

No. 622,752.

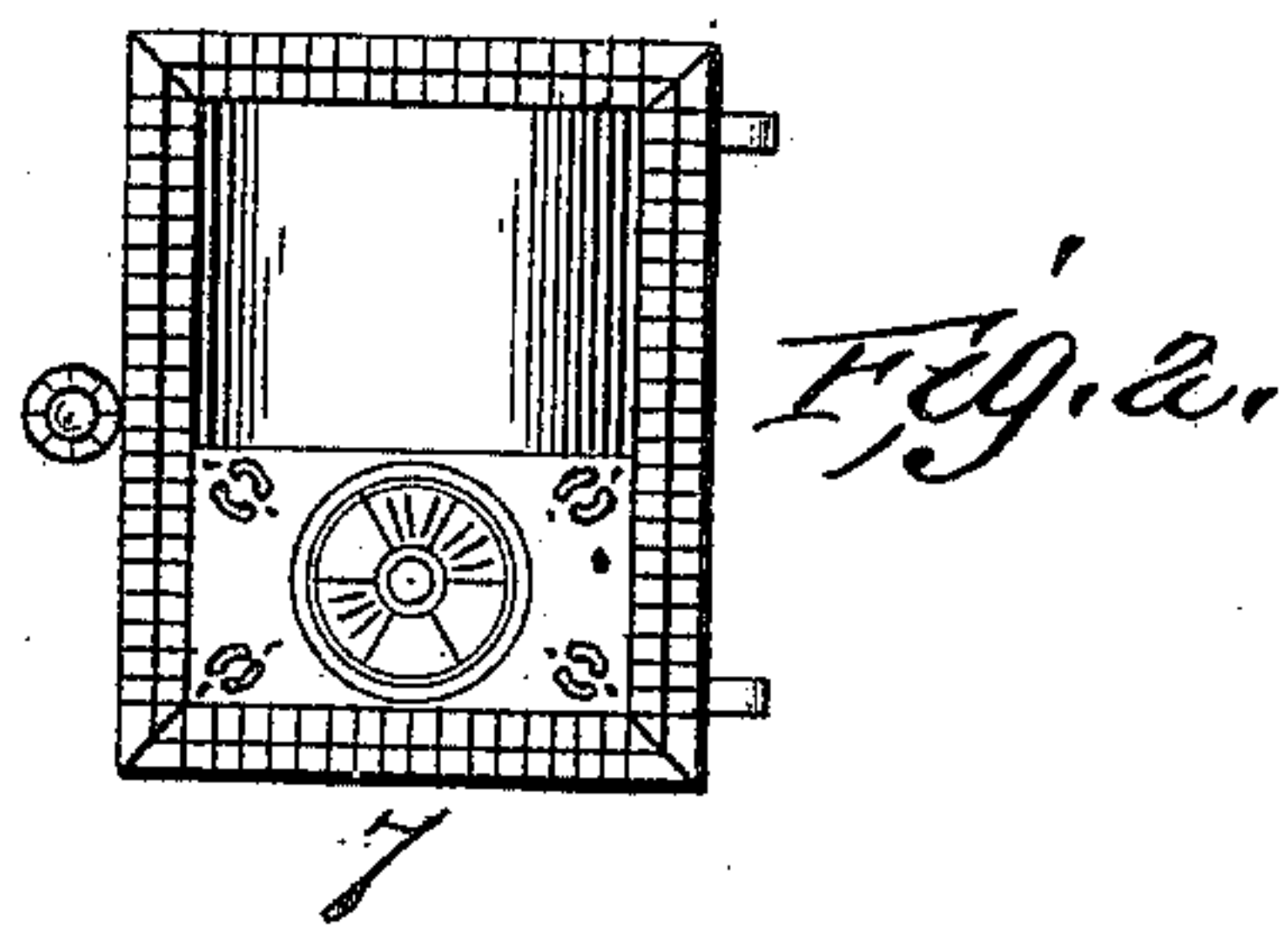
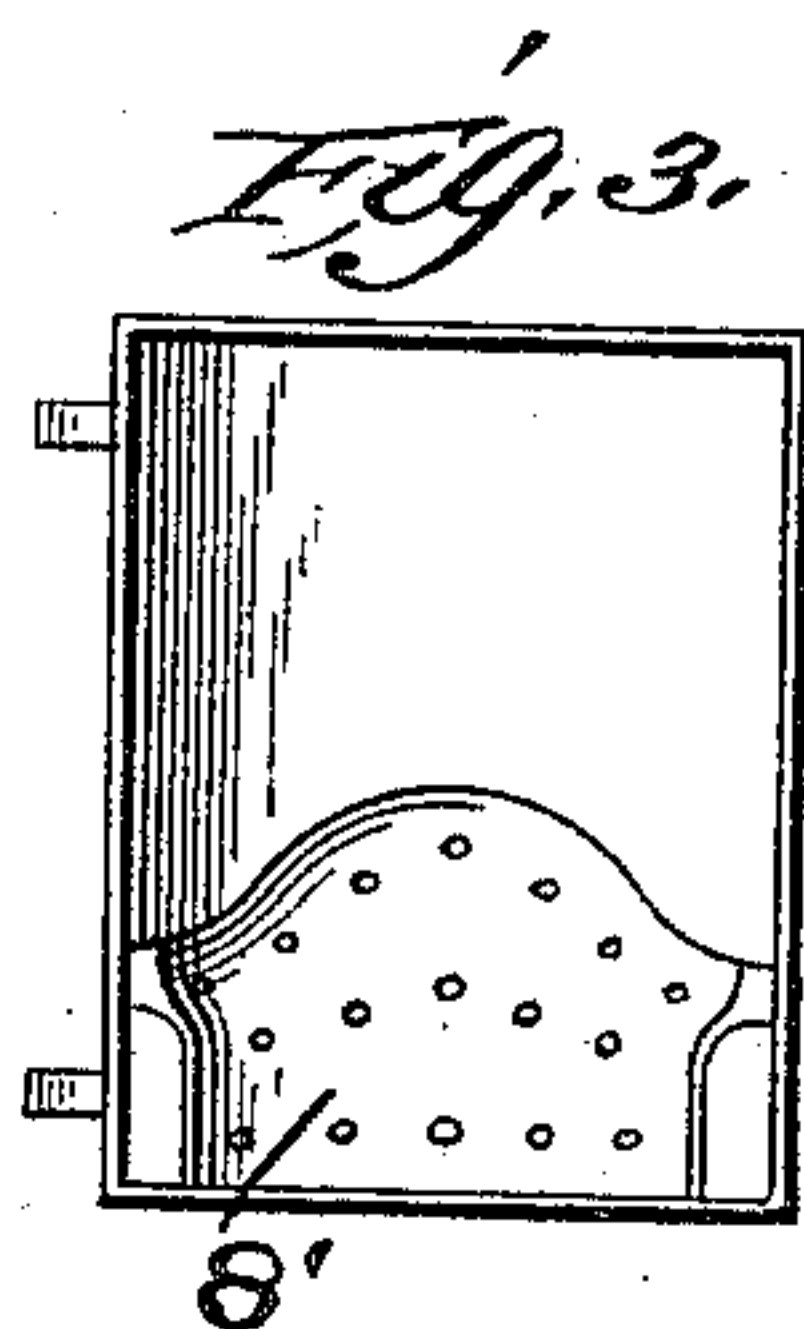
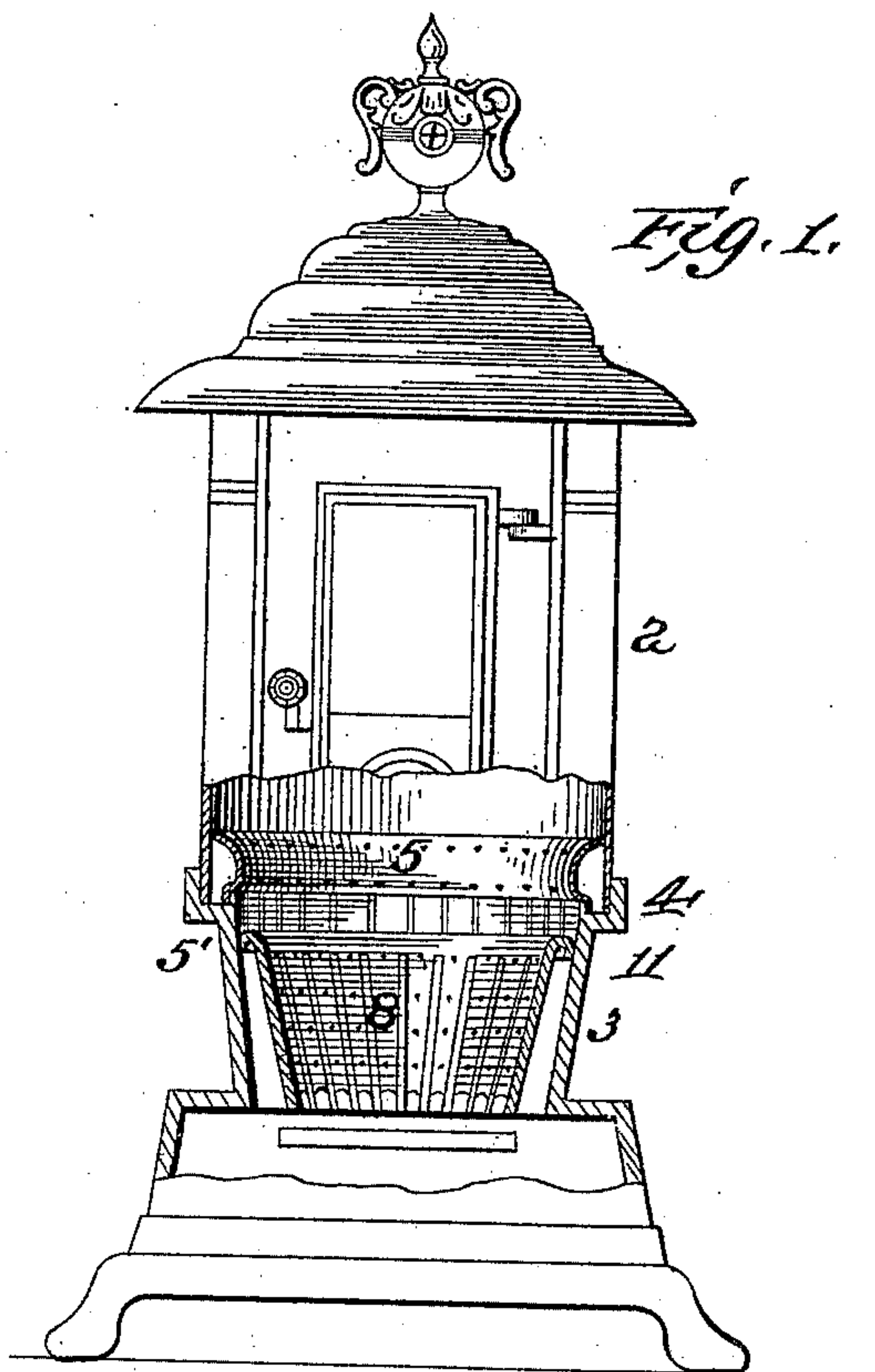
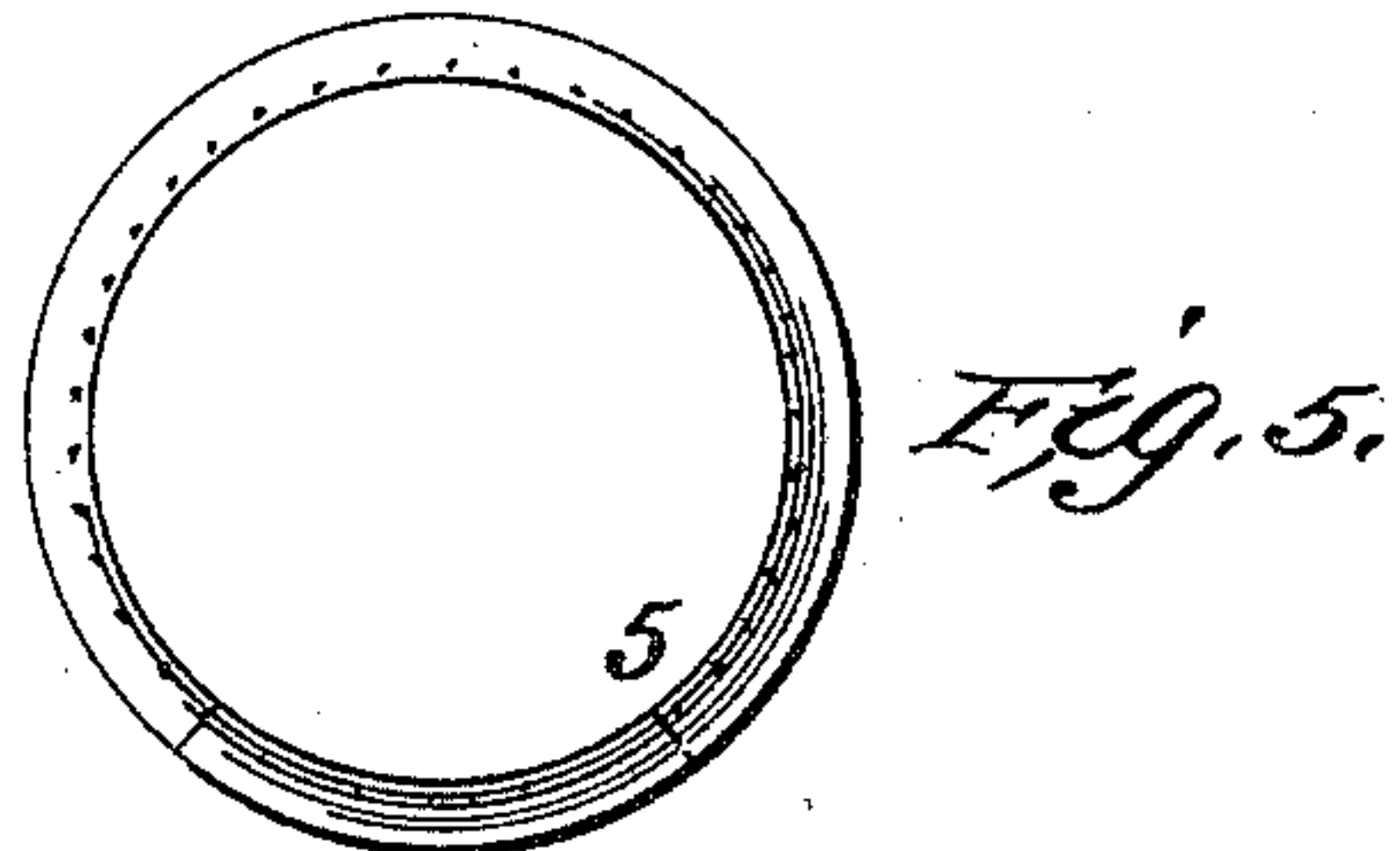
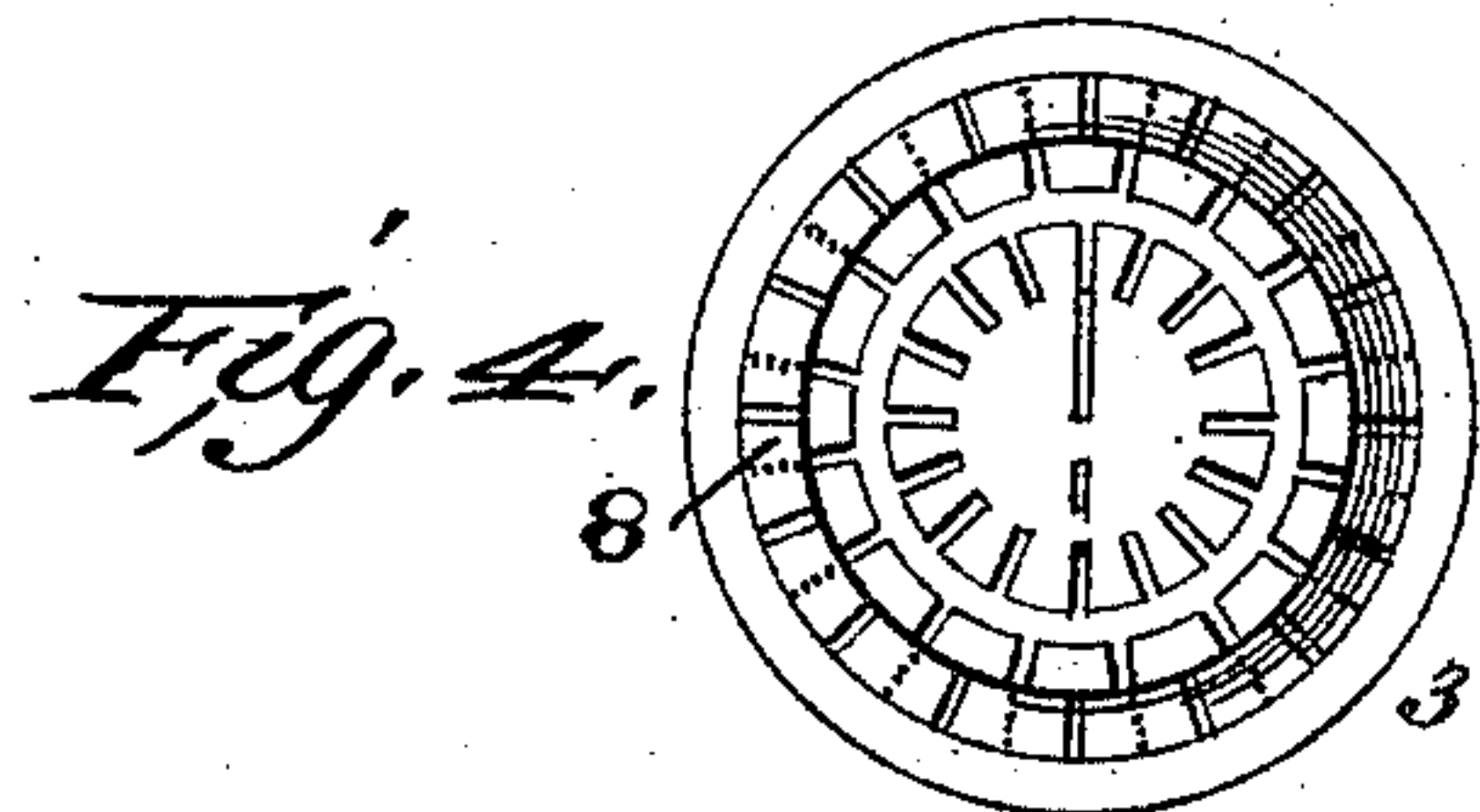
Patented Apr. 11, 1899.

A. M. BLAKESLEY.

STOVE OR FURNACE.

(Application filed May 14, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

ALPHEUS M. BLAKESLEY, OF ROCK ISLAND, ILLINOIS.

## STOVE OR FURNACE.

SPECIFICATION forming part of Letters Patent No. 622,752, dated April 11, 1899.

Application filed May 14, 1898. Serial No. 680,694. (No model.)

*To all whom it may concern:*

Be it known that I, ALPHEUS M. BLAKESLEY, a citizen of the United States, residing at Rock Island, Rock Island county, Illinois, have invented certain new and useful Improvements in Stoves or Furnaces, of which the following is a specification.

My invention relates to stoves and furnaces adapted to the use of bituminous coal; and its object is to provide an improved construction adapted to facilitate the combustion of the volatile portion of the coal and to permit the use as fuel of bituminous coal in a fine state of division with better results than have heretofore been obtained, and generally to furnish a simple, cheap, and economical stove.

I show and describe my invention as applied to an ordinary heating-stove of the pattern commonly known as an "Oak" stove.

In the drawings, Figure 1 is a front elevation of a stove embodying my invention with a portion of the front broken away. Fig. 2 is an elevation of the front door of the stove. Fig. 3 is an elevation of the reverse side of the said front door. Fig. 4 is a plan view of the inside of the fire-pot. Fig. 5 is a plan view of the gas-combustion ring.

Referring more particularly to the drawings, 2 is the body of the stove, consisting, preferably, of sheet-steel.

3 is the fire-pot, which is similar to those in ordinary use except that at a convenient short distance from the top it is bent outward, forming a horizontal shelf 5'. On the outer circumference of the shelf 5' is the upward-projecting flange 4, and on its inner circumference is the narrow upward flange 11. The body 2 is seated on the shelf 5' close to the flange 4. Resting on the shelf 5', in juxtaposition to the inner flange 11 and extending upward and outward to the stove-wall, is the gas-combustion ring 5, which encircles the inside of the stove, forming between it and the stove-wall a duct for the passage of air.

The ring 5 is cast in sections and remains in place without any securing bolt or screw and may be easily removed or replaced by any unskilled operator. It is perforated by a large number of small holes for the admission of air to the fire and connects with a similar duct 8' on the inside of the front door

when the door is closed. Air is admitted through the damper 7 in the front door.

It will be observed that the ring 5 serves also to shield the line of contact of the steel body with the cast-iron fire-pot from the direct heat of the fire. This is a matter of importance, as experience shows that the intense heat at that point is likely to injure the stove on account of the unequal warping of the metals.

Inside the fire-pot is placed an inner lining 8, extending inwardly at a somewhat greater angle than the fire-pot and leaving an air-space triangular in vertical section between the fire-pot wall and the lining 8. The lining 8 fits loosely at the top and is perforated with a large number of fine holes for the admission of air around the burning fuel. It is made in sections, so as to be easily removable for purposes of repair and shields the fire-pot proper from the intense heat.

Such fine ashes as sift through the perforations in the lining will readily drop down into the ash-pit, as it will be observed that the lining slopes inward at a greater angle than the fire-pot wall, and hence by the air-space being larger as it approaches the bottom there is no danger of the space becoming clogged with ashes.

When a fire is made, the combustion-ring 5 and the lining 8 quickly become heated, producing currents of air which are discharged in a heated condition through the perforations in the ring and lining, respectively, upon and above all parts of the burning mass. Oxygen is thus supplied for the combustion of the carbon and gases given off by the heated mass and is furnished in a manner most available for that purpose. The practical result attained is that slack and other fuel so finely divided as to be unsuitable for use in an ordinary stove are burned readily in this, accumulation of soot in pipes and flues is diminished, and much more heat is produced by the same quantity of fuel than by an ordinary stove.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a heating-stove, a fire-pot having an annular horizontal upper edge provided with up-

wardly-extending concentric flanges, a body  
portion seated on said horizontal edge, a per-  
forated ring resting on said horizontal edge  
and covering the joint between the fire-pot  
5 and body and forming an air channel or duct,  
a perforated ring-section secured to the inner  
face of the stove-door and adapted to form

with said ring a complete circular duct, said  
door having an opening for the admission of  
air to said duct, substantially as described.

ALPHEUS M. BLAKESLEY.

Witnesses:

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HAROLD A. WELD.