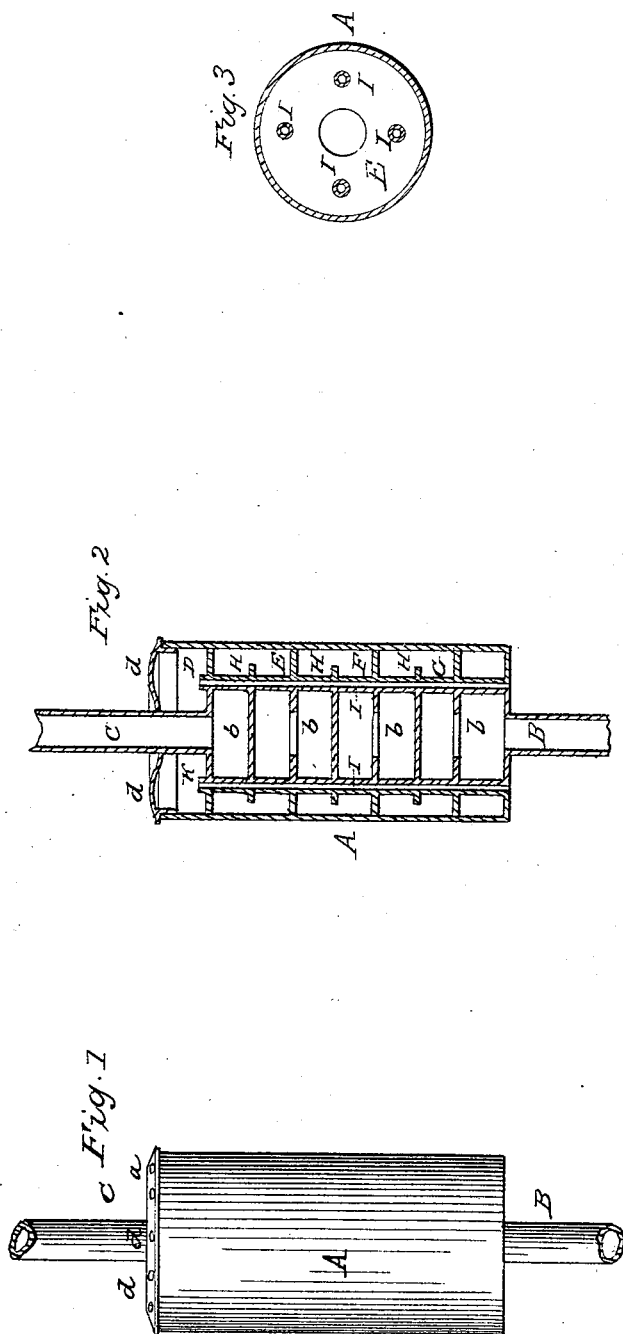


R. ROBINSON.

Radiator.

No. 5,679.

Patented July 25, 1848.



UNITED STATES PATENT OFFICE.

ROBERT ROBINSON, OF NEWBURYPORT, MASSACHUSETTS.

RADIATOR.

Specification of Letters Patent No. 5,679, dated July 25, 1848.

To all whom it may concern:

Be it known that I, ROBERT ROBINSON, of Newburyport, in the county of Essex and State of Massachusetts, have invented a new and useful or improved radiator or heat-distributor to be applied to the funnel or smoke-flue of a stove or fireplace for the purpose of retaining the smoke and volatile products of combustion and obtaining therefrom much of the heat, which is often lost or dissipated, thereby creating a great economy of fuel; and I do hereby declare that my said invention is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, denotes an external elevation. Fig. 2, a vertical and central cross section, and Fig. 3, a horizontal section of my improved heat radiator or distributor.

In said drawings A represents a cylindrical or other proper shaped drum or case closed at its two ends, and having an inlet or induction pipe B, passing into the central part of the lower end and an exit or outlet pipe C, passing out of the center of the upper end. The internal part of said drum or case A, is divided into several chambers, by four or any other suitable number of parallel circular plates D, E, F, G, made to extend entirely across the drum; each of the said plates being made with a circular or other proper shaped hole or passage *b*, through its central part. Between each two of said plates I arrange another circular plate H, of smaller diameter, and I support the whole in position by a series of rods or tubes I, I, extending from one end of the radiator to the other, or from the lower end to the upper cross plate, as seen in the drawings. When tubes are used the space K between the upper cross plate, and the upper end of the radiator constitutes a hot air chamber the tubes being made to open into the said chamber; and holes *d*, *d*, &c., being made through the upper end of the radiator to allow the air to escape. The tubes I, I, open through the bottom plate of the radiator so as to allow cold air to pass into them. The said air will move through them and

into the chamber K. I do not always construct the radiator with a chamber K, as it may be made without the same.

The said radiator is to be so connected with the smoke pipe or flue of a stove or fireplace that the smoke and volatile products of combustion will pass into the lower end of the case or drum A, and out of the upper end thereof. They pass through the passage *b* of the plate G thence against the lower side of the plate H immediately over said passage, thence and by said plate are deflected laterally against the sides of the drum or case A, and caused to pass around the external edges of the said plate H, and toward and through the opening or passage *b*, directly over said plate. Thence they pass in a similar manner around and through the surrounding deflecting plates, and are by them retained so as to cause nearly all if not all their heat to be absorbed and radiated by the sides of the drum and case.

The said radiator so constructed may be used in any convenient position whether vertical, horizontal or inclined, as circumstances may require.

What I claim as my improvement is—

1. The hereinbefore described manner in which I construct, combine and arrange the transverse division plate, smoke passages, through them, the smaller deflecting plates, smoke passages around them, and the main drum and its inlet, and exit pipes in order that they may operate together substantially in the mode and for the purpose as specified.

2. And in combination with the transverse division and deflecting plates, and chambers of the main drum, I claim the air tubes passing through them in manner described and for the purpose of adding to the air heating surfaces, or increasing the radiating powers of the apparatus, as specified.

In testimony whereof I have hereto set my signature this fourth day of November A. D. 1847.

ROBERT ROBINSON.

Witnesses:

R. H. EDDY,
CALEB EDDY.