

J. ADAIR.  
Fire-Place.

No. 165,194.

Patented July 6, 1875.

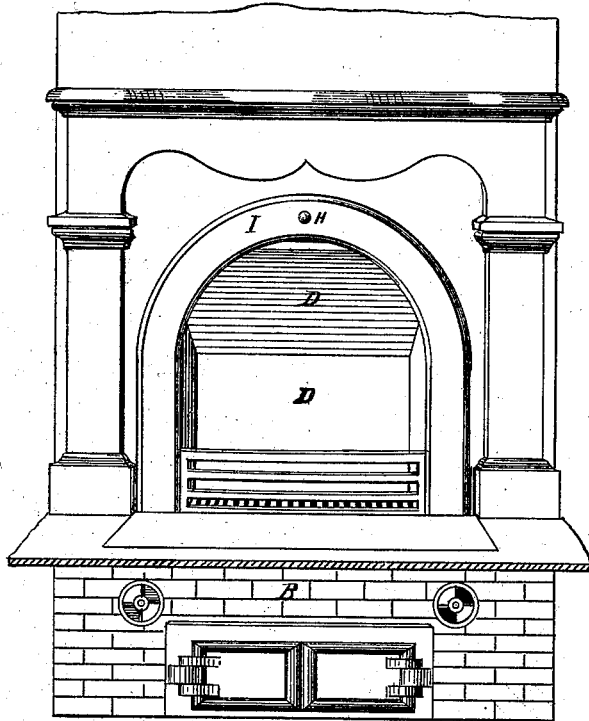


Fig. 1.

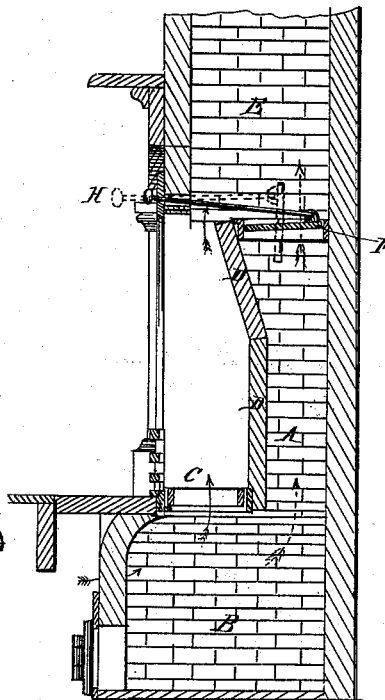


Fig. 2.

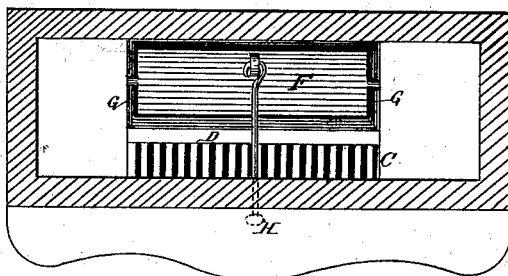


Fig. 3.

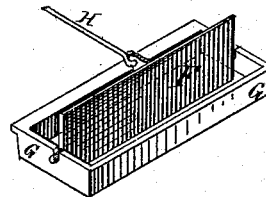


Fig. 4.

Witnesses { Francis L. Clark  
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# UNITED STATES PATENT OFFICE.

JAMES ADAIR, OF KILLBUCK TOWNSHIP, (PITTSBURG P. O.,) ALLEGHENY COUNTY, PENNSYLVANIA,

## IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **165,194**, dated July 6, 1875; application filed March 1, 1875.

*To all whom it may concern:*

Be it known that I, JAMES ADAIR, of Killbuck township, (Pittsburg P. O.,) State of Pennsylvania, have invented an Improvement in Fire-Places, of which the following is a specification:

The object of my invention is to control the draft, to prevent ashes liberated by raking from getting into the room, and to keep the bars cool of a fire-grate located in any story of a house, but drawing its air-supply from the cellar or from outdoors; and it consists in causing the air-current to go through or to go past the fuel in the grate at pleasure by a large straight dust-flue, A, Figure 2, in the accompanying drawing, extending from the interior of an ordinary ash-pit, B, Figs. 1 and 2, thence past the rear of a "low-down" grate, C, Figs. 2 and 3, and its tile D, Figs. 1, 2, and 3, into a chimney-flue, E, Fig. 2, in combination with a valve or damper, F, Figs. 2, 3, and 4, balanced on trunnions, which turn in suitable bearings of a frame, G, Fig. 4, closely fitted into the said dust-flue A, Fig. 2. To the upper surface of said valve F, Figs. 2, 3, 4, is centrally affixed a perforated lug or ear, made to turn on the hooked end of a thrusting valve-rod, H, Figs. 2, 3, 4, which passes through a central hole in the upper part of a fire-place frame I, Fig. 1, thence out into the room, where it terminates in an ornamental handle or knob, by which it is operated. The principal outlet or passage from the interior of the ash-pit B, Figs. 1 and 2, to the chimney-flue E, Fig. 2, is directly through the low-down grate C, Figs. 2 and 3, as usual; but the secondary outlet A, Fig. 2, may extend past the ends of the grate C, Figs. 2 and 3, instead of the rear, the valve-rod H, Figs. 2, 3, 4, to be located accordingly. The ash-pit B, Figs. 1 and 2, is supplied with air from the cellar or from outdoors by suitable registers, openings, or pipes near the upper part, which should

not admit more air than can pass the valve F, Figs. 2, 3, 4, when it is wide open.

The operation is as follows: By pushing in the valve-rod H the valve F closes and the air entering the ash-pit B passes through the fuel in the grate C, but by drawing out the valve-rod H the air passes behind the fuel, past the open valve F, and up the chimney. By opening the valve, as described, before raking the fire the ashes are sucked into the ash-pit, and, the air-current being continuous, the grate-bars are kept cool.

The mode heretofore employed to check the fire in a low-down grate required an air-tight ash-pit and the grate to be on the first floor to be effective. It having proven practically impossible to make ash-pits air-tight, most low-down grates have been unmanageable, but by my invention the grate can be used and controlled on any floor of a house, while air freely enters the ash-pit, with which the grate is connected.

I know a dust-flue constructed behind a grate is an old invention; also that an ash-pit with a grate arranged above it has been made to communicate with the room by a damper in the hearth in front of the grate for regulating the draft.

I claim as my invention—

In combination with an air-supplying ash-pit, a fire-chamber, an interposed low-down grate, and an independent flue leading from such ash-pit past the fire-chamber into the chimney, and provided with a damper, all arranged substantially as set forth, whereby, when the damper is open, the main line of draft shall be up such independent flue, but when closed shall be through the fire.

JAMES ADAIR.

Witnesses:

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