

(No Model.)

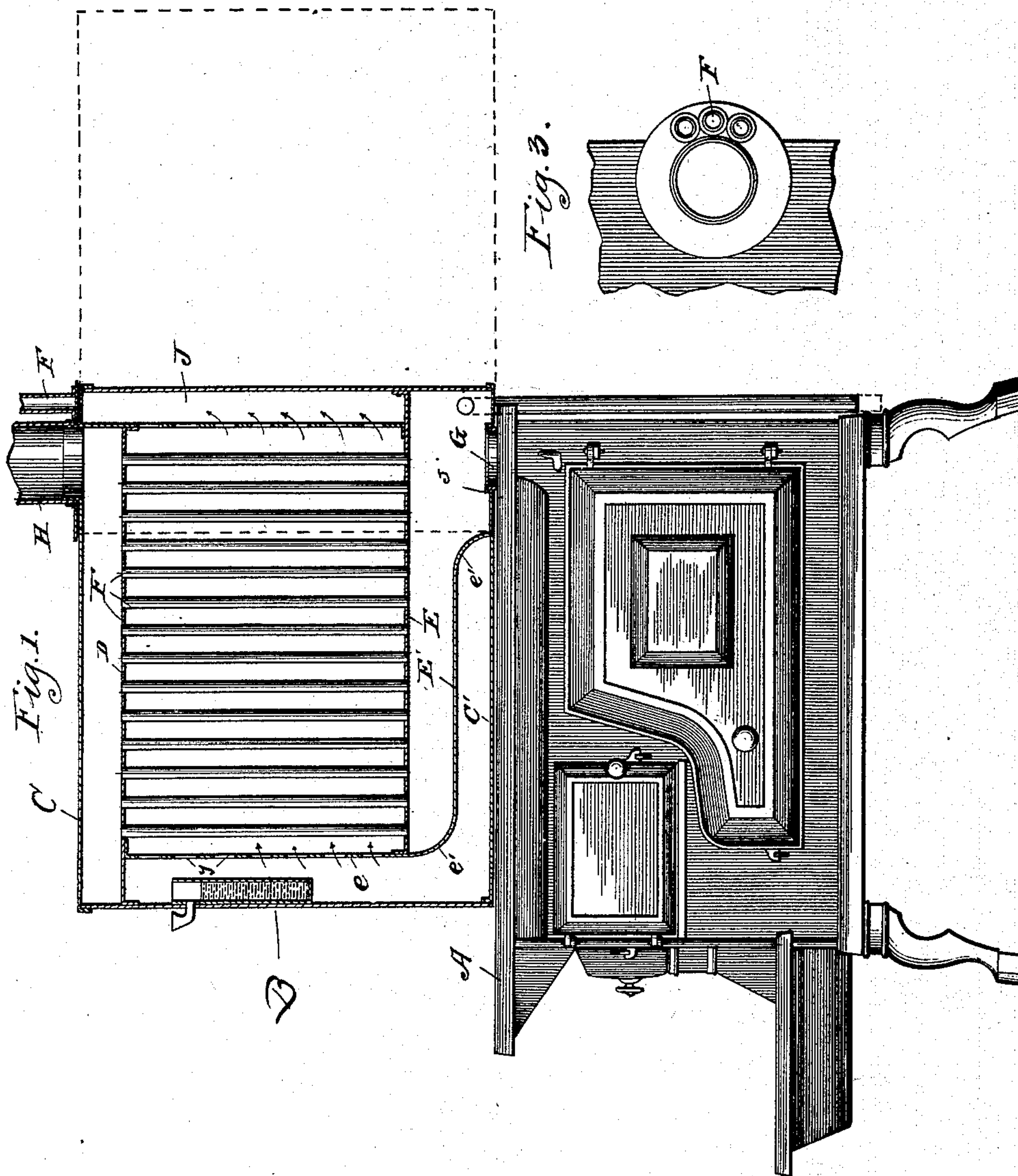
2 Sheets—Sheet 1.

F. J. HILBY.

AIR WARMING ATTACHMENT FOR STOVES.

No. 413,367.

Patented Oct. 22, 1889.



Witnesses,
S. J. Mann,
C. C. Luthman.

Inventor.
Frederick J. Hilby
By *Offield & Towle* Attys.

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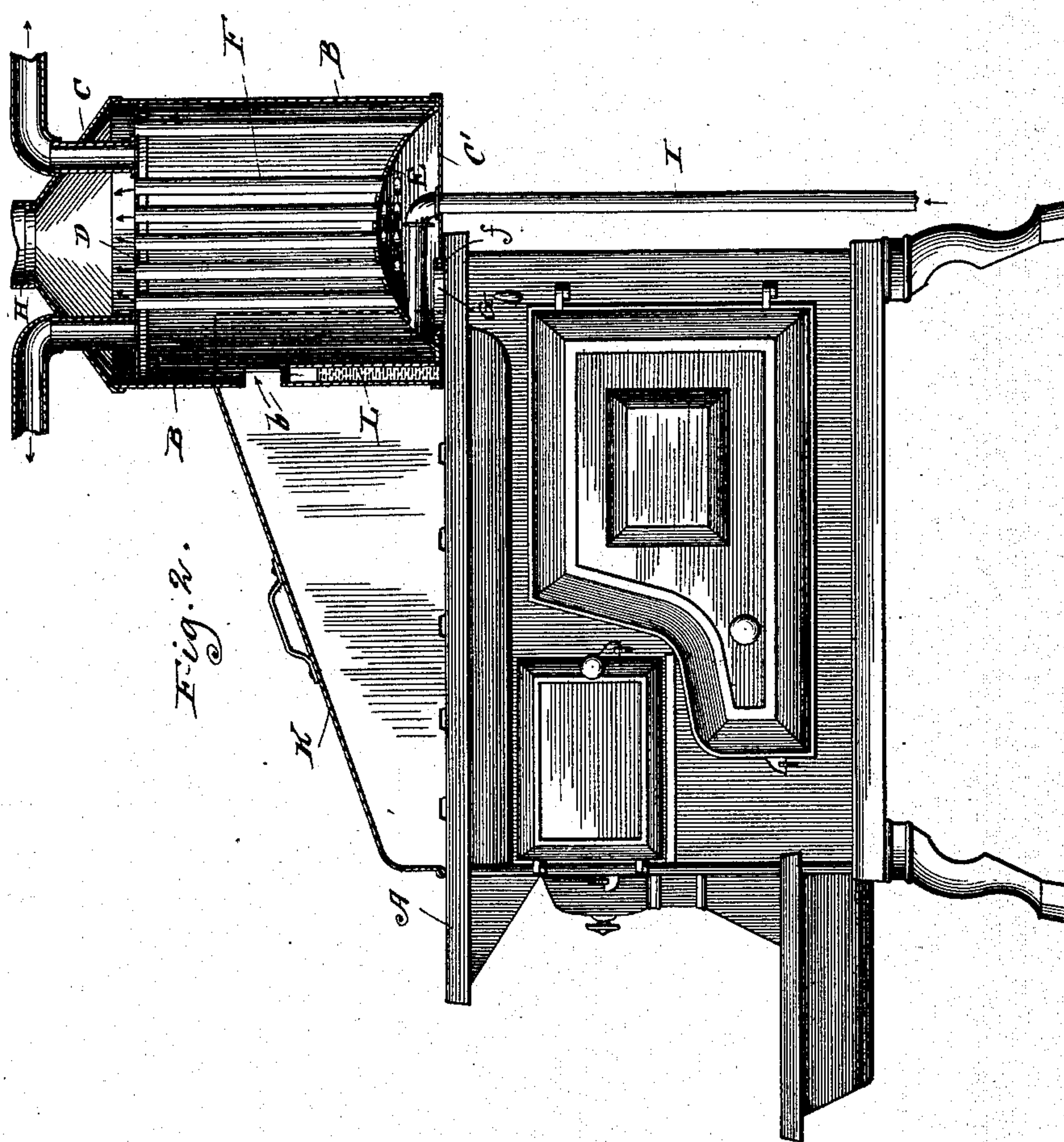
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UNITED STATES PATENT OFFICE.

FREDERICK J. HILBY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
HARRY W. TREAT, OF SAME PLACE.

AIR-WARMING ATTACHMENT FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 413,367, dated October 22, 1889.

Application filed May 20, 1889. Serial No. 311,485. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. HILBY, a subject of the King of Norway and Sweden, residing at Chicago, Illinois, have invented
5 certain new and useful Improvements in Air-Warming Attachments for Stoves, of which the following is a specification.

My invention has for its object to provide
10 an attachment for stoves whereby the waste heat is utilized to warm a body of air which, after being warmed, may be conducted to apartments of the building to warm them.

My improvement consists in a heating-chamber formed by inclosing-walls and hav-
15 ing smoke-flues extended through it, whereby the contained air is warmed, and which is also adapted to receive the radiated heat from the stove either by being placed directly upon it in one construction or by means of a heat-
20 deflecting hood, which is so placed with reference to the stove and air-warming chamber as to direct the heat into the latter.

In the accompanying drawings, Figure 1 shows the preferred form of construction,
25 Fig. 2 the alternative form, and Fig. 3 a detail.

Upon the stove A is mounted the air-warming structure, which has the inclosing side wall B, top wall C, and bottom wall C'.

30 D is a partition secured to the side walls B, preferably near the top of the chamber, and E is a second partition secured across the chamber toward its bottom, but in such manner as to leave an opening between its
35 edge and the side wall.

F represents smoke-flues, which are secured in an upright position, their ends being confined within suitable openings in the plates or partitions D and E. The lower ends of
40 these flues F communicate with the smoke-opening G in the top of the stove, and in the construction shown in Fig. 1 a plate E' is employed having a straight portion e, which is joined to the edge of plate E, and curved
45 portions e', which extend to side wall B at the back of the stove. Plate E' is provided with an aperture, through which the collar or flange f around the smoke-opening passes.

H is the smoke-pipe, which communicates

with the top of the chamber and conducts 50
away the smoke after it has passed through the flues F.

In the construction shown in Fig. 2 the heating-chamber is located near the rear of the stove and the plate E' is omitted. 55

I is a pipe to supply the heating-chamber with air to be warmed.

In the construction shown in Fig. 1, the superposed structure is adapted to be swung into the position shown by the dotted lines, 60 the collar f serving as the pivot on which it swings. The radiated heat enters the chamber directly in this construction and passes through perforations y in the straight portion of plate E', and after circulating around the 65 smoke-flues F escapes into the hot-air conduit J, by means of which it is led to the apartments to be warmed.

K, Fig. 2, is a deflecting-hood, which is used to cover the front part of the stove and adapted to direct the radiated heat through the opening b in the wall B. 70

I prefer to provide a water-chamber L, formed by an open-ended pipe placed inside the heating-chamber, whereby the heating- 75 air is moistened.

The form and size of the device may be considerably changed, and the arrangement of the parts may be considerably varied. Both of the forms illustrated may be pivot- 80 ally mounted, as described, and the hood is adapted for use with either form when the chamber is made to occupy only a portion of the top of the stove. Any desired number of smoke-passages may be employed; but I pre- 85 fer to use sufficient of these flues to provide a large area of radiating-surface about which the air is caused to circulate.

The device may be fitted around the stove-pipe; but I prefer the construction above 90 shown and described.

I claim—

1. The combination, with a flat-top stove, of an air-warming attachment therefor, hav-
ing a heating-chamber formed by inclosing- 95
walls pivotally mounted upon the stove-top and covering substantially the whole thereof, and having suitable air inlet and outlet open-

ings and smoke-passages, substantially as described.

2. The combination, with a flat-top stove,
of an air-warming attachment therefor, hav-
5 ing a heating-chamber formed by inclosing-
walls pivotally mounted upon the stove-top,
and a heat-deflecting hood to direct the radi-

ated heat into the chamber and in conjunc-
tion with said chamber covering the whole of
the stove-top, substantially as described.

FREDERICK J. HILBY.

Witnesses:

C. C. LINTHICUM,

T. D. BUTLER.