(No Model.)

J. W. SHAW.

RADIATOR.

No. 307,496. Patented Nov. 4, 1884.

Fig. 1.

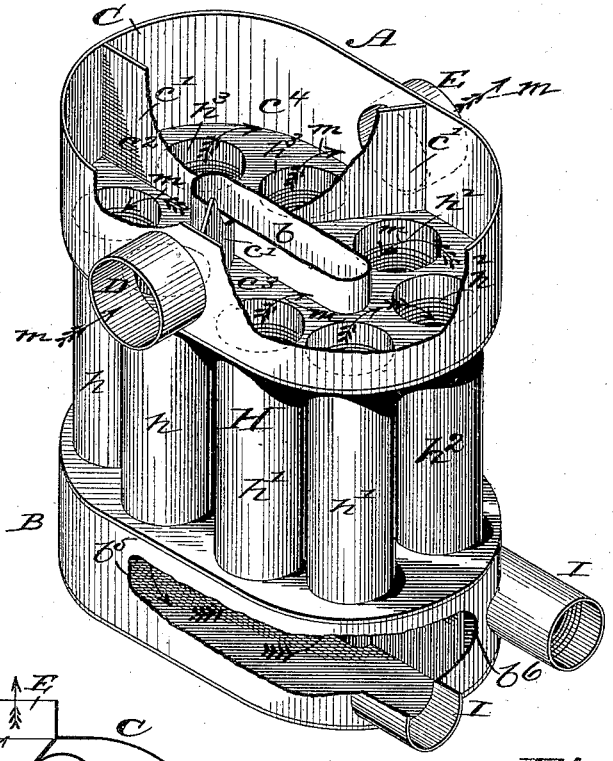


Fig. 2.

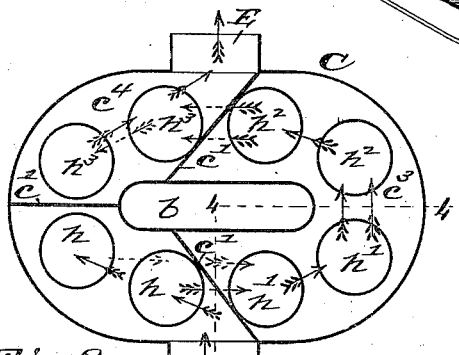


Fig. 3.

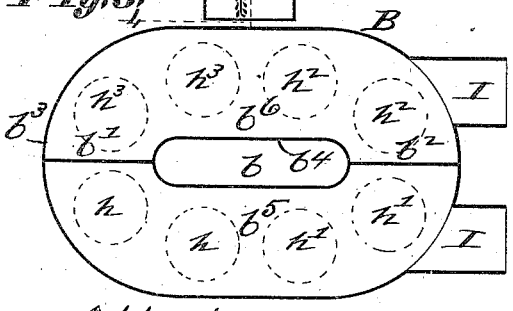
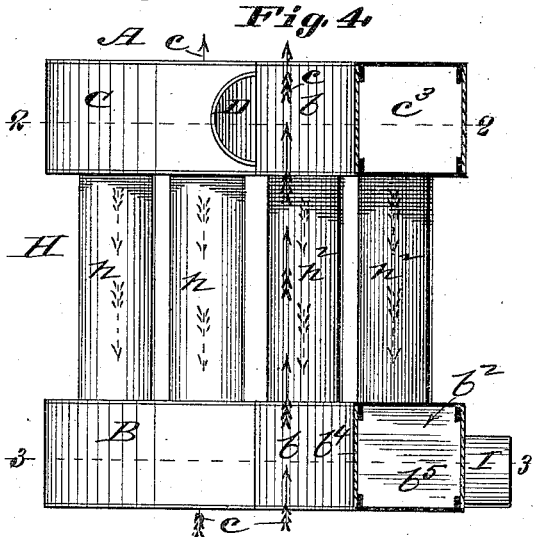


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH W. SHAW, OF ST. LOUIS, MISSOURI.

RADIATOR.

SPECIFICATION forming part of Letters Patent No. 307,496, dated November 4, 1884.

Application filed November 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. SHAW, of St. Louis, Missouri, have made a new and useful Improvement in Radiators, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a view in perspective of the improved radiator, the top and portions of the walls and partitions being broken away to exhibit the interior; Fig. 2, a horizontal section on the line 2 2 of Fig. 4; Fig. 3, a horizontal section on the line 3 3 of Fig. 4; and Fig. 4, an elevation, partly in section, of the radiator, the sectional portion being on the line 4 4 of Fig. 2.

The same letters of reference denote the same parts.

This improvement consists, substantially, of a lower and upper drum, and an intermediate series of pipes, the drums having various partitions for the purpose of directing the heat-currents in a peculiar manner through the radiator, and also both being perforated vertically at the center to provide for the circulation of the outer air.

A represents the radiator. B represents the lower drum; C, the upper drum, and H the series of pipes which connect the drums. Each drum has a central vertical opening, *b*, through which the outer air can pass, as indicated by the arrows *c c*, Fig. 4. The lower drum, B, has the two partitions b' b^2 extending from the shell b^3 of the drum inward to the wall b^4, surrounding the opening *b*, and serving to divide the drum into the compartments b^5 and b^6, Figs. 1, 3, 4. The upper drum, C, by means of the partitions c' c' c', is divided into the three compartments c^2 c^3 c^4, Figs. 1, 2, 4. The inlet to the radiator is at D, and the outlet at E. The heat-current passes from the inlet D into the compartment c^2 of the upper drum, thence down the pipes *h h* into the compartment b^5 of the lower drum, B, thence through the compartment b^5 into the pipes h' h', thence upward through the pipes h' h' into the compartment c^3 of the upper drum, C, thence through the compartment c^3 into the pipes h^2 h^2, thence down through the pipes h^2 h^2 into the compartment b^6 in the lower drum, B, thence through the compartment b^6 into the pipes h^3 h^3, thence upward through the pipes h^3 h^3 into the compartment c^4 of the upper drum, C, and thence out through the outlet E, as indicated by the various arrows, *m*.

The openings or short pipes I I in the lower drum, B, are for the purpose of cleaning, and through these a scraper-bush or any cleaning-instrument may be inserted.

The openings can be closed by a removable cap or in any suitable way.

I claim—

The herein-described radiator A, the same consisting of the drums B C, and the pipes H, divided into sets *h* h' h^2 h^3, and said drums being respectively divided into the compartments b^5 b^6 and c^2 c^3 c^4, and having each the opening *b*, and being suitably provided with clean-out opening I, as and for the purpose of directing the heat-current, as described.

JOSEPH W. SHAW.

Witnesses:
C. D. MOODY,
C. E. HUNT.