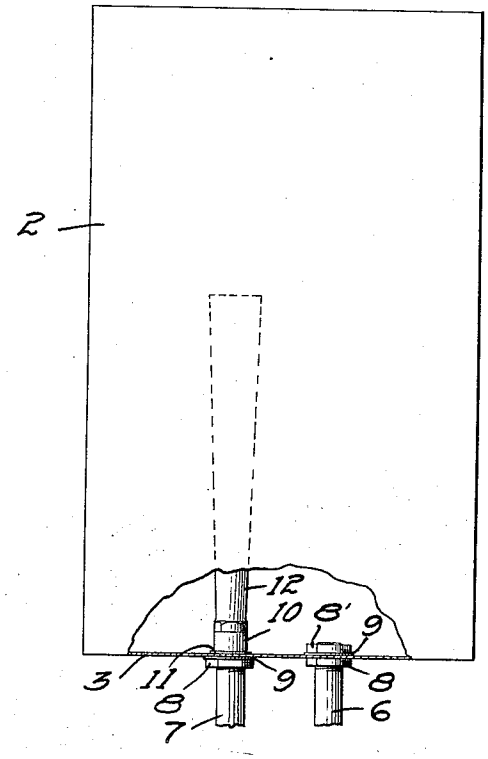


FIG. 1.

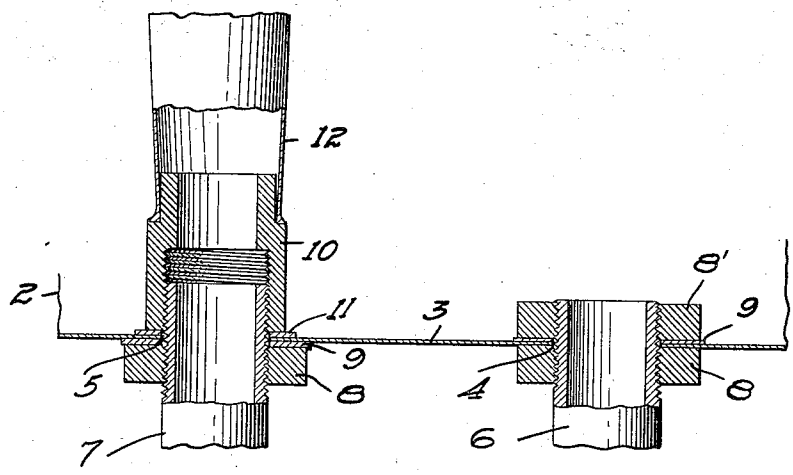


FIG. 2.

WITNESSES

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EXPANSION-TANK.

1,149,865. Specification of Letters Patent. Patented Aug. 10, 1915.

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To all whom it may concern:

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

My invention relates to expansion tanks designed particularly for use in connection with hot water heating systems.

It often happens in mounting an expansion tank that if a certain unchangeable opening is provided in the tank for the water supply pipe and another unchangeable opening for the waste or overflow pipe, the plumber or mechanic making the connection is obliged to spend considerable time in adjusting the supply and overflow pipes to meet these openings, it often being necessary to bend or twist the pipes past one another, necessitating frequently the use of elbows, T's, and the like. Furthermore, the usual connection in the bottom of the tank for these pipes requires the use of unions in making the necessary attachments and adds considerably to the expense of installing the tank.

The object, therefore, of my invention is to provide an expansion tank to which the supply and overflow pipes can be connected, without the use of unions and without the necessity of connecting each pipe to an opening previously designed or equipped for such connection.

The 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 embodying my invention, Fig. 2 is a vertical sectional view, showing the interchangeable form of connections between the supply and overflow pipes and the bottom of the tank.

In the drawing, 2 represents a sheet metal expansion tank of ordinary construction, having a bottom 3. This bottom is provided with holes 4 and 5. 6 and 7 are supply and overflow pipes, each pipe being adapted to fit loosely into either one of the holes 4 and 5. Oftentimes when the tank is set up in a corner of a closet, of some confined space in the building, considerable time and labor are required to bring the supply and overflow pipes around to the point beneath the tank where they can be conveniently connected thereto if a certain connection is provided in the bottom of the tank for each pipe. When the tank has been set up and the pipes brought up through the floor, the plumber or heating man may find that the supply pipe is on the right hand, while the connection for it to the tank is on the left, necessitating the bending of the pipes past one another to enable the proper connections to be made. Then, too, the bottoms of these tanks are usually provided with plates fastened over the openings and threaded to receive the threaded ends of the pipes, necessitating, of course, the use of unions in the pipes immediately below the tank. To obviate these objections, I provide openings in the bottom of the tank adapted to loosely receive either pipe, according to its location with respect to the holes in the tank, and when these pipes have been inserted into the holes 4 and 5, I clamp them against the bottom of the tank by means of lock nuts 8 having gaskets 9 interposed between them and the bottom of the tank. The threaded ends of these pipes extend upwardly into the tank and on the end of the supply pipe 4 I provide a similar lock nut 8′, also having a gasket interposed between it and the tank bottom and thereby the supply pipe will be securely mounted in the tank bottom without the use of unions or similar connections. The overflow pipe 7 preferably extends a greater distance into the tank than the supply pipe and a sleeve 10 is mounted thereon, being interiorly threaded to engage the threads of the pipe, the threaded opening in the lower end of the sleeve being preferably of greater diameter than the continuation of the opening in the upper part of the sleeve, so that the inner wall of the waste pipe and the wall of the sleeve at the upper end thereof will be substantially flush with one another, to avoid obstructing the pipe, as indicated in Fig. 2. A gasket 11 is interposed between this sleeve and the bottom of the tank and when the sleeve is tightened, a firm connection will be made between the waste pipe and the tank bottom. The usual sheet metal overflow 12 is mounted on the sleeve 10 and projects up into the tank the desired distance to carry away the water when it rises above a predetermined point in the tank. This overflow is shown on the

left hand side of the tank, but if for any reason it should be preferable to connect the waste pipe to the opening in the right hand side of the tank, the overflow can be substituted for the supply pipe connection and thereby the necessity of bending the pipes or using T's or elbows to carry them past one another is entirely avoided, and a great deal of time and labor is saved in the installation of the system.

I claim as my invention:

1. An expansion tank having two openings in the bottom thereof, and supply and waste pipes having threaded ends projecting loosely through said openings into the tank and each having a locking member for said threaded ends on the inside and outside of the tank and seated against opposite sides of the bottom thereof, an overflow pipe mounted on the inner locking member of said waste pipe, said supply and waste pipes being interchangeable in said openings for convenience in making the connections to said tank.

2. An expansion tank having two holes in the bottom, a water supply pipe and a waste pipe having threaded ends fitting loosely within said holes and projecting into said tank, a lock nut and gasket mounted on each pipe below said bottom, a lock nut and gasket on said supply pipe above said bottom, and an overflow pipe having a threaded base to engage the projecting end of said waste pipe and inner side of the said bottom, the tightening of said lock nuts and base clamping said pipes on the bottom of said tank.

In witness whereof, I have hereunto set my hand this 21st day of November 1914.

FRANK C. SMITH.

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

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