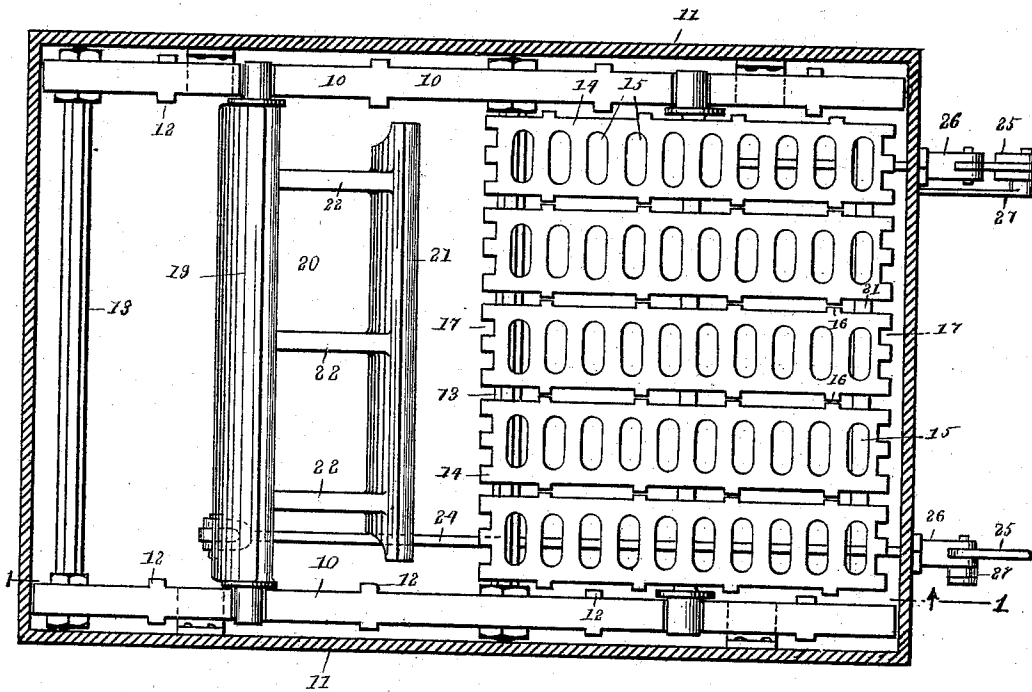
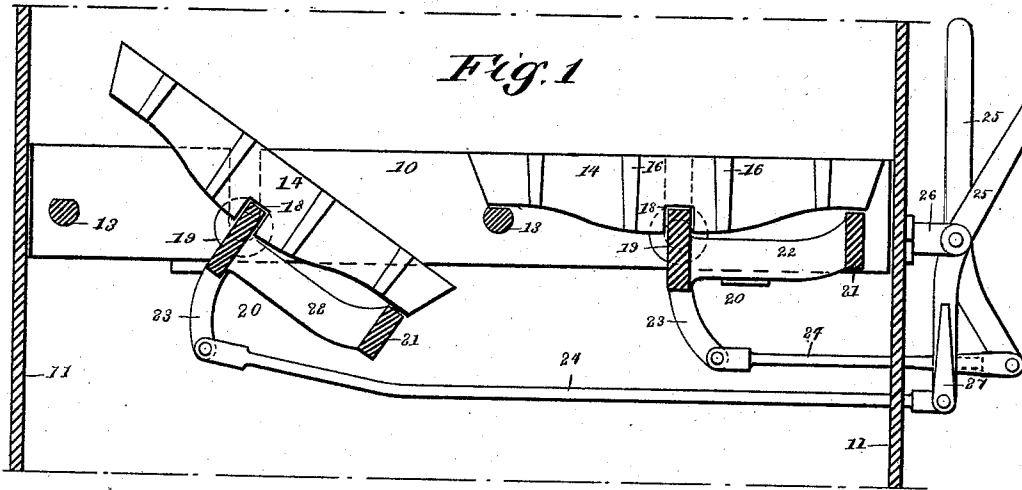


(No Model.)

B. E. WEEKS.  
DUMPING GRATE.

No. 535,233.

Patented Mar. 5, 1895.



WITNESSES:  
*John A. Bergstrom*  
*H. P. Hutchinson*

*Fig. 2*

INVENTOR  
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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

BENJAMIN E. WEEKS, OF NEW YORK, N. Y.

## DUMPING-GRATE.

SPECIFICATION forming part of Letters Patent No. 535,233, dated March 5, 1895.

Application filed July 18, 1894. Serial No. 517,894. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN E. WEEKS, of New York city, in the county and State of New York, have invented a new and Improved Dumping-Grate, of which the following is a full, clear, and exact description.

My invention relates to improvements in dumping grates and the object of my invention is to produce a dumping grate, which is simple, strong and cheap, which is adapted to maintain a perfectly level fire, which is arranged in sections which may be successively dumped, and which enables the good fire to be held on one while the ashes and poor fire are dumped from the other; also to produce a very simple and strong mechanism for holding the grates and, further, to provide a very easily operated lever mechanism for working them.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a sectional elevation on the line 1—1 of Fig. 2, of my improved grate, one section being shown level and the other tilted so as to dump the fire; and Fig. 2 is a plan view of the grate with bars removed from the grate supporting cradle.

The grate supporting frame 10 is of substantially the usual kind and is arranged within the furnace walls 11 and has side ribs 12 which increases its strength, and maintain an air space between it and the grate bars which will be described presently. The frame is provided, near its rear end and near the center, with cross rods 13 which are preferably flattened on top to form a more secure support for the rear ends of the grate bars 14 which are arranged in sections, one behind the other, as shown clearly in Fig. 1, two sections of bars being shown in the drawings, but it will be understood that more sections may be used if necessary.

The grate bars are arranged so as to be very strong and yet make a grate with a very large air space, so that a bright fire may be maintained, each bar being provided with a central row of holes 15, and with side lugs 16 which

hold the adjacent bars far enough apart to permit an air space between them, and the bars have also end notches 17 through which air may rise to the fire.

The grate bars are each provided with a transverse slot 18, near the center and on the under side, which side is convex at this point, and the slot receives the rear bar 19 of the supporting cradle 20 which is journaled in the frame 10, as shown clearly in Fig. 2 and the cradle has also a front bar 21 adapted to support the front ends of the grate bars, and cross bars 22 connecting the bars 19 and 21. It will be seen that the cradle thus forms a very substantial support for the grate bars which rest upon it, and when the cradle is rocked the grate bars are similarly moved and the fire easily dumped and the bars easily returned to a level position.

The cradles 20 are each provided with a depending arm 23 which hangs from the bar 19, and each arm is coupled to a connecting rod 24 which extends forward through the front wall of the furnace and connects with the lower end of the lever 25 which is fulcrumed on a support 26 on the furnace wall, and by moving the lever backward and forward the rod 24 may be moved, the arm 23 and cradle 20 tilted and the grate bars on the cradle dumped or returned to a level position, as the case may be.

Pivoted on the outer end of each rod 24 is a locking arm 27, the length of which corresponds to the throw of the lever 25 and the movement of the arm 24, and when the lower end of the lever is thrown out the cradle is in a level position, as shown at the right-hand in Fig. 1, and by turning the locking arm downward into a level position the end of the arm strikes the furnace wall and locks the lever and the parts therewith connected.

The grate bars may be easily dumped, as the cradle naturally follows down into the position shown at the left-hand in Fig. 1, and after the ashes, &c., have fallen off the grate, the cradle and its grate bars may be easily returned to a level position by the movement of the lever 25.

In using the grate the good fire is pushed upon one section of the grate, the dull fire, clinkers, ashes, &c., drawn upon the other section, and the second section is then dumped,

after which it may be returned to a level position, the good fire pulled upon it and the other grate section dumped in like manner.

Having thus described my invention, I  
5 claim as new and desire to secure by Letters Patent—

1. A dumping grate, comprising a cradle formed of parallel bars, one of which is journaled in a support, and connecting cross bars,  
10 and a series of grate bars arranged at right angles to the parallel bars and provided with transverse slots on their under sides to receive the journaled bar of the cradle, substantially as herein shown and described.

15 2. In a grate, the combination with a sup-

porting frame provided with a cross bar, of a cradle formed of parallel bars one of which is journaled in the frame, and connecting cross bars, and a series of grate bars arranged at right angles to the parallel bars and provided  
20 with transverse slots on their under sides to receive the journaled bar of the cradle, the said grate bars having their rear ends resting upon the cross bar of the frame when in their normal position, substantially as described.

BENJAMIN E. WEEKS.

Witnesses:

WARREN B. HUTCHINSON,  
C. SEDGWICK.