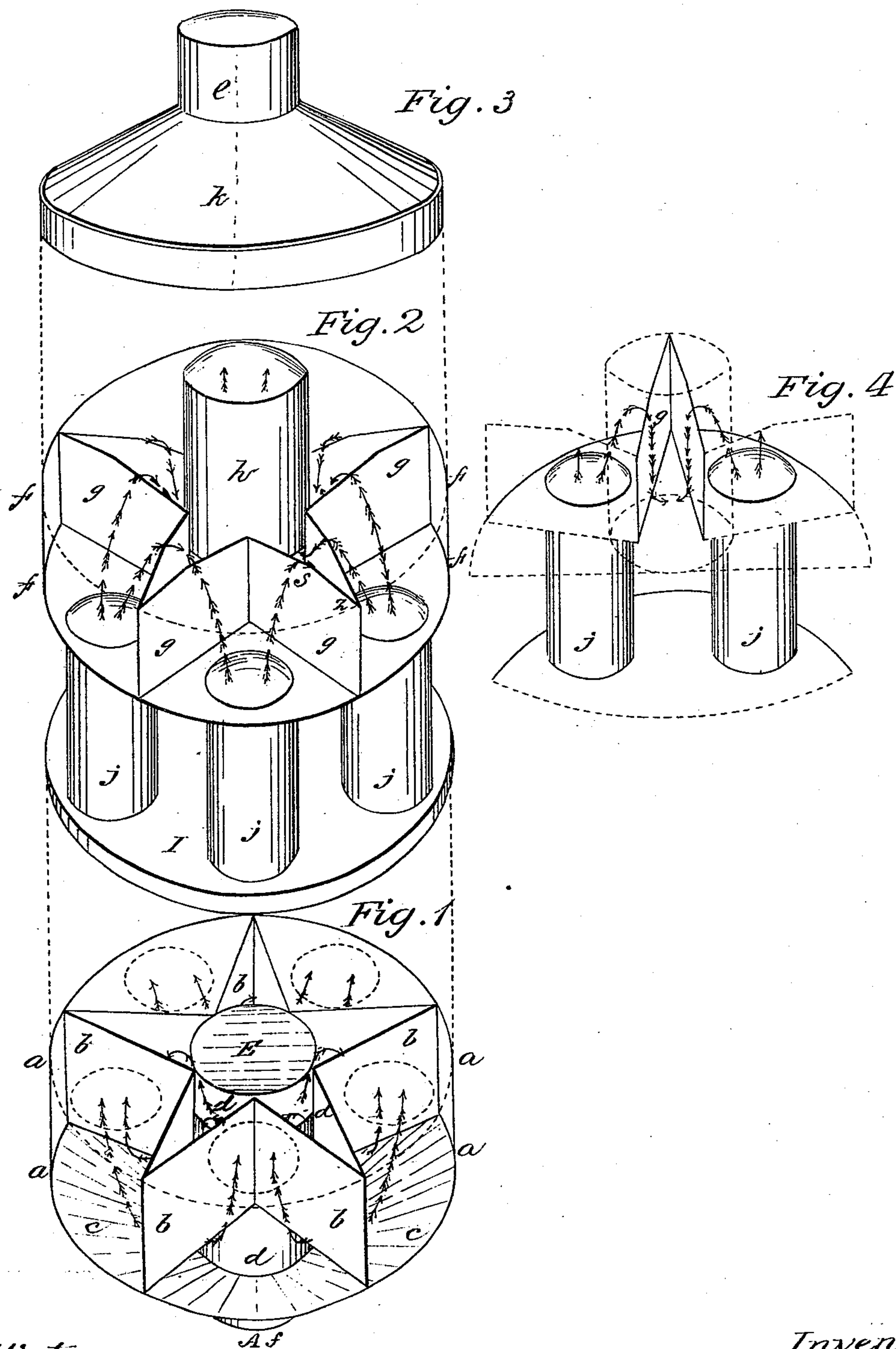


W. BROWN.
Heating Drum.

No. 95,644.

Patented Oct. 12, 1869.



Witnesses:

Jacob Kagle
A. Seymour

Inventor:

Wm. Brown

United States Patent Office.

WARREN BROWN, OF SANDUSKY, OHIO.

Letters Patent No. 95,644, dated October 12, 1869.

HEAT-RADIATOR.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, WARREN BROWN, of Sandusky, in the county of Erie, and State of Ohio, have invented a new and useful Improvement in Heat-Radiator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents the lower drum, the front half of surrounding side and cover being removed, to show the arrangement of the parts within designated, and referred to by letters.

Figure 2 represents the upper drum, the front half of surrounding side and cover being removed, to show the arrangement of parts within; also, cover to lower drum attached to drum, fig. 2, by pipes, designated and referred to by letters.

Figure 3 represents the cover to drum, with pipe inserted.

Figure 4 represents parts not shown in fig. 2.

To enable any one skilled in the art to make the same, this invention is more particularly described by reference to parts designated by letters, &c.

The arrows show the course of the hot air kept in motion by the draught.

a a a a, fig. 1, sections of perpendicular side of drum.

c c, bottom of drum, in form, frustum of inverted cone, for the purpose of giving room under the edge of the plate or sheet *b b b b b* for the passage of heated air into the intervening spaces between the radials *b b*, &c.

x is a pipe, inserted into the centre of *c c*, for the purpose of receiving and conducting the heat into this radiator.

d d d is a pipe inserted into the pipe *x* in *c c*, and made of such a height as to allow the draught to pass out of it into the spaces within the radials *b b*, &c.

b b b b b is a star, formed of a perpendicular plate or sheet, with five radial arms, the external angles or points standing out against the inside of surrounding side *a a a a*, and of the same height, said points resting on the bottom *c c*, the angles formed by the adjacent sides standing inward against the pipe *d d d*. The lower edge is cut off at *q*.

The purpose of this star, in the form described, is to conduct and distribute the draught of hot air to the extended surfaces and spaces for radiation, and to pipes *j j j j j*.

E is a circular plate, fixed in the top of the drum, fig. 1, directly over the pipe *d d d*, covering its sectional area, and touching the cover *I*, fig. 2, when placed in position, for the purpose of protecting said cover.

I, fig. 2, is a circular plate or sheet, with flange, for the purpose of covering and closing the drum, fig. 1, also the radials within the same, and to receive the pipes *j j*, &c., into holes made through it.

j j j, fig. 2, and *j j*, fig. 4, are perpendicular pipes of size required for draught, and for the purpose of conducting the same from the spaces between the radials in drum, fig. 1, to the spaces between the radials in drum, fig. 2, and to support drum, fig. 2, over drum, fig. 1, while standing in their proper positions in relation to *b b*, &c., indicated by dotted circles, fig. 1.

f f, fig. 2, is the bottom of drum, and *f f* sections of surrounding side of same, and of any desired height not less than the draught requires.

g g g g, fig. 2, and *g*, fig. 4, is a star, formed of a plate or sheet, and on substantially the same plan as *b b*, &c., fig. 1, and inverted, the straight edge resting on the bottom of upper drum, and over the star in lower drum, with points between the ends of pipes *j j*, &c., the upper edge, at *r q*, of the same height as the surrounding side angle *S*, standing near the cover.

h is a pipe, for the purpose of conducting the draught from star *g g* to *l*, and of such a height from bottom of drum as to admit the draught through the radials of same.

h, fig. 3, is a conical cover to drum, fig. 2.

l, the pipe.

Conical shape of cover is for the purpose of giving room for draught and for radiation.

This invention may be constructed of any material capable of resisting the action of fire.

The pipe *x* should be fixed firmly to the bottom *c c* of drum, fig. 1.

The star *b b*, &c., the pipe *d d d*, and plate *E*, of fig. 1, the star *g g*, &c., fig. 2, and *g*, fig. 4, the pipe *h*, and covers *I*, fig. 2, and *K*, fig. 3, should be made movable, for the purpose of removing deposits from the drums, and adjustable with reference to the continuance of the draught through the entire device.

The operation of this invention is to receive and transmit, or allow to be transmitted, by open draught, the heat, fire, and smoke from a stove or other fire-place, and, by the means herein described, obtain and transmit to the surrounding air a large portion of heat therefrom.

I do not claim the invention of two drums, and pipes leading into them, for the purpose of radiating heat; but

What I do claim as my invention, and for which I wish to obtain Letters Patent, is—

The star *b b b b b*, fig. 1, as described.

Also, the star *g g g g*, fig. 2, and *g*, fig. 4, as described.

Also, the bottom *c c*, and the surrounding side *a a a a*, the pipe *d d d*, the plate *E*, and the cover *I*, in

combination with the star *b b b b b*, and with each and every other member of this combination as described.

Also, the bottom *ff*, and the surrounding side *ff*, and the pipe *h*, and the cover *K*, in combination with the star *g g g g*, fig. 2, and *g*, fig. 4, and with each and every member of this combination, as described.

Also, the combination of the combination with the

star *b b b b*, with the combination with the star *g g g*, fig. 2; and *g*, fig. 4, as described.

Also, the pipes *j j j*, fig. 2, and *j j*, fig. 4, in this combination, substantially as described, and for the purposes herein set forth.

WARREN BROWN.

Witnesses:

JOHN MACKEY,
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