

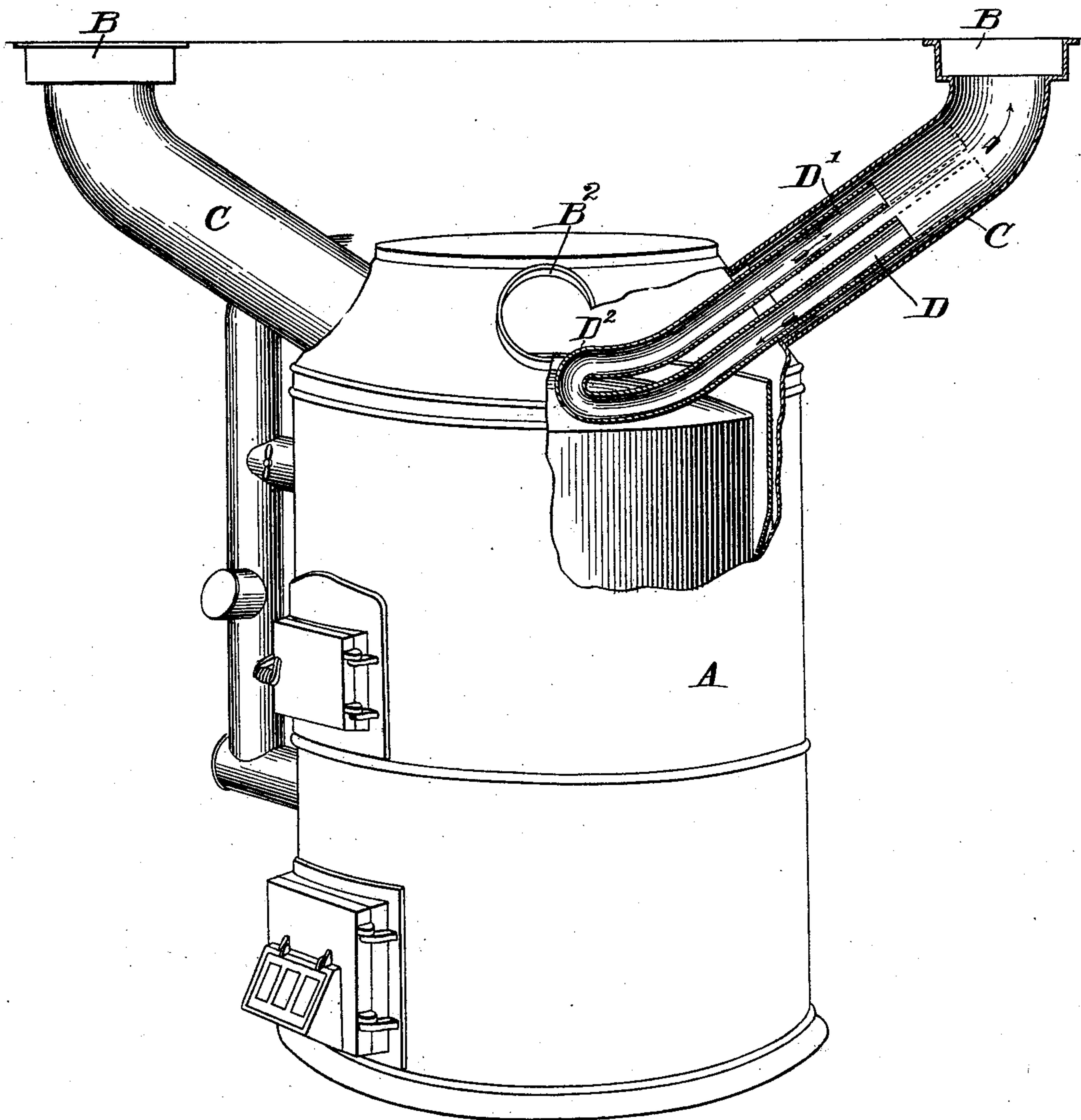
No. 606,649.

Patented July 5, 1898.

J. DEMAREST.
HEATER.

(Application filed Jan. 21, 1898.)

(No Model.)



Witnesses:

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Edward H. Allen.

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UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF MALDEN, MASSACHUSETTS.

HEATER.

SPECIFICATION forming part of Letters Patent No. 606,649, dated July 5, 1898.

Application filed January 21, 1898. Serial No. 667,415. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEMAREST, of Malden, county of Middlesex, State of Massachusetts, have invented an Improvement in Heaters, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

My invention is an improvement in heating systems, and has for its primary object the provision of simple and effective means for equalizing the distribution of heat from any suitable source, such as a furnace, and causing the heat therefrom to distribute itself throughout all parts, as desired, of the house or place being heated.

As is well known, furnaces are very uncertain in their distribution of heat, sometimes heating one side of a house extremely and leaving the other side cold, and also frequently shifting the heat from one part to another, so that some pipes of the heating system appear to be good conveyers of the heat on some days and poor conveyers thereof on other days. Accordingly I have devised the present invention for effectually removing this uncertainty and causing the flow of heat from the furnace to be uniform and evenly distributed in all directions, as may be desired.

In the drawing I have shown a preferred embodiment of my invention, parts being broken away and in section in order to show the internal construction and arrangement thereof.

The furnace or other heater A may be of any usual or preferred kind and construction, having a usual system of heat-conveyers leading to registers B throughout the house in such places and relations as may be desirable and requisite for heating purposes. I have shown herein two registers merely for convenience of illustration and description, although it will be understood that in this respect my invention is not limited.

At C, I have shown an ordinary heat-conveying pipe such as commonly found in connection with house-furnaces. Within this pipe I place an equalizing-flue having an inlet D and an outlet D', separated from each other, it may be, by a single partition, although herein shown as formed by bending a piece of relatively small pipe back on itself, so as to form a U-bend D², the inlet and out-

let portions of the flue in any case being always connected substantially as shown, so as to provide a closed lower end or "U-bend," as I have termed it, joining the two otherwise independent flues constituting the inlet and outlet mentioned.

The principle of my invention will be readily understood, viewing the figure and observing the arrows which indicate the directions of the currents of heated air.

By placing the equalizing-flue so that its closed end will come adjacent the furnace it will be apparent that a disturbance of the contained air must necessarily take place because of the unequal temperatures of the air within the flue at different points thereof, and the hot air next the furnace will necessarily rise and thereby cause an outflowing current in the uppermost branch D' of the pipe, and inasmuch as necessarily other air must take the place of that which has just left the lower part of the flue an inflowing current is established in the lower branch D.

I prefer to have the lower or closed end of the equalizing-flue rest directly on the dome or the hottest part of such heater as may be employed, in order that the flue may not only be warm or moderately heated, but may be maintained at an extreme heat and, if desired, kept red-hot. The circulation of air thus set up compels a circulation of air to be established in the main pipe C, tending to create a void therein, which the hot air from the furnace rushes in to fill, and thence goes on upwardly to the register B, as indicated by the arrows adjacent but outside of the equalizing-flue at the right of the figure.

Various modifications and substitutions may be resorted to without departing from the spirit and scope of my invention.

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

1. In a heating system, the combination with a hot-air heater, of a heat-conveying pipe connected to the heater and open both at top and bottom, and a hot-air flue supported within said heat-conveying pipe at the lower end of the latter, said flue being of U shape, the upper ends thereof being open to provide a separate inlet and outlet for the air, said flue being closed at all other points and affording

conduits for the air separate from each other from the top to the bottom of the flue and connected together at the bottom only, said bottom being adjacent the heater, and so arranged relative to the heater as to have established therein an air-current, substantially as described.

2. In a heating system, the combination with a hot-air heater, of a heat-conveying pipe, and a hot-air flue supported within and at the lower end of said heat-conveying pipe, the lower end of said flue resting in contact with the heater, said flue having a U shape and being closed throughout its extent excepting

at its upper end where it is provided with a separate inlet and outlet, said flue having a continuous air-passage from said inlet to said outlet following the U shape of the flue and so arranged relative to the heater as to have established therein an air-current, substantially as described.

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

JOHN DEMAREST.

Witnesses:

JOHN C. EDWARDS,
GEO. H. MAXWELL.