

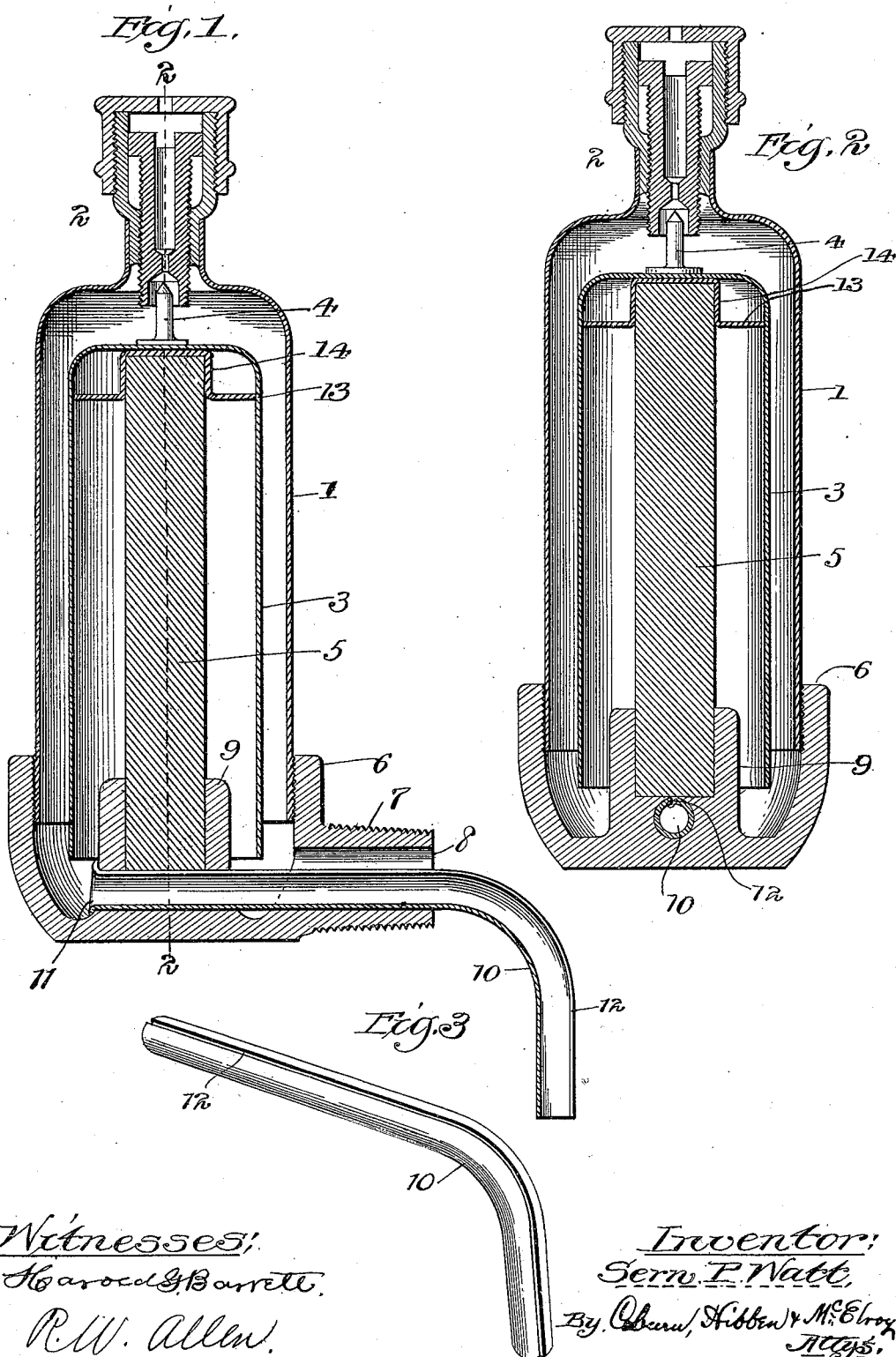
No. 645,583.

Patented Mar. 20, 1900.

S. P. WATT.
AIR VALVE.

(Application filed Nov. 20, 1899.)

(No Model.)



Witnesses:
Harold G. Barrett.
R. W. Allen.

Inventor:
Serv. P. Watt,
By O'Brien, Hibben & McElroy
Attys.

UNITED STATES PATENT OFFICE.

SERN P. WATT, OF CHICAGO, ILLINOIS.

AIR-VALVE.

SPECIFICATION forming part of Letters Patent No. 645,583, dated March 20, 1900:

Application filed November 20, 1899. Serial No. 737,669. (No model.)

To all whom it may concern:

Be it known that I, SERN P. WATT, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Air-Valves, of which the following is a specification.

My invention has relation to that class of devices known as "air-valves" and employed more especially in connection with steam-radiators; and its object is to provide suitable and efficient means for draining the water from the valve casing or chamber into the radiator.

In the drawings, Figure 1 is an enlarged central sectional view of my air-valve; Fig. 2, a similar view, but at right angles to that of Fig. 1, the same being taken on line 2 of Fig. 1; and Fig. 3, an enlarged perspective of the water-trough.

The casing 1, the escape-valve device 2 at the top thereof, and the inner tube 3, with its valve 4 and expansible post or support 5, are made in the usual and well-known manner and form no part of my present invention, except as parts of the entirety or complete device, and the same will therefore not receive detailed description.

The base portion 6, to which the casing is secured, is formed in the well-known manner, except as hereinafter noted, and is provided with the usual screw-threaded nozzle 7, having the passage 8, which nozzle is adapted to screw into the radiator. Formed integral with or separate from, but secured to, the base is a boss 9, having a central vertical bore or opening to receive the trough 10, one part of which lies on the bottom or base portion and whose end 11 is preferably riveted against the boss, as shown in Fig. 1. This trough extends through the nozzle and then bends downward. The edges of the trough are brought into close proximity to form a slit 12 on the top plane of such trough, as clearly illustrated in the drawings. This particular construction of trough constitutes the main part of my invention and is for the purpose hereinafter described.

The upper end of the post 5 is pressed into a guide-plate having the annular flange or disk 13 and the closed cylindrical portion or cup 14, receiving such post, as shown. The plate fits closely within the tube 3 and assures

perfect centering of the post and the subsequent perfect seating of the valve.

The operation of my device is as follows: Assuming that the nozzle has been screwed into position in the radiator, the air forced out of the radiator will pass therefrom and enter the air-valve casing, escaping through the open escape-port. When the steam has filled the radiator, it will also enter the valve-casing and escape until the expansible post 5 has been heated sufficiently to cause the valve 4 to seat. Water of condensation will collect in the bottom or base 6, and when a quantity has accumulated sufficient to reach the slit 12 the water will rapidly creep by capillary attraction along the slit, the action being similar to that of a wick. In case of a tube it would be necessary to establish a flow by filling the tube with water, causing a siphon action, whereas in my construction a flow will be established by reason of the capillary action in the slit of the trough, the preponderance of the capillary attraction in the slit over that in the trough causing the flow of water, as above stated. Water which would rise in the radiator may be drained off in the same manner upon the receding of the water in the radiator.

Although I have described more or less precise forms and details of construction, I do not intend to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient and without departing from the spirit of my invention.

I claim—

1. An air-valve for radiators comprising a casing having a valve-governed escape-port, and a passage communicating with the radiator, and a trough with its edges in close proximity and communicating between the casing and the radiator through said passage.

2. An air-valve for radiators comprising a casing having a valve-governed escape-port and a passage communicating with the radiator and a trough which has its upper portion or leg within the casing and its lower leg passing through said passage and extending downward, the edges of such trough being in close proximity.

3. In an air-valve for radiators, the combination with the casing having a valve-gov-

erned escape-port and a nozzle communicating with the radiator, a tube within the casing carrying said valve on its upper end, a post of expansible material supported on the
5 bottom of the casing, and a flanged cup secured to the top of such post and fitting in the upper part of such tube to assume the proper position of the post and valve.

4. In an air-valve for radiators, the combination with the casing 1 having an escape-
10 port, a valve 4 governing such port, a nozzle 7 communicating with the reservoir and casing, a tube 3 carrying the valve 4 at its upper closed end, a post 5 of expansible material

supported at the bottom of the casing and a
15 guide for the post comprising a cup-shaped portion 14 receiving the upper end of the post and having a flanged rim 13 fitting closely within the tube.

5. As a liquid-draining device, a trough
20 whose edges are arranged in close proximity whereby a liquid may flow by capillary attraction along such edges and thereby start a flow through such trough.

SERN P. WATT.

Witnesses:

LOUISE E. SERAGE,
R. W. ALLEN.