

(No Model.)

E. GURNEY.
STOVE.

No. 585,027.

Patented June 22, 1897.

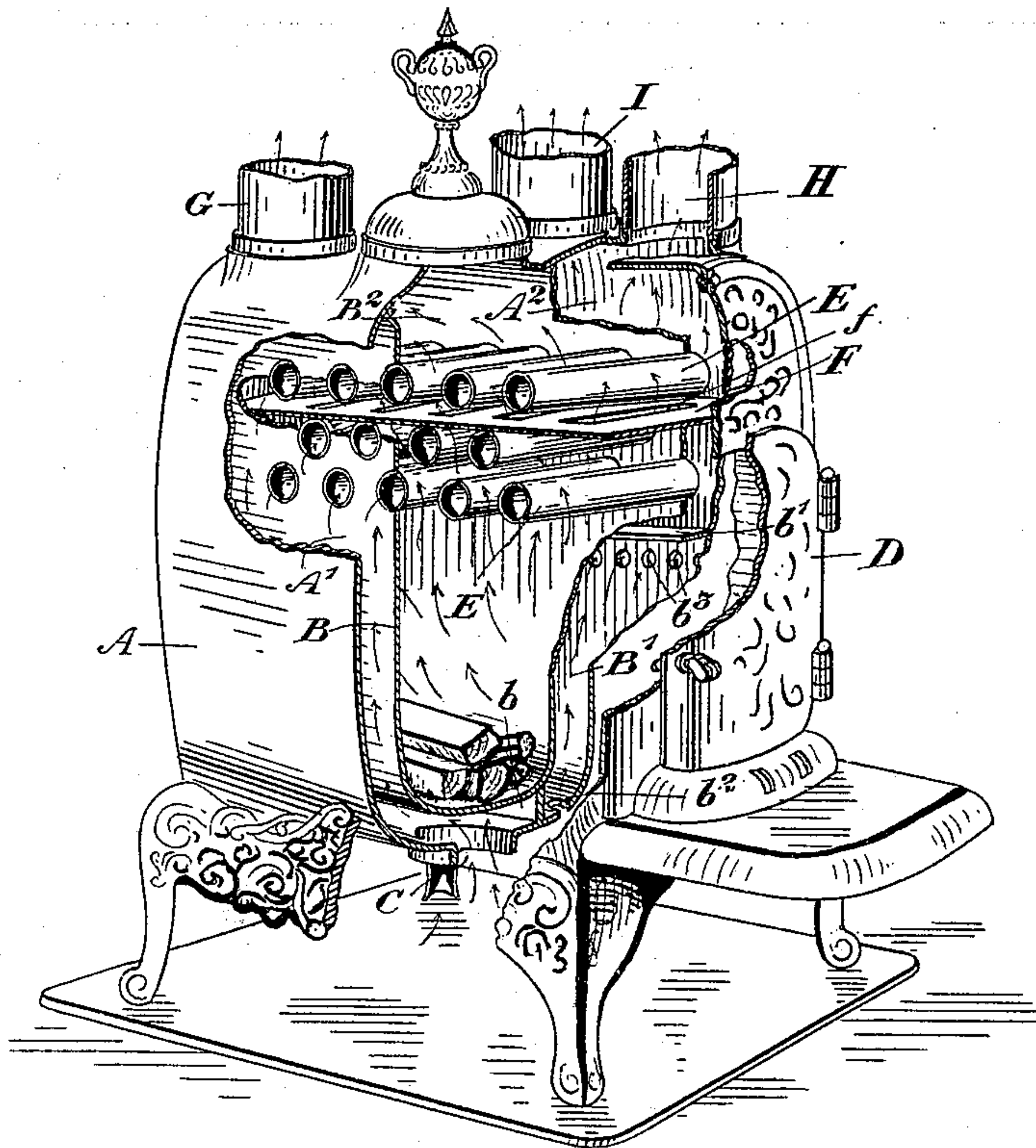


Fig. 1.

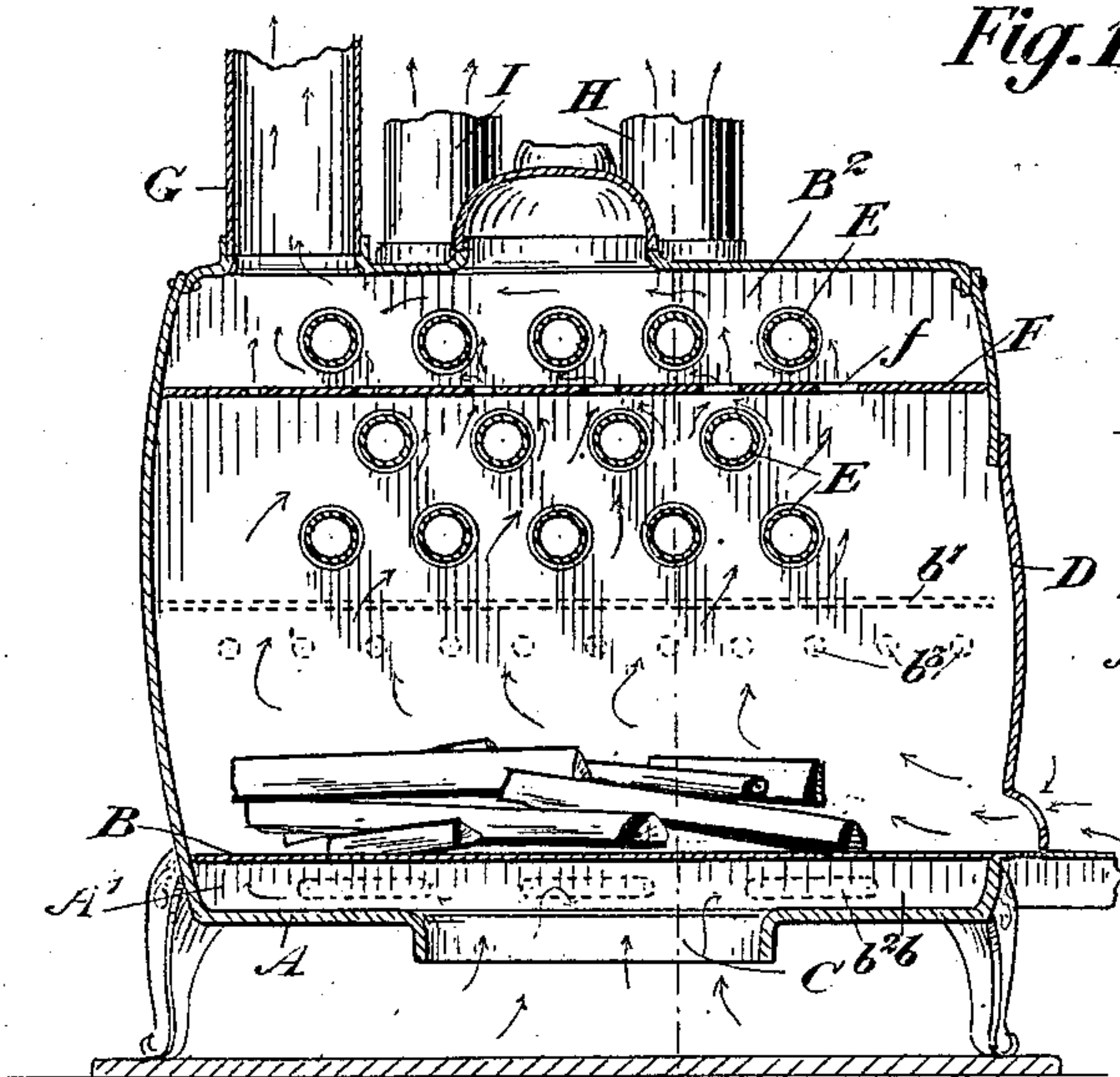


Fig. 2.

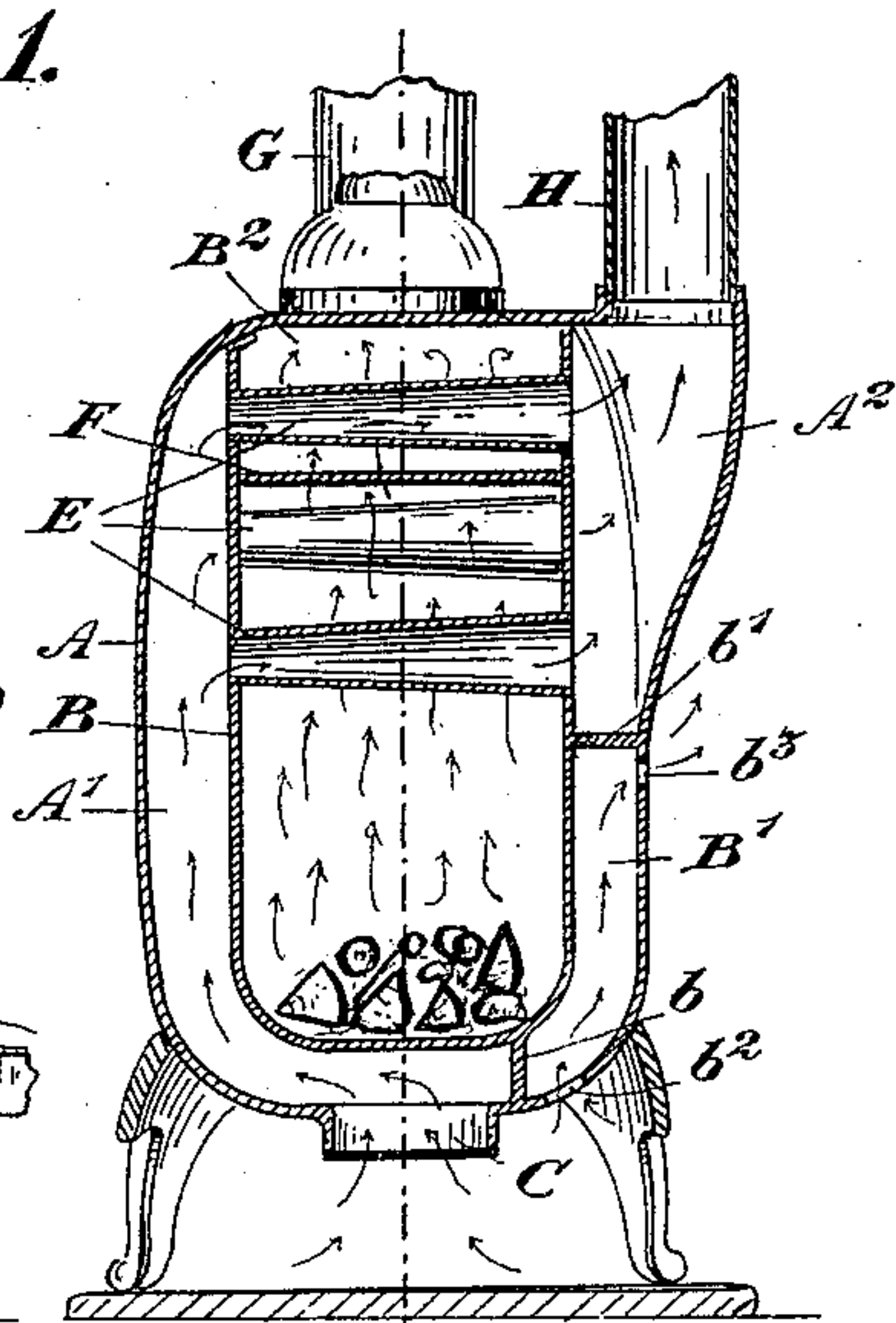


Fig. 3.

Witnesses.

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EDWARD GURNEY, OF TORONTO, CANADA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 585,027, dated June 22, 1897.

Application filed September 3, 1895. Serial No. 561,286. (No model.)

To all whom it may concern:

Be it known that I, EDWARD GURNEY, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

My invention relates to improvements in stoves; and the object of the invention is to so construct a wood-stove that it may be utilized not only to heat the room in which it is placed, but also to heat one or more extra rooms; and it consists, essentially, of constructing the stove with double side walls and bottom and an intake for cold air at the bottom of the stove and hot-air tubes toward the top of the stove extending between the inner walls and connected to the chambers at each side, the chamber at one side being separated and having leading from it hot-air pipes, the stove being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1 is a perspective view of a wood-stove constructed in accordance with my invention, a portion of the stove being broken away to exhibit the peculiarities of construction. Fig. 2 is a longitudinal section through the stove. Fig. 3 is a cross-section.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the outer wall of the stove.

B is the inner wall, which is connected directly to the outer wall at the top, so as to leave no space.

C is the intake for cold air.

D is the door.

b is a partition extending from the front to the back of the stove on one side of the intake and at the bottom of the outer and inner walls A and B.

b' is a partition extending from the front to the back of the stove, as shown. The partitions b b' thus form the chamber B'. I provide openings b² at the bottom of the chamber and b³ at the top of the chamber B', which openings are formed in the outer wall A and permit of the cold air passing in at the lower openings b² being heated by the fire in the stove and passing out heated through the upper openings b³.

E are hot-air tubes, which are preferably

tapered in form, the small portion of the taper being at the end connected with the chamber A', formed between the walls A and B.

F is a diaphragm extending from the front to the back of the stove and between the inner walls B. The diaphragm F, as shown, is between the top and second row of tubes E.

f are a series of openings extending across the diaphragm F and being formed, preferably, larger at the front and decreasing in size from the front to the back, so that the products of combustion from the fire will be distributed evenly throughout the length of the chamber B², formed between the diaphragm F and the top of the stove. This construction of the diaphragm with openings, as shown, serves to provide for the heating of the pipes more evenly than would be the case if such diaphragm were not provided, as in that case the major portion of the heat would pass immediately up the smoke-pipe at the back of the top of the stove.

A² is a chamber formed at the wide end of the hot-air tubes E, opposite to the chamber A' and above the chamber B'. Suitable thimbles a' at the top of the chamber A² have connected to them the hot-air pipes H and I, which may be extended to any rooms desired.

The cold air is taken in at C, and the effect of the fire in the stove is to heat such air as it passes upwardly through the chamber A' and to further increase the heat of such air as it passes inwardly through the tubes E to the chamber A², whence it is distributed by the hot-air pipes H and I to the rooms. Such hot-air tubes being tapered, as shown, permit of the rapid expansion and ready circulation of the heated air from the chamber A' to the chamber A².

By stoves constructed as above described it will be seen that I am enabled to utilize the heat, which is sometimes excessive, especially where wood-stoves are used, to heat another apartment or apartments and at the same time moderate the heat in the room in which the stove is placed.

What I claim as my invention is—

1. In combination with a stove provided with double walls, the combustion-chamber, the intake-chamber leading from below said combustion-chamber, and a series of correspondingly-tapered pipes leading from said

intake-chamber across the combustion-chamber to a separate chamber, substantially as described.

5 2. In combination in a stove, the combustion-chamber, the pipes leading across the upper part thereof and the plate having a series of openings therein, said plate having a portion of said pipes arranged above the same, substantially as described.

10 3. In combination in a stove, the combustion-chamber, the series of rows of horizontal pipes in the upper part of the same, the horizontal plate interposed between the rows of said pipes, said plate having openings therein
15 corresponding in form to the contour of said pipes, substantially as described.

4. In combination in a stove, having a double wall, the space between the two rear walls being divided into two compartments, the intake-chamber formed by the two front walls 20 the connection between said intake-chamber and the upper rear chamber, the distributing-pipes leading from said upper rear chamber, and the means for circulating air within the lower rear chamber and discharging the same 25 into the room containing said stove, substantially as described.

EDWARD GURNEY.

Witnesses:

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E. R. CASE.