

(No Model.)

J. L. BAKER.
GRATE.

No. 512,353.

Patented Jan. 9, 1894.

Fig: 1.

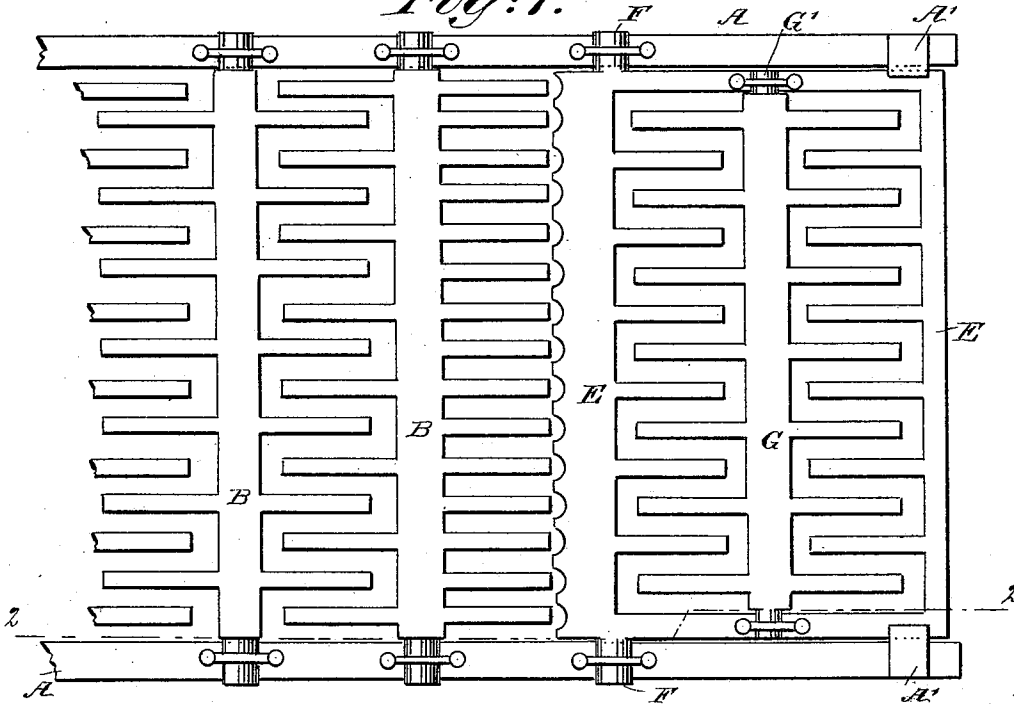


Fig: 2.

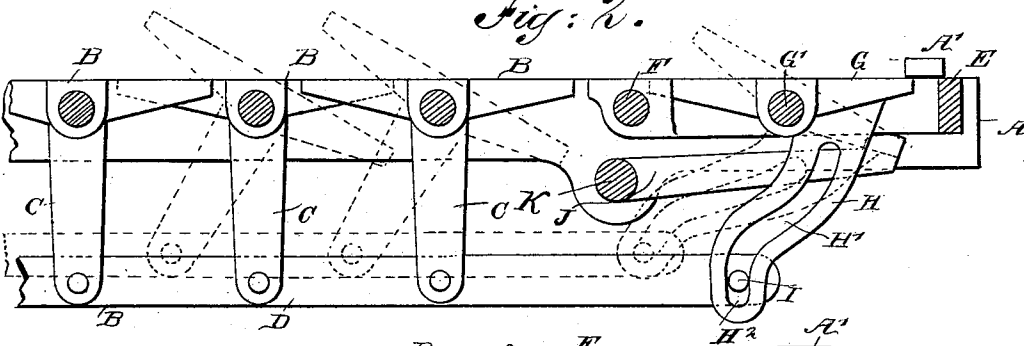
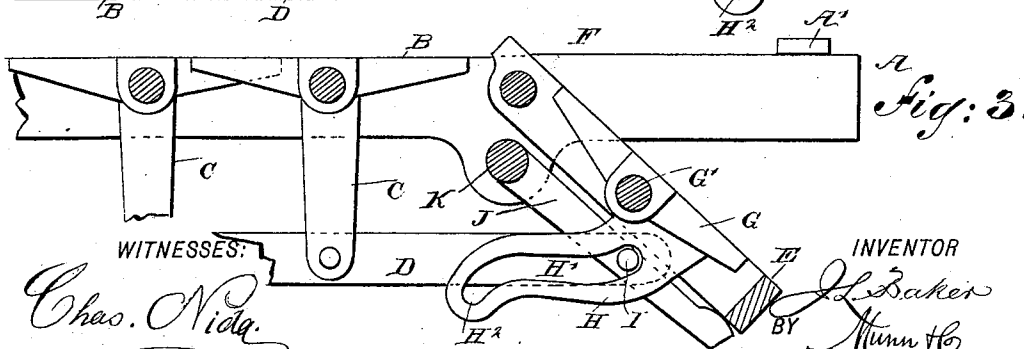


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN L. BAKER, OF BAIRD, TEXAS.

GRATE.

SPECIFICATION forming part of Letters Patent No. 512,353, dated January 9, 1894.

Application filed March 7, 1893. Serial No. 464,941. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. BAKER, of Baird, in the county of Callahan and State of Texas, have invented a new and Improved
5 Grate, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved grate, more especially designed for use on locomotive boilers, and
10 arranged to conveniently dump part of the burning fuel in one end of the firebox.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described, and then pointed
15 out in the claims.

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

Figure 1 is a plan view of the improvement. Fig. 2 is a sectional side elevation of the same on the line 2—2 of Fig. 1; and Fig. 3 is a similar view of part of the same with the auxiliary dumping grate frame in a dumping position.
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The improved grate is provided with a suitably-constructed stationary grate frame A, in which are journaled or pivoted the grate sections B, of the usual construction, and each
30 provided with a downwardly-extending arm C, pivotally-connected with a longitudinal bar D, under the control of the operator for imparting a rocking motion to the grate sections B, to shake the fuel burning on top of
35 the grate.

At one end of the grate frame A is arranged an auxiliary grate frame E, provided with trunnions or pivots F, journaled on the main grate frame A, and arranged in line with the
40 pivots of the grate sections B. In this auxiliary frame E is arranged a grate section G, similar to the grate sections B, and having its trunnions or pivots G', also arranged in alignment with the pivots of the other grate
45 sections and those of the frame E.

From the under side of the grate section G extends downwardly an arm H, provided with a segmental slot H', the center of which is in the center of the pivot F for the auxiliary grate frame E. The lower end of this
50 segmental slot H' terminates in a vertically-

disposed slot H², which, as well as the slot H', is adapted to be engaged by a pin I, held on the longitudinal bar D.

The under side of the auxiliary grate frame E is engaged near its free end by an arm J, secured on a transversely-extending shaft K, journaled in the main grate frame A, and under the control of the operator, so that a
55 downwardly-swinging motion can be given at any desired time to the said arm J, to dump the auxiliary grate frame E. The upward
60 swinging motion of the auxiliary frame E is limited by stop lugs A', projecting over the auxiliary frame E near its free end, as shown
65 in the drawings.

When the several parts are in the position illustrated in Figs. 1 and 2, and motion is imparted to the bar D, then the several grate
70 sections B and the grate section G are rocked in the usual manner to shake the fuel burning on top of the grate.

When it is desired to dump part of the fire in the front of the firebox, then the operator imparts a rocking motion to the shaft K, so
75 that the arm J swings downward, thus unlocking the auxiliary frame E, which latter, by reason of the weight of the fuel thereon is caused to fall, carrying with it the grate
80 section G, as shown in Fig. 3 and the fuel drops into the ash pan. It is understood that when the arm J and grate E swing downward, the arm H on the section G passes along the pin I, as the segmental slot H' has its center
85 in the pivot F on which the auxiliary frame swings. By imparting an upward swinging motion to the arm J on turning the shaft K in the inverse direction, the auxiliary frame E and the grate section G, are again swung
90 upward into a normal horizontal position, after the fuel has been dumped.

It will be seen that by the construction shown and described, the grate sections B and G can be readily oscillated to shake the fuel, and the operator is enabled at any time to
95 dump part of the burning fuel in the end of the firebox, without disturbing the fuel on the remainder of the grate. A grate of this construction, prevents forming of the clinkers or accumulation of incombustible matter
100 on the dumping part of the grate, and enables the material to be broken up and shaken

through into the ash pan by the movement of the grate section G. It will be seen that the section G keeps the fuel loosened up over the dumping section to permit air to pass freely through the same to the firebox.

It will also be understood that the construction described enables me to use a large dumping section in a part of the firebox, without reducing the shaking facilities, as the dumping section is provided with an oscillating grate in its center.

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

1. The combination with a grate frame, a plurality of grate sections pivoted in the frame, and an operating bar pivotally connected with said sections, of an auxiliary grate frame pivoted to the main grate frame at one end thereof, and a grate section pivoted in the auxiliary grate frame and provided with an arm having a pivotal and sliding connection with the operating bar, substantially as described.

2. In a grate, the combination with a plurality of pivoted grate sections, each provided

with a downwardly extending arm, and an operating bar pivoted to said arms, of an auxiliary pivoted grate frame, means for locking the said frame in position, and a grate section pivoted in the auxiliary grate frame and provided with a downwardly extending arm having a segmental slot terminating in a straight slot, into which slots a pin on the operating bar projects, substantially as described.

3. In a grate, the combination with a plurality of pivoted grate sections, each provided with a downwardly extending arm, and an operating bar pivoted to the said arms, of an auxiliary pivoted grate frame, a rock shaft below the frame and provided with an arm engaging the said pivoted frame near its free end, and a grate section pivoted in the auxiliary frame and provided with a downwardly extending arm having a segmental slot terminating in a straight slot, into which slots a pin on the operating bar projects, substantially as herein shown and described.

JOHN L. BAKER.

Witnesses:

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W. W. DUNSON.