J. C. BENES.

VALVE FOR CLOSED SYSTEM HOT WATER HEATING PLANTS.

APPLICATION FILED JAN. 24, 1912.

1,150,831. Patented Aug. 17, 1915.

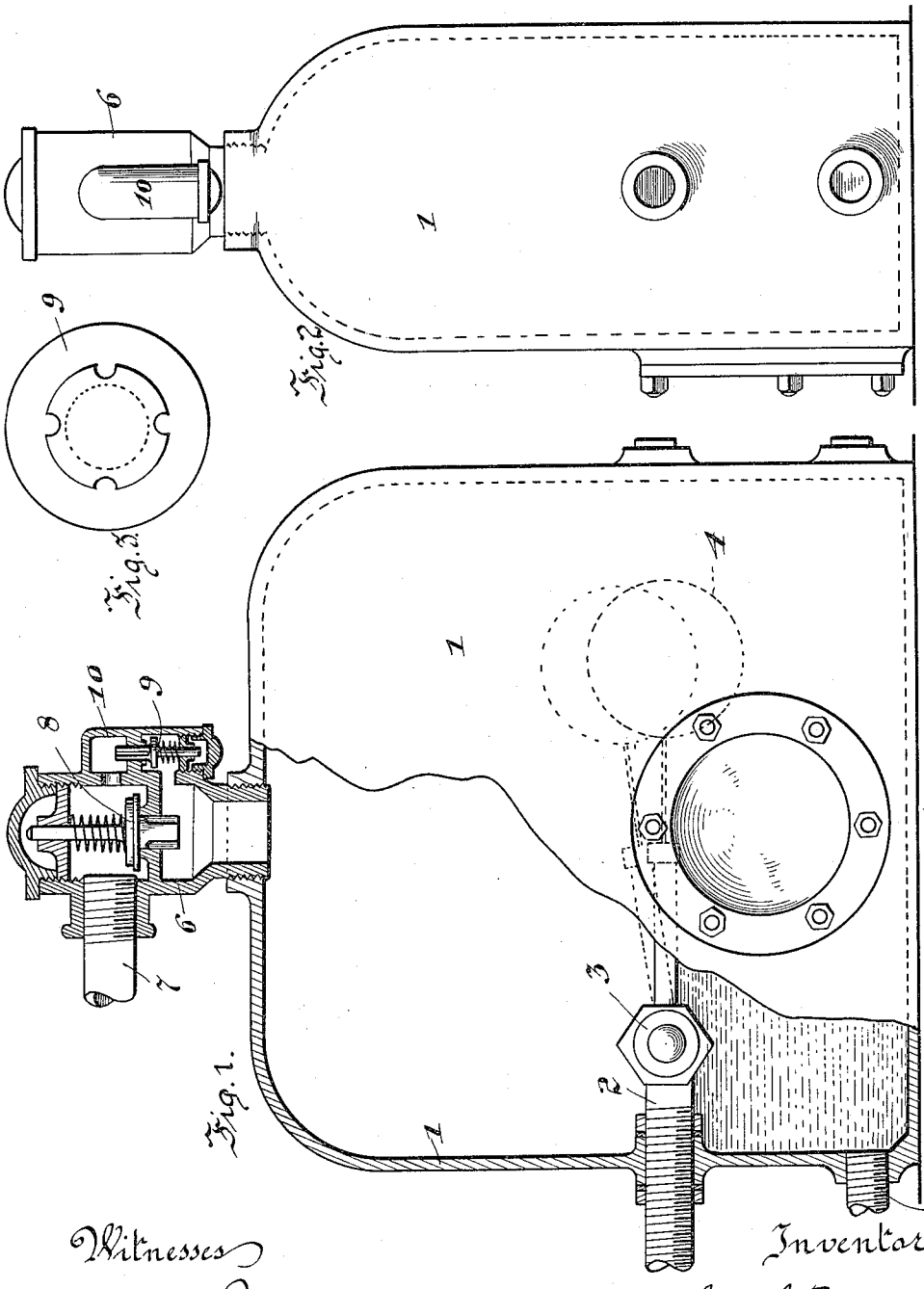


Fig. 2.

Fig. 3.

Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

JULIUS C. BENES, OF CHICAGO, ILLINOIS.

VALVE FOR CLOSED-SYSTEM HOT-WATER HEATING PLANTS.

1,150,831. Specification of Letters Patent. Patented Aug. 17, 1915.

Application filed January 24, 1912. Serial No. 673,172.

To all whom it may concern:

Be it known that I, JULIUS C. BENES, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Valves for Closed-System Hot-Water Heating Plants, of which the following is a specification.

My invention relates to improvements in hot water systems and has for its object the provision of an expansion tank for such systems, which shall be of simple construction and efficient in operation.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a view of a tank embodying my invention, and shown partially in section and partially in elevation. Fig. 2 is an elevation of said tank at right angles to that shown in Fig. 1, and Fig. 3 is an enlarged top plan view of one of the valves employed in the construction.

The preferred form of construction as illustrated in the drawings comprises a tank 1, provided with a water supply pipe 2 leading thereto. Pipe 2 is provided with a valve 3, which in turn is connected with a float 4 for regulating the level of water in said tank. A discharge pipe 5 is connected with tank 1 and serves as a means of connecting the tank with a hot water system.

The valve casing 6 is mounted on the top of tank 1 in open communication therewith. At one side casing 6 is provided with an overflow pipe 7 and in the interior central portion with an outlet valve 8. At the other side casing 6 is provided with an inlet valve 9 which is located in a supplemental casing 10 in open communication with casing 6 as shown.

In use, should the pressure in tank 1 become excessive, valve 8 will open to permit the escape of air or water therefrom, thus releasing said pressure. Should a partial vacuum be formed in said tank, valve 9 will open to admit atmospheric air and thus maintain the pressure in tank 1 normal.

While I have illustrated and described the preferred construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of my invention. I, therefore, do not wish to be limited to the exact details of construction, but desire to avail myself of such variations and modifications as fall within the scope of the appended claim.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

A valve adapted for use in conjunction with a closed system hot water heating plant and comprising a main casing having a nipple for connecting the same to the usual expansion tank, the opposite end of said casing being open and internally threaded, a partition in said casing dividing the same into an inlet chamber communicating with said system through said nipple and a chamber provided with an outlet, said partition being provided with a passage way, a valve arranged in the last mentioned chamber and normally closing said passage way, a follower threaded in said open end of the casing, a spring interposed between said follower and said valve, a supplemental casing provided with a partition dividing the same into two chambers in communication respectively with the chambers of the main casing, and the chamber thereof in communication with the inlet chamber of the main casing provided with an internally threaded open end, a follower threaded in said open end, the partition in said supplemental casing being provided with a passage way, a valve in the chamber having the open end and normally closing said passage way, and a compression spring interposed between said valve and the last said follower, substantially as described.

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

JULIUS C. BENES.

Witnesses:
HELEN F. LILLIS,
JOSHUA R. H. POTTS.

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