(No Model.)

C. H. BAUSH.

FURNACE GRATE.

No. 277,538. Patented May 15, 1883.

Fig II,

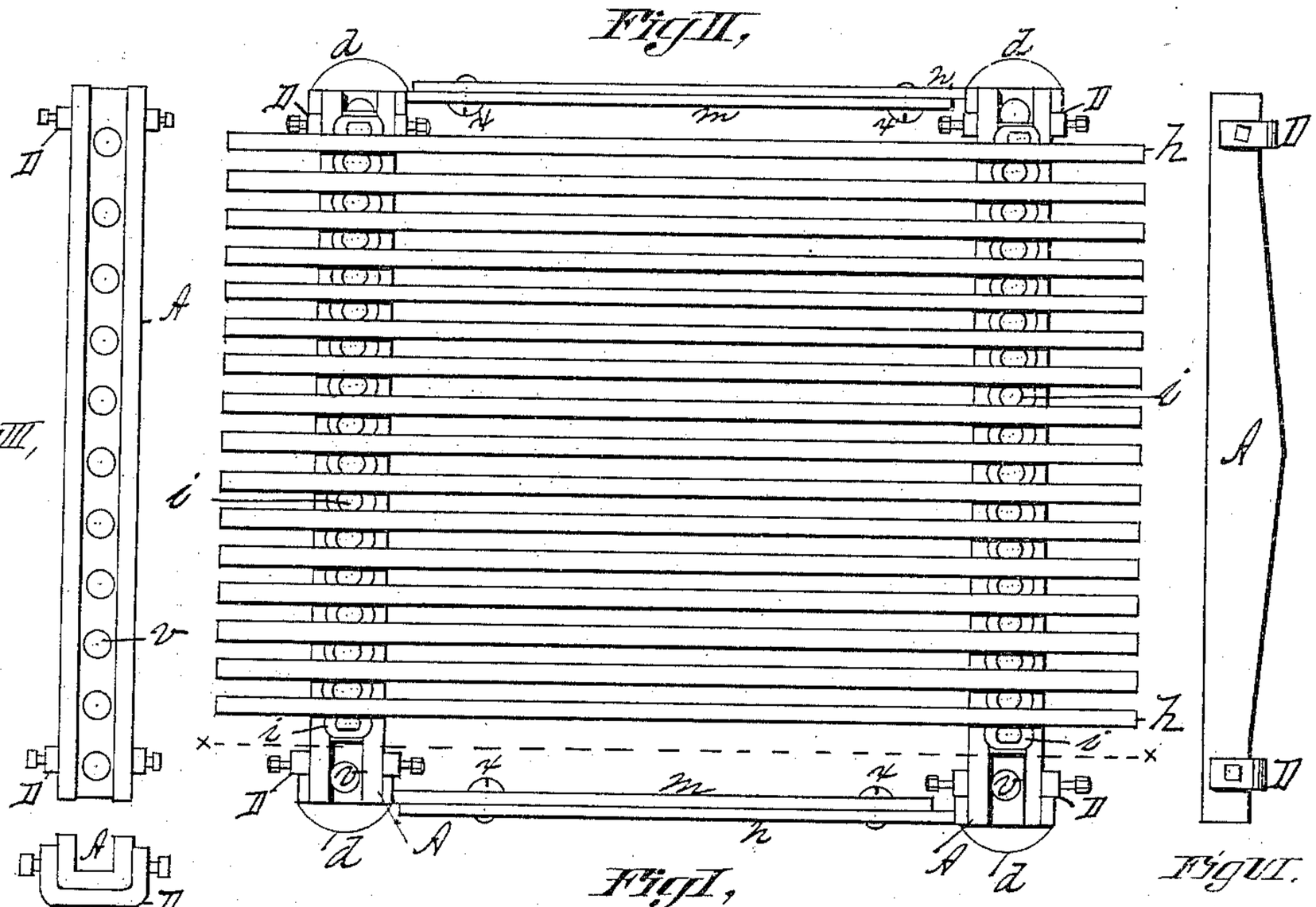


Fig III,

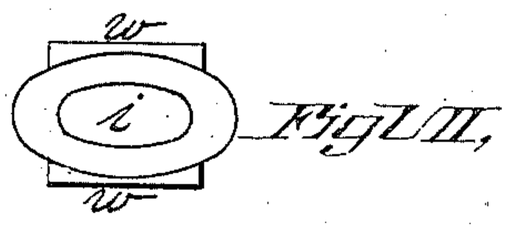
Fig IV,

Fig I,

Fig V,

Fig VI.

Fig VII,



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UNITED STATES PATENT OFFICE.

CHRISTIAN H. BAUSH, OF HOLYOKE, MASSACHUSETTS.

FURNACE-GRATE.

SPECIFICATION forming part of Letters Patent No. 277,538, dated May 15, 1883.

Application filed March 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. BAUSH, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Furnace-Grates, of which the following is a specification.

This invention relates to that class of furnace-grates in which loose independent grate-bars are arranged upon supporting cross-bars, the object of the invention being to improve the construction of the bearing-frame, whereby it is made adjustable to furnaces of different sizes; to improve the construction of the grate-bearing cross-bars, whereby they are made less liable to warp, and to provide improved intermediate supports for the grate-bars which are adjustable on said cross-bars.

In the drawings forming part of this specification, Figure I is an elevation partly in section, and Fig. II is a plan view, of a furnace-grate embodying my improvements. Fig. III is a plan view of one of the grate-supporting cross-bars, and Fig. IV is an end view thereof. Fig. V is an edge view of one of the legs of the frame. Fig. VI is a side view of one of said cross-bars. Fig. VII is a plan view of one of the grate-bar-dividing teeth.

In the drawings, *a* and *b* indicate the two separate parts of the legs of the grate-frame, one, *b*, being provided with oblong slots, through which the screws *x* pass into the part *a*, whereby said two parts are secured to each other face to face, and provision is made for lifting and lowering the parts *a*, to adjust the grates to furnaces of different heights. Said legs of the frame are provided each with the stop *d*, adapted to be let into the side walls of the furnace, close to the bottom thereof, to prevent them from being lifted up, and with the catch *e*, which enters the floor *c* of the furnace, to keep the leg close against the side wall thereof. The upper end of each of the leg parts *a* is of fork shape, and adapted to receive in it one end of one of the bearing-bars A, as shown in Figs. I and II. The said legs are tied together by the adjustable horizontal string-piece, consisting of the parts *m* and *n*, which, like said legs, are provided with slots and screws *x*, to provide means for adjusting the frame in the direction of said string-pieces, to fit it to furnaces of different lengths.

The bearing-bars A, of which there are two, are constructed of the form shown in Figs. III and VI, of trough shape, and having through the base thereof a series of perforations, *v*, to allow of a circulation of air through them vertically, and to let ashes and cinders fall through them. When said bars A are in place resting in the forked ends of the said legs, a shoe, D, having a set-screw through each end thereof, is placed near each end of said bars, and, being pushed closely against the face of the adjoining leg, it is there secured by said set-screws, and thus said bearing-bars are retained in place on the frame, and provision is made for duly adjusting said bars and their bearing-points on the legs.

A series of movable teeth, *i*, is fitted to the groove in each bar A, said teeth having bases of rectangular form, which prevents them from turning in said grooves; but they may be moved therein in the direction of the length of the bearing-bars. Said teeth *i* are tapering from above the side flanges, *w*, to their upper ends, and are oval in cross-section, as shown, and when placed in the bars A, in position to receive the grate-bars *h*, the lower edges of the latter rest upon the flanges *w* of said teeth.

The teeth *i* may be made of such thickness as to spread the grate-bars more or less, to adapt the openings between them to different kinds of fuel—that is to say, fine or coarse coal—the frame and bearing-bars requiring no change; and since the bars *h* and their supporting-teeth *i* are not rigidly attached to the frame, less inconvenience from warping bars is experienced than when the bar-supporting parts are immovable.

What I claim as my invention is—

1. In a furnace-grate, a supporting-frame having legs consisting of the parts *a* and *b*, adjustably secured one to the other, and having the step *d* and catch *e* thereon, and fork-shaped upper ends, and united by a horizontal string-piece consisting of the parts *m*

and *n*, adjustably secured one to the other, in combination with the bearing-bars A and the adjustable sleeves D, substantially as set forth.

2. The combination, in a furnace-grate, of a supporting-frame therefor, substantially as described, of the grooved bearing-bars A, having perforations *v* through them, of the movable teeth *i*, having bases to fit the grooves in said bars, and of the grate-bars *h*, substantially as set forth.

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