E. WILBUR.

Heating Drum.

No. 42,893. Patented May 24, 1864.

Fig. 1

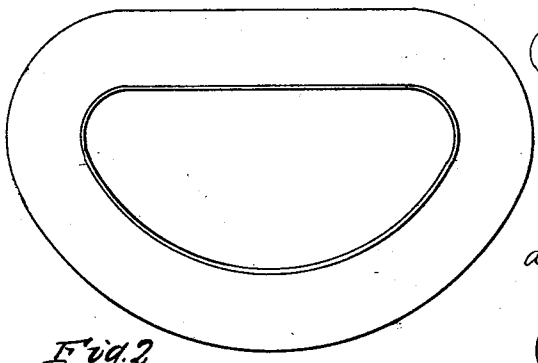


Fig. 2

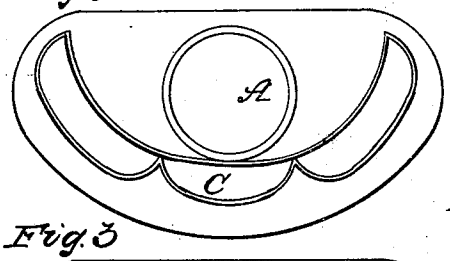


Fig. 3

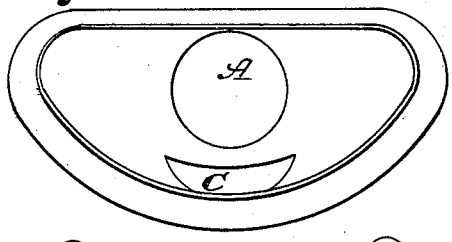


Fig. 4

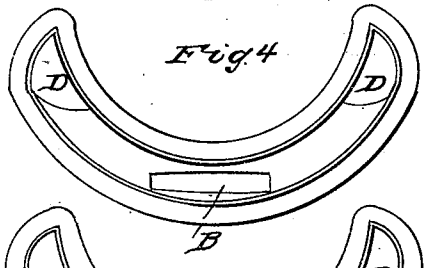


Fig. 5

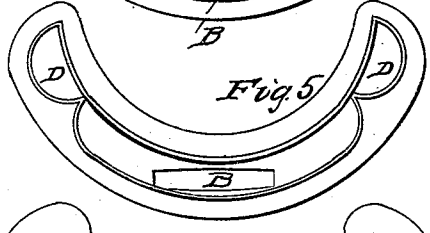


Fig. 6

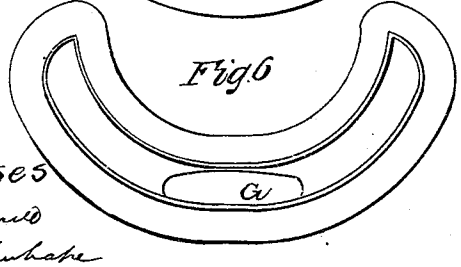


Fig. 7

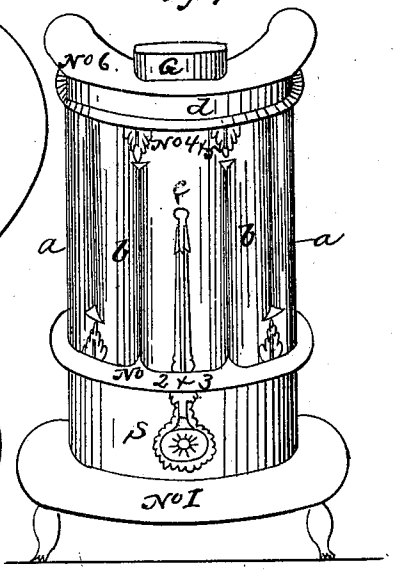
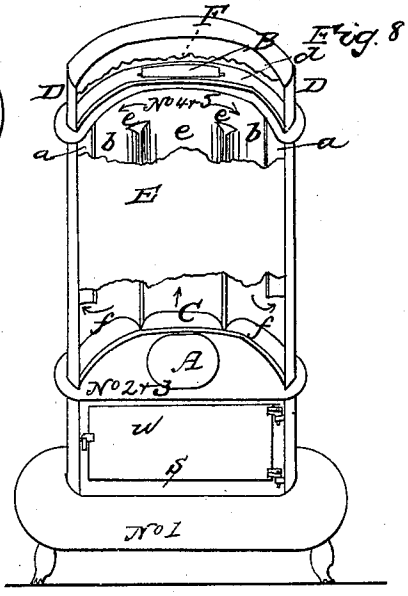


Fig. 8



Witnesses

Thomas Goodwin

J. K. Hallenbake

Inventor

Edward Wilbur

UNITED STATES PATENT OFFICE.

EDWARD WILBUR, OF ALBION, NEW YORK.

IMPROVEMENT IN STOVES

Specification forming part of Letters Patent No. **42,893**, dated May 24, 1864.

To all whom it may concern:

Be it known that I, EDWARD WILBUR, of the village of Albion, county of Orleans, in the State of New York, have invented a new and improved stove attachment, for the more immediate, rapid, and perfect radiation and use of the heat generated in the stove for the warming of rooms; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in a combination of radiating-flues, so arranged and so shaped that the heat in circulating through them is rapidly and most thoroughly thrown out, affording a greater amount of heat for house-warming from a given amount of fuel than by any other known arrangement.

Vessels for holding liquids should have a shape combining the greatest capacity with the least outline-surface, and the circle unites these elements the most perfectly; but in flues for the radiation of heat the reverse rule should be observed—a shape combining the least capacity with the greatest outline-surface. A parallelogram of the least depth with the greatest breadth is the most perfect form in this respect; but stove-pipes, and also many warming-stoves, are made cylindrical—the worst possible shape. This important error I have obviated in the shape of my radiating flues.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Any form or design of stove or fire-box may be used; but it should have no more capacity or room than is necessary for the combustion of the fuel, it being but the laboratory for the production of heat by combustion, and as heat very rapidly becomes latent immediately after its production, it should be carried immediately and directly into the radiating-flues, where it is rapidly thrown out into the room; and that the radiating-flues may have the largest amount of surface with the smallest amount of area, they are to be made broad and shallow, and of any convenient shape; and that the flues may not have external surfaces radiating against each other, they are to be connected at their angles; and that the largest amount of heat may be thrown out from the front of the flues, the series must be arranged around a circle or an ellipse; and the front of each flue should be the arc of a circle or of an ellipse, whose extremes should touch each other, the fronts of all the flues being of one sheet of iron bent into form, the backs being a shorter circle, and forming the chords by touching the extremes of the front arcs of the flues, as shown in the drawings Nos. 2, 4, 5, 7, and 8. The broad ascending flue C, Nos. 7 and 8, receives the heated air direct from the fire-box through the opening C, and at the top thereof it branches off each way through the connecting-passages *e e* into the descending flues *b b*, at the bottom of which they enter the ascending flues *a a* through the short passages *f f*, and from thence, through the openings D D, it enters the smoke-chamber *d* and passes into the stove-pipe through the opening and collar G—the three horizontal plates, Nos. 2, 4, and 6, to be made of cast-iron; the radiating-flues to be made of cast or sheet iron; the sides of the smoke-chamber to be of sheet or cast iron; the sides of the fire-box to be made of either cast or sheet iron of any form or pattern.

The double lines in the Drawings 2, 3, 4, 5, and 6 of the horizontal plates of cast-iron represent grooves for receiving and confining the edges of the perpendicular side sheets or plates.

The damper B is for opening a more direct connection with the pipe when occasion shall require a stronger draft, as in starting a fire.

I do not claim as my invention any particular form of fire-box or stove, nor any particular manner of connecting the radiating-flues with the fire-box. Neither do I claim as my invention any exact form or shape of the flues, as they may be fluted or plain, in the form of parallelograms, or triangles, or segments of circles, (as represented in the accompanying drawings,) or truncated segments of circles, or oval, or any other available shape. Neither do I claim as my invention any given mode of connecting the radiating-flues with the stove-pipe; but

What I do claim as my invention, and nothing more, is—

A compact series of large-surfaced, broad

and shallow, non-interradiating ascending and descending radiating-flues, connected at the sides or angular edges, arranged concentrically or elliptically, so that the largest amount of radiating surface is in their front, the whole front of all the radiating-flues being formed of one connected sheet of iron, and the back thereof being formed of sheet or cast-iron, in one or more pieces, substantially as shown and described.

EDWARD WILBUR.

Witnesses:

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