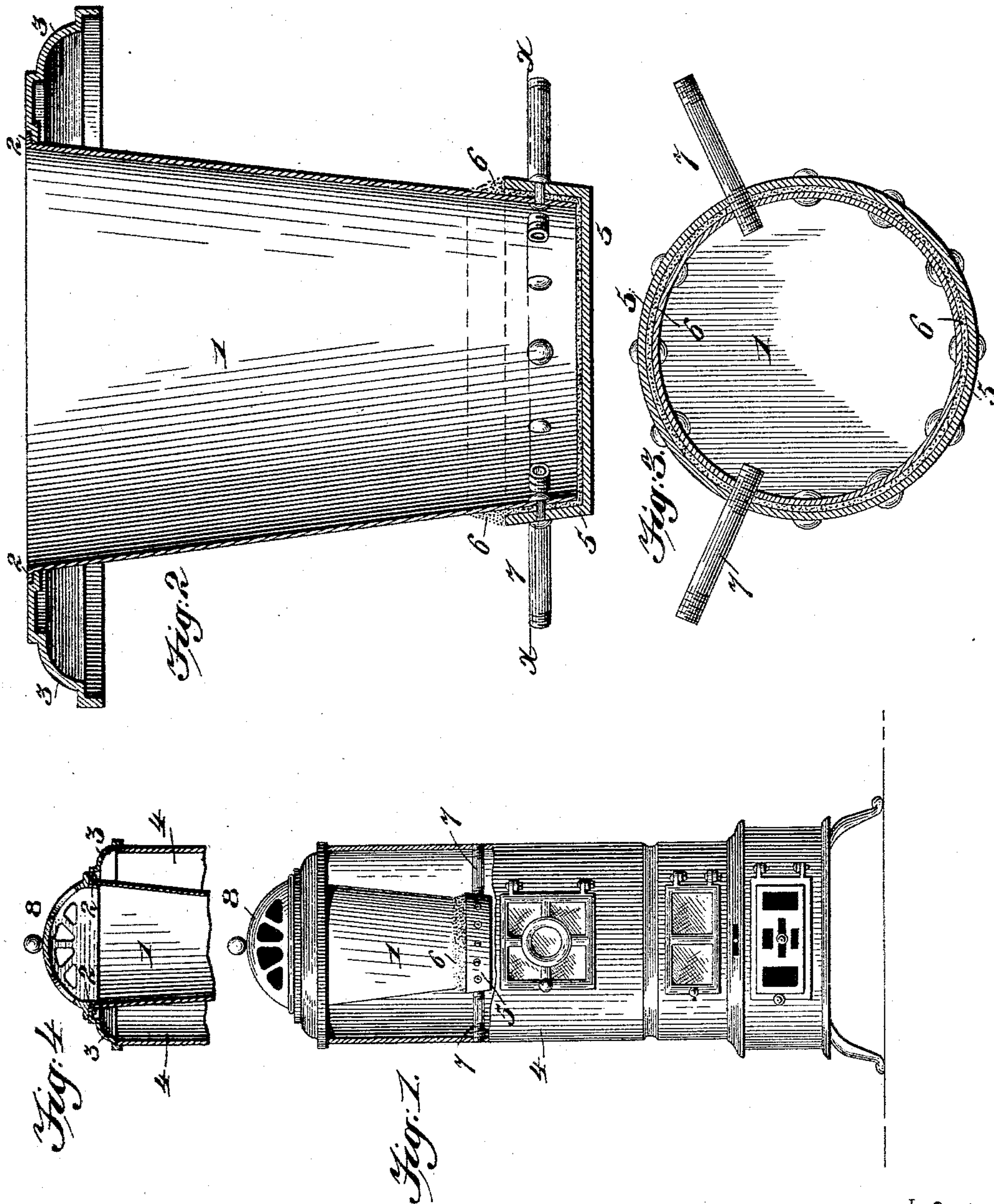


(No Model.)

J. H. J. CLARE.
HOT AIR ATTACHMENT FOR HEATING STOVES.

No. 602,814.

Patented Apr. 19, 1898.



Inventor

John H. J. Clare

Witnesses

H. G. Dieterich By *his* Attorneys,
V. B. Hillyard.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN H. J. CLARE, OF HAMMOND, INDIANA, ASSIGNOR TO LOUIS H. CLARE,
OF SAME PLACE.

HOT-AIR ATTACHMENT FOR HEATING-STOVES.

SPECIFICATION forming part of Letters Patent No. 602,814, dated April 19, 1898.

Application filed February 20, 1897. Serial No. 624,498. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. J. CLARE, a subject of the Queen of Great Britain, residing at Hammond, in the county of Lake and State of Indiana, have invented a new and useful Hot-Air Attachment for Heating Stoves and Furnaces, of which the following is a specification.

The purpose of this invention is to utilize fuel to the best possible advantage for heating a room or apartment in which is located a stove of ordinary construction.

Another object incidental to the construction is an increased circulation of the air, whereby the cool air generally occupying the lower portion of a room is heated and caused to ascend, thereby compelling the warm air to descend and take the place of the cool air being heated and rising, thereby equalizing the temperature of the room containing the heater.

The invention consists of a tapering body or drum of sheet metal having an outer flange at its upper end and suspended within the upper portion of a heating-stove by means of said flange and a ring removably fitted to the upper end of the stove, a shallow cast-metal pan, having its rim flaring and embracing the lower or smaller end of the drum and secured thereto, and air-supplying pipes extending through the sides of the stove, the rim of the cast-metal pan, and the lower end of the drum, and projecting into the latter a short distance and arranged relatively at an angle to each other, as will appear more fully hereinafter.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a front view of a heating-stove supplied with the attachment, the upper portion being broken away, showing the relation of the hot-air pot and the air-pipes. Fig. 2

is a vertical central section of the heating attachment. Fig. 3 is a plan section on the line X X of Fig. 2. Fig. 4 is a vertical section of the upper portion of a stove and attachment, showing the relation of the parts.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference characters.

The hot-air pot has its body portion 1 constructed of sheet metal and of conico-cylindrical form, the upper edge having an outer flange 2, snugly fitting within a rabbet or annular depression provided at the inner edge of a cast-metal ring 3, which is fitted to the upper end of the stove 4 and forms a tight joint therewith to prevent any escape of smoke or gas. The joint between the flanged edge 2 of the hot-air pot and the ring 3 is close to preclude the escape of any gas or smoke, the ring closing the space formed between the body of the stove and the hot-air pot, as clearly indicated in Fig. 1.

A cast-metal pan 5 forms the bottom of the hot-air pot and is secured to the body 1 by rivets or like fastenings passing through corresponding openings in the lower portion of the body 1 and the rim of the pan 5. This pan is shallow and its rim flares to correspond with the inclination of the sides of the body, so as to snugly receive the lower end portion thereof. Fire-clay or like material 6 is provided at the joint formed between the body and pan to prevent any possible opening for the escape of smoke or gas and to increase the period of usefulness of the attachment by preventing the lower portion of the body burning out.

Pipes 7 communicate with the lower portion of the hot-air pot and pass through the rim of the shallow pan 5 and project a short distance into the hot-air pot, and their outer ends extend through the sides of the stove 4 and provide for the entrance of cool air to be heated and subsequently utilized for warming the room. These pipes 7 enter the hot-air pot at different angles, as clearly indicated in Fig. 3, so as to obviate conflict between the incoming currents, which would result if the pipes were located at diametrically opposite points.

By having the hot-air pot suspended entirely within the upper portion of the heating-stove its entire surface is subjected to the heat confined therein, and the air passing
5 through the attachment is quickly heated, thereby utilizing all the surface of the pot, and, moreover, by having the body constructed of sheet metal it radiates the heat much quicker than would be possible if it
10 were formed of heavy metal or cast. The bottom, being cast, is sufficiently heavy to withstand the extreme heat at this point, thereby preventing the burning out of the attachment. The body flaring or increasing in diameter
15 toward its upper end brings the sides in better position to receive the impact of the heat, and the results are superior than if the sides of the pot were straight or parallel. In order to give a neat finish, the upper portion or
20 end of the attachment is closed by a cover 8, having a series of openings which admit of the free exit of the hot air, and this cover in no wise affects the operation of the invention, whether omitted or in position, as the open-
25 ings therein offer no obstruction to the passage of the warmed air.

It will be understood that the attachment is a direct air-heater, and while shown and
30 it can be applied equally well to a furnace or

other form of heater, thereby attaining the same ends and advantages herein referred to and which result from the specific construction of the means employed.

Having thus described the invention, what 35 is claimed as new is—

The combination with a heating stove or furnace, of an attachment comprising a ring removably fitted to the upper end of the stove, a conico-cylindrical body of sheet metal hav- 40 ing an outer flange at its upper end by means of which it is removably suspended from the said ring, a shallow cast-metal pan having its rim portion flaring and embracing the lower smaller end portion of the sheet-metal body 45 and firmly attached thereto, and pipes having their outer ends extending through the sides of the stove-body and their inner ends passing through the rim of the pan and the lower por- 50 tion of the body and projecting a short distance into the said body, and arranged relatively at an angle to each other, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature 55 in the presence of two witnesses.

JOHN H. J. CLARE.

Witnesses:

CHAS. E. E. COONS,
HENRY BECKMANN.