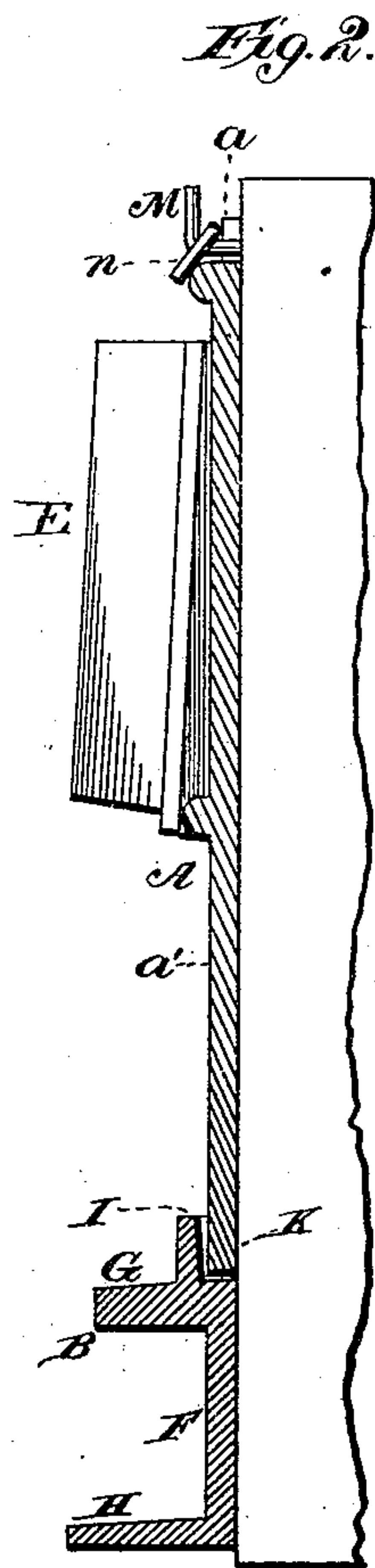
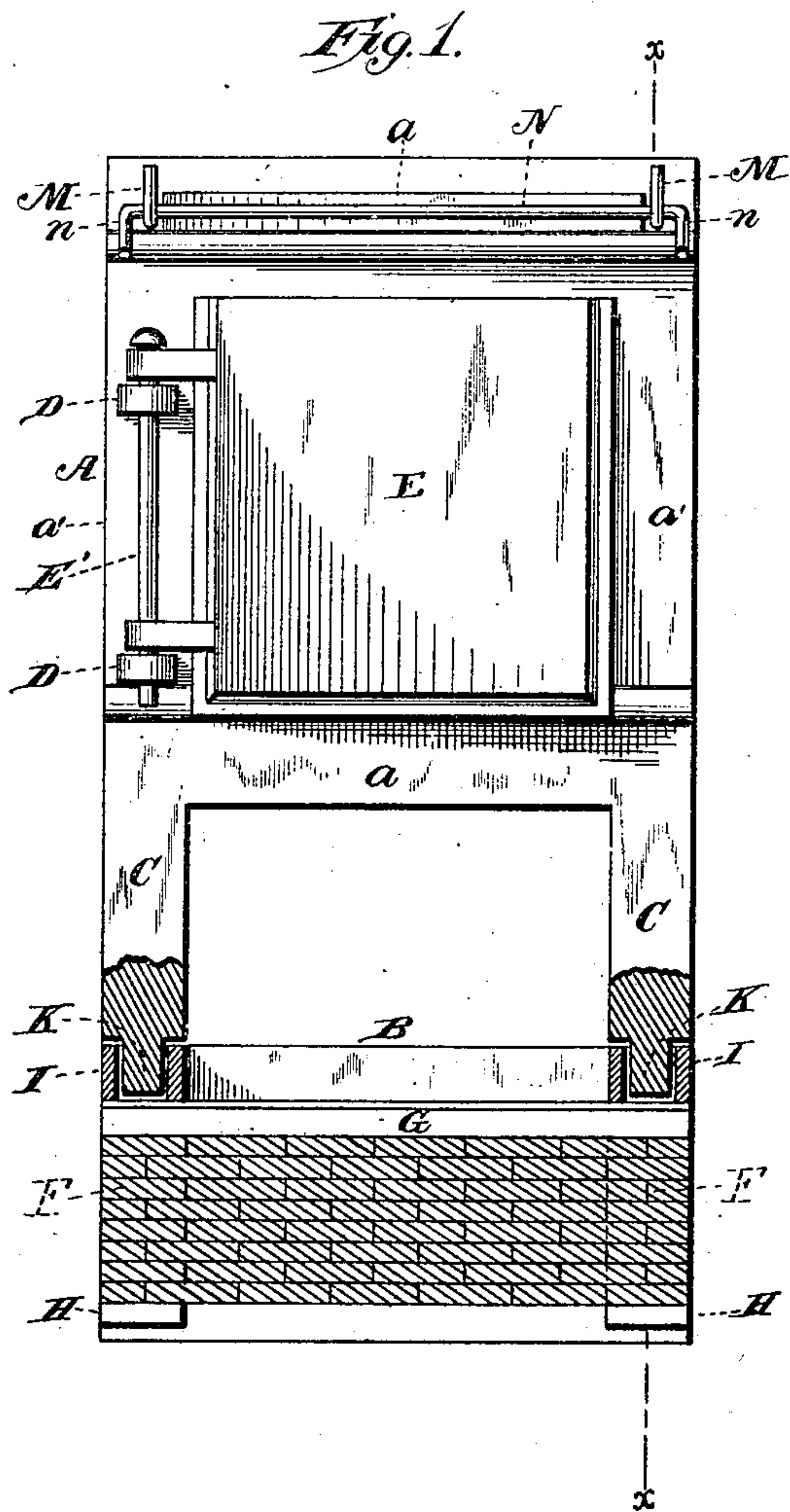


A. H. LOWELL.
 Door Frame for Retort Benches of Gas Works.
 No. 238,411. Patented March 1, 1881.



Witnesses.
Robert Everett.
J. A. Rutherford.

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UNITED STATES PATENT OFFICE.

ALBIEN H. LOWELL, OF MANCHESTER, NEW HAMPSHIRE.

DOOR-FRAME FOR RETORT-BENCHES OF GAS-WORKS.

SPECIFICATION forming part of Letters Patent No. 238,411, dated March 1, 1881.

Application filed November 2, 1878.

To all whom it may concern :

Be it known that I, ALBIEN H. LOWELL, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented
5 a new and valuable Improvement in Door-Frames for Retort-Benches of Gas-Works; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference
10 being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to an improvement in sectional metal door-frames for gas-retort
15 benches.

Heretofore these frames have been made in one piece with their supports or legs, and the lower part or feet have been run down below the floor, so that, owing to the expansion and contraction of the brick-work of the furnace, the supports are frequently broken at a level with the floor. The door-frames have also been made of several sections; but these have been bolted together, so that there still exists a liability of breakage. The object of this invention is to provide means for preventing such breakage; and to such end the invention consists, first, in the combination of an upper frame-section, to which the door is hinged, having vertical legs tenoned at their base ends, with a base-section adapted to be set in the floor, and provided with sockets to receive the tenons of the upper section, the connections between said two sections constituting yielding or slip joints, to counteract the expansion or contraction of the furnace-walls; second, in an upper door-frame section, to which the door is hinged, consisting of a frame adapted to be held against the wall of the retort-bench, and provided with vertical legs tenoned at their lower ends, in combination with a lower or base section, adapted to be set in the floor of the furnace-room, and cast with vertical standards connected by a horizontal ledge, which rests upon the floor, said standards being provided with feet at their lower ends and with sockets at their upper ends, to receive the tenons of the upper section, the connections between said two sections constituting slip or yielding joints, all as hereinafter more fully described.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of the door-frame constructed in accordance with my invention and applied to a retort, a portion
55 of which is illustrated; and Fig. 2 is a section taken on a vertical plane indicated by the dotted line *x x*.

My improved door-frame is composed of two sections, A and B, the upper section, A, consisting, principally, of the four bars *a a'*, constituting a rectangular frame, the vertical side bars, *a'*, being extended down below said frame, so as to form the legs C C. This frame is provided with lugs D D, to which the door
65 E is hinged by means of an ordinary pintle, E'.

The lower section, B, of the door-frame comprises two legs or standards, F, connected together by a horizontal ledge, G, each leg or standard having formed at its base a horizontal foot, H. These parts of the said lower section are made in one casting. The legs or standards of the lower section, B, extend above the horizontal ledge, and have sockets or mortises I I formed therein to receive the tenoned
75 ends K of the legs of the upper section, A, of the door-frame.

The lower section, B, of the door-frame is designed to be set in the floor of the furnace-room, and it will be maintained in an upright
80 position by the ledge, which rests upon the floor, and by the feet, which, when the said casting or section is in place, will lie below the floor, as illustrated in Fig. 1.

M M refer to hooks which are secured to
85 the wall of the retort-bench, and N indicates a horizontal bar, which is provided with bent ends *n n* and arranged back of said hooks, so that the bent ends of the bar will lie upon the face of the upper frame, and thereby hold the
90 same against the wall of the retort-bench. The tenons and mortises or sockets constitute the sole connection between the upper and lower sections of the door-frame, and the tenons are fitted into these sockets, so that they will have
95 sufficient play therein to allow the frame to yield to any undue expansion of the frame. It is evident that as the brick-work of the furnace expands or contracts, the slip or yielding joint formed by the tenons and sockets will
100 allow the door-frame legs of the upper section to accommodate themselves to such expansion

and contraction, and hence all danger of the breaking thereof will be effectually prevented. After the upper door-frame and its leg-sections are burned out they may be removed without disturbing the lower or base section, B.

What I claim is—

1. In a door-frame for gas-retort benches, the combination of an upper frame-section, to which the door is hinged, having vertical legs tenoned at their base ends, with a base-section adapted to be set in the floor, and provided with sockets to receive the tenons of the upper section, the connections between said two sections constituting yielding or slip joints, to counteract the expansion or contraction of the furnace-walls, substantially as described.

2. In a door-frame for gas-retort benches, the upper section, A, to which the door is hinged, consisting of a frame adapted to be

held against the wall of the retort, and provided with vertical legs tenoned at their lower ends, in combination with a base-section, B, adapted to be set in the floor of the furnace-room, and cast with vertical standards connected by a ledge which rests upon the floor, said standards being further provided with feet at their lower ends, and with sockets at their upper ends to receive the tenons of the upper section, the connections between said sections constituting slip or yielding joints, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALBIEN H. LOWELL.

Witnesses:

CHARLES R. DUSTIN,
JOHN H. ANDREWS.