

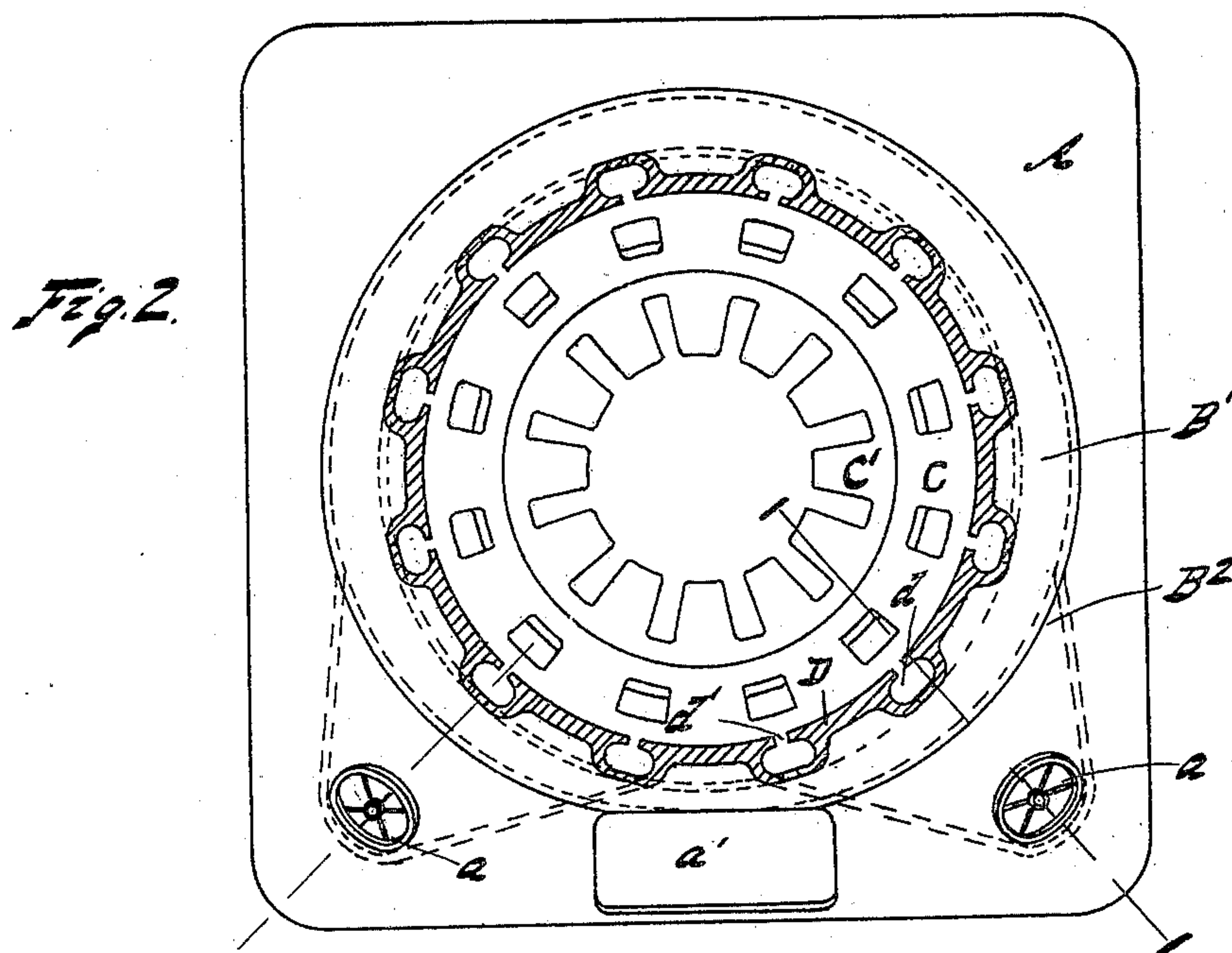
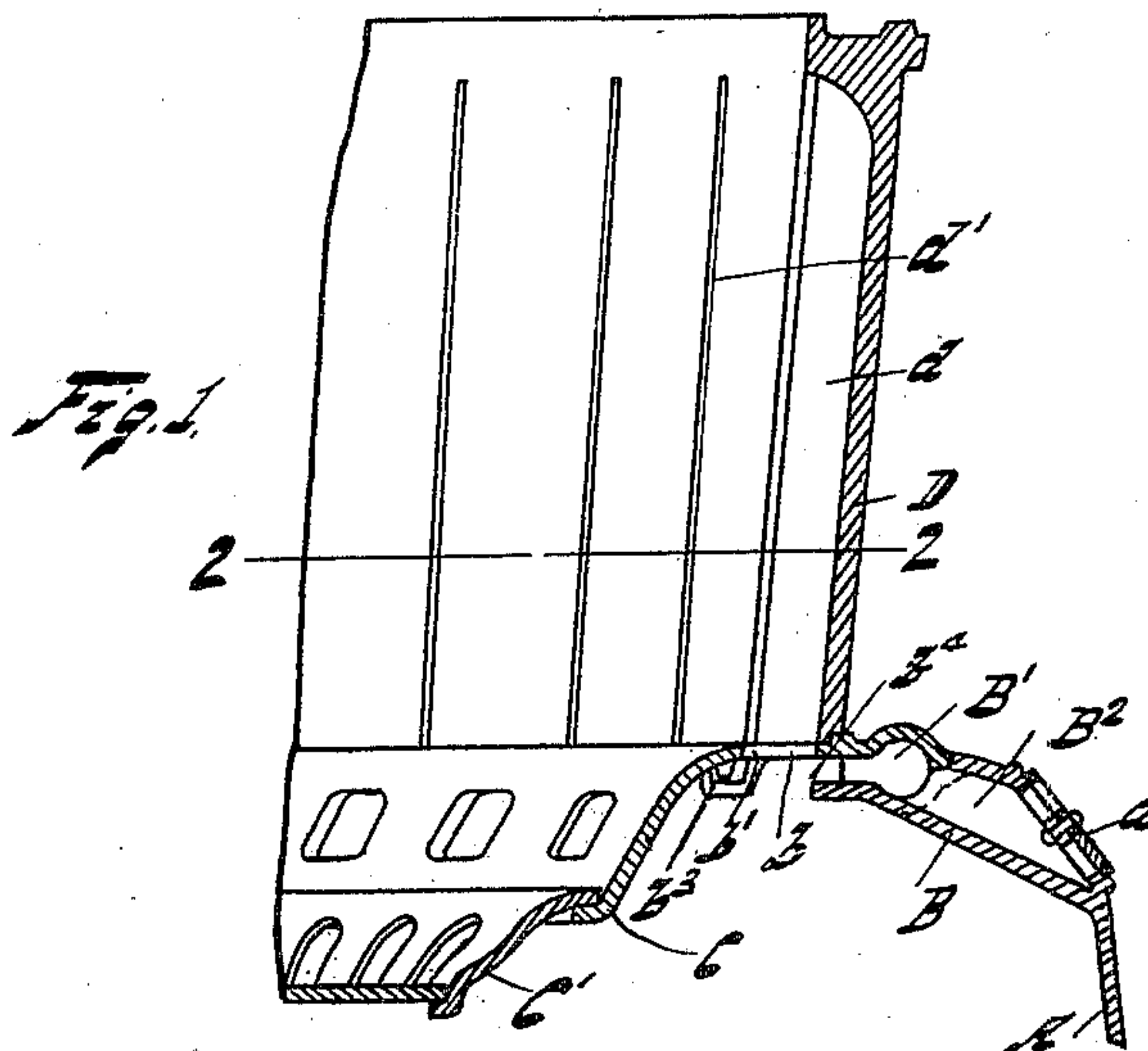
No. 701,325.

Patented June 3, 1902.

E. G. GERMER.
STOVE.

(Application filed June 19, 1901.)

(No Model.)



WITNESSES:

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STOVE.

SPECIFICATION forming part of Letters Patent No. 701,325, dated June 3, 1902.

Application filed June 19, 1901. Serial No. 65,141. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. GERMER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stoves; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The object of the invention is to provide a stove with a draft system and fire-pot by means of which the delivery of air to the fire-pot may be so controlled as to effect the best results as to combustion.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 is a section of a fragment of a stove including my improvement on the line 1 1 in Fig. 2. Fig. 2 is a section on the line 2 2 in Fig. 1.

A marks a part of the frame of the stove, ordinarily the base portion of the stove, and extending from this is the grate-bracket B. Resting on the lugs b^3 , extending from the grate-bracket, is the grate C C', the grate being ordinarily formed of two parts. Supported by the grate-bracket B is the fire-pot D. This fire-pot is preferably of the same structure as the one shown in my patent dated August 3, 1897, No. 587,366. It is preferably provided with the cells or ducts d , which extend into or communicate with the interior of the fire-pot through the slits d' . An opening b is arranged in the bracket B and forms an extension to the cells d , and the opening b' extends from the opening b and forms an extension to the slit d' .

Arranged, preferably, on the bracket B is a ring B'. This ring has the passages b^4 , which extend from the interior of the ring to a point immediately below the cells d . The ring is in communication with the outer air through the passage B², which is controlled by a damper a . The damper a' is provided for the stove, through which air may be admitted to the grate, if desired.

Air may be admitted through the damper

a' , and with the ordinary open grate the greater part of the volume of air so admitted will pass through the grate. Such a delivery of air to the fire-pot does not effect with some fuels the best combustion. For this reason fire-pots have been devised with means for delivering the air to a part of the fire-pot above the grate, an example of which is shown in my patent before mentioned. When such a delivery is desired with my present structure, the damper a' may be entirely closed and the damper a opened. The air is then delivered by way of a passage B², ring B', passages b^4 to a point immediately below the cells d and at no other places, the ring B' being closed, except at the passages b^4 , which are located as described. The air being delivered immediately below the cells immediately passes into the cells and from the cells into the fire-pot as desired, thus forming a point of delivery to effect a more perfect combustion than ordinarily through the grate. With my former structure, as described in the patent referred to, air is admitted through a damper, as a' , and forced to pass through the cells d by restricting the grate area. With my present device it is not necessary to restrict the grate area, as the communication of the air through the damper a' may be entirely closed or restricted to effect the same results as restricting the grate area in my former device. Practically all the air admitted through the damper a being delivered immediately beneath the cells d passes into those cells and is delivered to the fire through the slits d' . At the same time a free passage for the passage of ash or other material from the cells d is effected through the openings b .

I am aware that stoves have been made somewhat similar to my construction, where a ring has been arranged at the top of the slits for delivering air to them; but in this device if there is any leakage there is a failure to deliver the air as desired, and in any event there is difficulty in getting a sufficient column of air to pass a sufficient distance down to the cells d to get a desirable distribution of the air. I am also aware that fire-pots somewhat similar in construction to that herein shown have been made with a ring at the bottom of the fire-pot in communication with the cells and the outer air; but in these structures,

so far as I am aware, the delivery of air is directly to the bottom of the cells, and the ash or other material that may pass into the cells drops into the chamber or passage. Some
5 method must therefore be provided for cleaning the chamber, and these are more exposed and expensive than my structure. With my device the great advantages of a direct and independent connection between the lower
10 end of the cells and the outer air is attained, with the advantage of having the communications between the cells and ash-chamber kept open and free at all times, and in addition the air passes in a natural direction, so
15 that even with some leakage the device will operate efficiently.

While I style my invention an improvement in stoves, I wish it understood that I include domestic furnaces in the term.

20 What I claim as new is—

1. In a stove, the combination of a lining for a fire-pot having a series of substantially upright air-ducts therein communicating with the fuel-space of the fire-box; a grate at the
25 bottom of the fire-box; an ash-pit below the grate; air-passages arranged to have the delivery therefrom confined to points near the bottoms and at the sides of the ducts, said ducts being open at the bottom for the escape

of ashes; and means for controlling said passages. 30

2. In a stove the combination of the base comprising an ash-pit; a fire-pot above the ash-pit having a lining provided with a series of air-ducts leading into the pot and opening
35 at their bottoms into the ash-pit; and an air-passage cast in the base above the ash-pit and arranged to deliver air to the ash-pit at the sides of the bottoms of the ducts.

3. In a stove, the combination of a lining
40 for a fire-pot having a series of substantially upright air-ducts therein communicating with the fuel-space of the fire-pot; a grate at the bottom of the fire-box; a stove-base below the fire-box comprising an ash-pit and having an
45 air-passage cast therein above the ash-pit; and passages arranged to confine the delivery of air from the passage in the base to points at the sides and near the bottoms of the air-ducts, said ducts being open at the bottom for the
50 escape of ashes.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD G. GERMER.

Witnesses:

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