

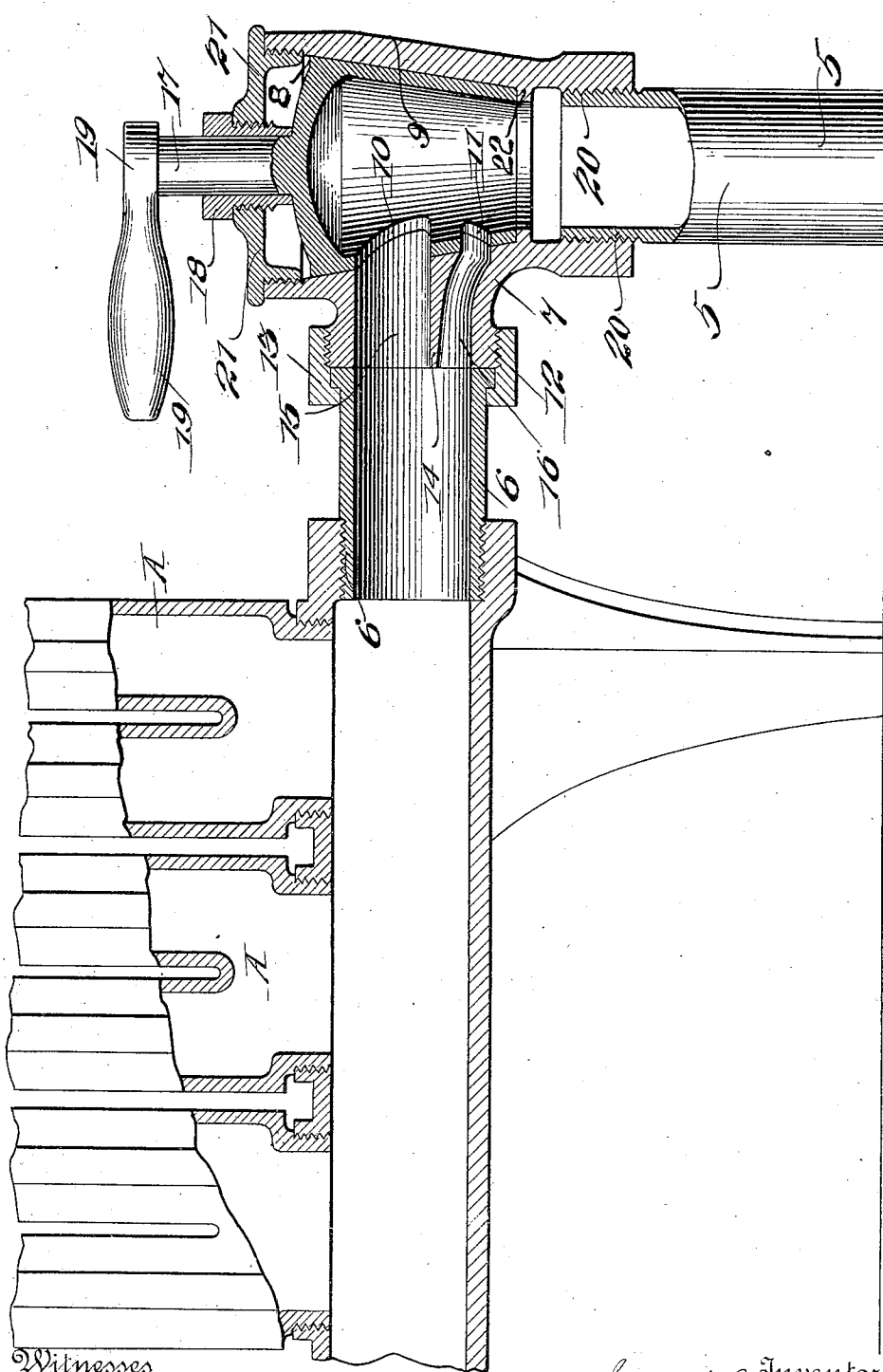
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J. A. GORTON.

RADIATOR APPLIANCE.

APPLICATION FILED OCT. 30, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH A. GORTON, OF MONTCLAIR, NEW JERSEY.

RADIATOR APPLIANCE.

No. 879,628.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed October 30, 1906. Serial No. 341,238.

To all whom it may concern:

Be it known that I, JOSEPH A. GORTON, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, have invented certain novel and useful Improvements in Radiator Appliances, of which the following is a specification.

This invention pertains to radiators for heating purposes and has particular application to an improved appliance in the form of a valve designed to be used in connection therewith.

In carrying out my invention it is my purpose to provide means for controlling the circulation of steam in, and for draining or removing the water of condensation from, radiator systems.

A further object of the invention is to provide an improved valve having certain openings therein and arranged relative to the steam supply pipe of the radiator and co-operating therewith in such manner that the opening in the valve for the admission of the steam to the radiator will always be of such size as to be proportionate to the opening in the valve for the draining of the water of condensation, such water flowing back into the steam supply pipe from whence it passes back into the boiler.

In the accompanying drawings wherein, by way of illustration, I have delineated an embodiment of my invention, the figure illustrates a conventional view of a portion of the radiator shown partly in section and showing my improved valve in the pipe connections thereof.

Referring now to the accompanying drawings in detail, A indicates a radiator which is of any suitable character and is supplied with steam through the steam supply main 5 and the short pipe 6, the main and the pipe being connected through any suitable sort of an elbow coupling 7. In the present instance this coupling is also designed to form the body of the valve, which I will now proceed to describe in detail. The interior wall of the coupling 7, which, as stated, forms the valve body, is in the present instance flared, or in conical form, as shown at 8, and the valve proper, indicated as an entirety by 9, is also of conical form and is provided with the steam port 10, and the return or drain opening 11 for the water of condensation. These openings are preferably made in a certain proportion. For instance, the steam

opening 10 which is arranged above the opening for the return of the water may be made four times the size of the opening 11. The extension 12, of the valve body which is coupled to the pipe 6 by means of the union ring 13, is separated by means of the web 14 into two channels or ducts 15, and 16, preferably proportioned similarly with the openings of the valve and designed to align therewith, the duct 15 being for the admission of steam while the lower duct 16 is for the return of the water

17 is a stud extending through the sleeve nut at 18 and carrying at its upper end a handle 19 by means of which the conical body may be rotated in its casing. The pipe 5 is threaded into the lower portion of the valve casing in a well known manner, as is shown at 20.

21 is the cap portion of the valve body or casing, and 22 is an interior shoulder of flange upon which rests the lower edge of the valve body 9, so that this body is always properly supported and may rotate freely within its casing.

From the above description taken in connection with the accompanying drawings the construction and operation of my improved mechanism will be readily apparent. When it is desired to admit steam into the radiator the handle 19 is turned to any desired extent to rotate the valve 9 and to regulate the size of the openings 10 and 11, which controls the amount of steam to be admitted to the radiator, and steam passing from the boiler through the steam pipe 5 flows in through the opening 10 and duct 15 into the pipe 6, and thence into the base of the radiator A and the water of condensation returning back along the bottom of this base, and of course, being heavier than the steam, passes along the bottom of the pipe 6 back through the lower duct 16 and in through the opening 11 from whence it passes by gravity down through the pipe 5. By having the openings 10 and 11 in the conical valve 9 suitably proportioned and in alinement with the ducts 15 and 16 similarly proportioned, such ratio will always be maintained, no matter how the valve is turned. For instance, if the valve 9 is rotated so that but half of the opening 10 is in alinement with the duct 15, and the steam, therefore, turned half way on, the opening 11 will be similarly located relative to the duct 16; that is to say, half way open to permit the return flow of the water.

In the present invention I do not confine myself to the precise details of construction shown and described herein by way of illustration, as it will be evident to those skilled in the art that modification may be made without departing from the spirit of the invention or the scope of the claims.

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

1. In combination, a radiator, a single steam supply main, a valve casing connected to the main, a single pipe connection between the valve casing and the radiator having a single passage therein, and a valve plug within the casing having a relatively large opening therein for the passage of steam, and a relatively small opening for the passage of water located below the steam opening.

2. The combination of a radiator, a steam supply main therefor, a valve casing connected to the steam supply main, a pipe connection between the radiator and the valve casing having a single passage therein, and a valve plug within the casing having an upper passageway for the passage of steam, and a lower passageway for the passage of the water of condensation.

3. In combination a heating device, a steam supply main, a valve casing connected to the supply main, a connection between the valve casing and the heating device having a single passage therein, an upper steam passageway and a lower water passageway formed in the valve casing, and a valve within the casing having an upper steam passageway

adapted to register with the steam passageway in the valve casing, and a lower water passageway adapted to register with the water passageway in the valve casing.

4. The combination with a heating device, of a steam supply pipe, and a valve casing connected thereto, a pipe connection between the valve casing and the heating device having a single passage therein, and a hollow valve plug within the casing having an upper passageway for the admission of steam to the heating device, and a lower passageway for returning the water of condensation to the supply main.

5. The combination with a radiator, a single steam supply main therefor, a valve casing connected to the supply main and having a steam duct, and a water duct, a pipe connection for the passage of steam and water connecting the valve casing with the radiator having a single passage therein, and a valve within the casing having a passageway therein for the admission of steam from the supply main to the pipe connection and radiator, and a passageway for permitting the water of condensation to pass from the radiator and pipe connection back to the supply main.

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

JOSEPH A. GORTON.

Witnesses:

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