C. M. COULTER.

FIRE-PLACE HEATER.

No. 192,416. Patented June 26, 1877.

Fig. 1

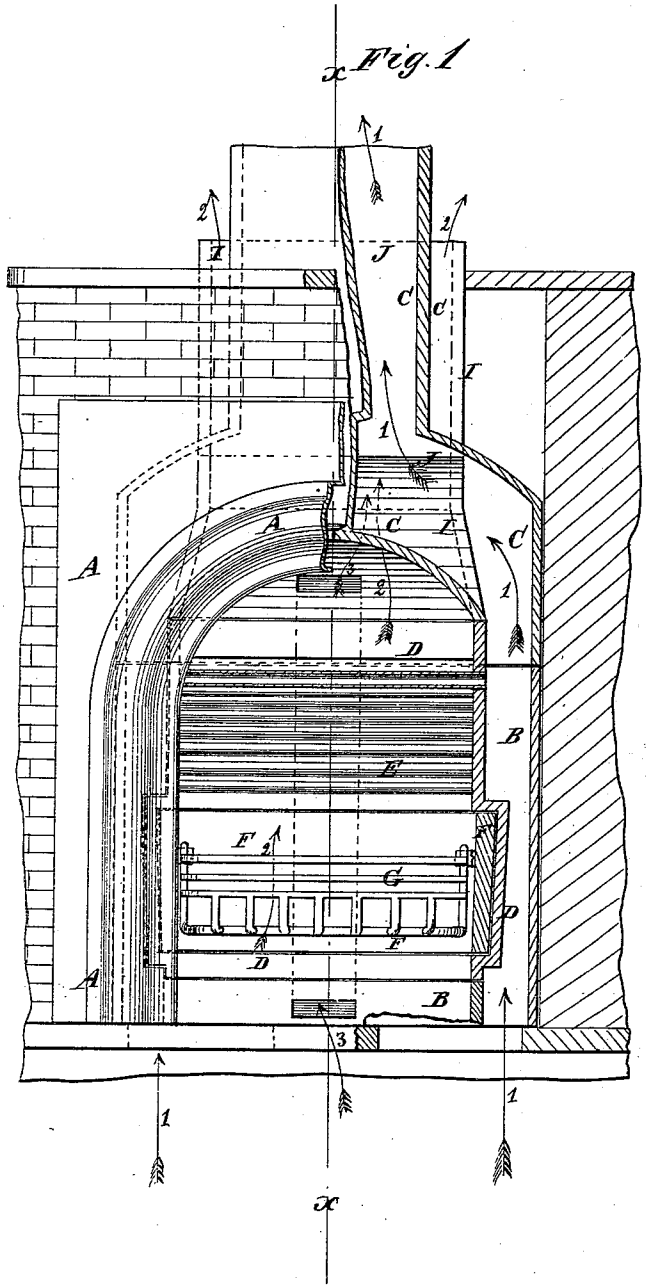
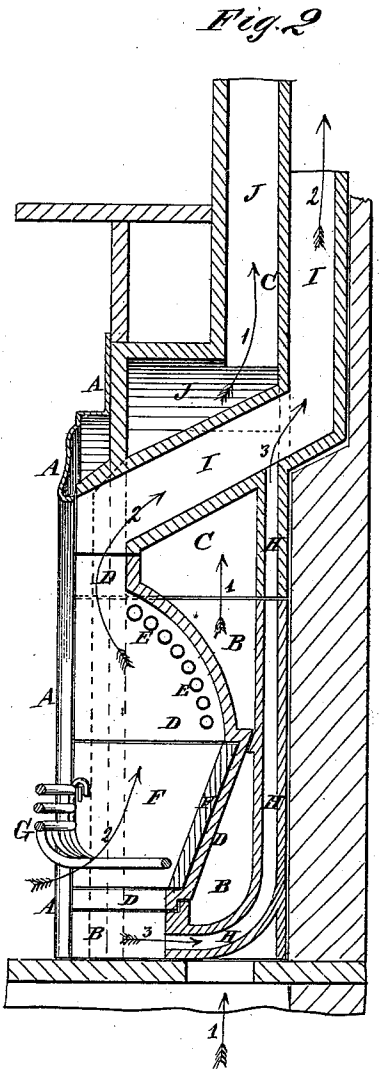


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

COLUMBUS M. COULTER, OF DANVILLE, ILLINOIS, ASSIGNOR TO HIMSELF AND LYSANDER JOHNSTON, OF SAME PLACE.

IMPROVEMENT IN FIRE-PLACE HEATERS.

Specification forming part of Letters Patent No. **192,416**, dated June 26, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that I, COLUMBUS M. COULTER, of Danville, in the county of Vermillion and State of Illinois, have invented a new and useful Improvement in Fire-Place Heaters, of which the following is a specification:

Figure 1 is a front view of my improved fire-place heater, shown as applied to a fire-place, and partly in section to show the construction. Fig. 2 is vertical section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved fire-place heater or furnace-grate for warming cold air and introducing it into the room, or into a room or rooms above, which shall be so constructed as to thoroughly and quickly heat the air, and to enable the heater to be conveniently set up and taken down for repairs.

The invention consists in providing the fire-box with tubes extended across and entering the air-chamber at the sides thereof, as hereinafter more fully described.

A is the front of the heater, which is made separate from the other parts, in the usual way. B is the base-section, upon which the top section C rests, and in the lower part of which is formed the seat for the fire-box D, which forms the middle section.

Across the upper or arched part of the fire-box D are arranged a number of cross-tubes, E, the ends of which pass through the side walls of the said fire-box D, and open into the air-chamber surrounding the said fire-box D. The tubes E are designed to heat the air passing through them, and at the same time check the smoke and soot as they are passing up to the smoke-flue, and thus cause them to be consumed. The lower part of the fire-box D is made with a recess upon its back and sides to receive the fire-brick lining F. To the lower part of the fire-box D is attached the grate G, to receive and support the fuel.

In the front of the base-section B is formed an opening, from which a flue, H, leads up, through the air-chamber of the sections B C at the back of the fire-box D, into the throat of the smoke-flue I, to enable a current of cold air to be introduced into said throat when desired.

The smoke-flue I is formed with the upper section C, and leads from the top of the fire-box D, through the upper part of the air-chamber, to the chimney-flue.

From the air-chamber of the sections B C, the back and sides of the fire-box D, and the throat of the smoke-flue I, a flue, J, leads up in front of the smoke-flue I, to conduct the hot air to the room or rooms to be heated.

The cold air to be heated enters through an opening in the bottom of the heater, passes up through the air-chamber of the sections B C, and into the hot-air flue J, as indicated by the arrows 1.

The air enters through the front opening in the base-section B, and passes up through the flue H into the smoke-flue I, as indicated by arrows 3.

The air to support combustion enters the fire-box D, and the smoke escapes through the smoke-flue I, as indicated by the arrows 2.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with a fire-box, D, of the tubes E, extended across and entering the air-chamber at the sides thereof, substantially as and for the purpose described.

COLUMBUS M. COULTER.

Witnesses:

E. A. LEONARD,

J. M. PARTLOW.