

A. E. BACON.
VALVE FOR PLUMBERS' FURNACES.
APPLICATION FILED FEB. 25, 1913.

Patented July 18, 1916.

1,191,384.

Fig. 1.

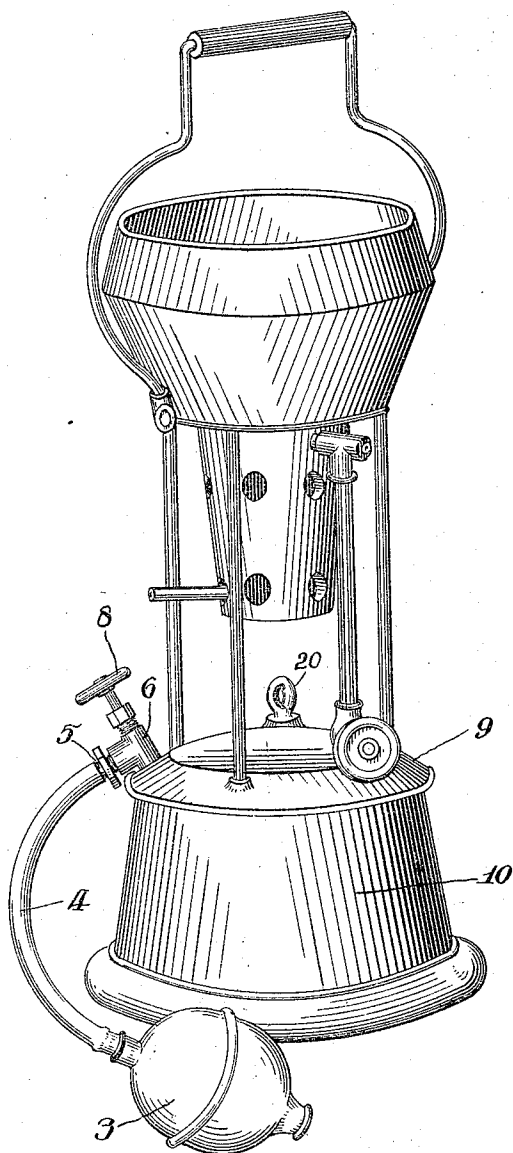


Fig. 2.

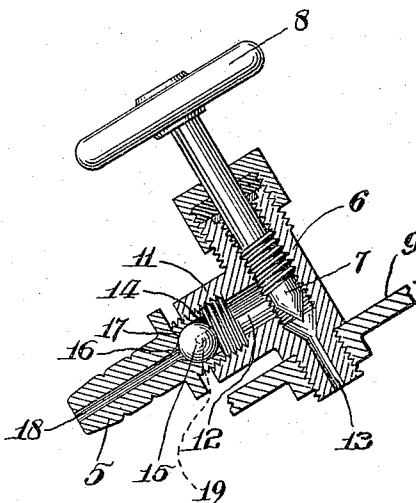
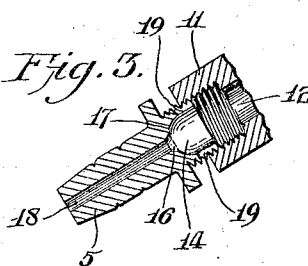


Fig. 3.



WITNESSES:

Mae Hoffmann
Howard C. Otis

INVENTOR

Albert E. Bacon

BY

Wm. C. Worsdal
ATTORNEY.

UNITED STATES PATENT OFFICE.

ALBERT E. BACON, OF GERMANTOWN, PENNSYLVANIA, ASSIGNOR TO HAINES, JONES & CADBURY INCORPORATED, A CORPORATION OF PENNSYLVANIA.

VALVE FOR PLUMBERS' FURNACES.

1,191,384.

Specification of Letters Patent.

Patented July 18, 1916.

Application filed February 25 1913 Serial No. 750,466.

To all whom it may concern:

Be it known that I, ALBERT E. BACON, a citizen of the United States, residing at Germantown, in the county of Philadelphia, State of Pennsylvania, have invented a new and useful Valve for Plumbers' Furnaces, of which the following is a specification.

My invention relates to improvements in plumbers' furnaces.

10 The object of the invention is to provide a safety device in connection with means for pumping air into the fuel reservoir of said furnace. Heretofore it has been customary to provide a rubber bulb pump and rubber tubing connected with the nozzle of a valve controlled cock communicating with the fuel reservoir; the practice being to open the cock and pump the air to the necessary pressure in the reservoir, and then close the cock. After the furnace is lighted, it becomes necessary from time to time to open the cock again, and pump more air into the reservoir. It happens, that in time the rubber tubing deteriorates and sometimes breaks or is blown off the nozzle by the pressure in the reservoir, and the escaping fuel gases ignite from the furnace causing serious accident to the one operating the same. These accidents have frequently happened in the past and to prevent occurrences of a similar character, is the object of the present invention.

Referring to the drawings, which illustrate merely by way of example, a suitable embodiment of my invention—Figure 1 is a view in elevation of a standard plumber's furnace to which my invention is applied. Fig. 2 is a vertical section of the valve controlled nozzle embodying my invention. Fig. 3 is a fragmentary cross-section transverse that shown in Fig. 2, to show the channels 19.

Similar numerals refer to similar parts throughout the several views.

Referring to Fig. 1, 3 indicates the rubber pump bulb, 4 the rubber tubing connecting the same with the nozzle 5, secured in the valve member 6. This valve member 6 is controlled by the ordinary needle valve 7 operated by the hand wheel 8. This valve member 6 is tapped into the inclined surface 9 of the fuel reservoir 10, having its longitudinal extension at right angles with the inclined surface 9. When the furnace is in the upright position as shown in Fig.

1, it will be seen that the valve member 6 is inclined to the vertical. The valve member 6 as shown in Fig. 2 is provided with the apertured lug 11, the aperture or channel 12 of which is adapted to communicate with the aperture 13 leading to the fuel tank 10, said communication being controlled by the valve 7. Into lug 11 is threaded the apertured nozzle 5, which is adapted to engage the end of the rubber tube 4. This nozzle member 5 has an enlarged channel 14, in the threaded portion thereof, communicating with the channel 12. This channel 14 is preferably provided with the concave end 17 which is in communication with the aperture or opening 16 of channel 18. Into this concave part 17 and the aperture 16 the ball 15, is adapted to seat, so as to close communication between channel 18 of said nozzle and the channel 12 of the lug. The inclined position of valve member 6 and lug 11 is such that the ball 15, by the force of gravity, will normally lie against the entrance to channel 18 and maintain the same closed. The pressure from the reservoir 10 will render such closure effective. The ball 15 however is adapted to yield to pressure exerted by the pump to permit the passage of air past the ball to the reservoir. By this means whether the pump 3 or tube 4 becomes defective or not, the ball will always prevent the escape of fuel gases from nozzle 5, and thus prevent the accidents above referred to.

When it is desired to relieve the air pressure in fuel reservoir, when through using the furnace, and after the fire is extinguished, valve 7 is closed, and the furnace tilted to elevate the aperture 16 above the recess 12, whereupon the ball 15 will be carried by gravity away from the aperture 16. By then moving the valve 7 to open position the air confined in reservoir 10 is permitted to escape.

In filling the reservoir the thumb screw cap 20 is removed and the gasoline poured in the opening. If the gasoline is poured in very fast it will be necessary for the air to escape from the reservoir 10 through some other opening than that through which the gasoline enters. This may be provided for by arbitrarily unscrewing the nozzle member 5 until the passages 19, as shown in Fig. 3, establish communication between channel 12 and the outside atmosphere. With the

nozzle in this position and valve 7 in the open position, it will be seen that the air can freely escape through the passages 19. This method may also be used for relieving the pressure of air in reservoir 10 when through using the furnace.

What I claim is:—

1. A valve comprising a channeled body having a main extension, a lug projecting from and substantially at right angles with the main extension, said lug having a channel communicating with the main channel and provided with a threaded open end, a channeled nozzle having an exteriorly threaded end for disengageable connection with the lug, said threaded end provided with an enlarged semispherical opening communicating with the nozzle channel and forming a ball receiving chamber, and a ball

in said chamber normally maintained in channel closing position by gravity.

2. A valve comprising a channeled body having a main extension, a lug projecting from and substantially at right angles with the main extension, said lug having a channel communicating with the main channel, a channeled nozzle connected with said lug, a valve seat, a ball normally seated therein for controlling communication between the channels in the nozzle and the lug, and a radially extending channel in the threaded end of the nozzle as and for the purpose specified.

ALBERT E. BACON.

Witnesses:

GEORGE G. ZIEGLER, Jr.,
MAE HOFMANN.

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