(No Model.) 3 Sheets—Sheet 1.

G. W. WALKER.

GRATE.

No. 260,809. Patented July 11, 1882.

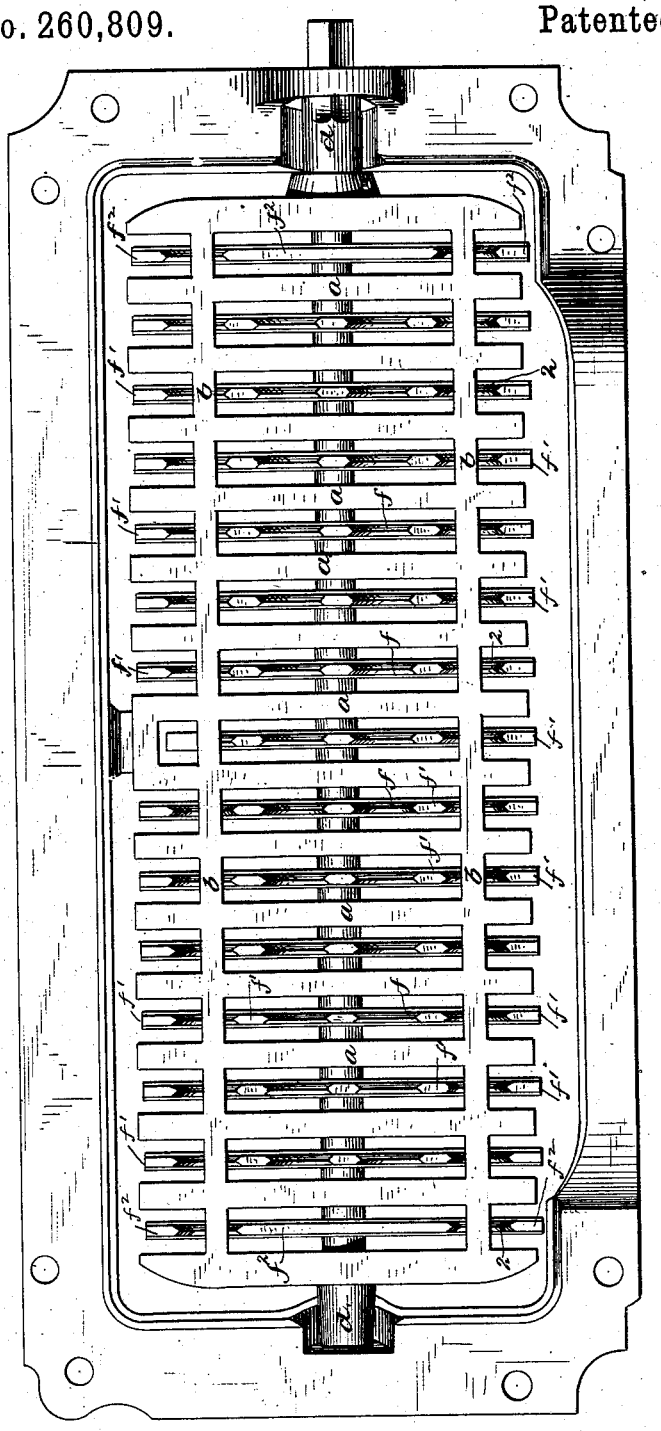

Fig. 1.

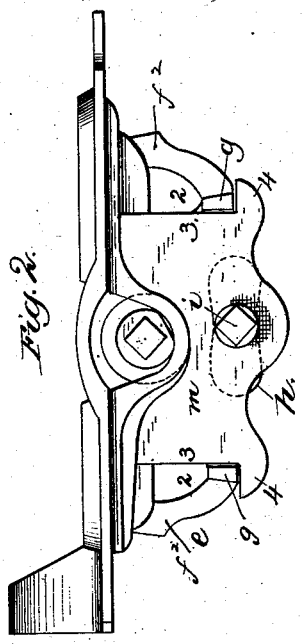

Fig. 2.

Witnesses,
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Bernice J. Noyes.

Inventor:
George W. Walker
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(No Model.) 3 Sheets—Sheet 2.

G. W. WALKER.

GRATE.

No. 260,809. Patented July 11, 1882.

Fig. 3.

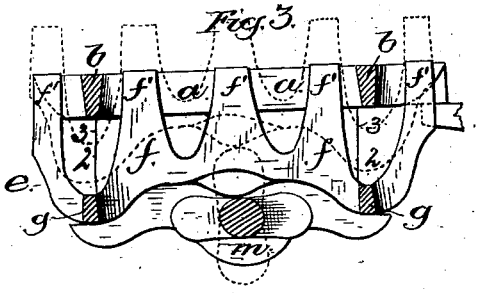
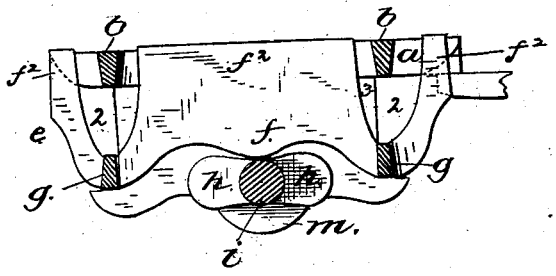


Fig. 4.



Witnesses.
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B. J. Hoyer

Inventor:
George W. Walker.
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UNITED STATES PATENT OFFICE.

GEORGE W. WALKER, OF MALDEN, MASSACHUSETTS.

GRATE.

SPECIFICATION forming part of Letters Patent No. 260,809, dated July 11, 1882.

Application filed March 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. WALKER, of Malden, county of Middlesex, State of Massachusetts, have invented an Improvement in Grates, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to grates for stoves or furnaces, and has for its object to provide means for agitating the fuel and shaking out the ashes in a rapid and efficient manner without the use of any ordinary hand-poker.

The invention consists partly in the combination, with the usual grate consisting of a series of bars upon which the fuel is supported, of an independent agitating device consisting of a series of connected projections or fingers lying below the spaces between the said grate-bars, and means to forcibly project the said fingers up through the said spaces into the fuel lying upon the bars, and then withdraw them, the fuel thus being agitated over a large surface at one operation.

The invention is shown in this instance as embodied in the dumping-grate of an ordinary cooking stove or range, in which the fuel-supporting grate-bars are made in a single casting or frame mounted on journals, so as to be rotated from its horizontal position to thus dump or discharge all the fuel that has been supported thereon in a body.

The agitating device also consists of a single casting or frame having a series of upward projections or fingers corresponding in position with the spaces between the bars of the grate, so that when in position beneath the grate the said projections will lie between and below the said grate-bars, and by raising the said agitating device or frame bodily upward the said projections or fingers will be forced into and stir or agitate the mass of fuel lying on the said grate. The said agitating device is in this instance forced up and permitted to descend through the space between the grate-bars by a cam or series of cams on a shaft which is adapted to be rotated by a handle or crank applied from the outside of the furnace, the said cam being provided with projections upon which the said agitating device is supported, and which, in their rotation, raise the said agitating device and permit it to descend, as before described. The main grate or dumping-frame is provided at its end with downward extensions provided with bearings for the said cam-shaft, and also furnished with guides for the agitating device, by means of which it is retained in the proper position relative to the grate-bars in its movements.

Figure 1 is a top or plan view of a grate and agitating device constructed in accordance with this invention, it being mounted in a frame constituting a portion of a stove or range of ordinary construction. Fig. 2 is an end view thereof, showing the guide for the agitating device and the bearing for its operating cam-shaft. Fig. 3 is a transverse section of the entire apparatus near its middle point. Fig. 4 is a transverse section of the grate and cam-shaft, showing the agitating device and one of its operating-cams in end elevation. Fig. 5 is a top plan view of the agitating-frame removed or disconnected, and Fig. 6 is an end view of the same.

The main portion of the grate may be of any suitable or usual construction, it being shown as consisting of transverse bars *a*, connected by suitable bridges or webs, *b*, forming a frame provided with journals *d*, upon which it may be rotated from its normal horizontal position in order to overturn and discharge the fuel upon it in the usual manner.

Beneath the grate is placed an agitating-frame, *e*, consisting of a series of transverse bars, *f*, located between the bars *b* of the grate, as best shown in Fig. 1, they being connected by bridge-pieces *g*, forming the longitudinal member of the frame, and shown as located beneath the bridge-pieces *b* of the grate, the said transverse bars *f* being provided with U-shaped depressions or notches 2, lying beneath the said bridge portions *b* of the grate, so as to permit the upward movement of the agitating-frame relative to the said grate, as shown in dotted lines, Fig. 3.

The transverse portions *f* of the agitating-frame *e* are shown in Fig. 3 and in the middle portion of Fig. 1 as consisting of a series of upwardly-projecting fingers, *f'*; but as shown in Fig. 4 and at the ends of Fig. 1 they consist of a single upward projection, f^2, between and at each side of the bridge-pieces *b* of the grate *a*. The agitating-frame is forced upward

(No Model.) 2 Sheets—Sheet 1.

R. L. WALKER.

FIRE BOX.

No. 260,810. Patented July 11, 1882.

Fig. 2.

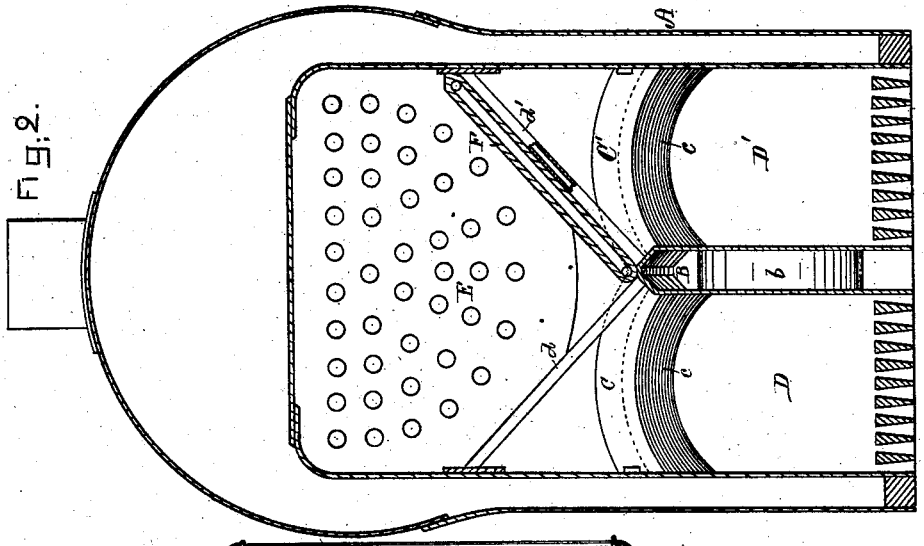
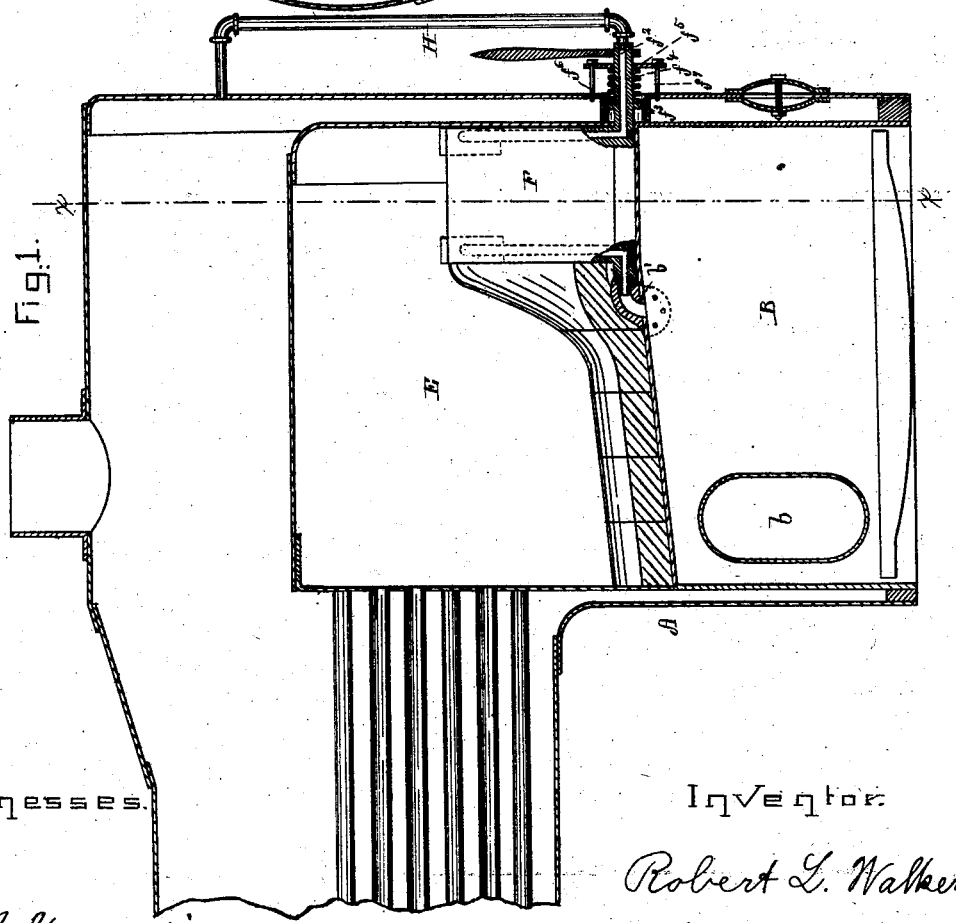


Fig. 1.



Witnesses.

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John R. Snow.

Inventor.

Robert L. Walker
by J. E. Maynadier
his Attorney