

G. B. RIGGINS.
 Steam Radiator.

No. 163,808.

Patented May 25, 1875.

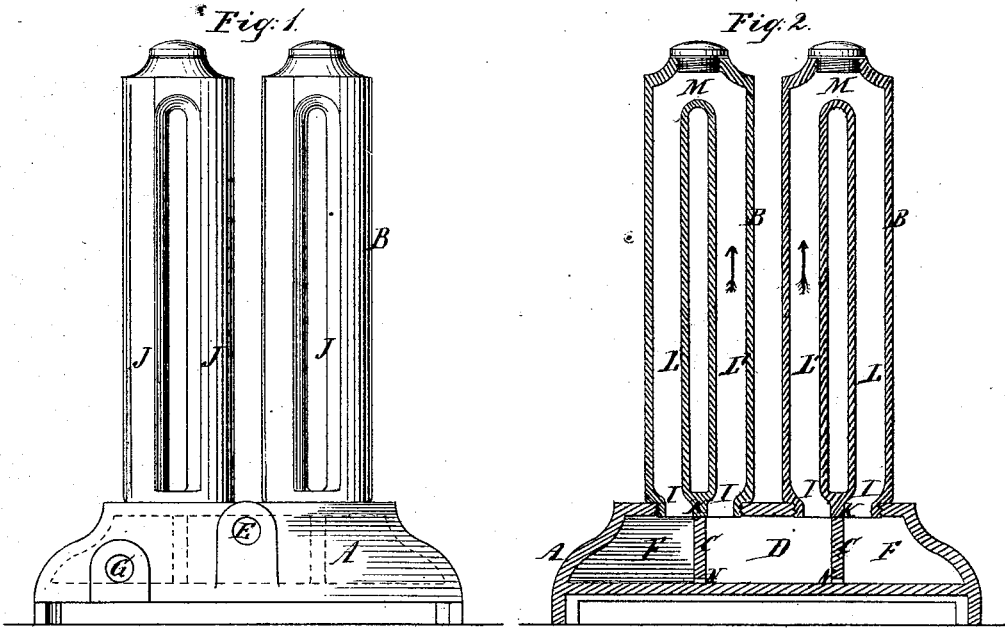
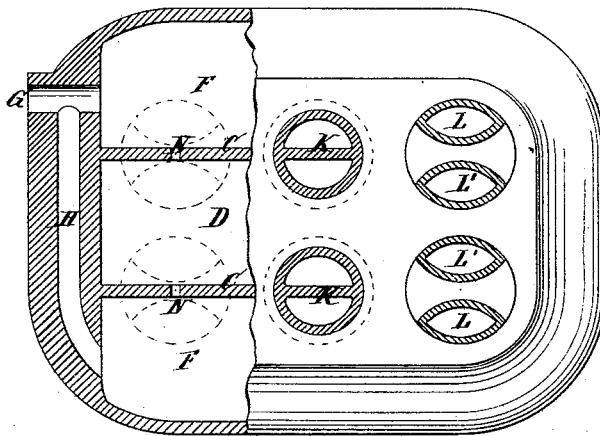


Fig. 3.



Witnesses:
 Ernst Billhuber
 Chas. Wahlers...

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 by
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UNITED STATES PATENT OFFICE.

GEORGE B. RIGGINS, OF NEW YORK, N. Y.

IMPROVEMENT IN STEAM-RADIATORS.

Specification forming part of Letters Patent No. 163,808, dated May 25, 1875; application filed April 23, 1875.

To all whom it may concern:

Be it known that I, GEORGE B. RIGGINS, of the city, county, and State of New York, have invented a certain new and useful Improvement in Steam-Radiators, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which Figure 1 is an end elevation of a radiator containing my improvement, the dotted lines in the base indicating partitions. Fig. 2 is a vertical cross-section. Fig. 3 is a horizontal section of the base, the dotted circles indicating the places of the pipe-openings in its upper side.

My invention relates to certain improvements in steam heaters or radiators; and it consists in providing the base of the radiator with a central induction-compartment and lateral or end eduction-compartments communicating with each other by means of a passage at one end of the said base, the base thus constructed being combined with vertical pipes, in the manner to be hereinafter described.

The invention consists, further, in a certain other construction of the base and the vertical pipes, which will be specifically hereinafter described, and pointed out in the claims.

The letter A designates the base of the radiator, and B the pipes. The base is divided lengthwise through its interior by two partitions, C C, so as to form a central induction-compartment, D, having an inlet-pipe opening, E, and two lateral eduction-compartments, F F, in the end of one of which is a discharge-pipe opening, G. The compartments F F communicate with each other through the transverse passage H formed in the wall of the base. The upper side of the base is provided with openings I, which are so arranged as to come centrally over the partitions C, and the openings are tapped to receive the threaded ends of radiator-pipes J, which are made double, so as to receive steam at one end and conduct it to the opposite end, and to return it to the base again. The pipes J are compound pipes, their ends being cylindrical, and their intermediate parts divided into separate pipes. The interior of their threaded ends is provided with a diaphragm, K, which is arranged to coincide with the line of separation

between the intermediate parts, so that the line of separation forms a guide for adjusting the pipes to the base, and enables the workman to bring the diaphragms of the pipes into coincidence with the partitions of the base. The diaphragms K form complete divisions in the interior of their threaded ends of the pipes, so that the divisions thereby formed communicate, respectively, with the interior spaces of the divisions L L' of the pipes, the divisions L containing the induction and L' the eduction spaces. The spaces L L' communicate with each other through the common chambers M, at the upper or outer ends of the compound pipes.

The operation of my improved radiator is as follows: Steam is admitted into the central compartment D, whence it passes into the spaces L of pipes B, and thence through the chamber M into the return-spaces L', and through them into the lateral compartments F F, the steam and water of condensation passing from the right-hand compartment F, through the communicating-passage H, into the left-hand compartment F, whence they are discharged through the discharge-opening G. Any water of condensation which collects in the central compartment D flows through small passages N N made in the bottom of the partitions C C, into the lateral compartments F F.

What I claim as new, and desire to secure by Letters Patent, is—

1. The base A, provided with a central induction-compartment, D, and lateral eduction-compartments F F, communicating with each other by means of a passage, H, in combination with the pipes B, substantially as described.

2. The partitions C C of the base, arranged across the pipe-openings I, in combination with the diaphragms K of the divided ends of the pipes B, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 20th day of April, 1875.

GEO. B. RIGGINS. [L. S.]

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.