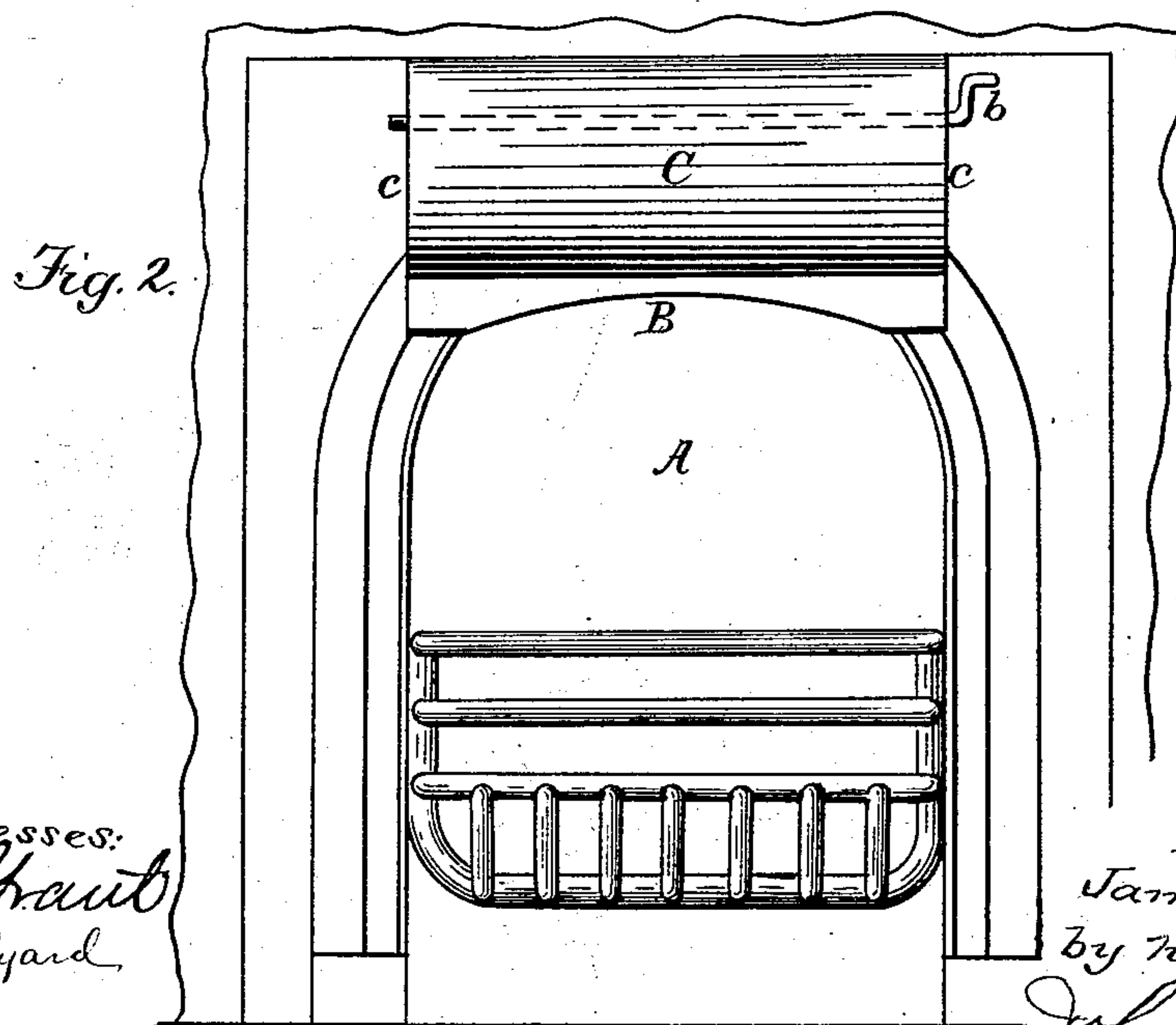
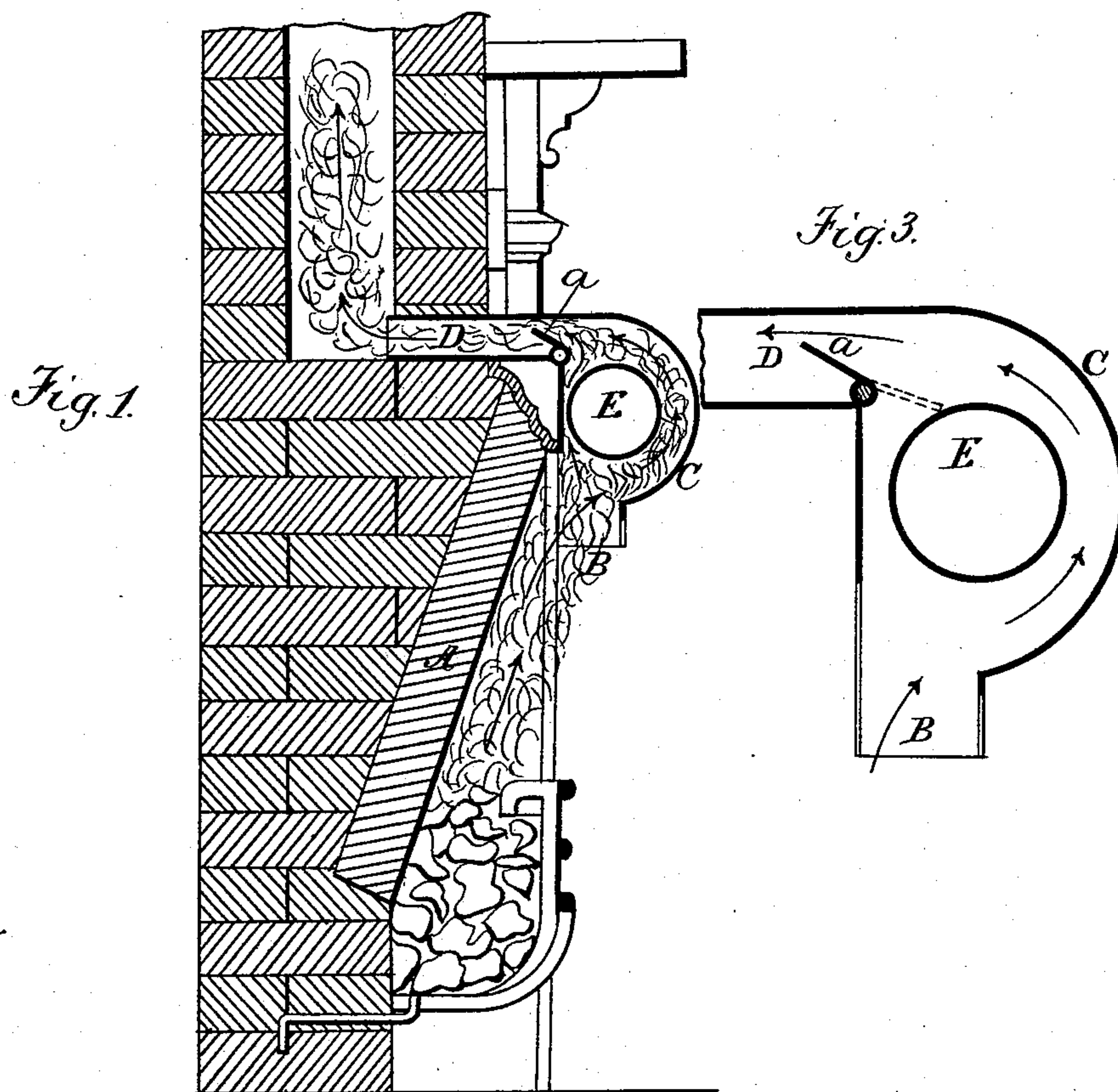


(No Model.)

J. PHILIPS.
HOT AIR FIRE PLACE.

No. 324,337.

Patented Aug. 11, 1885.



Witnesses:
R. E. Grant
V. B. Hillyard

Inventor:
James Philips
by his Attys
Johnson & Johnson

UNITED STATES PATENT OFFICE.

JAMES PHILIPS, OF NASHVILLE, TENNESSEE.

HOT-AIR FIRE-PLACE.

SPECIFICATION forming part of Letters Patent No. 324,337, dated August 11, 1885.

Application filed February 27, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES PHILIPS, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented new and useful Improvements in Hot-Air Fire-Places, of which the following is a specification.

My invention relates to that class known in United States Patent Office classification as the sub-class "Fire-Places, Hot Air," under the general class of "Stoves and Furnaces." In such fire-places it has been already proposed to utilize the waste products of combustion for heating purposes in various ways.

The object of my improvement is to make a construction of receiving-hood which, while inclosing a heating-drum having hot-air openings, shall also give its own heat to the chamber by radiation. These improvements are hereinafter specifically set forth with reference to the following description and accompanying drawings.

In said drawings, Figure 1 represents a front elevation of an open-grate chamber fire-place embracing my improvements, and Fig. 2 a front view thereof, and Fig. 3 the attachable hood-radiator.

There is, as shown, an inclined fire-back, A, and the construction of fire-place is such that the smoke or waste products of combustion pass into a bottom receiving-mouth, B, of a mantel-hood, C, projecting from the chimney-jamb at the top of the fire-back out into the chamber, and communicating with a draft-pipe, D, entering the flue of the chimney. Within said pipe is a damper, *a*, operated by a suitable crank, *b*, from the side of the hood.

Within the hood, and having its ends fixed in the sides *c* of the said hood, is an interior drum, E, concentric with said hood and open at both ends for the reception of atmospheric air, and its said ends may or may not be provided with gratings.

In the practice of the invention the damper is operated for the same purpose as that of the ordinary stove-damper, and while atmospheric air is heated in the inclosed drum, at the same time heat is radiated into the

chamber from the outer surface of the hood, through which the products of combustion pass, and within which is situated the hot-air heating-drum.

The hood is contracted at its receiving-mouth, and stands sufficiently out from the wall of the fire-back and below the upper end of the latter so as to form a draft-mouth direct from the fire in the grate.

The hood may be of any ornamental design and conformation suitable for its purpose, and the hot-air drum is not necessarily of cylindrical form, but must not fill the draft-space of the hood.

It will be noticed that the fire-back terminates flush with the front wall of the fire-place, and that by such construction all the heat is practically brought for radiation from the front of the fire-place before passing into the chimney-flue.

Instead of the drum, several pipes may be used, and it is obvious that as such pipes are only to increase the air-heating capacity of the hood, they may be dispensed with and the interior of the hood constructed in any suitable way.

The relation of the damper to the drum E is such that the damper may be turned down upon the drum to cut off the draft around it next the wall, and thereby direct all the heated products of combustion around the drum at the front of the hood, and thus increase the radiation of the heat. So, also, the relation of the drum, hood, and damper is such as to utilize the radiation of heat from the fire-place itself, as the indicated arrangement in the drawings shows.

I claim—

1. The fire-place air-heater herein described, consisting of the semicircular hood C, having a flat back, a horizontal top draft-pipe, D, a contracted mouth, B, the interior open drum, E, and the damper *a*, and constructed for attachment over the throat of an open-grate fire-place.

2. The combination, with the fire-place grate, of the mantel-hood air-heater having the interior horizontal open drum, E, the top horizontal draft-pipe, D, and the damper *a*, arranged to close the latter, and also the pas-

sage between said drum and the inner back
wall of the hood, whereby to cause all the
products of combustion to pass around the
drum at the front of said hood, said heater
5 forming an attachment upon the outside wall
of a fire-place, as shown.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing
witnesses.

JAMES PHILIPS.

Witnesses:

WM. T. RANDLE,
RANDLE BOND.