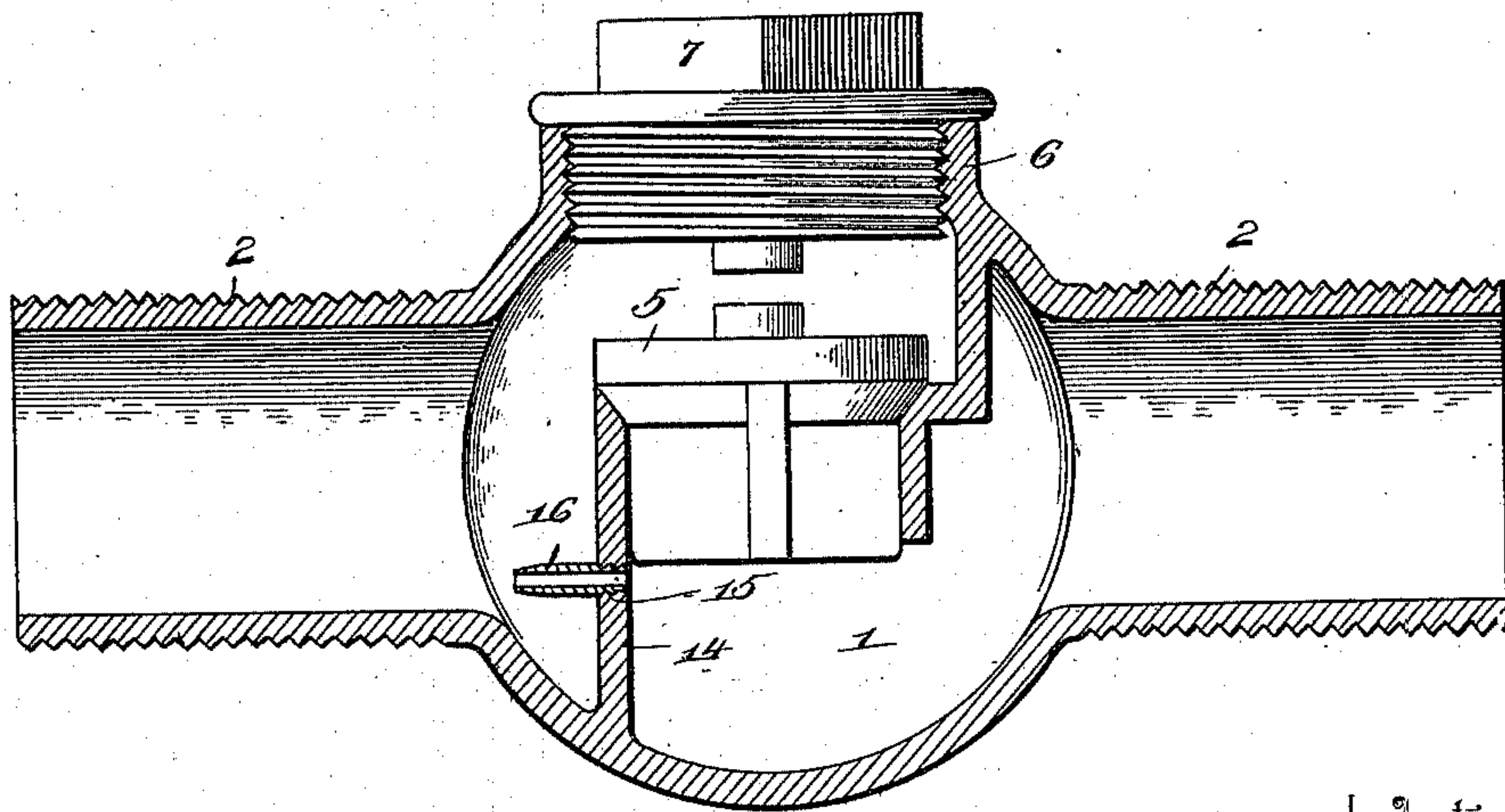


(No Model.)

W. I. MILLER.  
CHECK VALVE.

No. 573,342.

Patented Dec. 15, 1896.



Inventor

*William I. Miller,*

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM I. MILLER, OF EDGAR, NEBRASKA.

## CHECK-VALVE.

SPECIFICATION forming part of Letters Patent No. 573,342, dated December 15, 1896.

Application filed March 13, 1895. Serial No. 541,617. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM I. MILLER, a citizen of the United States, residing at Edgar, in the county of Clay and State of Nebraska, have invented a new and useful Check-Valve, of which the following is a specification.

The present invention aims to provide a check-valve to be applied to the feed-water pipes of locomotive and other boilers to prevent freezing of the said pipes and the hose connections in cold weather.

The vital feature of the improvement is to secure a circulation of hot water from the boiler-check back to the tank or source of supply for the water, so as to attain the desired result in a simple and efficient manner, and to devise a valve for attaining the required end which will not choke or gum up by sediment and the oil contained in the water flowing from the boiler to the source of supply or tank.

The improvement consists, essentially, of a check-valve for the purpose aforesaid having an inwardly-projecting tubular extension terminating in a valve-seat and provided with a lateral opening a distance above the juncture of the said tubular extension with the lower portion of the casing to secure a circulation of hot water around the check-valve proper, a short tube connecting with the said lateral opening and projecting therefrom to obviate choking, and a valve forming the check and normally resting upon the said valve seat.

For a full disclosure and understanding of the invention reference is to be had to the following description and the annexed drawing, which is a longitudinal section of a check-valve embodying the vital features of the invention.

The numeral 1 represents the body or casing of the valve, which is approximately globular in shape and is provided with threaded extensions 2, by means of which it is adapted to be attached to the boiler and the feed-pipe. The tubular extension 14 projects inward from opposite sides of the casing 1 and is constructed at its upper end to form a seat for the valve 5. The casing is open opposite the valve 5, and this opening is surrounded by an annular flange 6, which is internally threaded to receive a cap or plug 7, which is screwed into the internally-threaded flange 6, so as to close the opening. When the cap or plug

7 is removed, the valve 5 is accessible for any desired purpose. The inner tubular extension 14 is provided with a small opening 15, which extends therethrough and establishes communication around the check-valve 5 when the latter is seated. By this means a circulation of hot water from the boiler to the tank or source of water-supply is maintained, although the valve 5 is firmly seated. A short tube 16 is let into the opening 15 and projects from the tubular extension to prevent the choking and stopping of the said opening by scale or incrustation. The short tube 16 and opening 15 are located above the juncture of the lower portion of the tubular extension with the bottom portion of the valve-casing, so as to prevent them from filling or gumming when the invention is in active service.

The advantages of the invention are obvious, as in cold weather the hot water from the boiler will pass around the check-valve 5, through the tube 16, and along the length of the feed or supply pipe to the tank or source of water-supply and prevent freezing of the said feed-pipe and thereby obviate the inconvenience frequently resulting from this source. The opening 15 and tube 16 are unobstructed at all times, thereby permitting a circulation of hot water around the check-valve when the feeder is not in operation.

Having thus described the invention, what is claimed as new is—

An antifreezing check-valve for the feed-water pipes of locomotives to secure a circulation of hot water from the boiler back to the tank or source of water-supply, the same consisting of a casing having an inwardly-projecting tubular extension formed at its upper end with a valve-seat, and provided with a lateral opening a distance above its juncture with the lower portion of the casing to prevent said opening from being choked or stopped, or gummed by sediment, oil or other impurity, a short tube projecting from the said opening, and a valve normally held upon the said valve-seat, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM I. MILLER.

Witnesses:

GUSTAV. A. BYOR,

WILLIAM B. MAHAN.