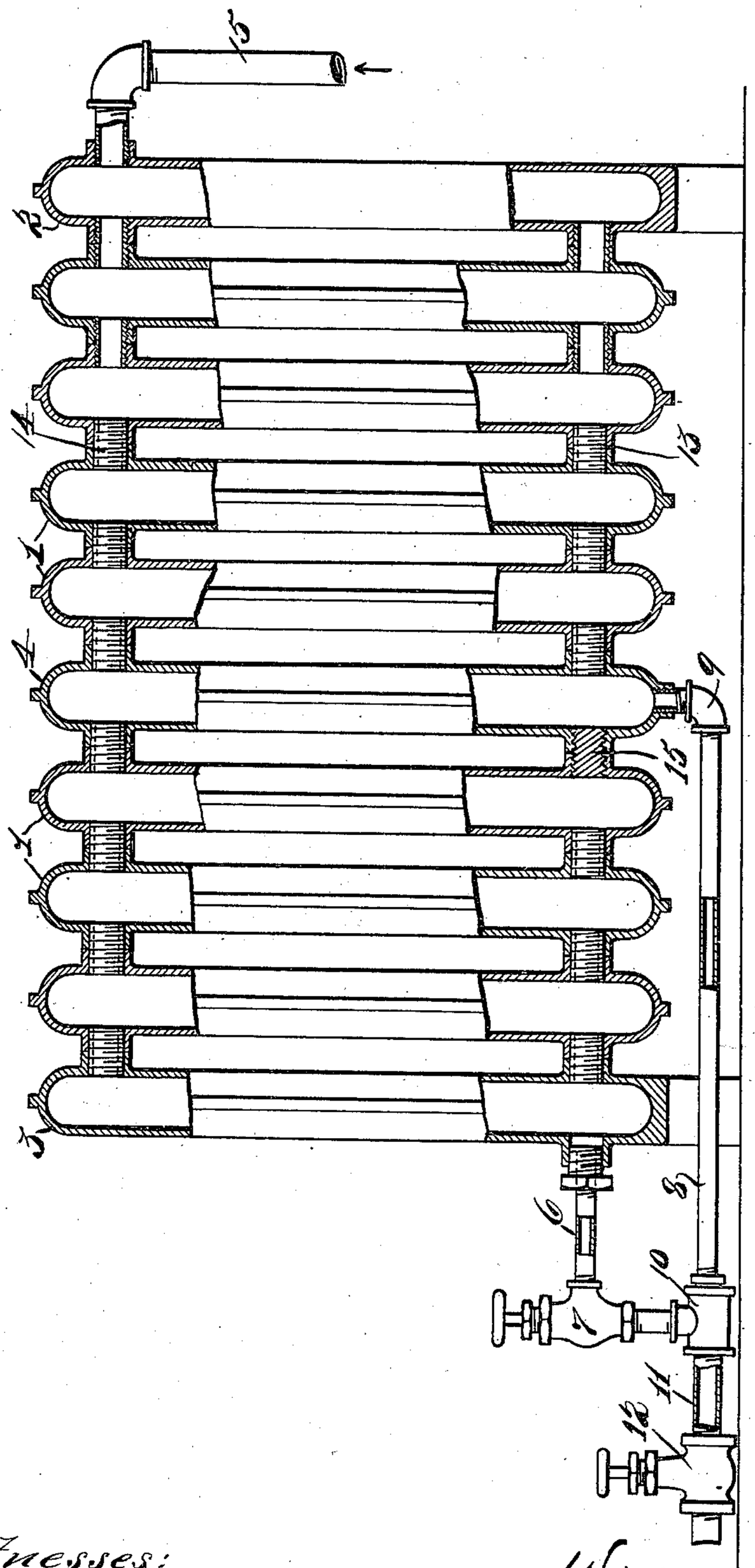
W. ANDREWS.

HOT WATER RADIATOR.

APPLICATION FILED JULY 16, 1910.

989,751. Patented Apr. 18, 1911.



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UNITED STATES PATENT OFFICE.

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HOT-WATER RADIATOR.

989,751. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed July 16, 1910. Serial No. 572,348.

To all whom it may concern:

Be it known that I, WILLIAM ANDREWS, a citizen of the United States, residing at New York city, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Hot-Water Radiators, of which the following is a clear, full, and exact description.

The object of this invention is to provide an improved hot water radiator, which is adjustable. By adjustable, I mean one where all the radiator units may be heated or where part only may be heated.

In carrying out my invention, I make use of the ordinary type of water radiators provided with the ordinary inlet and with an ordinary outlet valve, and I provide a secondary or intermediate outlet from the radiator connecting with one of the intermediate units thereof. I so construct my radiator that all of the radiating units are at all times in communication with each other, at their top. I provide a water inlet, preferably leading to the top of the radiator. I preferably provide a normal outlet provided with a globe valve, and leading to a branch connection, which is connected by a pipe to the lowermost part of one of the intermediate radiator units. Leading from the normal globe valve outlet and also from the intermediate connection I locate another globe valve. Between the intermediate connection and the normal outlet, I plug the otherwise open passage joining the units, near their base. This plug is between the connection and the adjacent unit. When the first-named valve is shut off the water collects in those units between the intermediate outlet, and the normal outlet, cools and circulates no more, leaving the radiator units between the intermediate outlet and the inlet in free circulation, and at ordinary heating temperature. Should it however, be desirable to secure the maximum heat from the radiator, both outlet valves are opened, when the radiator will act as a normal radiator in spite of the intermediate connection.

The scope of my invention will be pointed out in the claim.

In the accompanying drawing, the figure shows a partial sectional view of my improved radiator.

In the accompanying drawing: 1 is the usual radiator unit.

2 is the unit next to the inlet end.

3 is the unit next to the outlet end.

4 is a unit which I will term the "intermediate" unit.

5 is the inlet piping.

6 is a normal outlet pipe passing to the globe valve 7.

8 is the intermediate outlet pipe connected with the intermediate unit 4 by the coupling 9.

10 is a three-way branch coupling connecting with the valve 7, the intermediate pipe 8, and with a pipe 11 controlled by a second outlet valve 12.

13 are open bushings connecting the radiator units near their base, so as to keep them at all times open one to the other.

14 are open bushings near the top of the radiator serving to keep the upper sections at all times open one to the other.

15 represents the plug between the units which prevents water from the left hand units from passing out the intermediate outlet.

The radiator units are at no times obstructed, except by the plug 15, and the functions of this invention can be secured by the addition of the pipe connections herein set forth without any change in the radiator system.

In operation, when it is desired to get the full quota of heat from the radiator, both valves 7 and 12 are opened, and the water circulates through all the sections as usual. When it is desired to get heat through but half of the radiator the valve 7 is closed, the water becomes still in the four left hand sections, ceases to circulate, and cools, leaving as the only effective heat units the ones to the right of the intermediate outlet.

I claim as my invention:

The herein described radiator, comprising two series of radiator units, one series next to the inlet and one series next to the outlet, both series being in open communication at their top as to their units and as to each other, the units of each series being in open communication at their bottoms, a plug between the two series to prevent circulation at their bottom, an inlet pipe for one series, a normal outlet pipe for the other series, an outlet valve for the outlet pipe, an inter-

mediate connecting pipe 8 attached to and open to the lower part of that radiator unit which is adjacent to the hereinbefore recited plug of the series of units next to the inlet, a connection from the normal outlet valve to said intermediate connecting piping, and an outlet valve for said piping, so placed as to shut off flow from the normal outlet, and also from the intermediate connection, substantially and for the purposes described.

Signed at New York city, New York, this 11th day of July 1910.

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