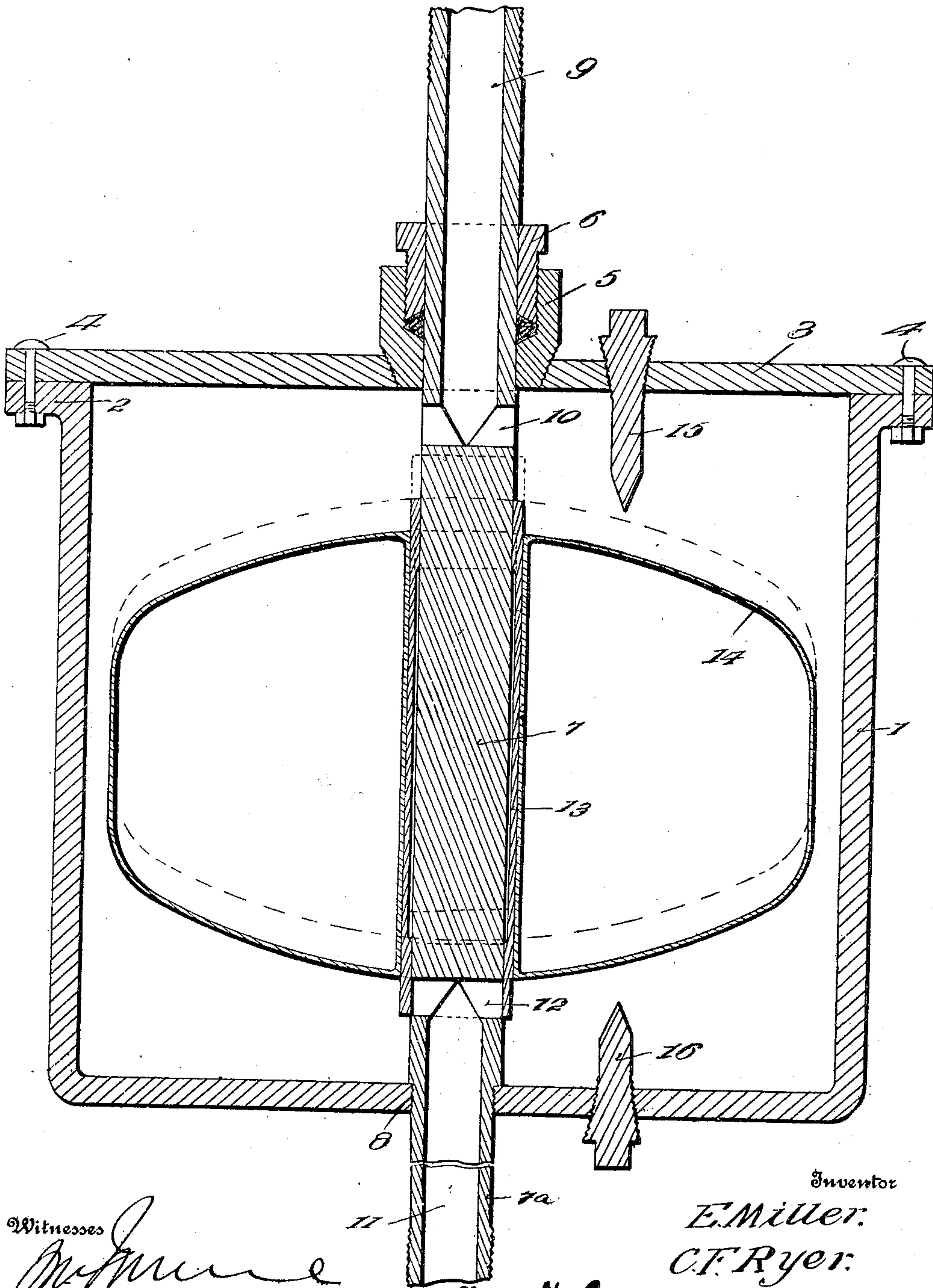


E. MILLER & C. F. RYER.
STEAM TRAP.

APPLICATION FILED MAY 4, 1908.

921,865.

Patented May 18, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD MILLER AND CARSON F. RYER, OF PRESCOTT, ARIZONA TERRITORY.

STEAM-TRAP.

No. 921,865.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed May 4, 1908. Serial No. 430,795.

To all whom it may concern:

Be it known that we, EDWARD MILLER and CARSON F. RYER, citizens of the United States, residing at Prescott, in the county of Yavapai, Arizona Territory, have invented certain new and useful Improvements in Steam-Traps, of which the following is a specification.

The present invention relates to an improved steam trap for discharging water and condensed steam which may accumulate in a chamber placed in communication with a steam pipe.

The object of the invention is the provision of a float actuated device of this character which is simple and durable in its construction and in which the float is always perfectly balanced so as to operate in an effective manner in connection with any steam pressure.

The invention further contemplates a novel arrangement of the parts whereby the entrance of the steam into the chamber does not influence the actions of the float or in any manner affect the operation thereof.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which: the figure is a vertical sectional view through a steam trap embodying the invention, the float being shown in a lowered position in full lines and in an elevated position in dotted lines.

Corresponding and like parts are referred to in the following description and indicated in the drawings by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates a chamber having the upper edges thereof extended laterally to form the flange 2 to which the cover 3 is secured by bolts 4 or other suitable fastening members. Threaded into the central portion of the cover 3 is a stuffing box 5 receiving a packing nut 6 of the usual construction. Passing through the stuffing box 5 and the packing nut 6 and also extending vertically through the chamber 1 is a rod 7, the lower end 7^a of the said rod being reduced and passing through an opening in the bottom of the chamber. The shoulder at the termination of the reduced portion 7^a of the rod rests

upon the bottom of the chamber to limit the downward movement of the rod and the portion of the rod adjacent this shoulder has a threaded connection with the opening in the bottom as indicated at 8 so as to provide a tight joint and also secure a rigid connection between the members. The upper end of the rod 7 which projects beyond the chamber 1 is tubular as indicated at 9 and is connected in any suitable manner with a steam pipe. This tubular opening 9 through the upper portion of the rod 7 communicates with the upper portion of the chamber 1 through the lateral openings 10 which are formed in the rod 7 and serve as inlets for the steam. In a somewhat similar manner the lower end of the rod 7 is formed with a tubular discharge opening 11 which communicates with the lower portion of the chamber through lateral openings 12 similar to the before mentioned inlet openings 10.

Slidably mounted upon the rod 7 is a sleeve 13 the upper and lower ends of which bear closely against the rod so as to provide a water tight joint, while the intermediate portion of the sleeve has an inner diameter slightly greater than the diameter of the rod 7 and is spaced from the latter member for the purpose of reducing friction.

Carried by the sleeve 13 and movable therewith is a hollow float 14 the top and bottom of which have a dished formation and curved toward each other so as to successfully withstand a comparatively great pressure. The ends of the sleeve project both above and below the float and when the float is lowered within the chamber the sleeve covers the outlet openings 12 so as to shut off communication between the interior of the chamber and the tubular discharge opening 11 extending through the lower end of the rod. However, when the float is elevated, the sleeve is moved above the outlet openings 12 so that any water or condensed steam which may have accumulated within the chamber can escape through the discharge opening 11. A pointed plug 15 is threaded within the top 3 of the chamber and projects downwardly therefrom so as to limit the upward movement of the float and prevent the same from closing the inlet openings 10. A similar pointed plug 16 which is threaded within the bottom of the chamber projects upwardly therefrom and is designed to engage the float to limit

the downward movement thereof and prevent the same from coming into contact with the bottom of the chamber.

Attention is directed to the fact that the steam as it enters the chamber through the inlet openings 10 is discharged laterally against the sides of the chamber and the jets of steam do not come into contact with the float in such a manner as to in any way influence the same or interfere with its free operation.

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

1. In a steam trap, the combination of a chamber, a continuous rod extending through the chamber and having the ends thereof projecting outwardly beyond the chamber on opposite sides thereof, the said projecting ends of the rod being formed with independent longitudinal openings communicating at their inner ends with lateral openings leading to the interior of the chamber, one of the longitudinal openings being designed to be connected to a steam pipe while the opposite longitudinal opening serves as an outlet, a sleeve slidably mounted upon the rod within the chamber and movable upon the rod to close the lateral openings leading to the outlet, and a float applied to the sleeve, the weight of the float normally moving the sleeve to close the outlet but the

float being adapted to be raised by any water accumulating in the chamber to open the outlet.

2. In a steam trap, the combination of a chamber, a continuous rod extending through the chamber and projecting beyond the same upon opposite sides thereof, the ends of the rod being formed with longitudinal openings which lead from the extremities thereof and also with lateral openings which lead from the inner ends of the longitudinal openings to the interior of the chamber, one of the longitudinal openings being adapted to be connected to a steam pipe while the opposite longitudinal opening serves as an outlet, a sleeve slidably mounted upon the rod and adapted to close the lateral opening leading to the outlet, the end portions of the sleeve fitting closely against the rod while the intermediate portion of the sleeve is spaced therefrom, and a float applied to the sleeve for automatically moving the same to discharge any water which may be accumulated within the chamber.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD MILLER. [L. S.]
CARSON F. RYER. [L. S.]

Witnesses:

E. D. SILVA,
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