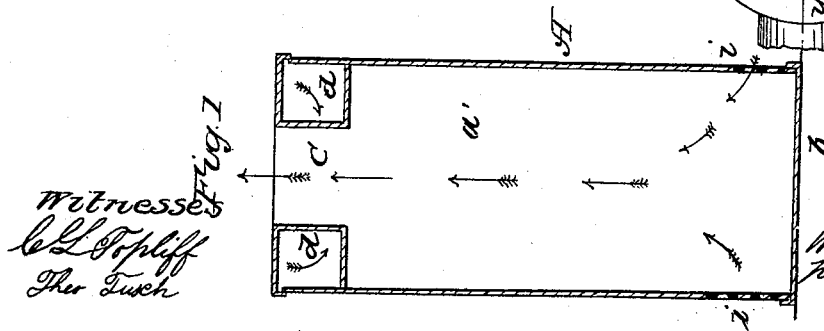
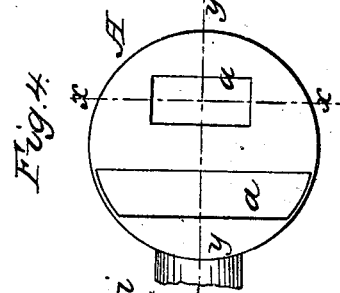
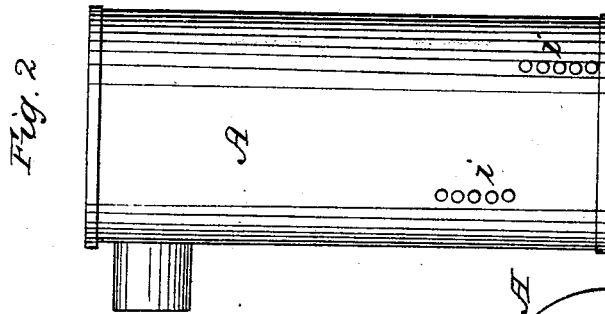
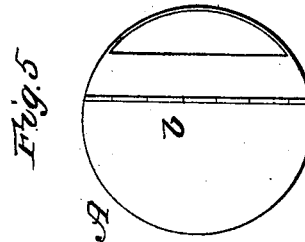
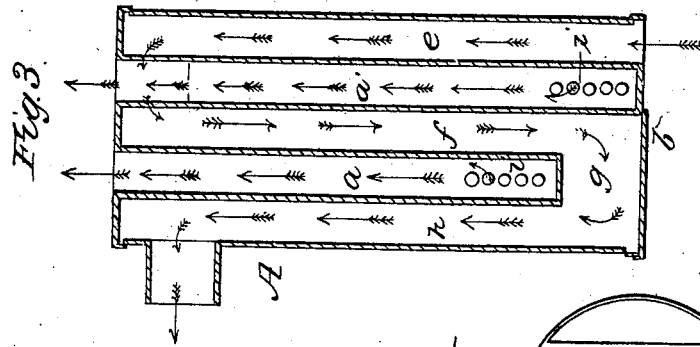


W. E. RENNOLDS.
Heat Radiator for Stoves.

No. 46,941.

Patented March 21, 1865.



Witnesses
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Thos. Luch

Inventor
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attys

UNITED STATES PATENT OFFICE.

WILLIAM E. RENNOLDS, OF CHICAGO, ILLINOIS.

HEAT-RADIATOR FOR STOVES.

Specification forming part of Letters Patent No. 46,941, dated March 21, 1865.

To all whom it may concern:

Be it known that I, WILLIAM E. RENNOLDS, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Heat-Radiator for Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, Fig. 4; Fig. 2, an external view of the same; Fig. 3, a vertical section of the same, taken in the line *y y*, Fig. 4; Fig. 4, a plan or top view of the same; Fig. 5, an under view or inverted plan of the same.

Similar letters of reference indicate like parts.

This invention relates to a new and improved heat-radiator or air-heating drum to be applied to stoves, as hereinafter fully shown and described, whereby cold air is admitted into the drum, heated, and diffused into the apartment in which the stove is placed; or the heated air may be conveyed by pipes into other compartments of the building.

A represents a drum, which may be constructed of sheet metal, and of any suitable dimensions. This drum has two vertical tubes, *a a'*, placed or formed in it, one of which, *a*, extends a short distance from the bottom *b* of the drum to its upper end. The other, *a'*, extends from the bottom to the upper end. The upper part of the tube *a'* is contracted in width near its upper end, as shown at *c* in Fig. 1, so as to leave a space, *d*, around it to admit of a communication between the passages *e f*, formed by the tubes *a a'*, and the space *g* under the tube *a* forms a communication between the

passage *f* and another passage, *h*, which is between the tube *a* and the side of the drum. (See Fig. 3.) The tubes *a a'*, it will be seen, extend the whole width of the drum, with the exception of the contracted upper part of *a'*, and the upper part of the passage *h* communicates with the flue or chimney. The lower parts of the tubes *a a'* are perforated at their sides, as shown at *i*, to admit the air to be heated, and the upper ends of both tubes *a a'* are open to admit of the escape of the heated air into the room or apartment. The drum is placed on the top of the stove, and the lower end of the passage *e* is placed over an opening in the top of the stove, so that the products of combustion from the stove may pass through the passages *e f h*, and into the flue or chimney, as indicated by the red arrows in Fig. 3, and the cold air which enters the lower parts of the tubes *a a'* and passes up through them issues in a heated state from their upper ends, as indicated by the black arrows.

Thus by this simple arrangement a very economical and efficient air-heater is obtained, one that may be economically constructed and applied to any of the ordinary stoves in use.

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

An air-heating drum or radiator formed or composed of tubes *a a'*, arranged within a cylinder or drum so as to form flues or draft-passages *e f h* around the tubes, the latter being perforated at their lower ends for the admission of cold air, and open at their upper ends for the escape of the heated air, substantially as shown and described.

WILLIAM E. RENNOLDS.

Witnesses:

HENRY BROOKES,
JNO. NUTT.