

H. J. HOUGH.
STOVE OR FURNACE FIRE POT.
APPLICATION FILED FEB. 12, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

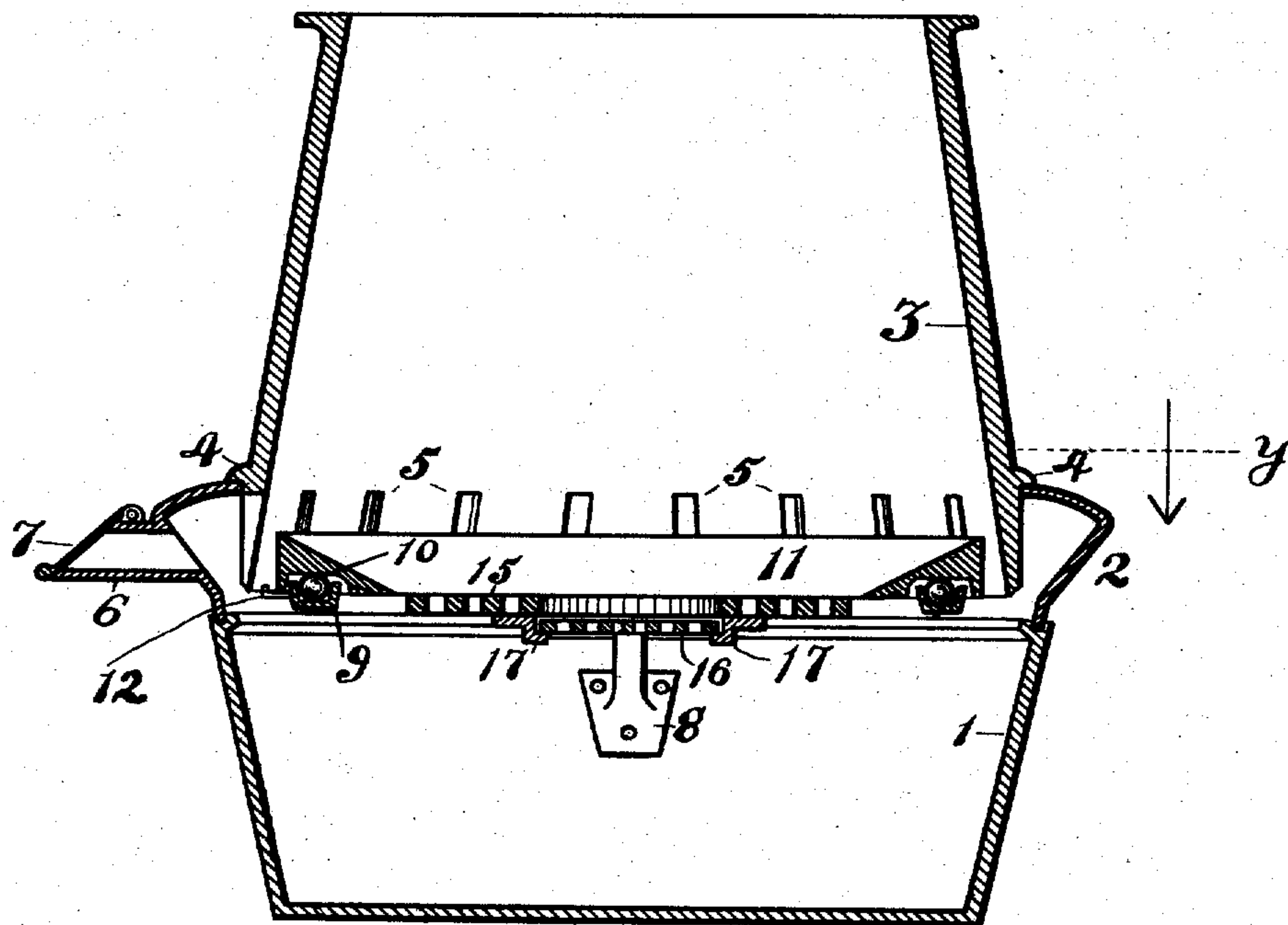


Fig. 1.

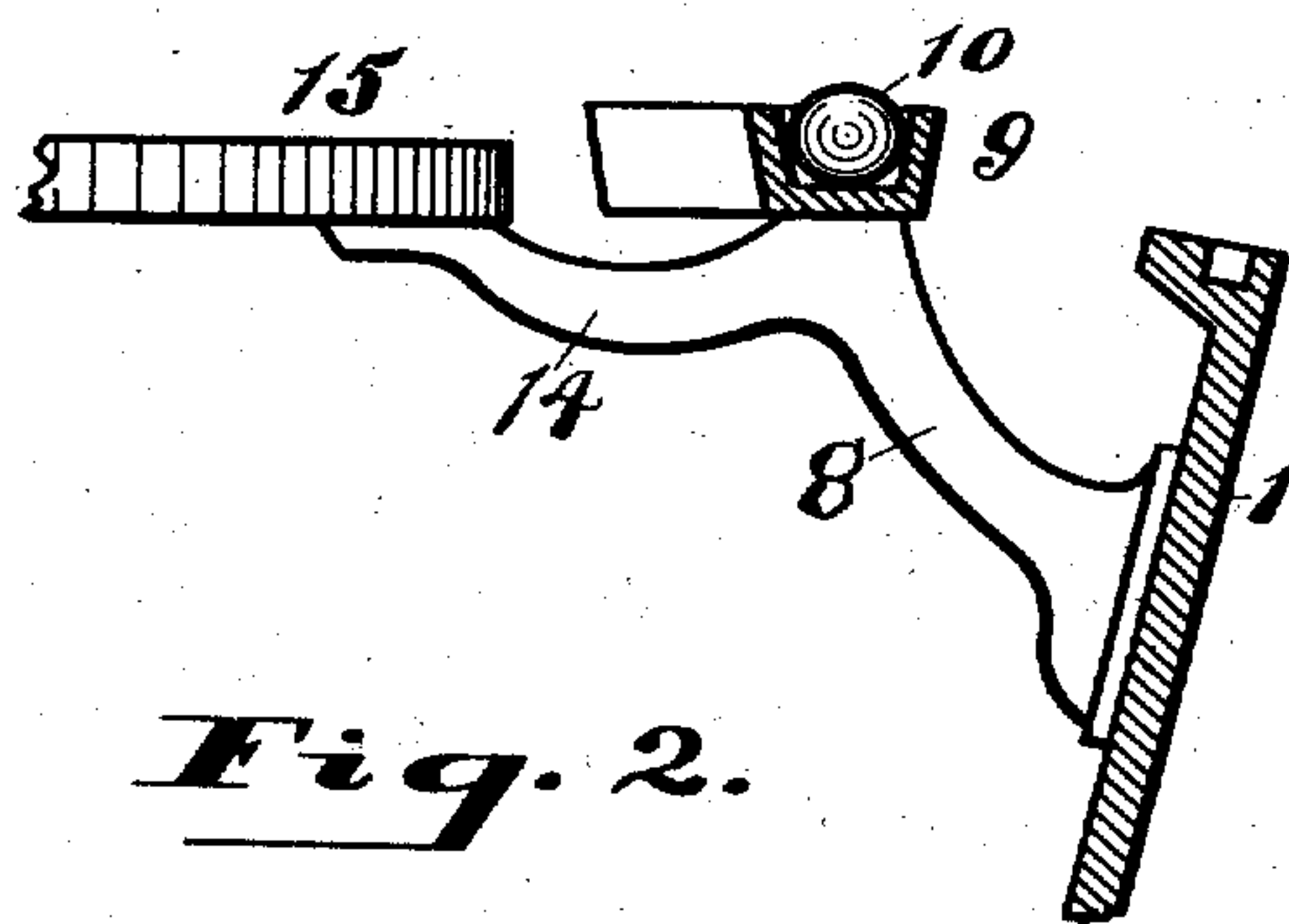


Fig. 2.

Witnesses:
Maude Gwisler,
A. E. Kling.

Inventor:
Hiram J. Hough,
By C. E. Humphrey,
Atty.

No. 773,744.

PATENTED NOV. 1, 1904.

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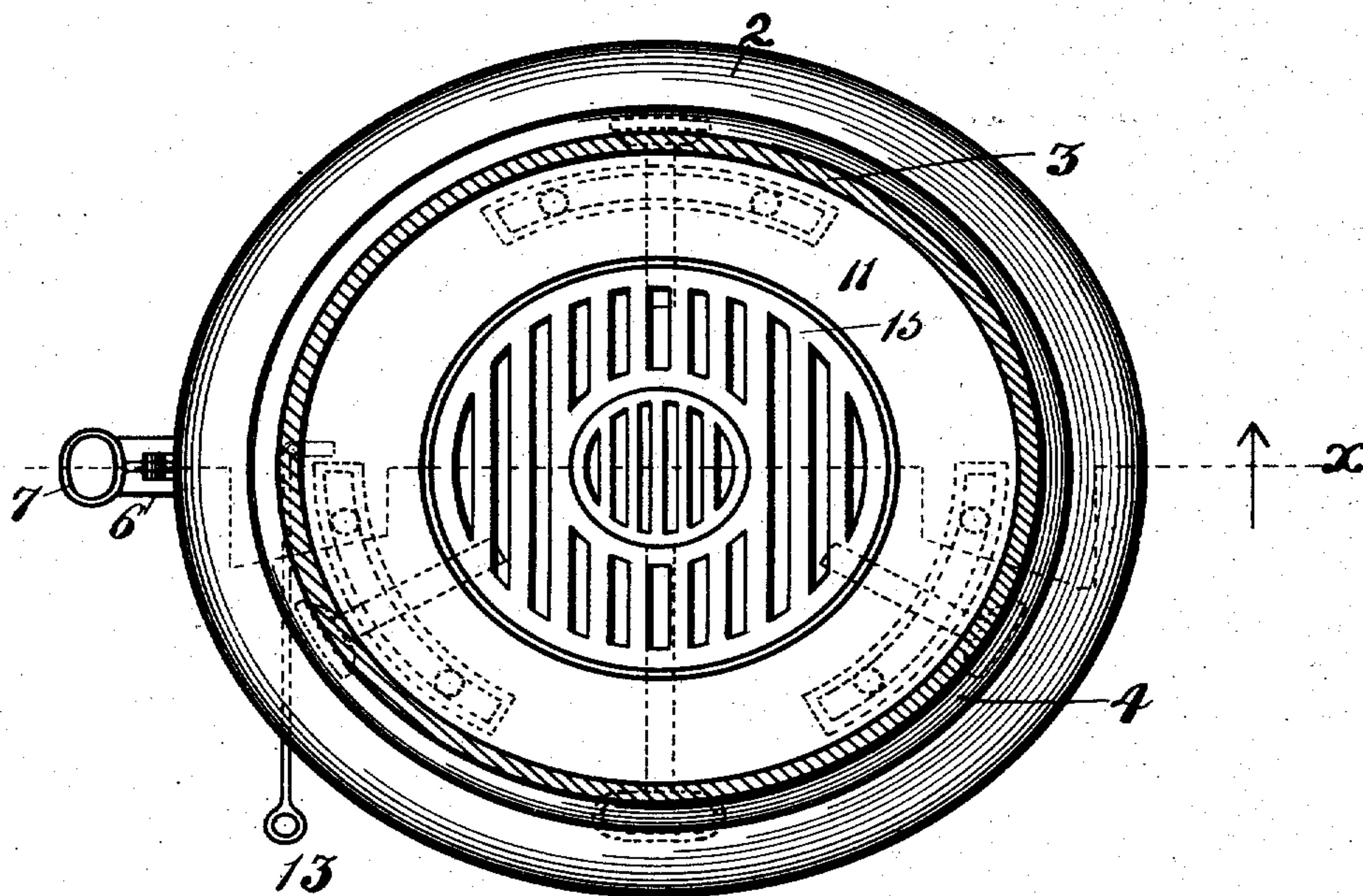


Fig. 3.

Witnesses:-
Maude Swisher,
A. E. Kling

Inventor:-
Hiram J. Hough,
By C. E. Humphrey,
Atty.

UNITED STATES PATENT OFFICE.

HIRAM J. HOUGH, OF AKRON, OHIO, ASSIGNOR OF ONE-THIRD TO
ARTHUR J. LINNEY AND JOHN A. WILTON, OF AKRON, OHIO.

STOVE OR FURNACE FIRE-POT.

SPECIFICATION forming part of Letters Patent No. 773,744, dated November 1, 1904.

Application filed February 12, 1904. Serial No. 193,258. (No model.)

To all whom it may concern:

Be it known that I, HIRAM J. HOUGH, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Stove or Furnace Fire-Pots, of which the following is a complete specification.

My invention relates to the internal construction of stoves and furnaces; and it has for its object the construction of a fire-pot with a means for connecting it with the ash-pit. With this in view my object is to supply to the mass of fuel on the grate adjacent to the walls of the fire-pot a proper supply of oxygen sufficient to cause the combustion of the fuel along the sides of the fire-pot, thereby bringing the flame incident to the combustion directly against the fire-pot walls and to a certain extent leaving the central portion of the mass of fuel to gradually coke and to burn more slowly and serve as a reserve to the fuel which is burning close to the walls of the fire-pot.

To the accomplishment of the aforesaid object my invention consists in the peculiar and novel construction, arrangement, and combination of the various parts hereinafter described, reference being had to the accompanying drawings, forming a part hereof.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different figures, Figure 1 is a vertical central section of my improved fire-pot, grate, and ash-pit at the line *x* of Fig. 3. Fig. 2 is a detail of the means by which the grate is sustained, and Fig. 3 is a section at the line *y* of Fig. 1.

In the drawings, 1 is an ordinary form of ash-pit flaring toward the top and provided with an enlarged upper portion in which is an annular groove. Into this is seated a ring or air-chamber 2, having a partially-inturned top, into which the lower portion of the fire-pot 3 is placed or located.

At a desired point on the outside of the lower portion of the fire-pot is a beading 4, which serves to rest on the top of the ring 2

and prevent the further downward descent of the fire-pot.

This fire-pot is not constructed as is ordinarily the case, but is conical in shape with the narrow end at the top and the broader one at the bottom.

Around the base of this fire-pot are cut upward from its lower edge a desired number of air slots or inlets 5, extending upward a short distance and only so high as to be wholly inclosed on the outside by the ring 2. This ring 2 is provided at one point with an inlet 6 for air, which is closed when desired by a damper 7, so that the admission of air through the inlet 6 will permit the distribution of air through each one of the slots 5 into the main portion of the fire-pot. In connection with this fire-pot I prefer to use a grate, which is as follows: On the sides of the ash-pit are bolted or otherwise suitably fastened brackets 8, extending upwardly, and on each are placed trough-shaped boxes 9, in which are placed hardened steel balls 10 to serve as friction-reducing means for the rotation of ring 11, having in its under side a groove to fit over the boxes 9 and revolve on the balls within the boxes. I preferably place three of these brackets in the ash-pit and place them at equidistant points, and any number of balls may be placed in each trough or box as experience may dictate. This ring 11 has on one side a lug 12, extending from which is an upturned end, onto which is fastened one end of a rod 13, by which the revolution of the ring 11 is accomplished. From each of the brackets 8 extends inward an integral arm 14, which serves to support a permanent grate 15, incapable of revolution and whose upper surface is substantially on a level with the bottom of the ring 11. The central portion of this permanent grate 15 is cut away, and below it is placed a draw-gate 16, arranged to slide on ways 17, fastened to the under side of the grate 15 or made integral therewith, as experience may dictate. This draw-gate 16 is provided with a handle for pulling it into and out of position, as indicated in Fig. 3 by dotted lines; but as this draw center for a grate is a common expedi-

ent no further description thereof seems necessary.

Experience shows that in the operation of this device where a mass of partially-consumed fuel is situated on the grate and on the ring 11 the central portions remain to a certain extent as a reserve to be used as needed and the fuel along the edges next to the sides of the fire-pot burns rapidly and with great heat-giving properties. Especially is this true when air is freely supplied through the inlet 6 and from thence through the slots 5 to the edges of the fuel. The rotation of the ring 11 causes the clinkers and ashes to fall down and pass between the edges of the ring 11 and the inner sides of the fire-pot into the ash-pit. Large clinkers of course are freely removable by means of the draw-gate in the center of the permanent grate 15. The free rotation of the ring 11 is aided by the fact that the balls 10 in the boxes or troughs 9 make a perfect ball-bearing for the ring, and the fact that this trough projects up into the groove on the under side of the ring 11 serves to prevent the accumulation in this trough or box 9 of any ashes or dust.

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

1. The combination of an ash-pit, a fire-pot provided with vertical slots in its lower portion, and spaced from the ash-pit to form between them an air-inlet, and a ring arranged

to support the fire-pot and to form therewith an air-chamber, said air-chamber communicating with the combustion-chamber through said air-inlet and through said vertical slots.

2. The combination of an ash-pit, a fire-pot having a greater diameter at its bottom than at its top provided with vertical slots in its lower portion, and separated from the ash-pit forming between them an air-inlet, a ring arranged to inclose the lower portion of the fire-pot and support it and to form therewith an air-chamber, said air-chamber communicating with the combustion-chamber through said air-inlet and said slots.

3. The combination of an ash-pit, a ring mounted on said ash-pit, a fire-pot having its lower portion arranged within said ring and supported thereby and separated from said ash-pit forming an air-inlet, having vertical slots in its lower portion and arranged to form with said ring an air-chamber communicating with the combustion-chamber through said air-inlet and said slots and means to permit the entrance of air to said air-chamber.

In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

HIRAM J. HOUGH.

In presence of—

C. E. HUMPHREY,
MAY BROWN.

Correction in Letters Patent No. 773,744.

It is hereby certified that the name of the last-mentioned assignee in Letters Patent No. 773,744, granted November 1, 1904, upon the application of Hiram J. Hough, of Akron, Ohio, for an improvement in "Stove or Furnace Fire-Pots," was erroneously written and printed "John A. Wilton," whereas the said name should have been written and printed *John A. Welton*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of December, A. D., 1904.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.

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