

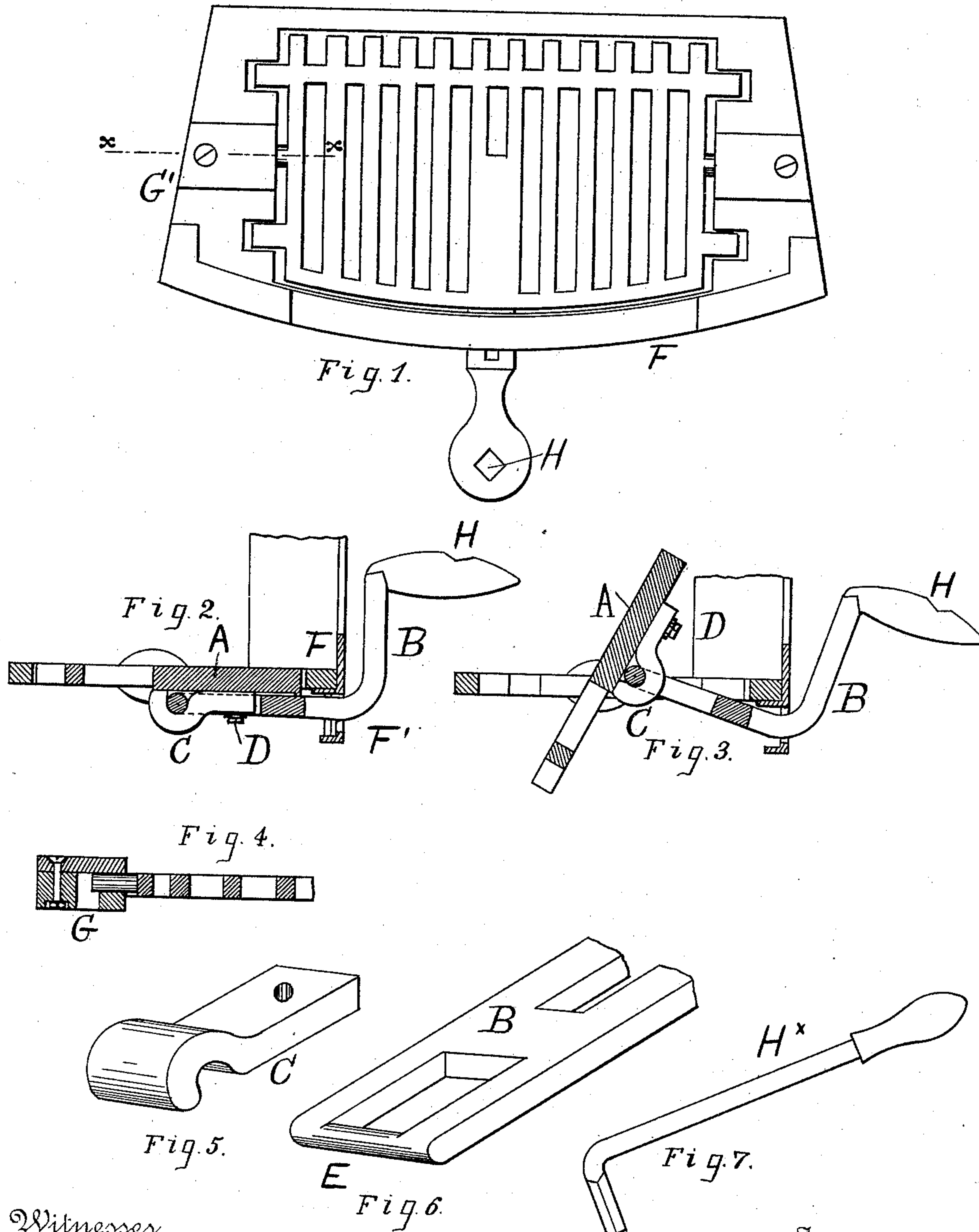
(No Model.)

E. W. WILLIAMS.

GRATE.

No. 370,512.

Patented Sept. 27, 1887.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD W. WILLIAMS, OF SAN FRANCISCO, CALIFORNIA.

## GRATE.

SPECIFICATION forming part of Letters Patent No. 370,512, dated September 27, 1887.

Application filed November 16, 1886. Serial No. 219,098. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD W. WILLIAMS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Mantel-Grates, of which the following is a specification.

This invention relates to an improvement in combined shaking and dumping grates; and it consists in the construction, arrangement, and combination of parts, substantially as will be hereinafter described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a top plan view of my improved grate. Fig. 2 is a transverse vertical section through the middle of the grate. Fig. 3 is a similar view showing the parts in the position assumed when the grate is dumped. Fig. 4 is a sectional detail on the line *x x* of Fig. 1. Fig. 5 is a perspective view of the curved clamping-arm. Fig. 6 is a perspective view of the shaking and dumping arm with part broken off. Fig. 7 is a side view of the shaking-handle.

The outer ends of the two middle bars of the grate are cast entire, so as to form a downwardly-extending block, A, upon the lower face of the grate, and to this block is connected the linked operating-lever B, by means of a curved clamping-arm, C, which latter fits over the rounded end of the slotted lever, and is held in position by a bolt and nut, D, upon which part C the grate moves, a sufficient play being had with the jointed connection to admit of sufficient end or side vibration or movement in dumping or shaking the grate.

The operating-lever is cast entire with the slot upon the inner end, the head E of which is rounded to form a bearing within the curved clamping-arm, as shown, and the lever itself is curved and the edges beveled to give the necessary movement in dumping the grate and drawing the lever backward to its original position again without binding within its guiding-slot to give greater ease and facility of

movement and form a guide for the lever. To the lower edge of the basket F is cast a slotted guide, F', the edges or sides of which are beveled inwardly to correspond with the beveling of the lever.

In order to provide against the accumulation of ashes within the bearings of the grate, and thereby prevent end movement in shaking, slots G are made in the grate-frame, over which and the journals of the grate the caps G' are secured by bolts screw-threaded at one end, said bolts passing through the caps and grate-frame, and held in place by nuts on the screw-threaded ends thereof.

Should the handle at the end of the curved lever become unduly heated, a diamond-shaped hole or opening, H, is made therein which receives the end of a key or wrench, H', by which the grate is shaken or dumped. In practice the lever is drawn slightly forward and then pushed backward, by which movements the grate is quickly dumped, the curved lever moving on its joint in the curved clamping-arm upon the bottom of the grate and within the beveled guiding-slot at the lower edge of the basket.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the grate-frame, the basket F, having a slotted guide, F', the dumping-grate whose two middle bars are cast together to form a block, A, having a curved clamping-arm, C, secured to the under side thereof, and the bent shaking and dumping arm or lever B, extending through the guide F' and slotted at its inner end, with its head E rounded and inserted in the arm C, all arranged to operate substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

EDWARD W. WILLIAMS. [L. S.]

Witnesses:

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CHAS. E. KELLY.