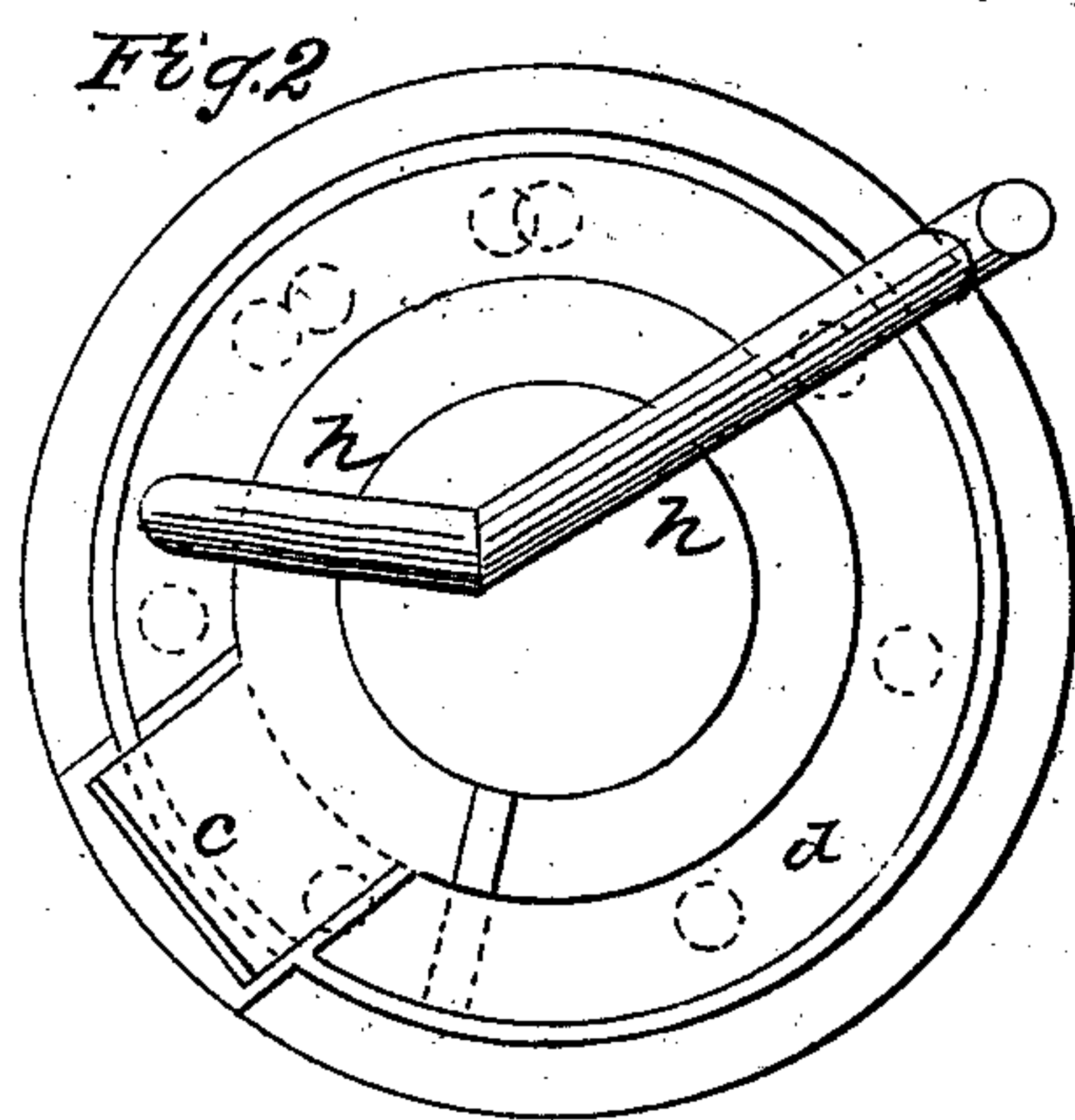
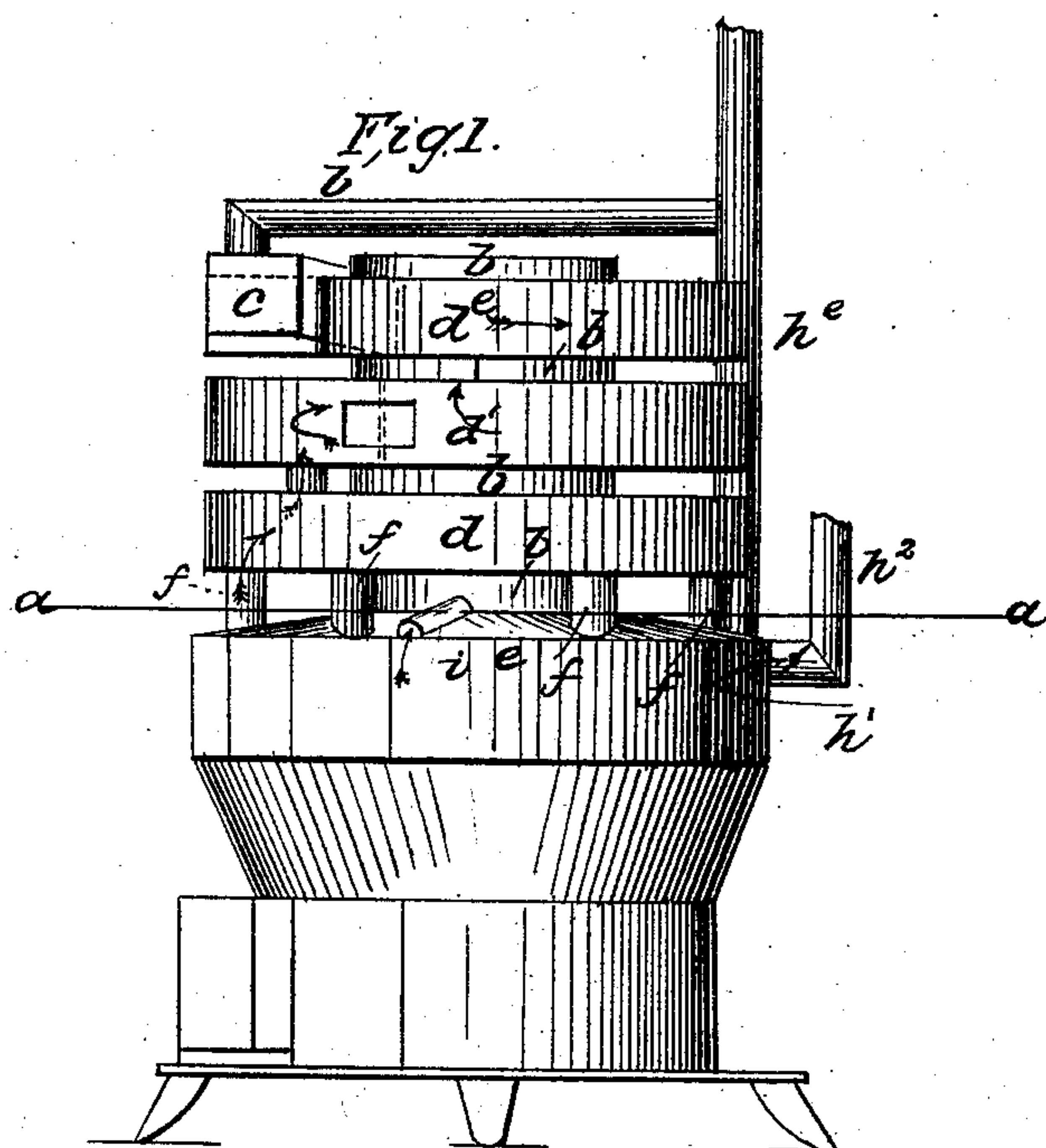


W. S. BRONSON.  
Base-Burning Stove.

No. 93,515.

Patented Aug. 10, 1869.



Witnesses  
Hector Chapman  
Jeremy W. Bliss

Inventor  
Willis S. Bronson

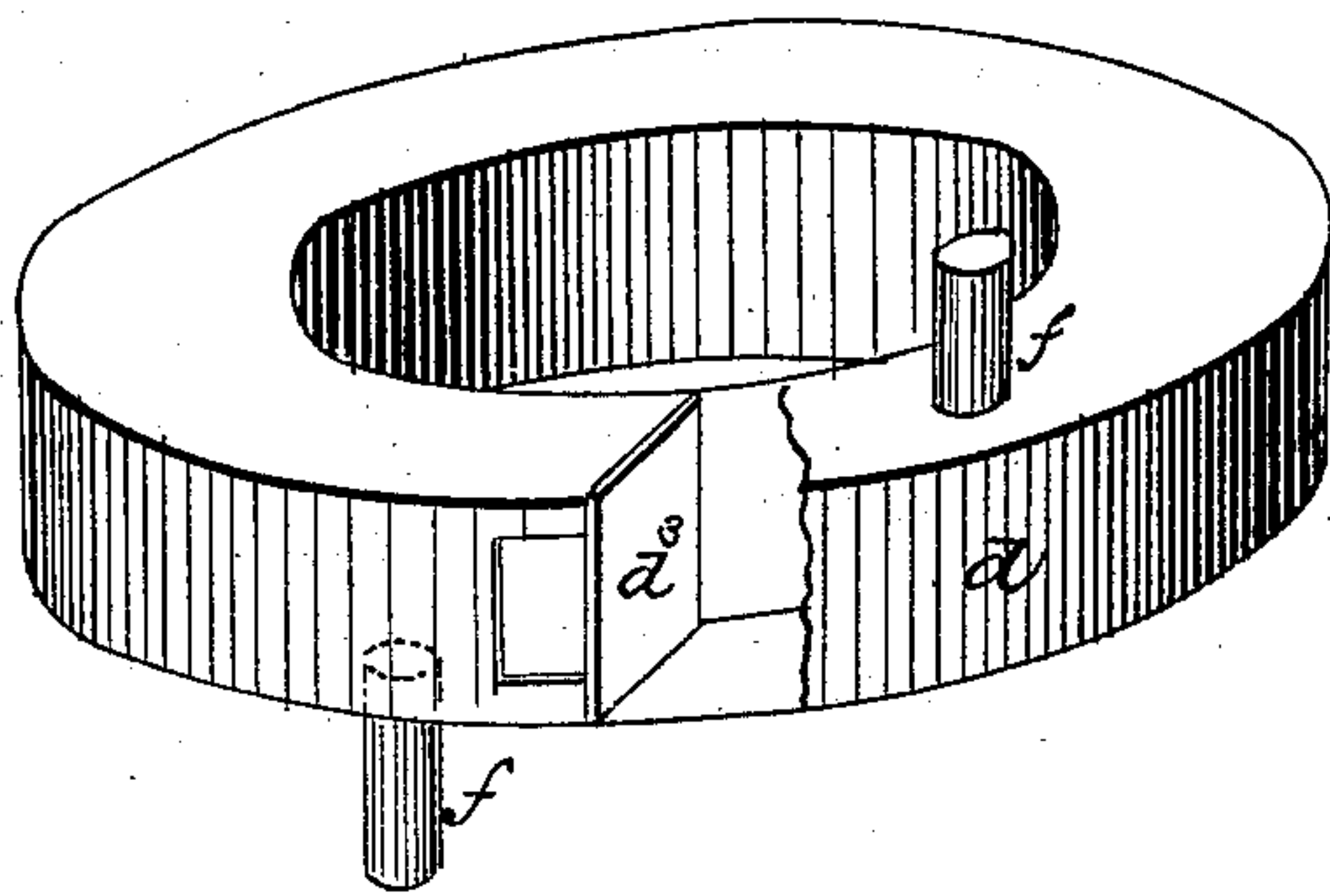
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2 Sheets—Sheet 2.

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Fig. 3



Witnesses  
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# United States Patent Office.

WILLIS S. BRONSON, OF HARTFORD, CONNECTICUT.

Letters Patent No. 93,515, dated August 10, 1869.

## IMPROVEMENT IN BASE-BURNING STOVES.

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, WILLIS S. BRONSON, of the city and county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Base-Burning Hot-Air Furnaces; and

To enable others skilled in the art to make and use the same, I will proceed to describe its construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

This invention relates to the construction and arrangement of a series of circular horizontal smoke-conducting and heat-radiating chambers or flues, located above the combustion-chamber and around the fuel-magazine of a base-burning furnace, as now in common use.

In the accompanying drawings—

Figure 1 is a side elevation.

Figure 2 is a top view of the same.

Figure 3 shows one of the horizontal flues detached, and broken away so as to clearly show the partition arranged therein, as hereinafter described.

The base or lower portion of the furnace, below the line *a*, is constructed much like those now in use.

*b* is a fuel-magazine, elevated above the combustion-chamber.

*c* is a feed-box, which enters and is secured near the upper end of the fuel-magazine.

*d* is a horizontal circulating-flue, arranged directly over the top plate *e* of the combustion-chamber, having conducting-tubes, *f*, through which the smoke and heat pass into the flues.

*d*<sup>1</sup> *d*<sup>2</sup> are horizontal flues, arranged one above the other, and in number more or less, as may be desirable. These flues are partitioned crosswise the passage, so that the heat and smoke shall enter the flue from the under side, near one side of said partition, and make its entire circuit to the egress on the upper side, and near the opposite side of the partition.

These partitions arranged in the flues are changed alternately from one side of the ingress-tubes, or flue-

openings, which connect, and through which the smoke and heat pass from one to the other of the horizontal flues, so as to alternately change the current of heat and smoke from one direction in one flue to the opposite direction in a succeeding flue, and thence through the pipe *h*, over the top of the fuel-magazine *b* and flues or radiators *d*, into the main or direct-draught pipe *h*<sup>2</sup>, or chimney.

This direct draught *h*<sup>1</sup>, from the fire-chamber into the chimney or conducting-pipe *h*<sup>2</sup>, when combined with the flue-draught, or the draught upward through the radiators *d*, is designed to produce a more equal and perfect combustion and radiation of heat.

*i* is an air-passage, arranged upon the cover or top plate of the combustion-chamber, thence into the space between the double wall of the lower portion of the fuel magazine, thus more effectually expending the heat, or allowing it to be absorbed by air circulating around the flues in its passage through the furnace to the various apartments.

This furnace and its radiating-flues *d* are designed to be enclosed in metal or masonry, in order to form air-circulating space, as in the common way.

I have thus endeavored to show the nature, construction, and advantage of this invention, so as to enable others skilled in the art to make and use the same therefrom.

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

1. The horizontal radiating-flues *d* *d*<sup>1</sup> *d*<sup>2</sup>, more or less in number, constructed substantially as described, in combination with a fuel-magazine, *b*, air-passage *i*, and conducting-tubes *f*, substantially as set forth.

2. The combination of the system of horizontal radiating-flues *d*, *d*<sup>1</sup>, and *d*<sup>2</sup>, and pipe *h*, with a direct-draught pipe, *h*<sup>1</sup>, arranged to operate substantially as set forth.

WILLIS S. BRONSON. [L. s.]

Witnesses:

HECTOR CHAPMAN,  
JEREMY W. BLISS.