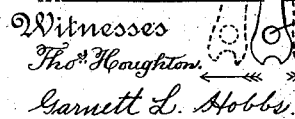


W. MUSICK.
FIRE GRATE.

Patented Jan. 7, 1890



Inventor
WILLIAM MUSICK-

By his Attorney:

his Attorney.
John S. Duffie

UNITED STATES PATENT OFFICE.

WILLIAM MUSICK, OF SUNBURY, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS
TO HARRY H. TREON AND DANIEL R. ZARTMAN, OF SAME PLACE.

FIRE-GRATE.

SPECIFICATION forming part of Letters Patent No. 418,810, dated January 7, 1890.

Application filed May 17, 1889. Serial No. 311,198. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MUSICK, a citizen of the United States, residing at Sunbury, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Grates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to fire-grates; and it consists in the novel arrangement and construction of its parts.

In the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a sectional view taken on the horizontal plane $x x$ of Fig. 1, looking down upon the grate. Fig. 3 is an elevation of the rear side of the back plate C. Fig. 4 is a bottom view of the grate-frame and shaker, showing in dotted lines their movements during the shaking of the grate-frame and grates. Fig. 5 is a perspective view of the poker. Fig. 6 is a horizontal section on line $y y$ of Fig. 3.

My invention is so constructed that it may be put together quickly and easily, and is perfectly firm and secure when set up. It may be taken down as quickly and easily as set up. It is cast in pieces, and thus it may be cheaply manufactured, and its several pieces can be packed in small compass and shipped with perfect safety.

No fire-bricks are used in the construction of my grate; but the back and ends are corrugated to insure proper draft around the fuel and to keep it from becoming impacted against the sides, while the front piece is slotted. Said front piece is provided with perforated ears a' and a shaker-holder a^2 . The end pieces B are provided with slots b to receive the ends of the front and rear pieces, and the lateral ribs b' near their lower ends are to strengthen them, and they are also provided with bottom-holder slots g . The ears a' protrude through said slots, and are secured by pins b^2 , Fig. 1. The rear piece C is also

provided with ears a' , similar to those of the front piece. The rear piece, beside being corrugated on its front face, has on its rear face lateral ribs c , c' , and c^2 to strengthen it. It also has running from its upper to its lower edge two vertical ribs c^3 , which form a flue D for the dust to go up when the ashes are shaken down. (See Fig. 3.) Over the top of said flue is pivoted a cap d , which is drawn forward when the ashes are being shaken down. This is for the purpose of allowing the dust to escape up the chimney, and when the dust has escaped said cap d is pushed back over said flue to regulate the draft. Said rear plate has through it a vertical slot E, dividing the same into two parts, to allow for expansion and contraction. Said slot is covered by a vertical slide e , which runs in guides e' . Said rear plate is also provided with a shaker-holder F, having a center pin f . (See Fig. 3.) The bottom of the grate consists of a bottom G, provided with trap-openings and being somewhat longer than the body of the grate and wide enough to fill the bottom of the same, and rests in the bottom-holder slots g of the end pieces B. Said bottom G is provided with slotted traps g' , and g^2 is a poker to trip said traps and dump the coal or ashes into a pan below. Said bottom G and traps are oscillated by means of a shaker H, the front end of which is provided with a slot h to fit on the center pin f in the rear plate, and in the middle is an L-slot h' , to fit on the pin h^2 of the bottom G and an elevation h^3 , which rests up against the lower face of the said bottom G and helps to support it. Said shaker also contains a perforation h^4 , to receive the end of a poker when the herein-described shaker is too hot to be used by the naked hand.

The operation of my grate is so apparent that it is unnecessary to state it.

The legs I are to be cast solid with the end parts when used in a range; but no legs are to be used when the grate is intended for a cooking-stove or fire-place.

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

1. The combination of the slotted front piece

15 A, provided with the perforated ears a' and shaker-holder a^2 , corrugated end pieces B, provided with the slots b , lateral ribs b' , and bottom-holder slots g , corrugated rear piece
5 C, provided with the slot E, perforated ears a' , shaker-holder F, lateral ribs c c' c^2 , and vertical ribs c^3 , forming the dust-flue D, flue-cap d , pivoted over the top of said flue, slide
10 e , covering the slot E and working in guides e' , bottom G, resting in the bottom-holder slots g and having the traps g' , and shaker H, having the end slots h , L, and h' , elevation h^2 , and perforation h^4 , all substantially
15 as shown and described. 2. In a fire-grate, substantially as shown

and described, the corrugated rear piece C, provided with the vertical ribs c^3 , forming the flue D, and the cap d , pivoted over the top of said flue, for the purposes set forth.

3. In a fire-grate, substantially as shown and described, the shaker H, having the rear slot h , L-shaped center slot h^2 , and elevation h^3 , for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM MUSICK.

Witnesses:

WALTER SHIPMAN,

S. P. FANSOLD.