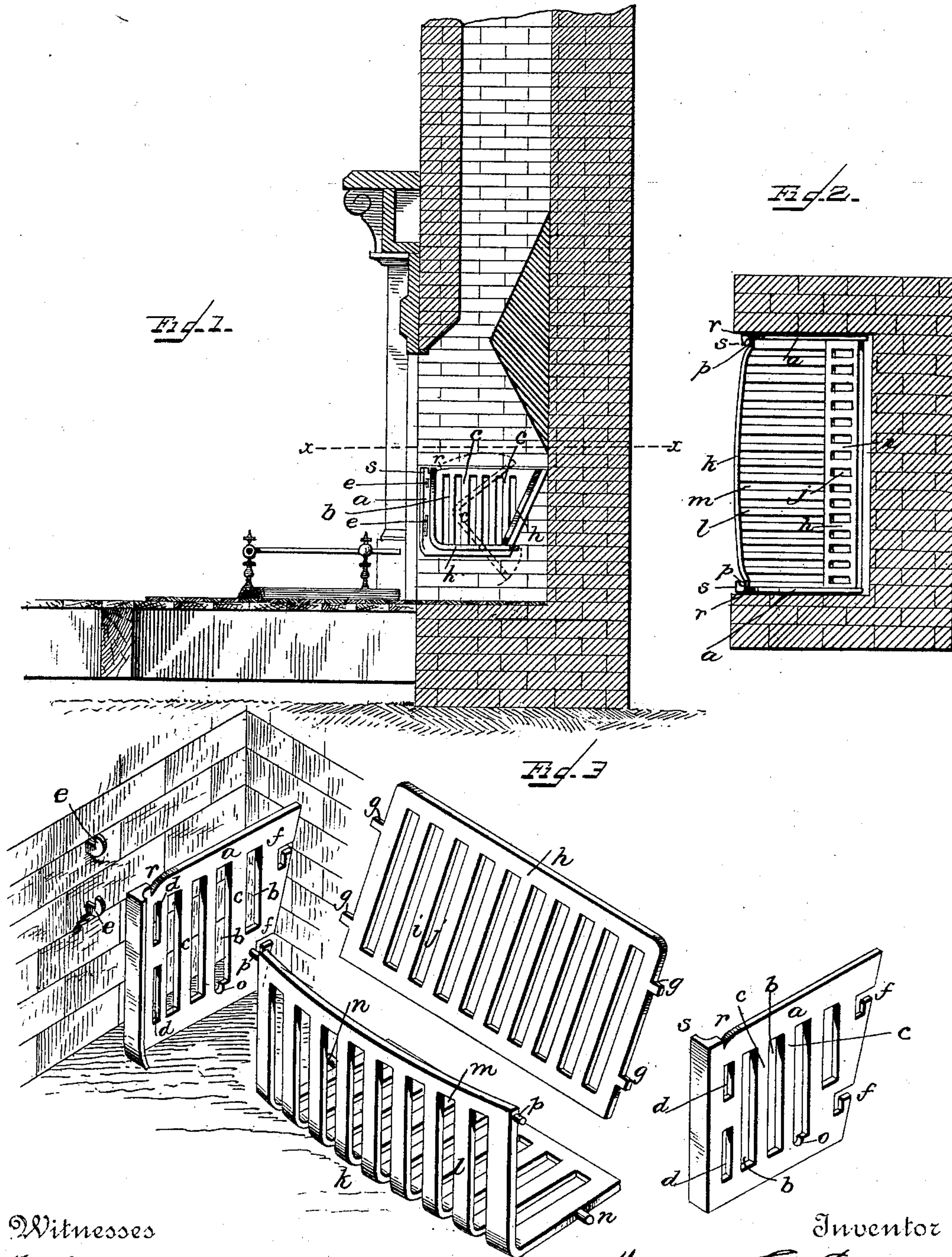


(No Model.)

W. E. FITCH.
FIRE PLACE GRATE.

No. 362,265.

Patented May 3, 1887.



Witnesses
F. L. Curran
E. A. Finckel

Inventor
William E. Fitch
By his Attorney
Wm. H. Finckel

UNITED STATES PATENT OFFICE.

WILLIAM E. FITCH, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO THE PEER-
LESS MANUFACTURING COMPANY, OF SAME PLACE.

FIRE-PLACE GRATE.

SPECIFICATION forming part of Letters Patent No. 362,265, dated May 3, 1887.

Application filed January 3, 1887. Serial No. 223,244. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. FITCH, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Fire-Place Grates, of which the following is a full, clear, and exact description.

This invention relates to that class of heating apparatus commonly known as "fire-place grates."

The object of the invention is to facilitate the dumping of the grate, insure as nearly perfect combustion of the fuel as possible and to permit the ready use of the summer front.

The invention consists of a grate composed of slotted or barred side and back pieces and a tilting basket co-operating therewith and forming the front and bottom of the grate, substantially as hereinafter particularly set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a vertical section of a fire-place containing my grate. Fig. 2 is a horizontal section on the line *x x* of Fig. 1; and Fig. 3 is a perspective view of the grate, its parts being disconnected, and a portion of the fire-place being also shown.

In constructing my grate I employ two side pieces, *a a*, of similar construction, excepting that one is a right and the other is a left. These side pieces are made with openings *b* and bars *c*, and are also provided with slots or openings *d*, whereby they may engage with hooks *e* in the fire-place jambs to hold them in position therein and out of contact therewith, as indicated in Fig. 2, to leave an air-space between the sides and jambs. The front of these sides is substantially vertical, while the back slants at an angle of about sixty-five or seventy degrees, its upper edge coming in contact, or nearly so, with the back of the fire-place. Bayonet-slots or other appropriate openings, *f*, are made in the rear edges of these side pieces to receive the lugs *g* of the back piece, *h*, to engage such back pieces with the side pieces to lock the three together. This back piece is also made with bars and slots *i j*, respectively. The bottom and front of the

grate are made in one piece, and for convenience are herein designated the "basket" *k*. This basket is formed with bars and slots *l m*, respectively. The bottom of the basket is provided with lateral lugs or journals *n*, arranged in the rear of the center of gravity of the basket, which engage bearings *o* in the side pieces. These bearings may be specially provided in the said side pieces, or may be simply cavities in the lower parts of the slots or may be simply the slots themselves. The upper front end of the basket is provided with lugs *p*, projecting laterally therefrom, which engage notches *r* in the upper edges of the side pieces to prevent the forward descent of the basket. As an additional precaution against such forward movement of the basket, the fronts of the side pieces may be provided with flanges *s*, to receive the outer ends of the front of the basket; or the notches or flanges may be used alone for this purpose, or the flanges may serve simply as a finish for the grate.

When the parts of the grate are assembled, as in Figs. 1 and 2, it will be noticed that the basket has its bearings in the rear of the center of gravity of the same; and hence the weight of the fuel preponderating in front will keep the basket from tilting backward. In order to tilt the basket backward, so as to dump the fuel, force has to be applied to the front of the basket, and when this is done the basket may be rotated on its trunnions to any desired degree, even to the extent of practically reversing it or turning it upside down.

When a summer front is employed the basket will be turned upside down, substantially as indicated in Fig. 1 by the dotted lines.

By making the sides, back, and basket with bars and slots, and by inclining the back away from the rear wall of the fire-place, and by setting the sides away from the jambs, I get a good draft or circulation of air around the grate, and thus insure a practically complete and perfect combustion.

By supporting the basket upon trunnions at its bottom, in the rear of the center of gravity, the partial or complete dumping of the grate is very readily effected, and all the cinders, &c., are thrown rearwardly, thus keeping the surroundings clean. Heretofore the

basket has been hung from its upper front edge, and has swung bodily outward, and only by considerable effort, from the fire-place, causing much dirt about the hearth. My invention obviates all this. It will be noticed that no bolts are employed in connecting the parts of my grate, but that the sides, back, and basket are connected by interlocking devices. Great economy is thus insured in the first cost of production, extreme facility in putting the parts together, and in dismembering the grate.

I am aware that it is not original with me to make the front and bottom of a grate, or, as I have called it, the "basket," in one piece and to hold it so that it may be rotated.

I am also aware that it is not original with me to make the sides and back of the grate of bars; hence

What I claim is—

1. A fire-place grate consisting of side

pieces and a back piece connected therewith and a basket provided with trunnions arranged in the rear of its center of gravity and having bearings in the side pieces and engaging the front of the side pieces, substantially as set forth.

2. The basket provided with trunnions projecting laterally from its bottom in the rear of the center of gravity, combined with a back piece and side pieces, the latter having bearings for the trunnions of the basket, and also having stopping devices for the front of the basket, substantially as described.

In testimony whereof I have hereunto set my hand this 30th day of December, A. D. 1886.

WILLIAM E. FITCH.

Witnesses:

CHARLES H. GIBSON,
GEO. H. D. GIBSON.