

E. CONGER.

2 Sheets—Sheet 1.

Fire Place.

No. 288.

Patented July 22, 1837.

Fig. 1.

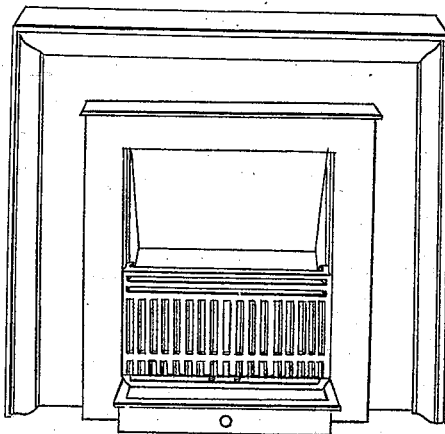


Fig. 2.

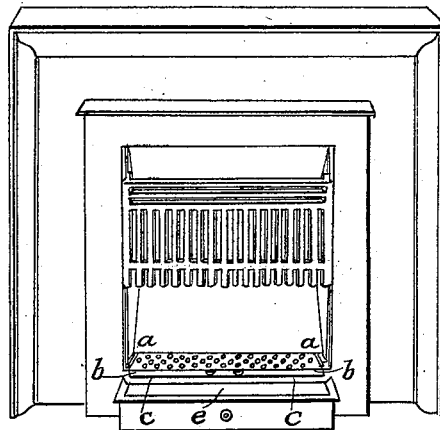


Fig. 3.

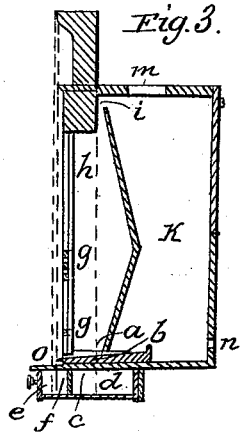


Fig. 6.

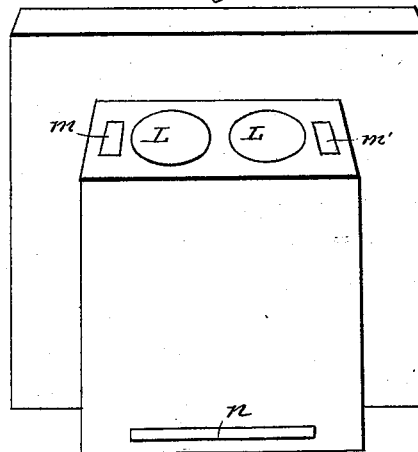


Fig. 7.

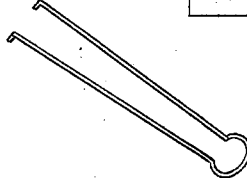


Fig. 4.

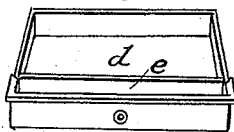
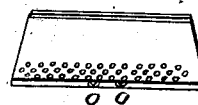


Fig. 5.



Witnesses:
John Moulton
John C. Hutton

Inventor:
E. Conger

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Fig. 8.

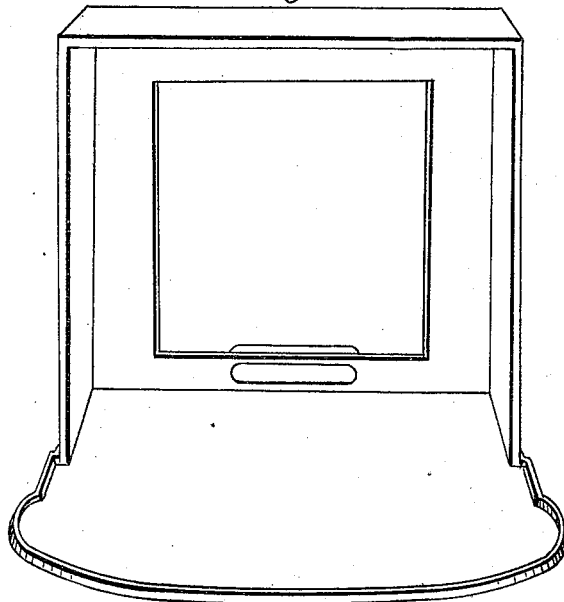
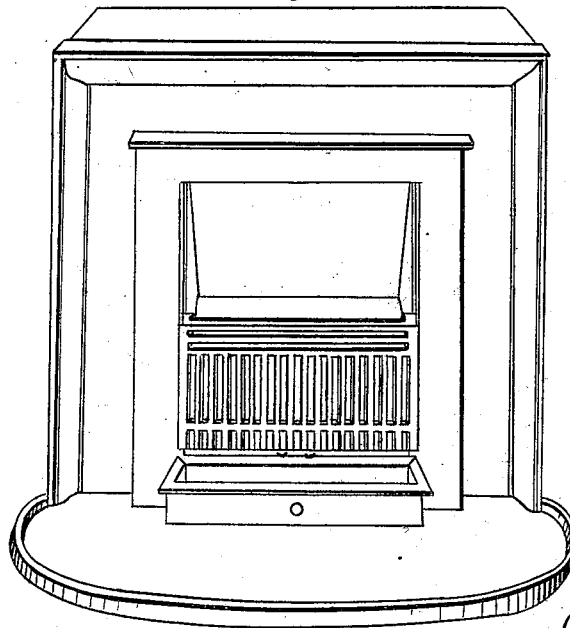


Fig. 9.



Witnesses:
John Monahan
John C. Mattman

Inventor:
Edison Conger

UNITED STATES PATENT OFFICE.

ELLISON CONGER, OF NEWARK, NEW JERSEY.

CONSTRUCTION OF GRATES AND FIREPLACES.

Specification of Letters Patent No. 288, dated July 22, 1837.

To all whom it may concern:

Be it known that I, ELLISON CONGER, of the city of Newark, in the county of Essex and State of New Jersey, have invented a new and improved Mode of Constructing Fireplaces for the Combustion of Anthracite and other Species of Coal; and I do hereby declare that, the following is a full and exact description of the same.

10 The nature and peculiarity of my invention consists in supporting the coal upon a hearth and making the flue at or near the bottom of the fireplace; thereby obtaining a horizontal draught of air through the fire, 15 either direct or laterally.

To enable others skilled in the art, to construct and use my invention, I will proceed to describe its construction and operation.

Over an ashpit of any required dimensions, I place a corresponding hearthplate of cast iron, or any other incombustible substance, firmly, in a horizontal position. Near and parallel to the front edge of the hearthplate, are made several rows of holes 25 through the plate, to permit the ashes to fall into the ashpan below. The ashpan is divided by a transverse vertical partition into two compartments; the back one of which is of nearly the same size as the ashpit and fits into it as nearly air-tight as may be. The front compartment projects a few inches beyond the front of the hearthplate to receive such ashes and coal as may fall from the grate. Upon the hearthplate is placed 35 a movable plate of cast iron, or some other incombustible substance, a little smaller than the hearth, which I denominate the sifter: with holes through it a little smaller than those through the hearth, corresponding with those through the hearth, so arranged, that when the front edges of the two plates are flush with each other, the holes through the two plates do not meet, and an upward access of air to the fire is prevented. The back edge of the sifter is considerably thicker than the front edge, its upper surface forming an inclined plane. Hence when the sifter is alternately moved backward and forward, (which is done with 50 a suitable pair of tongs) not only the ashes fall into the ashpan, as the holes in the two plates coincide, but the whole body of fuel is moved gently up and down, producing that slight degree of motion and derangement which experience evinces, best conduces to the revival of an anthracite coal

fire. It is not essential that the sifter should be thicker at the back edge than at the front. It will answer the purpose of a support for the fire equally as well if made of a uniform thickness; and, as well also, the purpose of regulating the admission of air to the fire. Nor is it necessary to use a sifter at all, or to have the hearth perforated but it will in general be most convenient to use 65 both the sifter and perforated hearth in order to avoid the use of a poker and the escape of dust to the room.

On each side of the hearthplate I erect the jambs or coverings of the fireplace, and at such a distance from each other as will permit the sifter to move freely between them. At a height about equal to the mean thickness of the sifter, I make a small offset in each jamb, for the end bars of the grate 75 to rest upon, leaving an appropriate vertical groove, just within the return sides of the jambs, for the grate to slide up and down in, they are built up perpendicularly to the mantel. Behind the groove, the offsets 80 on the jambs should be as high as the thickest part of the sifter, immediately before the raised edge which constitutes its back, these latter offset are carried back the whole depth of the jamb, and upon them the back of the fireplace rests: between the lower edge of which, and the upper surface of the sifter, a space occurs, and produces a horizontal draft of air through the fire. This I term a direct horizontal draft; but if 90 that space be closed with a damper or otherwise and an aperture be made in one or both of the jambs and on a level with the sifter, we then obtain a lateral horizontal draft.

The back of the fireplace may be constructed of brick, soapstone, or cast iron. The lower part of the brick should incline backward, and the upper part forward, forming an angle at about the height of the top of the grate. The upper edge of the back should not touch the breast or back of the mantel, leaving a small space or opening to carry off the gas and dust which may arise from the fire. 95

In the foregoing description I have purposely omitted giving any determinate dimensions for my fireplace, because they must necessarily vary with the size of the rooms to be warmed and the purposes for which the fires may be wanted. Neither have I 110 designated the materials of which the carvings, mantel, and other parts common to all

fireplaces should consist. I propose to construct them of brick, marble, soapstone, iron or any other material applicable to the purpose.

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

1. The application of a hearth to support the coal, of the flue at or near the bottom of the fireplace to produce its combustion,
10 and of the sifter, of the form above described.

2. I also claim the exclusive right to each, and every modification of a heat chamber to be attached to the back, or any other parts
15 of fireplaces of the above specified construction; to be used immediately for heating cooking utensils; or intermediately as a reservoir whence heat may be conveyed to other apartments, or apparatus elsewhere placed,
20 to effect any domestic or manufacturing process, in which heat is requisite.

Explanation of the drawings.

Figure 1, a front view of the fireplace.

25 Fig. 2, the same, with the grate slid up, showing the lower edge of the back, *a, a*, between which and the sifter *b, b*, the fire occurs. *c, c*, the fixed hearthplate having holes through it which occasionally coincide
30 with those in the sifter, and permit the ashes to fall into the ashpan, *c*, the front compartment of the ashpan to receive coals, &c., which may fall through the grate. The partition of the ashpan should fit tightly
35 under the edge of the hearth-plate; and its back compartment should fit tightly into the ashpit, that, should occasion require, there may be no draught through the hearth and sifter.

40 Fig. 3, a sectional view of the fireplace;

the letters referring to the same parts as in Fig. 2. The flue between the back and sifter is shown at *a, b*, the grate at *g, g*, the groove in which it slides is shown at *h, —i*, points
45 out the space between the back and the breast to carry off the gas and dust. *K*, shows a heat chamber where cooking utensils may be fixed as represented at *L, L*, Fig. 6, or it may be used as a reservoir, from
50 which heat may be conveyed to any other place where it may be wanted. And this may be done from any of the apertures, as *m, m*, or *n*; or by the use of dampers, each one may be used alone, alternately with the
55 other, or the heat may be permitted to escape through *m*, into the chimney.

Fig. 4, the ashpan withdrawn from its place *a*, the back compartment; *e*, the front one.

Fig. 5, the sifter. At *o, o*, are staples, or
60 ears, into which the hooked ends of the tongs, Fig. 7, are inserted to move the sifter backward and forward, to clear the fire.

Fig. 6, presents a back view of the fireplace and heat chamber connected.

Fig. 7, a pair of tongs, of brass, or other wire.

Fig. 8, represents one mode in which the fireplace may be fitted up; viz, in a case
70 resembling a Franklin, and

Fig. 9, shows the appearance it would have when placed in such a receptacle.

The foregoing description, with the drawings annexed will, it is believed enable anyone skilled in the arts to construct a fireplace
75 involving my principles.

ELLISON CONGER.

Witnesses:

JOHN MOREHOUS.

J. C. NUTTMAN.