E. H. JONES.

FURNACE GRATE.

No. 48,286. Patented June 20, 1865.

Fig. 1.

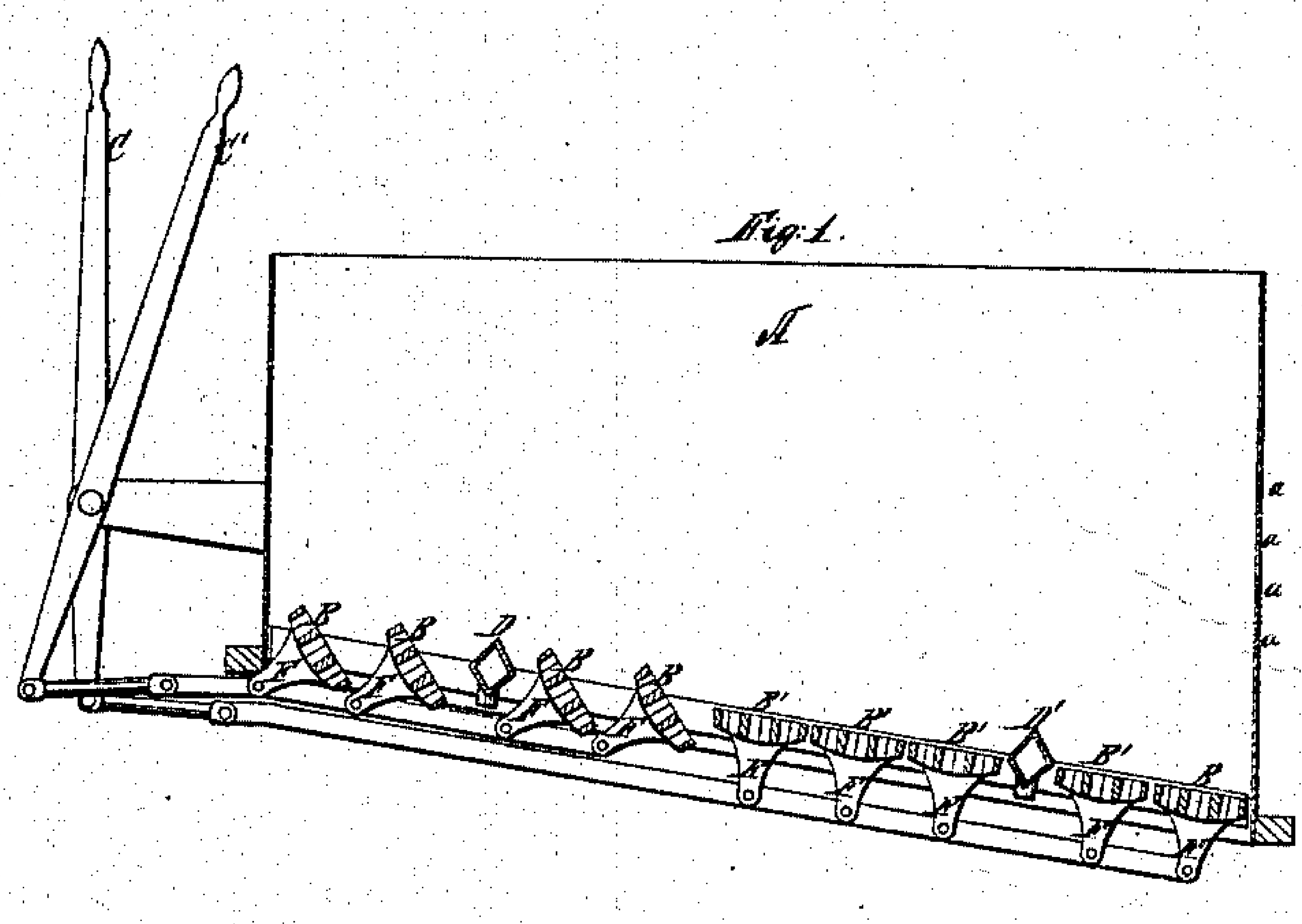
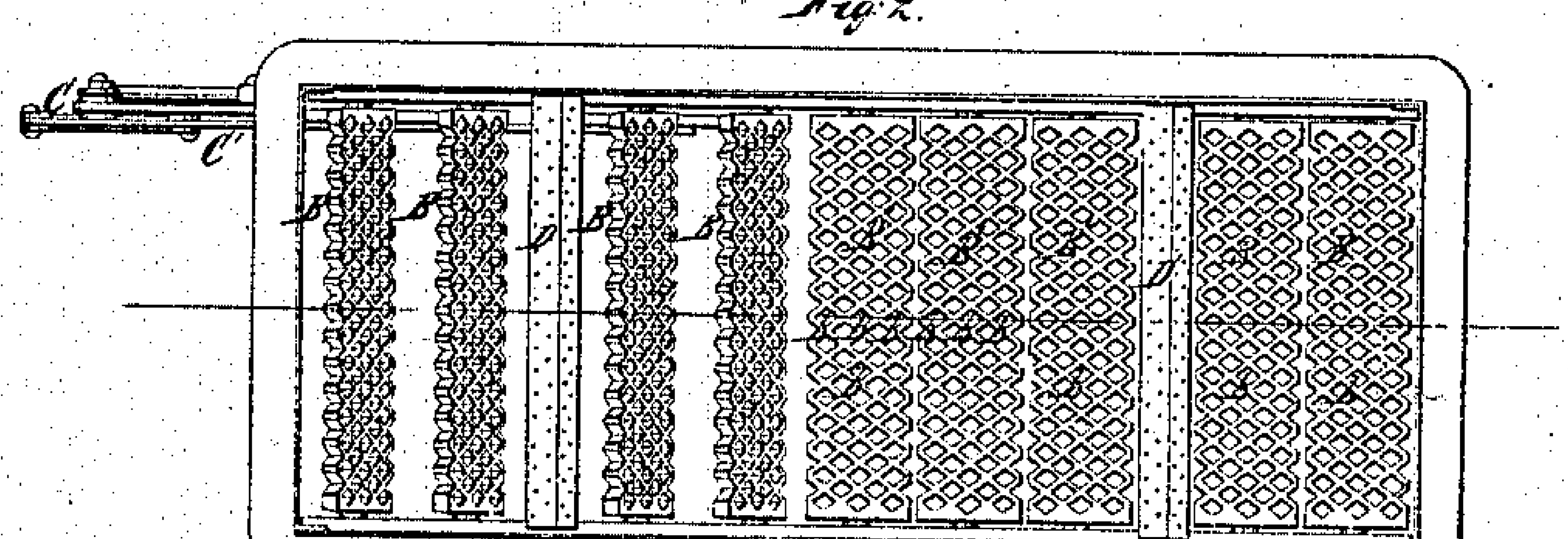


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD H. JONES, OF WEST ALBANY, NEW YORK.

IMPROVEMENT IN STEAM-FURNACE GRATES.

Specification forming part of Letters Patent No. **48,286**, dated June 20, 1865.

To all whom it may concern:

Be it known that I, EDWARD H. JONES, of West Albany, county of Albany, and State of New York, have invented a new and useful Improvement in the Construction and Arrangement of Boiler-Grates; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of the fire-box of a locomotive-boiler, exhibiting the grates, together with the levers designed to operate them, in sets, and also the position of the oxygen-distributers. Fig. 2 is a horizontal plan of the same.

The object of this invention is to secure thorough combustion of the coal by the arrangement of the inclined surfaces of the grates toward the flues, in connection with two or more oxygen-distributers placed at suitable distances from each other and between and parallel with the grates, the coal being first placed near the furnace-door for the purpose of coking it first, and then of being gradually agitated toward the flues through the agency of the parallel rocking grates, which purpose, together with greater strength in the grate and less liability to breakage from expansion or contraction of the metal, is also accomplished by making the grates of a single casting with the bars crossing each other diagonally, the said grates being operated in sets of two or more.

A, Fig. 1, represents the portion of a boiler called the "fire-box," into which are placed, at right angles thereto, the pivoted grates B B, having their upper surfaces inclined or depressed from a horizontal line toward the flues *a a*. The grates B B are single castings with the bars crossing each other diagonally, and are opened, closed, or given a rocking motion independently, in sets of two or more, by means of the levers C C, worked either separately or together, the levers being connected with the grates by the arms F F, the rocking motion thus given working the coal gradually toward the flues *a a*. Between and parallel to each set of grates I place the oxygen-distributers D D, which are intended, by means of the perforations therein, to furnish a greater supply of oxygen to the flame than can be furnished by ordinary methods, and thus to produce a more thorough combustion of the coal in its downward passage from the furnace-door.

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

1. A series of grates when cast in the form herein described, and operated in sets of two or more.

2. In combination with the action of the grates independently by means of the levers C C and the arms F F, the use of the oxygen-distributers D D, substantially as shown, for the purpose of producing more perfect combustion.

EDWARD H. JONES.

Witnesses:

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