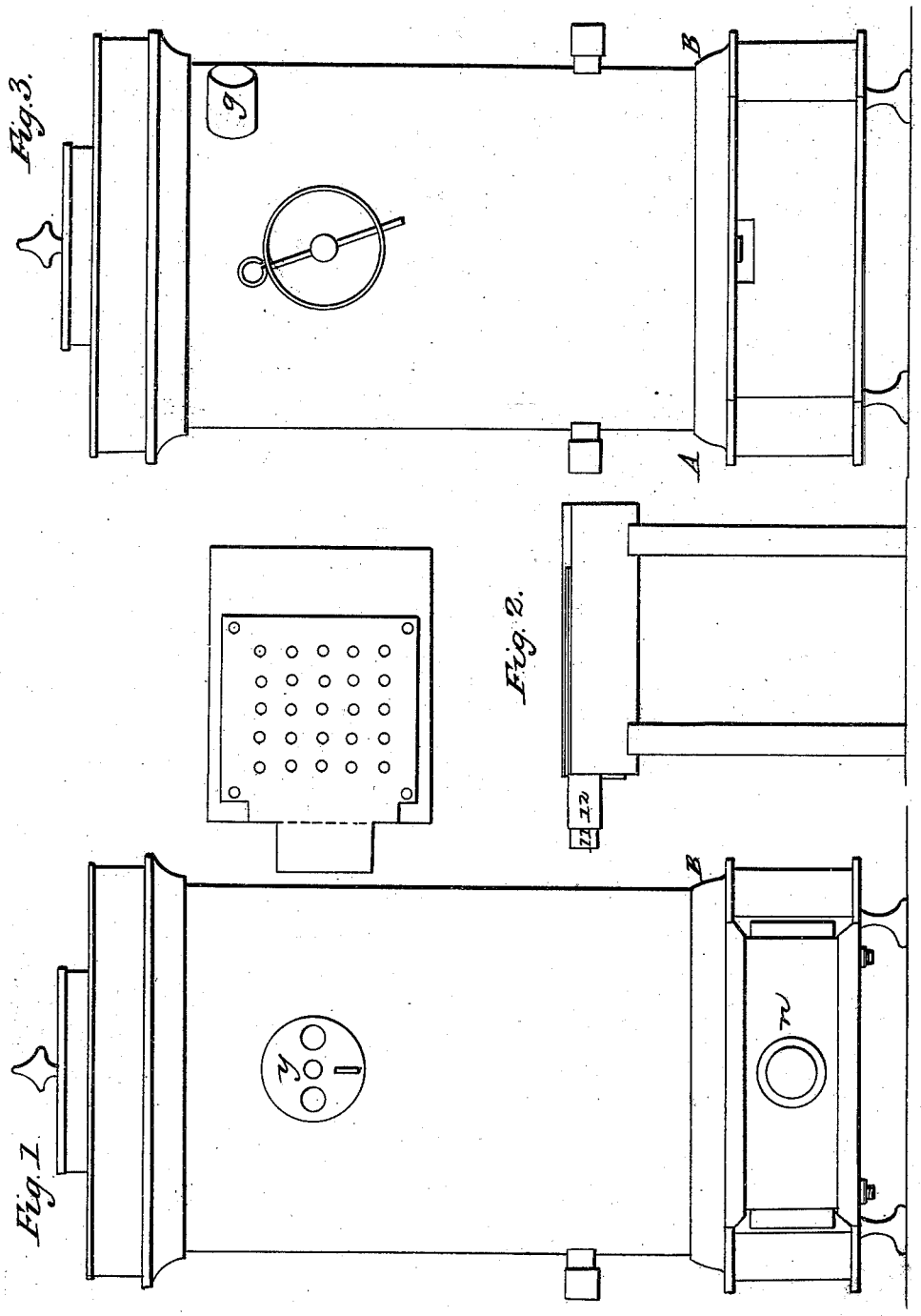
S. W. HANCKS.

3 Sheets—Sheet 1.

Heating Stove.

No. 2,810.

Patented Oct. 12, 1842.



S. W. HANCKS.

3 Sheets—Sheet 2.

Heating Stove.

No. 2,810.

Patented Oct. 12, 1842.

Fig. 6.

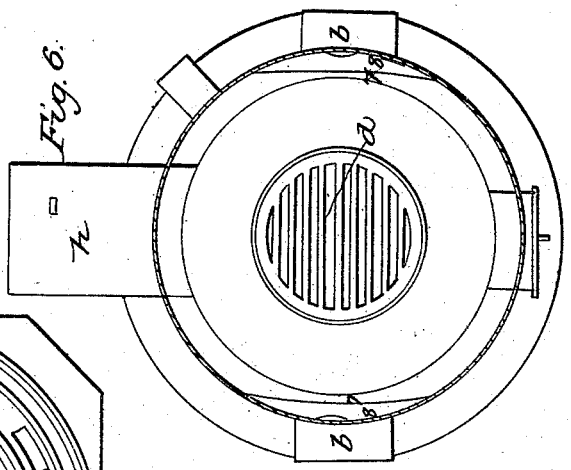


Fig. 5

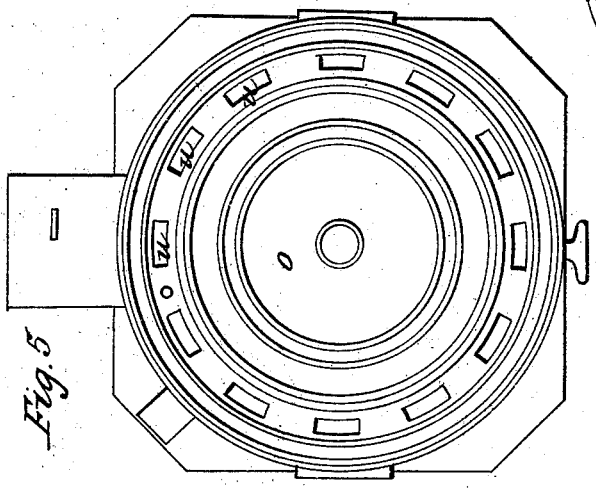
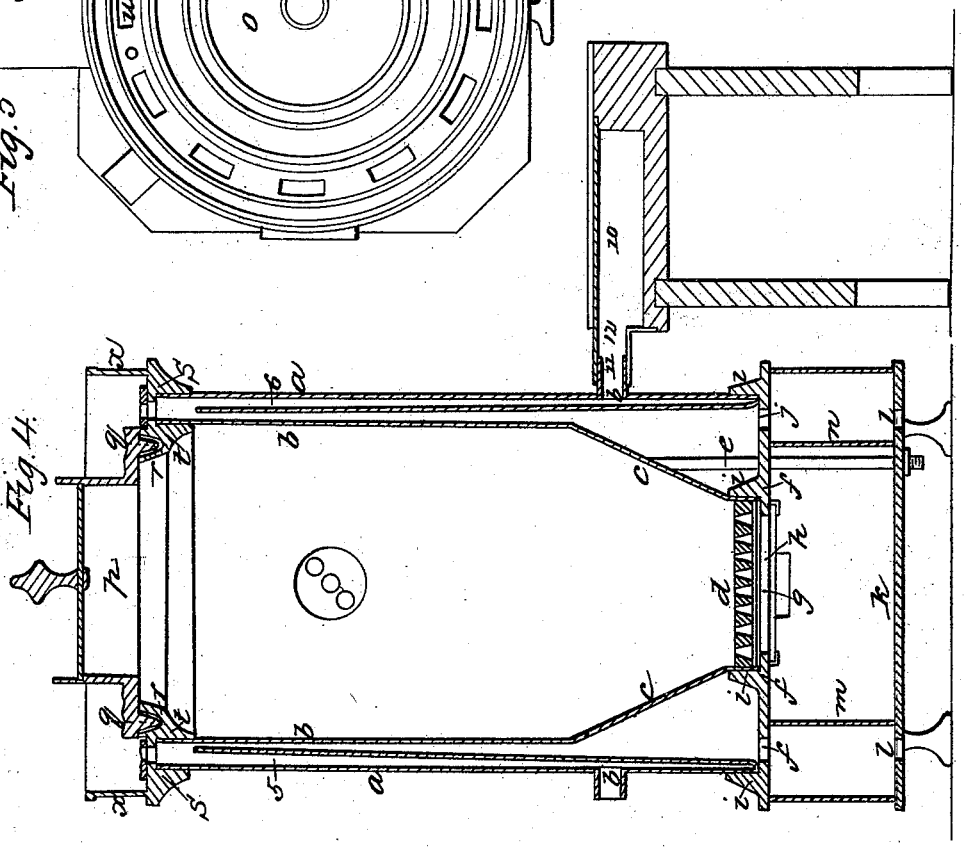


Fig. 4.



3 Sheets—Sheet 3.

S. W. HANCKS.

Heating Stove.

No. 2,810.

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Fig. 8.

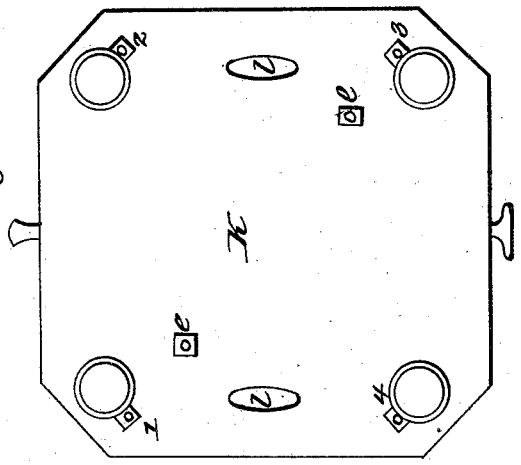


Fig. 9.

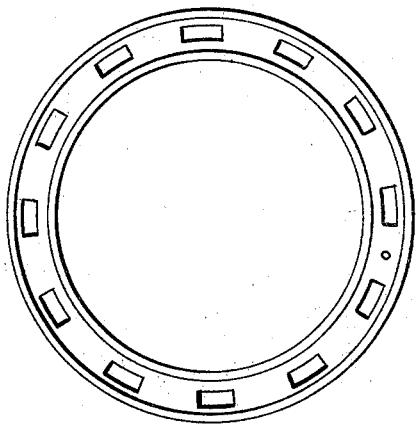
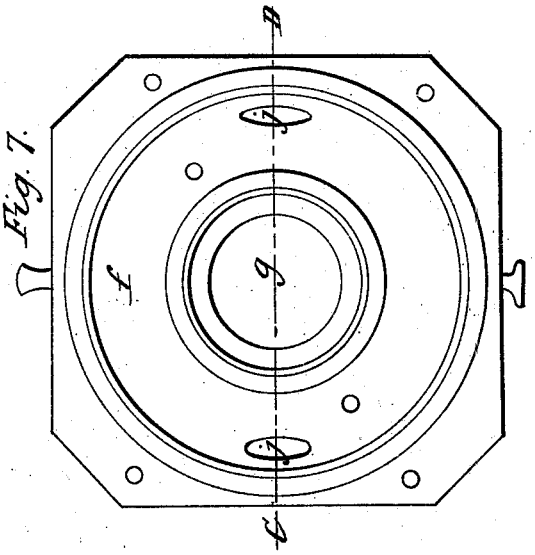


Fig. 7.



UNITED STATES PATENT OFFICE.

STEDMAN W. HANKS, OF LOWELL, MASSACHUSETTS.

STOVE.

Specification of Letters Patent No. 2,810, dated October 12, 1842.

To all whom it may concern:

Be it known that I, STEDMAN W. HANKS, of Lowell, in the county of Middlesex and State of Massachusetts, clerk, have invented a new and useful Improvement Called a "Furnace-Stove," of which the following is a full and exact description.

The sides of my stove are made of sheet iron and consist of two concentric cylinders *a a*, *b b* in Fig. 4, in the drawings accompanying this specification, the one within the other from one to several inches apart, generally one and a quarter inches. The inner cylinder is about one third shorter than the outer and has fitted to the bottom an open cast iron pot *c c*, in Fig. 4, conveying toward the bottom to a smaller circumference in which lessened bottom is fitted a cast iron grate *d*, Figs. 4 and 6. The inner cylinder with this addition is of equal length with the other. The top and bottom of my stove, which are hereinafter described, are made of cast iron plates, into which these cylinders fit by flanges, and the whole is held together by two iron rods with flattened heads passing through the top and bottom pieces between the cylinders and fastened at the bottom by a nut screwed on to that end. One of these rods is in part represented in Fig. 4, *e*, and the nut and screw *e e* in Fig. 8.

The bottom plate *f*, Figs. 4 and 7 has on the center an opening *g*, Figs. 4 and 7, corresponding to the size of the grate in the bottom of the cast iron pot for the purpose of letting out the ashes, to which opening on the under side of the plate a sliding door is fitted, *h*, Figs. 4 and 6. It has also two circular flanges or elevated sides *i i* Fig. 4, one to receive the outer cylinder and the other to receive the end of the cast iron pot which is carried out for an inch of equal diameter for that purpose, as in Fig. 4. In that part of the bottom plate between the cylinders where they fitted to it are two apertures J, J, Figs. 4 and 7 for letting in the air. I have for a convenient mode of holding the ashes made another solid bottom plate K Figs. 4 and 8 of equal size with the one last described so that the two with a cast iron of a few inches width fitted between them make a box, the two being held together by rods and screws at the corners 1, 2, 3, 4, Fig. 8. In this case two apertures *l*, *l*, Fig. 8 for the admission of air are made corresponding to those, in size and position, in the other bottom plate hereinbefore described. The central part of the box is then separated from the part in which the air holes are placed by two strips of sheet iron or tin *m*, *m*, Fig. 4, running from the front to the rear in parallel lines and making a separate box for the ashes. To the front of this box a sliding door is fitted, *n*, in Fig. 1.

The top plate has a large central opening, *o*, Fig. 5, making door or mouth of the stove into which the fuel is put, which is closed with a cover *p*, Fig. 4 on the underside of which near the edge is an elevated ridge *q*, *q*, Fig. 4, fitting loosely into a corresponding depression or groove *r*, *r*, in the plate Fig. 4, which groove may be filled with sand so that the cover may shut down air tight. On the other side of this top plate are two circular flanges or elevated ridges *s*, *t*, Fig. 4 the one fitting over the outer cylinder and the other fitting into the inner cylinder. In that part of the top plate between the cylinders when thus fitted are elevated square openings *u*, *u*, *u*, &c., Fig. 5, at equal distances making the plate alternately open and solid. Over this part of the plate, is fitted a flattened rim of cast iron or register V, Fig. 9, with openings corresponding to those in the top plate and fitted to turn easily so as to open and shut these apertures. This register is fitted to its place between the inner edge of the groove above described and a rim *x*, Fig. 4, on the outer edge of the plate making its finish or ornament.

A few inches from the top in front of the stove there is an opening in each cylinder and a tube passing through from the outer to the inner one; over the outer end of this tube on the outside of the outer cylinder is fastened a flat piece of sheet iron with two small apertures opening into the tube, and over this a piece of sheet iron similar in size and with corresponding apertures is fitted by a pivot through the center of the two, which outer piece by means of a handle is made to turn so as to open and close these apertures and constitute a register. See *y*, in Fig. 1. Opposite to this in the back of the stove are larger openings in both cylinders and a tube of corresponding size passes from the inner cylinder through the outer cylinder and extending beyond it, serves as a smoke pipe, in that part of the pipe outside the outer cylinder a damper is placed in the common form. See *z* in Fig. 3.

Between the two cylinders opposite to each other are two flaring passages or tubes

5, 5, Fig. 4 (by which I mean largest at one end, in this case at the top) leading down from near the top of the cylinders to two small openings 6, 6, on opposite sides of the outer cylinder, a few inches above the bottom of it. To these openings short tubes are affixed having caps fitted to close them when not in use as hereinafter described. See also 6, 6, Figs. 6 and 1. I have found a convenient mode of making this passage by soldering the edges of a long flat triangular strip of tin, with the point downward to the inside of the outer cylinder, this strip making one side and the segment of the circle which it cuts off the other side of the passage, see 7, 8, in Fig. 6, or it may be an entire and distinct flattened tube inserted between the cylinders and communicating with the opening before described. I have also made another small opening in the outer cylinder near the top to which is fixed a small tube having a cap to close it when not in use. See 9, in Fig. 3.

Attached to my said stove is a foot cricket, Figs. 1 and 4, having a hollow box for the top, see 10 in Fig. 4, covered with sheet iron or brass pierced with small holes, Fig. 2, which hollow box is open on one side by a tube passing out from it, Fig. 4. This cricket is made of convenient height to bring this tube in a line with the tube on the side of the stove with which the flaring passage communicates, to which, the tube from the box is made to fit, thus connecting the air chamber between the cylinders with the hollow box of the cricket. See 11, 12, in Figs. 1 and 4. Two of these crickets may be so fitted one on each side of the stove.

Having thus given the structure of my stove and cricket, in order to a further explanation of my said improvement and its use, I will describe its operation and the purpose to which I intend it should be put. When the wood and fire are introduced into the stove and the inner cylinder becomes heated, currents of air enter the holes in the bottom, and passing up between the two cylinders become heated and consequently expanded and forced out through the apertures in the top, the register there being open. The iron rim or register on the top being shut, and the cap on the tube (9 in Fig. 3,) and the cricket adjusted to its place, the hot air will pass down the flaring passages and entering the hollow top of the cricket come up through the holes in the sheet iron top so as to afford warmth for the feet.

This stove as above constructed will also secure great heat, a rapid distribution of it, and constant circulation of the air of an apartment, the register being open, and may also be used as a furnace for conducting hot air by means of a pipe attached to the tube (9 in Fig. 3) to another apartment than that in which it is placed, the register and other openings in the sides being closed; but

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

The cricket above described in combination with the stove above described, or with any stove of like construction and principle, by which the heated air is applied for the purpose of warming the feet.

In testimony whereof I, the said STEDMAN W. HANKS, hereto subscribe my name in the presence of the witnesses whose names are hereto subscribed on the twelfth day of September in the year of our Lord eighteen hundred and forty two.

STEDMAN W. HANKS.

Witnesses:

GEO. W. PHILLIPS,

H. M. ABORN.