

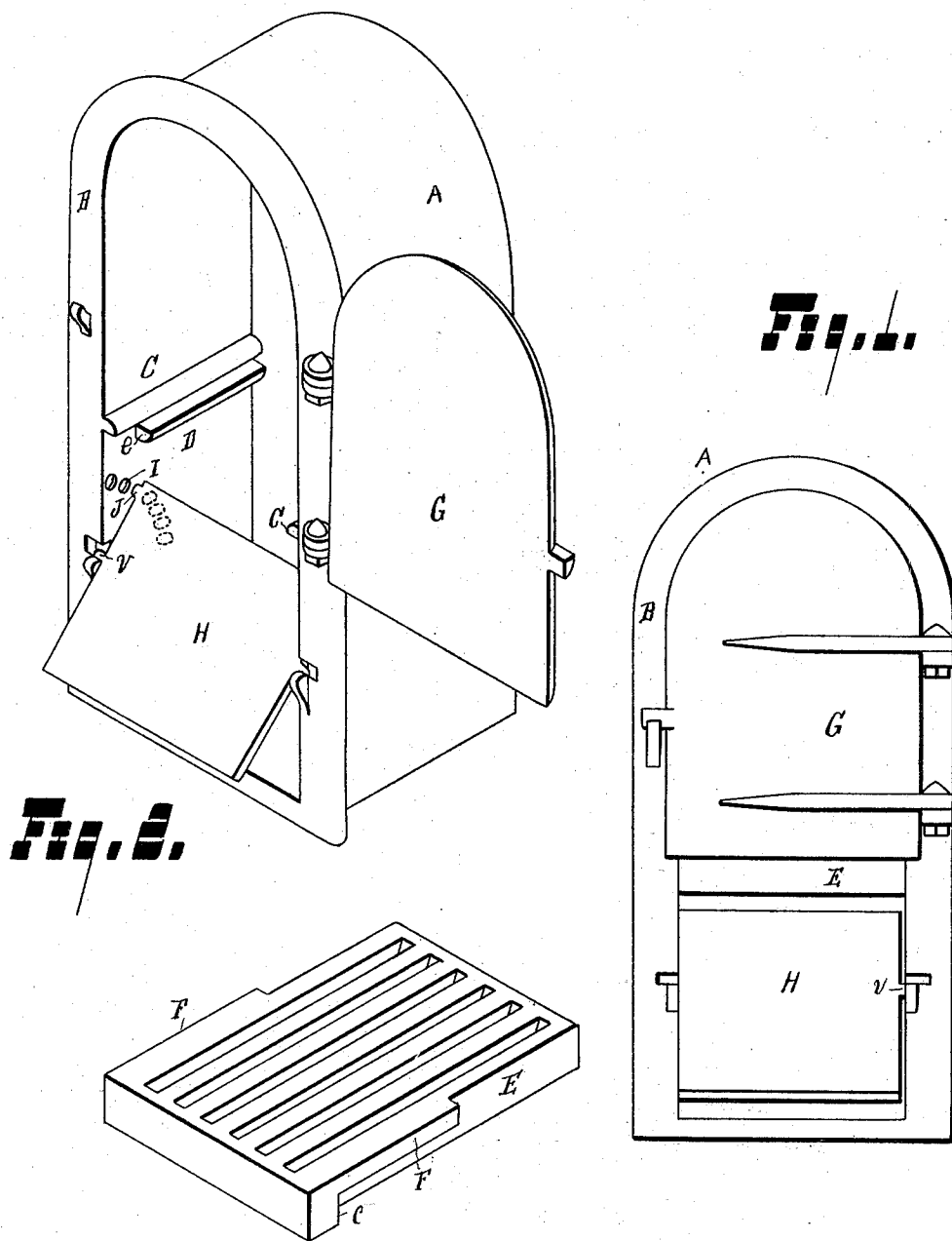
(No Model.)

W. M. LEONARD.

PORTABLE GRATE FOR BRICK KILN FIREPLACES.

No. 535,382.

Patented Mar. 12, 1895.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM M. LEONARD, OF OSHTIMO, MICHIGAN.

PORTABLE GRATE FOR BRICK-KILN FIREPLACES.

SPECIFICATION forming part of Letters Patent No. 535,382, dated March 12, 1895.

Application filed April 26, 1894. Serial No. 509,127. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. LEONARD, a citizen of the United States, residing at Osh-temo, (P. O. Kalamazoo,) county of Kalamazoo, State of Michigan, have invented a new and useful Portable Grate for Brick-Kiln Fireplaces, of which the following is a specification.

This invention has for its object to provide brick kilns with portable fire-place fronts having a detachable grate.

The invention consists in the below described and claimed construction.

In the drawings forming a part of this specification, Figure 1 is a front elevation; Fig. 2, a perspective view, and Fig. 3 shows a perspective view of the grate, detached.

Referring to the lettered parts of the drawings, A is an iron arch, cast in the form of an inverted U, which in use forms the front entrance way into the fire-place of the kiln, the brick, when making the kiln, being piled against the sides and top of the arch, at the entrance of the fire-place. No brick are here shown, but the fire-places are built in the ordinary manner throughout the kiln.

The arch, A, is provided with a flange, B, at the front side, and in making the kiln the brick come against said flange. This arch, A, is provided on each side and on the inside, at a point intermediate of its upper and lower ends, with transverse cleats, C D, separated from each other, so as to form a channel between them, as in Fig. 2.

At E is a rectangular grate, cast with a rib, F, on each side, which ribs are adapted to detachably fit the channels between the ribs C D, of the arch, so that said grate can be readily detached when desiring to replace it with a new one, should the old one burn out, and also in handling the parts when constructing the kiln.

The lower cleats, D, are made shorter at the front end, so as to form shoulders, e, and the ribs F of the grate E, are provided with shoulders, e, which come in contact with the shoulders e and prevent the grate from being inserted farther than flush with the flanged face, B, of the arch, as in Fig. 1.

The grate, E, is made of a length so as to extend farther into the fire-place than the arch extends. The upper part of the arch,

above the grate E, is provided with a door, G, for closing the same, and the space below the grate E is closed by the damper, H. This damper, H, is supported by projections, v, at each end, which have detachable bearings in open slots in the sides of the arch, as in Figs. 1 and 2, so that the damper can be tilted to control the draft. These projections, v, are on one side of the vertical center of the damper, so that the damper will automatically close by gravity when not fastened open.

In Fig. 2, at I, is a series of slots in a curved row, formed in the wall of the arch, and the damper H, at the upper corner next to these slots, is provided with a catch-projection, J, adapted to enter said slots and hold the damper tilted at different angles between the horizontal and vertical, said damper, in Figs. 1 and 2, being set at an oblique angle, with its upper side tilting inward.

In Fig. 1 it will be seen that the damper, H, is made shorter than the width of the space it occupies in the arch, by which means said damper can be adjusted laterally to engage and disengage its projection, J, from the slots, I.

The main object of this invention is that when one kiln has been burned out the portable fire-place fronts can be moved to any point and used in other kilns, and since the grate, damper and door are detachable from the arch proper, the parts can be readily handled. Of course it will be understood that one of these fire-place fronts is employed at each end of the fire-place through the kiln, and I find by employing a grate elevated in the manner here shown, with a draft and damper beneath, that there is not only a great saving in fuel but that I can burn the brick evenly and all of like color, owing to the better and more even distribution of heat.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the inverted U-shaped arch, provided with a front flange, the separated ribs on the inside, intermediate between the two ends, forming channels, a grate, provided with the side ribs and adapted to be detachably inserted in the said channels, a door for closing the arch above the grate, one side of the arch being provided

with a series of slots in a curved row, and a swinging damper, provided with a projection adapted to engage said slots; substantially as set forth.

- 5 2. The combination of the inverted U-shaped arch, provided with a front flange, the separated ribs on the inside, intermediate between the two ends, forming channels, the lower ribs being shorter than the upper,
10 forming the shoulders, and a grate, provided with the side ribs and shoulders and adapted to be detachably inserted in the said channels; substantially as set forth.

3. The combination with the inverted U-

shaped arch, provided with the grate-channels and a series of slots in one side, in a curved row, of a detachable grate and a swinging damper, made shorter than the space it occupies and provided with a projection adapted to engage said slots; substantially as
15 set forth. 20

In testimony to the foregoing I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM M. LEONARD.

Witnesses:

WILLIAM F. MONTAGUE,
RUFUS PARRER.