

(No Model.)

T. A. BUCKLAND.
LOCOMOTIVE FURNACE.

No. 253,179.

Patented Feb. 7, 1882.

Fig. 1.

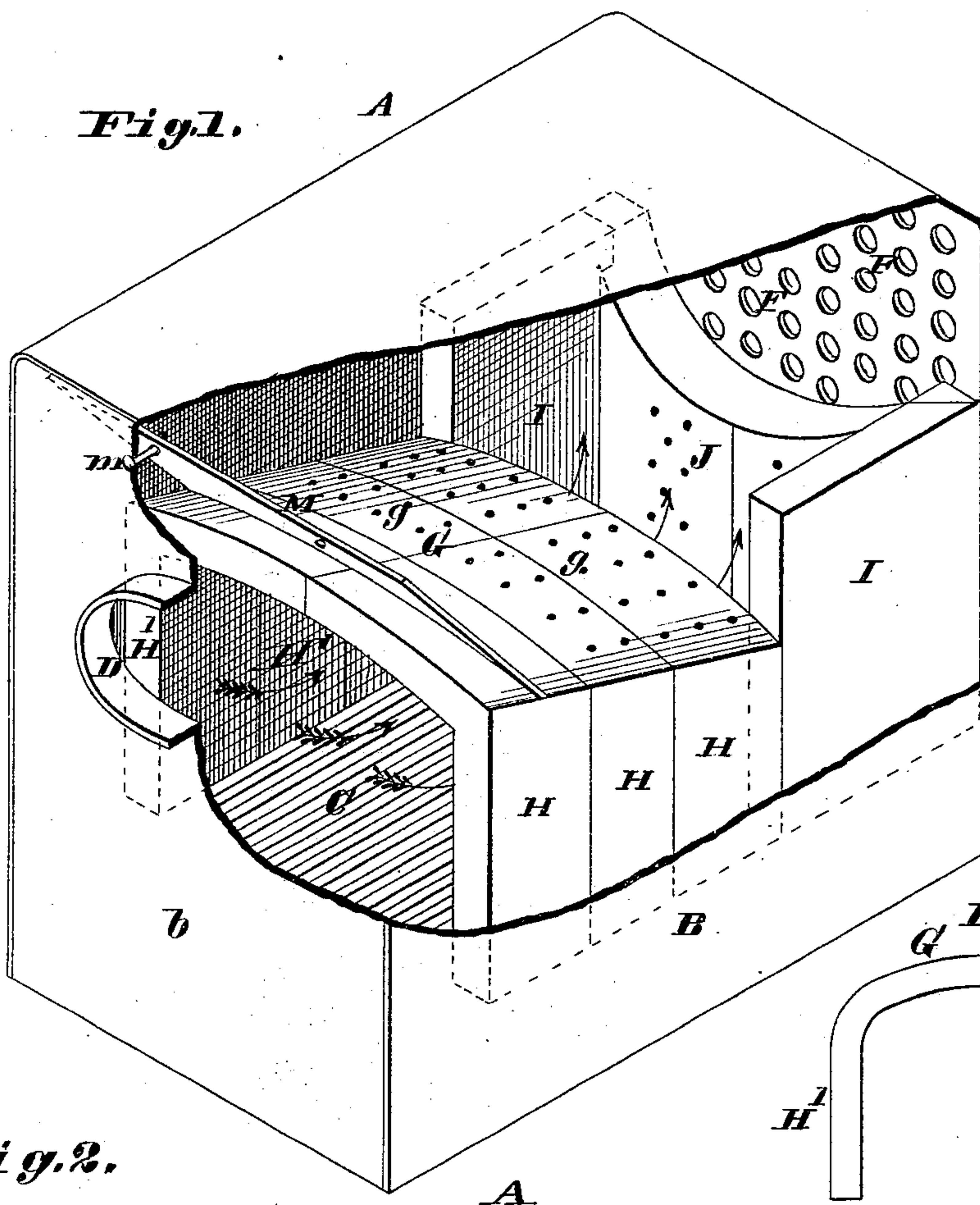
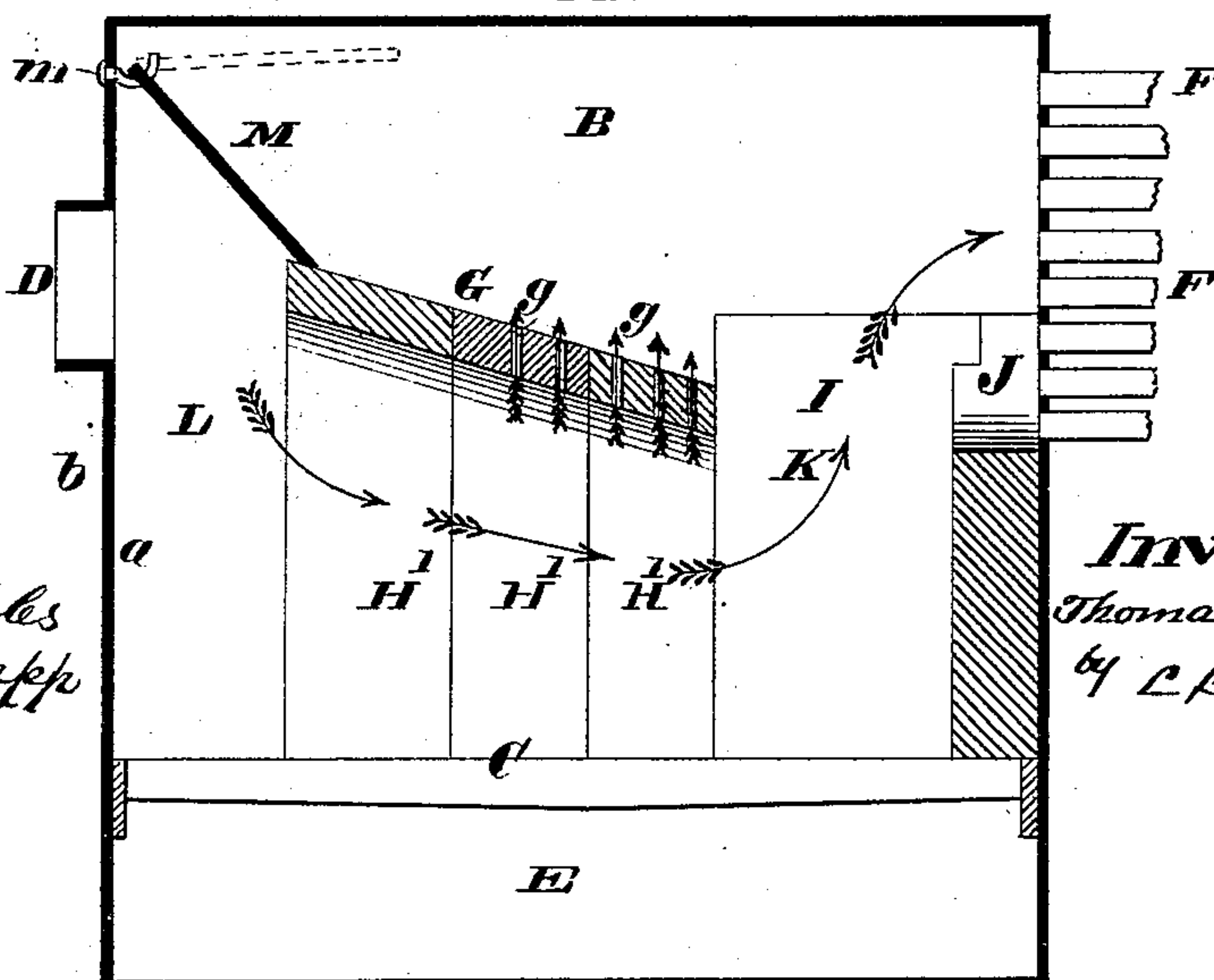


Fig. 2.



Attest.
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UNITED STATES PATENT OFFICE.

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LOCOMOTIVE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 253,179, dated February 7, 1882.

Application filed June 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. BUCKLAND, of St. Louis, Missouri, have made a new and useful Improvement in Locomotive-Furnaces, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective of a locomotive-furnace having the improvements, the wall of the furnace being broken away to exhibit the interior; Fig. 2, a vertical longitudinal section of the furnace; and Fig. 3, an end elevation of the arch.

The same letters denote the same parts.

The improvement relates to the mode of forming the diaphragm within the furnace.

A represents a locomotive-furnace of the usual type, having the wall B, the grate C, the door D, and the ash-pit E. The entrances to the boiler-flues are shown at F F.

The diaphragm is substantially an arch, G, composed of a series of tiles, H H H' H' H', each tile being made to rest upon the grate, or just above the fire when the grate is a movable one, and extending thence upward against the side wall of the furnace, and at the upper end turned inward, so that when the various tiles are placed in position a funnel-shaped or contracting archway is formed; the larger end being toward the door D. Toward its farther end the arch is preferably perforated, as shown at *g g*. Side tilings, I I, and end tilings, J J, are preferably used in connection with the arch G, and the tilings J are preferably perforated to admit air to the throat K. The arch G does not extend to the front *a* of the furnace, the space L, between the arch and furnace-front, being covered by a readily-re-

movable plate or tile, M, which extends from the front *a* to the arch G, but not fastened to or made part of the arch, its forward edge simply resting upon the arch, and in width extending laterally across the furnace. The plate M may at its forward end, at *m*, be hooked to the furnace-wall, and when it is desired to inspect the flues, or to get in above the arch G, the plate M may be raised, as indicated by the dotted lines in Fig. 2, or be removed. The flues F can thus be reached without removing the arch G. The forward end of the arch may be of such height as to enable the flues to be seen from the door D upon raising or removing the plate M. When the latter is in place the heat-currents or smoke are kept from passing above the arch. At the same time, by reason of the mode herein shown of combining the plate and arch, any movement of either part from the action of the heat of the furnace does not affect or strain the other part.

I claim—

1. In a locomotive-furnace, a removable plate or tile, M, extending from the front *a* of the furnace to and having its forward edge resting upon the arch, serving, when lowered, to close the space L, between the arch and furnace-front *a*, substantially as described, and for the purposes set forth.

2. The combination of the furnace A, arch G, and plate M, said plate extending and closing, as described, the space L, between the furnace-front and arch, and the latter not extending to the farther end of the furnace, the throat K being arranged beyond said arch, substantially as described.

T. A. BUCKLAND.

Witnesses:

CHAS. D. MOODY,
SAML. S. BOYD.