No. 649,307. Patented May 8, 1900.

D. M. HORTON.

HEATING APPARATUS.

(Application filed Feb. 23, 1899.)

(No Model.)

Fig. 1.

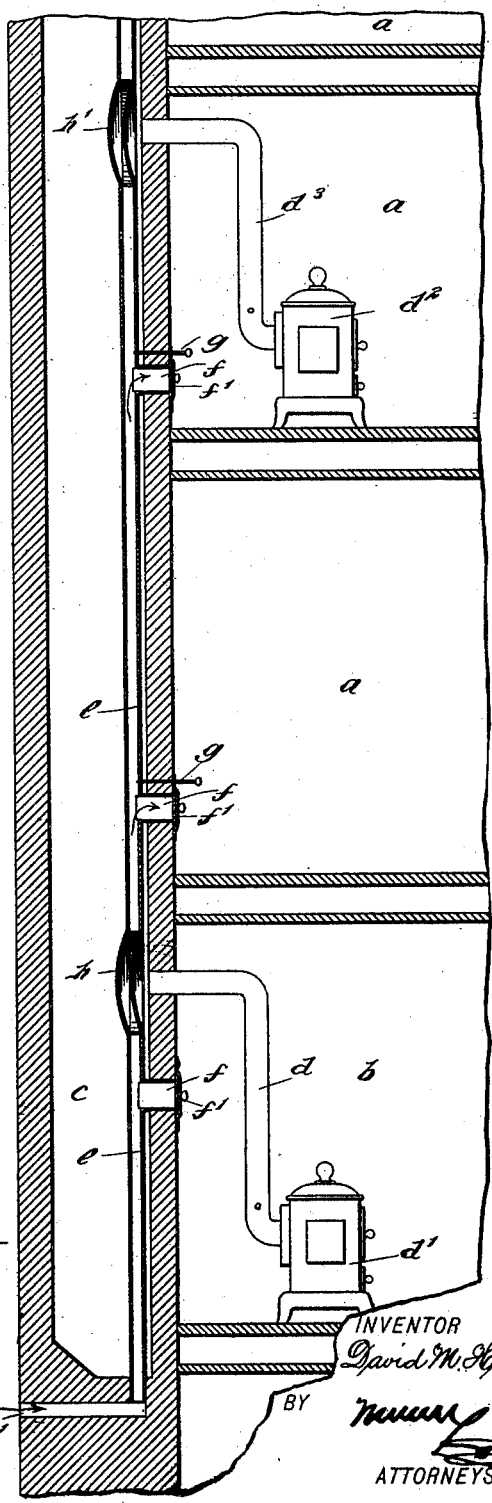
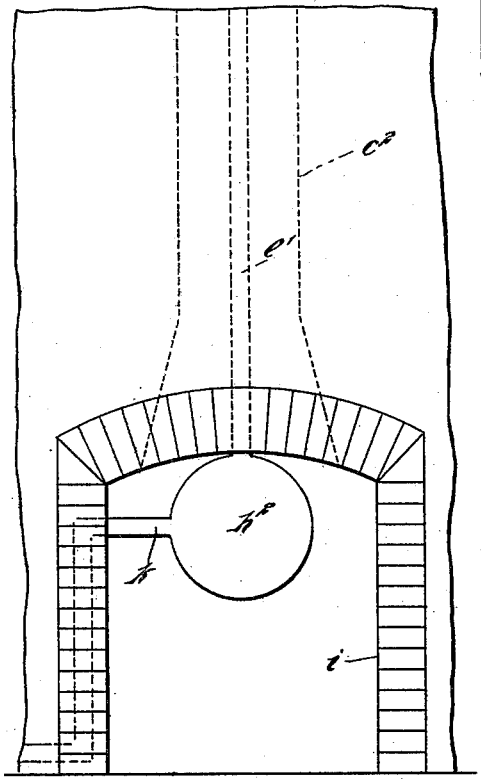


Fig. 2.



WITNESSES:

Edward Thorpe.

Isaac B. Owens

INVENTOR

David M. Horton.

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID M. HORTON, OF FISHKILL, NEW YORK.

HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 649,307, dated May 8, 1900.

Application filed February 23, 1899. Serial No. 706,559. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. HORTON, of Fishkill, in the county of Dutchess and State of New York, have invented a new and Improved Heating Apparatus, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide a heating apparatus by which hot air may be supplied to the higher rooms of a house by heat derived from the chimney-flue; and the invention is principally characterized by certain novel constructions of the hot-air flue, which causes it to be more effectively acted on by the heated gases in the chimney-flue, and thus increases the efficiency of the apparatus.

This specification is the disclosure of one form of my invention, while the claim defines the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a vertical sectional view showing my invention in use, and Fig. 2 is a front elevation of a modification.

The form of the invention shown in Fig. 1 is adapted to a house shown with three upper rooms *a* and a lower room or basement *b*. The chimney-flue *c* receives the pipe *d* from the stove or furnace *d'* in the basement *b*. Mounted in the chimney-flue *c* is a hot-air pipe *e*, which communicates with the atmosphere by a duct *e'* or other passage leading fresh cold air into the pipe *e*. This pipe *e* has a number of thimbles *f*, leading into the several apartments *a* and *b*, and these thimbles are commanded by registers *f'*. The purpose of leading a thimble *f* into the basement *b* is to permit the air from the basement to be drawn into the pipe *e*, if so desired, such air serving as an addition to the air drawn through the duct *e'*, or, if desired, the duct *e'* may be closed and the air drawn into the pipe *e* exclusively from the basement apartment *b*. The pipe *e* is provided with a number of dampers *g*, located, respectively, above the thimbles *f* in the apartments *a*, by which means the pipe may be closed at any of the points at which the thimbles *f* of the apartments *a* are located. These thimbles are useful should a person in one of the lower apartments desire to cut off the heat from the apartments above.

In order to cause the heated gases passing from the pipe *d* of the furnace *d'* to act with the utmost efficiency upon the hot-air pipe *e*, I form said pipe with a circular drum *h*, having a convex outer side and a concave inner side, the concave inner side being disposed centrally over the mouth of the pipe *d*, so that as the heated gases pass from the pipe they move directly against the concave surface of the drum *h* and spread around the drum, thus keeping the same highly heated, and the air passing through the drum is made hot by the same.

If a furnace (such as the furnace d^2) be located in one of the upper apartments *a*, the heat from the pipe d^3 of this furnace may be used for the same purpose as the heat from the furnace *d'*, in which case an additional drum *h'* is provided for the pipe *e* in the same manner and for the same purpose as the drum *h*.

The modified form of my invention shown in Fig. 2 consists in the adaptation of the heating apparatus to a fireplace, which may be either of the open sort or which may be used to receive the pipe of a stove or furnace. This form of the invention has a drum h^2 of a form exactly similar to that of the drums *h* and *h'*. This drum h^2 is located in the upper portion of the fireplace *i*, with the concave face of the drum at the front. Leading to the drum is a fresh-air duct *k*, coming from the outer atmosphere, and leading from the drum is a pipe e^2, which is the same as the pipe *e* and provided with the same arrangements for delivering and controlling the hot air, which is generated principally in the drum h^2 and also at all points along the length of the pipe *e'*, which pipe, as in the form of my invention shown in Fig. 1, extends through the chimney-flue c^2.

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

A heating apparatus for buildings, comprising a pipe extended up through the flue of the building and having communication with the atmosphere at its lower end, a drum hav-

ing concavo-convex faces, the drum being interposed between sections of the pipe and communicating with the interior thereof, and the drum having its concave side juxtaposed to a heat-inlet in the flue, thimbles fitted in the walls of the building and establishing communication between the pipe and the apartments of the house, and dampers commanding the pipe and arranged respectively adjacent to and above the thimbles.

DAVID M. HORTON.

Witnesses:
ANNA DEAN,
ROBT. S. DEAN.