

(No Model.)

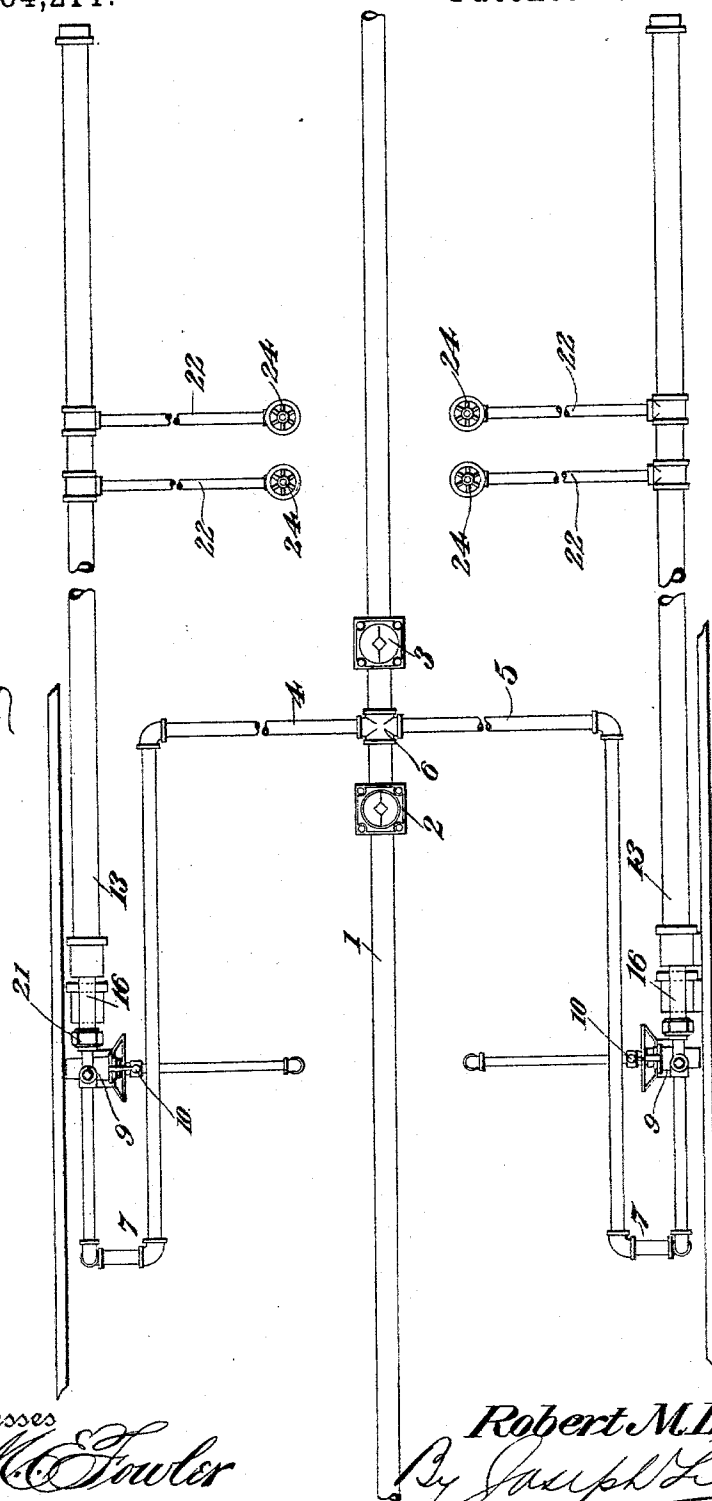
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R. M. DIXON.
CAR HEATER.

No. 584,211.

Patented June 8, 1897.

Fig. 1.



Witnesses
M. C. Fowler
S. M. Mackey

Inventor
Robert M. Dixon
By *Joseph L. Atkins*
Attorney

(No Model.)

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Fig. II.

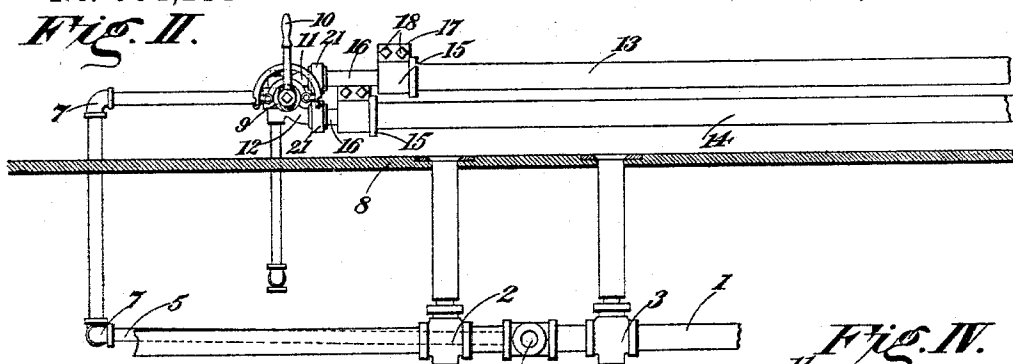


Fig. III.

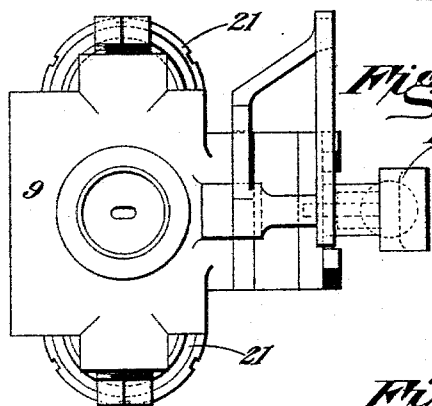


Fig. IV.

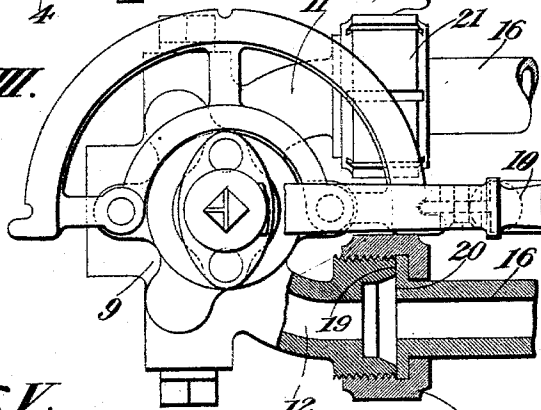
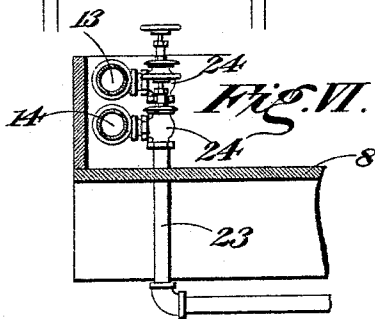
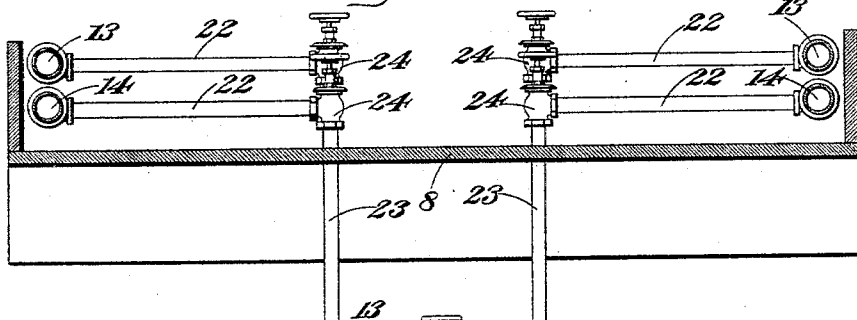


Fig. V.



Witnesses

M. Fowler
M. Mackey

Inventor

Robert M. Dixon

By Joseph L. Perkins
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT MUNN DIXON, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO THE SAFETY CAR HEATING AND LIGHTING COMPANY, OF NEW JERSEY.

CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 584,211, dated June 8, 1897.

Application filed June 1, 1896. Serial No. 593,922. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MUNN DIXON, of East Orange, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Car-Heaters, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved direct steam-heating system in which the radiating-pipes are carried preferably on both sides of the car and in which such provision is made for connecting or disconnecting them to the main train-pipe as will permit ready connection and disconnection without disturbance of the radiating-pipes.

In car-heating systems the radiators or radiating-pipe sections are connected with a train-pipe through connections that pass through a wall, usually the floor, of the car.

In car-heating systems ordinarily the radiating-pipes through their expansion and contraction tend to distort and disturb the relative positions of the connections which exist between them and the main train pipe or pipes.

My invention is designed to provide upon a car a rigidly-fixed fitting, to which connection with the train-pipe can be made on one side and with which upon the other the radiating-pipes are connected. By this arrangement, the end of the radiating-pipes not connected with the fitting being movable, all movement from expansion and contraction of the radiating-pipes is made in one direction without disturbing the connection with the train-pipe or the intermediate fitting, through which union with those connections and the radiating-pipes is effected.

In the accompanying drawings, Figure I is a top plan view of my heater complete. Fig. II is a side elevation of one side thereof. Fig. III is an end view, on an enlarged scale, looking toward the valve. Fig. IV is a side elevation, partly in section, of the valve and connections for uniting it to the radiating-pipes. Fig. V is a sectional view looking toward the drainage end of the system. Fig. VI shows a modified form of drainage-piping adapted for use in cars not having cross-seats.

Referring to the figures on the drawings, 1 indicates the main train-pipe on a car, provided with the usual means (not illustrated) for making connection with the train-pipes upon a contiguous car. It is provided with suitable valves 2 and 3, as usual, and connects with branch pipes 4 and 5, as through a four-way fitting 6. The branch pipes 4 and 5, through elbows 7 or other connections for the purpose, are carried up through the floor 8 of a car, (see Fig. II,) where they enter on one side a valve-case 9. It is therefore sufficient to describe the connection of one of the pipes, as 5, with the valve and radiating system on one side of the car.

Referring particularly, therefore, to Fig. II, it is deemed sufficiently descriptive of the valve for the purpose of this specification to say that it is designed that the operation of its plug, controlled by the lever 10, shall establish communication between the pipe 5 and either or both of the valve branches 11 and 12. These valve branches communicate, respectively, with radiating-pipes 13 and 14.

To carry out my idea of rendering the radiating-pipes comparatively permanent within the car and fixed at one end therein independently of the valve and train-pipe connections, I provide on the end of each radiating-pipe next to the valve an intermediate fitting 15, which, screwing upon the end of the radiating-pipe, receives a smaller pipe 16, which screws into it at one end and which is designed to be fastened at the other end to its appropriate valve branch. Each of the fittings 15 is provided with suitable means—as, for example, a flange 17—by which it may be firmly secured to the side frame of the car, as by bolts 18. I prefer to provide the valve branches with ground-joints 19, into which the ground ends 20 of the pipe 16 fit, the parts 19 and 20 being secured together by an annular union 21. Through the operation of the unions 21 the valve may be readily united to or disconnected from the radiating-pipes without disturbing the latter. One end of each of the radiating-pipes being securely fixed to the side frame of the car by its fitting 15, it is fixed there independently of the train-pipe connections and the valve mechanism. Its

position is permanent, and adjustments can always be made with reference to such fixed position. Moreover, all considerable and material expansion occurs in the radiating-pipes.

- 5 The radiating-pipes are made free to expand in the direction of their ends opposite the fittings 15, but being fixed at one end by those fittings cannot through their expansion and contraction disturb their adjustments
- 10 with respect to the valve or those of the valve with respect to its pipe connections. The ends of the pipes 13 and 14 opposite the fittings 15 may be loosely supported by any suitable means, not necessary to illustrate.
- 15 22 indicates the drain-pipes, 23 the drain-tip, and 24 a cock between the drain-pipe and drain-tip, which is provided, as usual, with a minute opening for ordinary drainage, but which is adapted upon being fully open to

draw off unusual condensation or to blow out the pipes. 20

What I claim is—

In a car-heating system, the combination with a car, of a radiator, a steam-supply pipe, and an intermediate fitting to which the 25 steam-supply pipe and one end of the radiator are secured, the fitting being rigidly fixed to the car, and that end of the radiator not secured to the fitting being loosely secured to the car, substantially as and for the purpose 30 specified.

In testimony of all which I have hereunto subscribed my name.

ROBERT MUNN DIXON.

Witnesses:

S. VON PRAAG,
J. A. DIXON.