

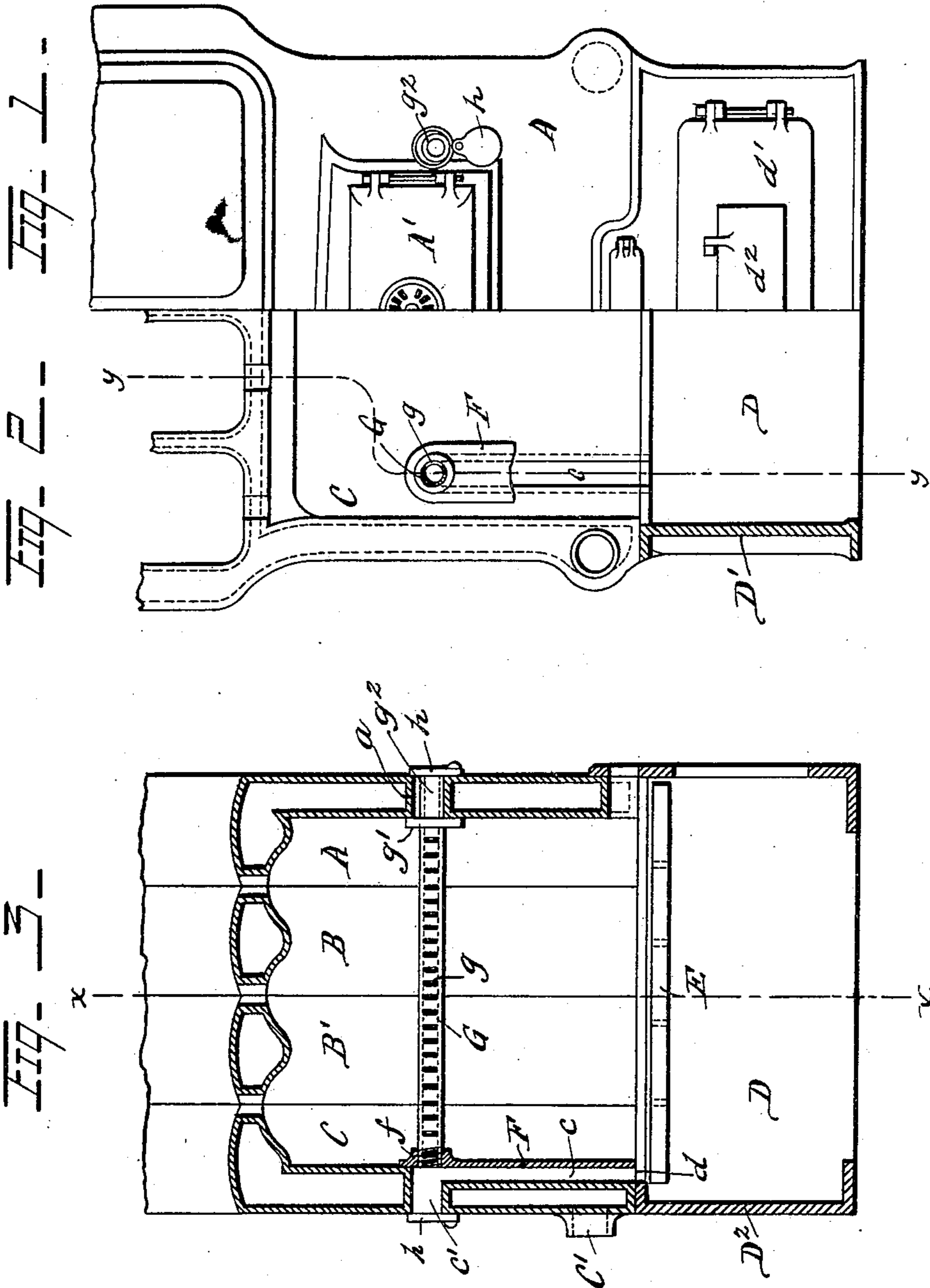
No. 631,755.

Patented Aug. 22, 1899.

W. H. SHICK.
HEATER.

(Application filed June 17, 1899.)

(No Model.)



Witnesses
David Revan
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UNITED STATES PATENT OFFICE.

WILLIAM H. SHICK, OF READING, PENNSYLVANIA, ASSIGNOR TO THE READING STOVE WORKS, ORR, PAINTER & CO., OF SAME PLACE.

HEATER.

SPECIFICATION forming part of Letters Patent No. 631,755, dated August 22, 1899.

Application filed June 17, 1899. Serial No. 720,925. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SHICK, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Heaters, of which the following is a specification.

My invention relates more particularly to water or steam heaters of the vertical sectional type; and it consists in a novel construction and arrangement of parts whereby to provide for a supply of air above the fire for the purpose of securing more complete combustion of the fuel-gases and the increase in economy and effectiveness which it is well known result from such improved combustion.

The invention is fully described in connection with the accompanying drawings, which illustrate the application of my improvements to a vertical sectional heater.

Figure 1 is a half front elevation, and Fig. 2 is a half sectional elevation on the line xx of Fig. 3, the upper portion of the heater being cut away as having no connection with my present improvements. Fig. 3 is a cross-sectional view on the line yy of Fig. 2.

A represents the front body-section, C the rear body-section, and B B' intermediate vertical body-sections, all of which rest upon base-plates D' D², which form the ash-pit D. The fire-box is formed between the inner walls of the sections A and C and the legs of the intermediate sections B B', above the grate E. A' is the usual fire-door, and d' d² the ash-pit and draft doors. The upper heater, flues, and smoke-pipe outlet are not shown.

C' indicates the water connection to the rear section, which is in turn connected with the adjoining sections, so as to maintain all in communication, as usual.

In the section C, I provide vertical air-passages c, one on each side of the fire-door A', these being formed, as shown, by pockets or recesses from the inner face of the section, open at the bottom, so as to communicate at d' with the ash-pit, and by vertical plates or covers F removably secured to the section C. These plates are each provided, as shown, with a screw-threaded opening near the top, arranged at right angles to the air-passage c,

into which is screwed a pipe G, having a series of perforations g opening toward the other parallel pipe. The other ends g² of these pipes are not perforated and each is provided with a collar g'.

In erecting the furnace the intermediate sections B B' are successively placed in position against the rear wall-section C and each other, with suitable water-tight joints connecting them, and finally the front wall-section is similarly connected, the latter being provided with thimbles a, having the openings large enough to loosely receive and enclose the ends g² of the pipes G, which enter the thimble-openings until the collars g' are about in contact with the inner face of the section, and thus serve to practically close the opening around the inserted pipe ends. A slide or gate h is provided on the outer face of the section A to open or close the pipe G to the outer air, which latter may also be admitted, if desired, to the other end of the pipe G through a horizontal opening c' into the vertical air-passage c, said opening being provided with a similar slide or gate. It is evident also that these vertical air-passages c may be provided in the front wall-section A as well as in the rear wall-section C, as shown.

When either the draft-door or ash-pit door is open, air will be admitted through vertical passage-ways c to the perforated pipe G, and thence to the combustion-space above the fire, thus furnishing the increased supply of oxygen necessary for complete combustion. When the slides h are opened, outside air will be admitted directly to the pipe G, and thence to the combustion-space, this being the only supply that is provided, as may be desired, when the ash-pit is closed and forming an additional supply, if required, when the latter is open.

What I claim is—

1. In a heater the combination with a wall-section provided with an air-passage communicating with the ash-pit and rising vertically in the fire-box wall thereof, of a separately-formed perforated pipe or conduit connected with said vertical air-passage, extending horizontally through the combustion-chamber and communicating at its other end with a gated opening through the parallel wall-section.

2. In a heater the combination with a wall-
section formed with an air passage-way re-
cessed in the fire-box wall thereof and com-
municating with the ash-pit, and with a par-
5 allel wall-section having a horizontal opening
through the fire-box wall thereof, of a sepa-
rately-formed plate forming the inner wall of
said air-passage, and a perforated pipe or con-
duit having one end fixed in said plate and

the other end loosely entered in said opening 10
and provided with a collar adjacent to the in-
ner end of said opening.

Signed by me at Reading, Pennsylvania,
this 8th day of June, A. D. 1899.

WILLIAM H. SHICK.

Witnesses:

W. G. STEWART,
ADAM L. OTTERBEIN.