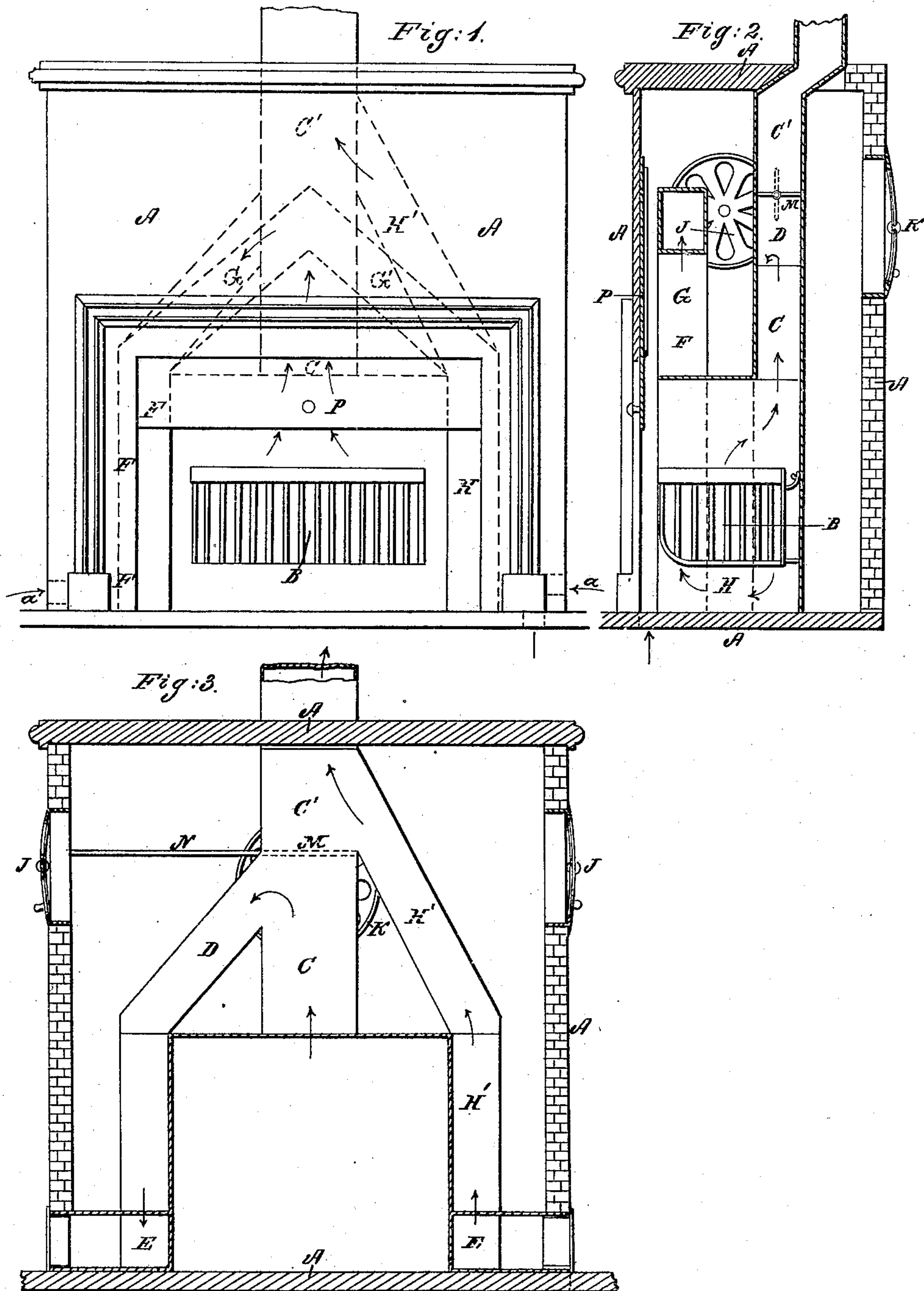


G. A. CLARK.

Fire Place.

No. 25,629.

Patented Oct. 4, 1859.



Witnesses:

S. H. Wales
C. M. Hughes

Inventor:

G. A. Clark.

UNITED STATES PATENT OFFICE.

G. A. CLARK, OF FARMINGTON, CONNECTICUT.

FIREPLACE.

Specification of Letters Patent No. 25,629, dated October 4, 1859.

To all whom it may concern:

Be it known that I, G. A. CLARK, of Farmington, in the county of Hartford and State of Connecticut, have invented a new and Improved Hot-Air Fireplace; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, represents a front elevation of the fire place showing caliducts in dotted lines. Fig. 2, is a transverse vertical section taken centrally through Fig. 1. Fig. 3, is a vertical transverse section taken through the red line *x, x*, of Fig. 2.

Similar letters of reference indicate corresponding parts in the three figures.

My invention relates to the heating of apartments by an economy of the heat of the ordinary fire place and instead of conducting the hot air and smoke directly up the chimney as in ordinary fire places, it is retained and radiated or conducted where-soever may be desired while at the same time the heat by reflection into the room is obtained as with the common fire place.

My invention consists in a peculiar arrangement of caliducts communicating with the fire place of the ordinary description or with any suitable fire place, for burning wood or coal, which may be devised; and it consists in arranging these flues in such a manner that there can be no accumulation of soot or ashes in them and so that all the ashes will fall into boxes, arranged in convenient places on either side of the fire place, which can be readily removed and emptied; and it consists in causing the smoke to pass up the vertical smoke flue and down an inclined flue and giving it a circuitous direction over and around the fire place, and then conducting it up the vertical flue space to the chimney as hereinafter fully described, so that the cold air which enters from the room is heated and allowed to escape again through suitable registers in the sides of the fire place or in the adjoining apartment or it may be conducted into the apartments above, or wherever may be desired.

A, A, represents the brick casement and B, the grate bars to be used in case of burning coal, but when wood fire is to be made the grate is removed and the fire built in the

usual manner in the fire-place and the heat thrown into the room by reflection upon the sides and back of the fire-place, but in order to economize in the fuel and to obtain all the heat from the fire I arrange the caliducts or flues in the following manner: C, represents a vertical smoke pipe which conducts the smoke and hot air to an inclined branch pipe D, as indicated by the red arrows, it is then drawn down this flue until it reaches the horizontal flue or box E, (Figs. 2 and 3,) when it again takes an upward course through flue F, and inclined flues G, G¹, and is again conducted down upon the opposite side of the fire place and passes through the flues lettered H, H¹, and escapes into the main smoke pipe C¹. During this circuitous passage of the heated air and smoke through the flues it is constantly imparting its caloric to the air which is contained in the casement A, A, and this air in its heated state is permitted to escape into the apartment; the temperature of which may be regulated by the registers J, J, through which the hot air escapes. The cold air is let into the casement through openings *a, a*, shown in dotted lines Fig. 1, in the jambs of the fire place or it may be brought in from underneath the hearth from the cellar or room below. I have shown in the back of the casement a register K, this may be used to warm the second room if it has no chimney; or by having a pipe communicating with the upper room, and closing the registers J, J, this room may be kept warm and comfortable, at the same time the lower apartment will be receiving the ordinary amount of heat from the fire in the fire place.

The pipes or flues communicating with the vertical flues over the fire place are all made slanting and as much so as possible in order to prevent the accumulation of soot and ashes; this arrangement is deemed necessary for were these flues horizontal they would soon become choked up, and there would be no convenient way for cleaning them, but with the inclined flues the ashes all fall down into the boxes E, E, from which it can be readily taken.

In building up a fire it may be found necessary to have a direct and rapid draft,—this I obtain by means of the damper M, which may be turned off or on as desired by a damper rod N. When the fire is sufficiently

kindled and the pipes heated up the damper is closed and the draft takes the direction of the arrows, as above stated.

5 In front of the fire place I have arranged a blower P, which slides up and down in order to increase or diminish the draft, but upon this I lay no claim as blowers of this description and arrangement I believe have been used, neither do I wish to claim heat-
10 ing the cold air by means of pipes which retard the draft irrespective of arrangement, for the back, the jambs, the hearth and the mantle have all been made hollow to serve the purpose of pouring a copious
15 supply of heated air into the apartment, the

cold air being drawn in from one side of the fire place and heated and driven out at the other.

What I claim as my invention and desire to secure by Letters Patent, is.

20 The within described arrangement of caliducts C, D, E, E, F, G, G, H, H¹, and C¹, when the same are applied to a fire place in the manner and for the purposes herein set forth.

G. A. CLARK.

Witnesses:

S. H. WALES,

CHS. M. HUGHES.