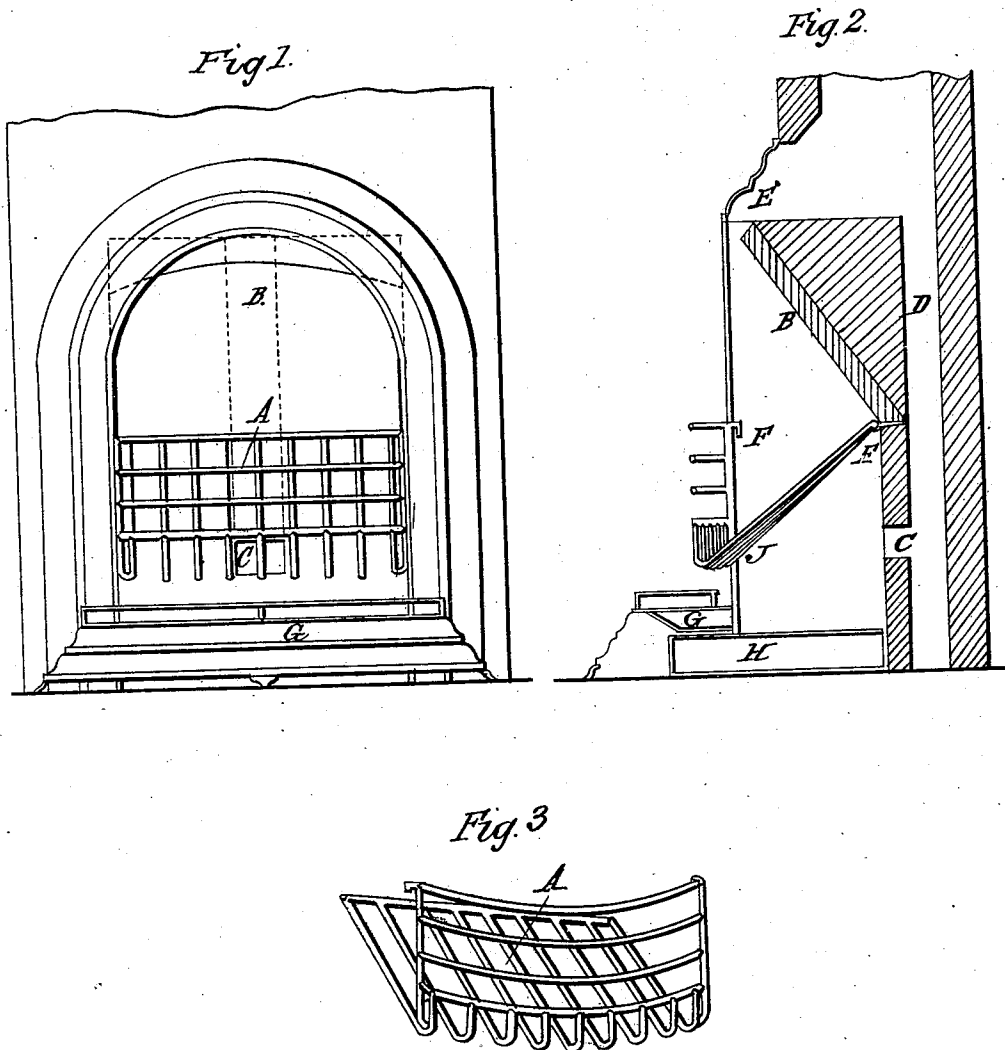


J. WALLACE.
Grate Combination.

No 70,924.

Patented Nov. 12, 1867.



Witnesses
J. H. Craig
D. H. Brown.

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UNITED STATES PATENT OFFICE.

JOHN WALLACE, OF LOUISVILLE, KENTUCKY.

GRATE-COMBINATION.

Specification forming part of Letters Patent No. **70,924**, dated November 12, 1867.

To all whom it may concern:

Be it known that I, JOHN WALLACE, of the city of Louisville, county of Jefferson, and State of Kentucky, have invented a new and Improved Grate-Combination consisting of basket, tile-back, and angle of setting; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference thereon marked.

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

That portion marked B in Figure 2 in drawing represents the tile, composed of fire-clay made of same material as fire-brick, at less cost and more durable, is semicircular in shape, between four and five inches in thickness, fourteen inches high, and twenty inches wide, or in dimensions to suit different sizes of grates. This tile constitutes the back of the grate, and is set at an angle of forty-three degrees, inclined from the top of back of basket, at F, forward.

Letter A denotes the basket, adapted to every size and pattern of grate-frame. The front is oval-shaped. The back of the basket, from J to F, with the tile from E to F, forms an angle of forty-three degrees from top of tile at E to bottom of basket at J. The top of the back of basket, at F, is on a level with front top bar of grate, (also marked F.) The basket is thus made nine and a half inches deep from front to back.

The brick-work, from the extreme angle down to the hearth, is built straight. In this back wall, five courses of brick from the hearth, I build my ash-flue, (marked C,) which is a throat to ash-flue, carrying into it all flying ashes and dust. This flue extends to the top of the tile, and then enters the main flue, at which point (the throat of the fire-place) it is finished off level from front to back, thereby greatly improving the draft and forming a receptacle for soot, rain, and snow blowing down the chimney.

The advantages I claim in the combination of these principles are as follows: First, the tile is set so close to the fuel that it becomes thoroughly heated, giving a radiating-surface fourteen inches high by twenty inches wide. This heated tile consumes the greater portion

of the gas, which ordinarily escapes. It is never covered with soot, but always presents a clean radiating-surface, red-hot from top to base.

The basket I claim to be superior to any heretofore constructed, as it holds much less coal, and, from its peculiar shape, the fuel is kept in one solid compact body. The back part being open admits sufficient air in rear of fuel to keep up a lively combustion. The heat is driven thence against the tile or radiator from the acute angle of setting, while all the heat is carried into the room, allowing the smallest percentage for escape up the chimney.

The construction of my basket warrants me in claiming a decided advantage over all other baskets, which is this: As the fuel is consumed in the bottom of basket, and ashes therefrom fall into the ash-pan, the fuel above slides down the inclined plane, supplying the place of already consumed fuel, thus giving a steady heat and obviating the necessity of poking the fire.

The ash-pit is nine and a half inches deep, which is five inches deeper than in ordinary way of setting.

The ash-flue starts nine inches from the hearth. The advantage in locating it thus is, that it comes just behind the back part of the basket, where the air becomes thoroughly heated, creating a strong draft up the flue, thus preventing dust and ashes from flying about the room, as is so generally complained of in other grate-setting.

I do not claim Letters Patent on the frame shown in the drawing, in which my basket and tile are set, nor on the fender therein shown.

Claim.

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

The semicircular tile B and grate A, when the same are constructed and combined substantially as described, and for the purpose set forth.

J. WALLACE.

Witnesses:

G. C. WHARTON,
OLIVER LUCAS.