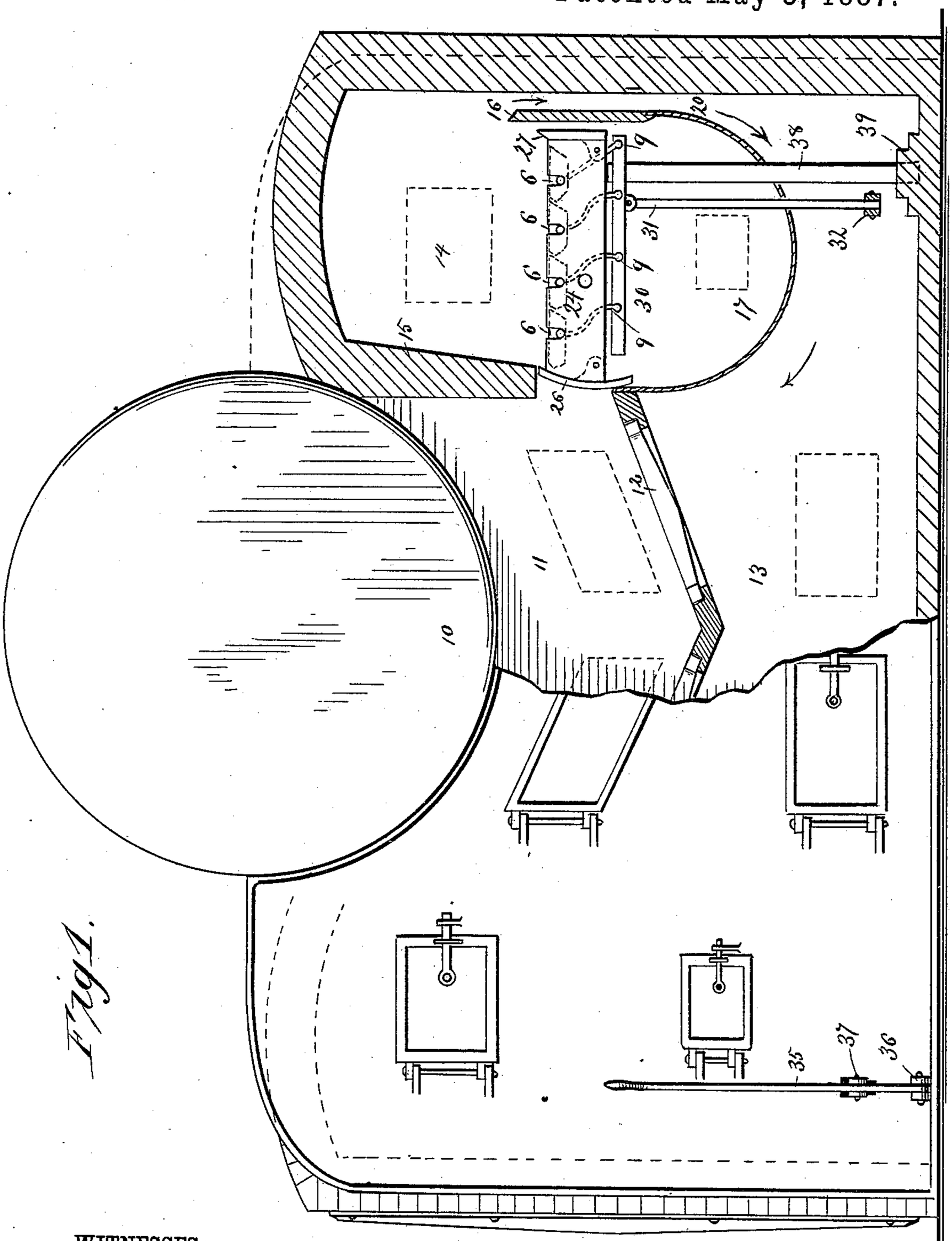
(No Model.)

2 Sheets—Sheet 1.

F. C. PESLIN.

GRATE.

No. 362,311. Patented May 3, 1887.



WITNESSES:

J. D. Garfield

C. Sedgwick

INVENTOR:

F. C. Peslin

BY Munn & Co

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(No Model.) 2 Sheets—Sheet 2.

F. C. PESLIN.

GRATE.

No. 362,311. Patented May 3, 1887.

Fig. 2.

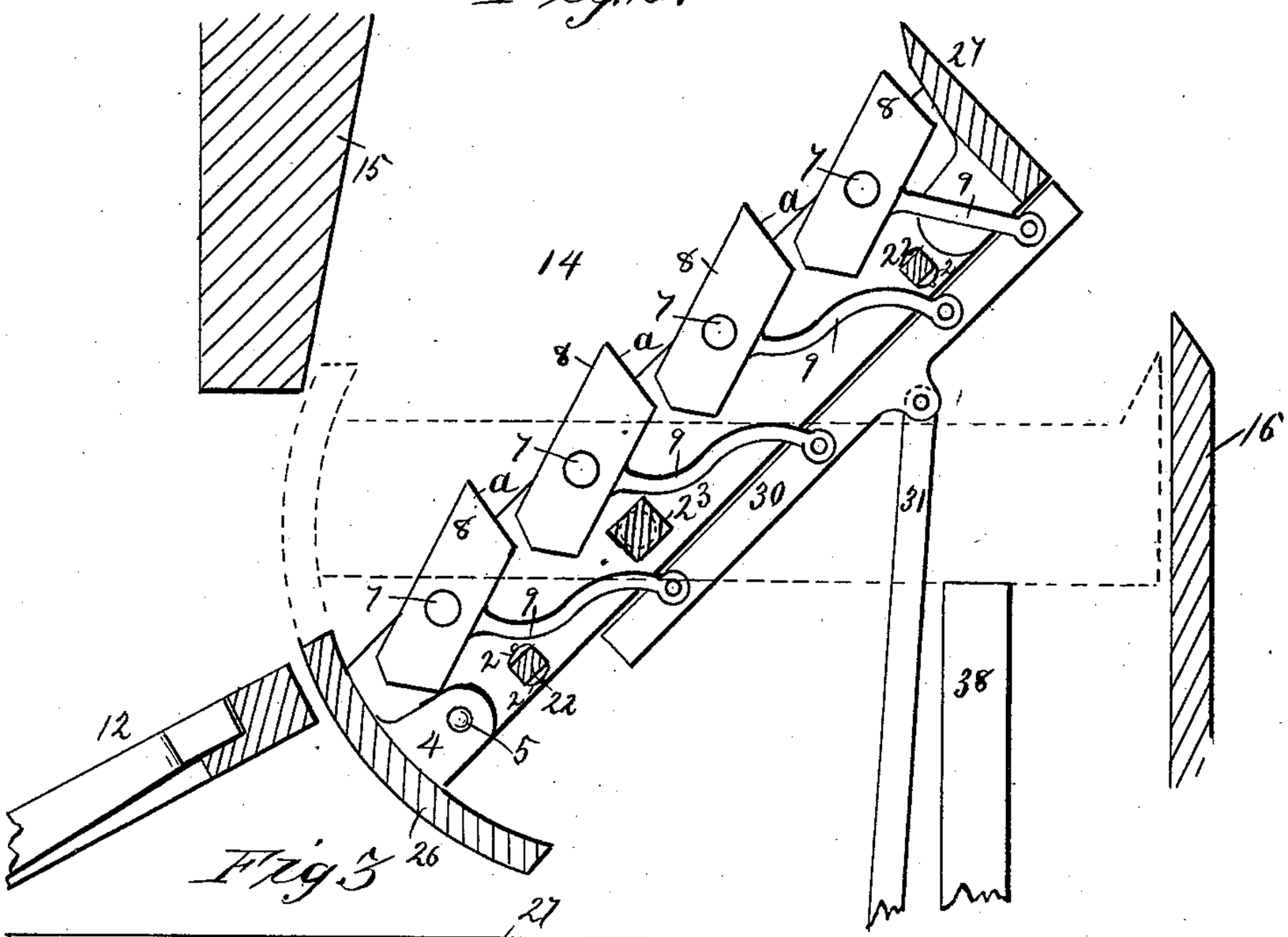


Fig. 3

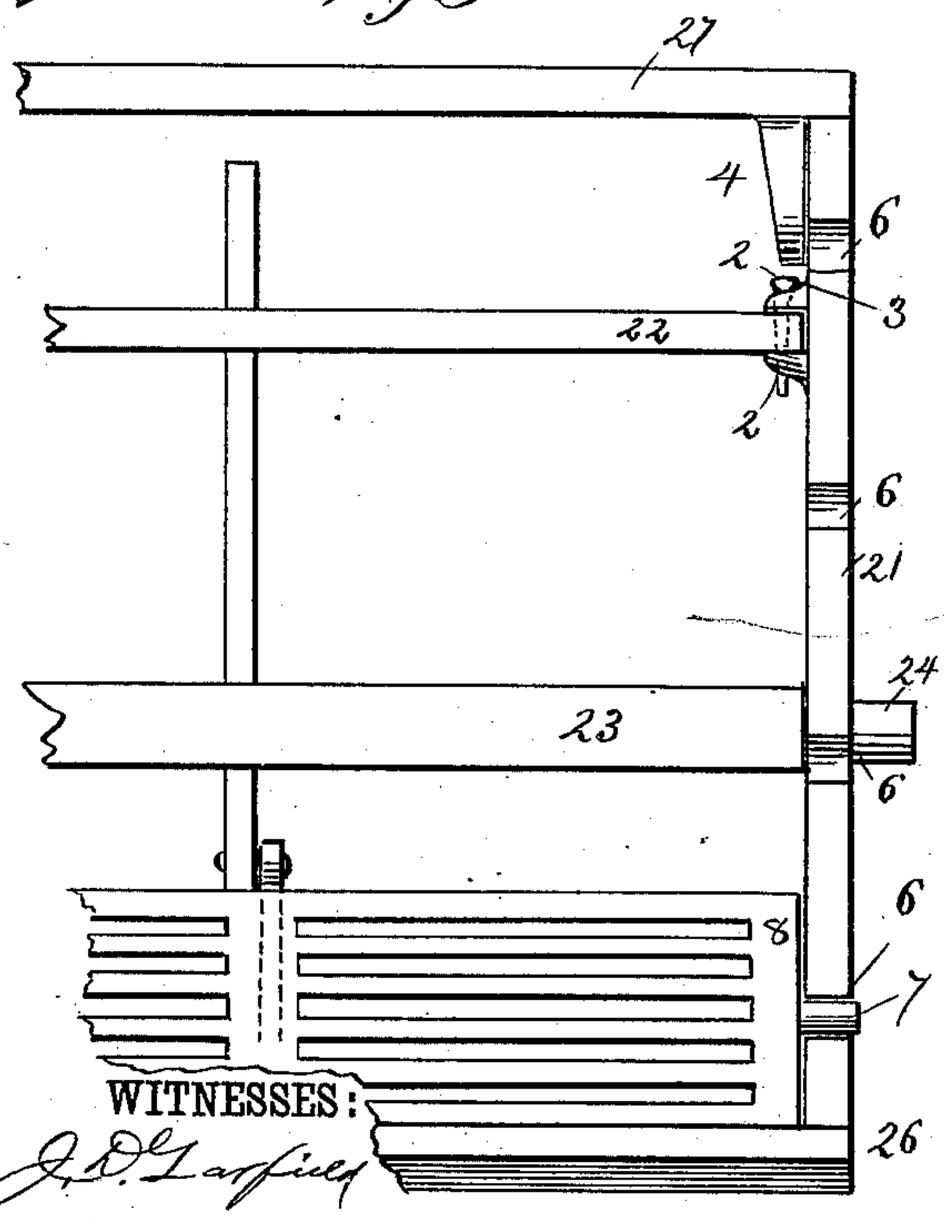
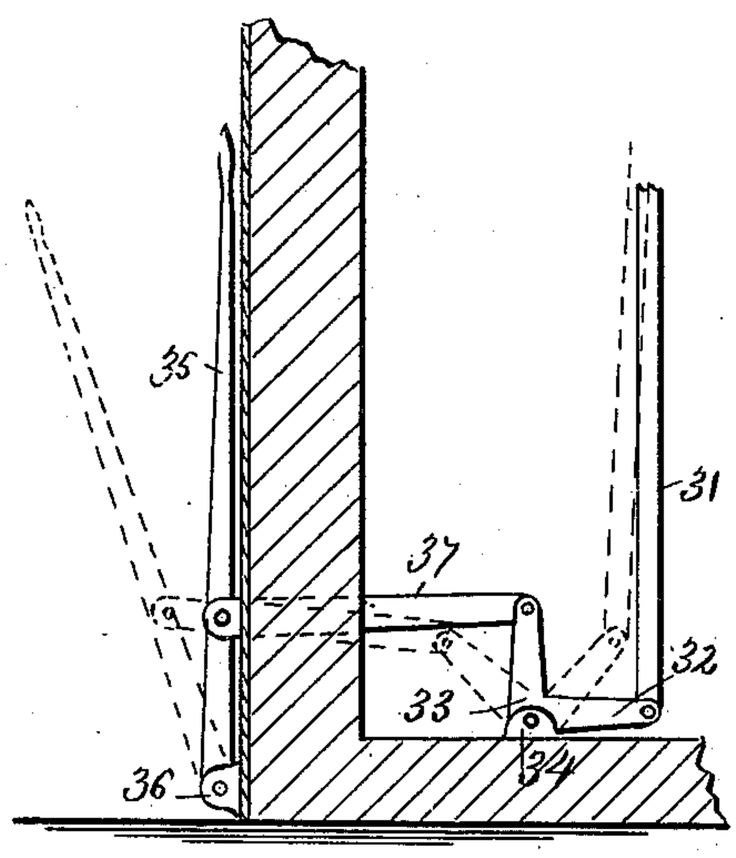


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRED C. PESLIN, OF VAN DYNE, WISCONSIN.

GRATE.

SPECIFICATION forming part of Letters Patent No. 362,311, dated May 3, 1887.

Application filed August 31, 1886. Serial No. 212,298. (No model.)

To all whom it may concern:

Be it known that I, FRED C. PESLIN, of Van Dyne, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Grate, of which the following is a full, clear, and exact description.

My invention relates to the construction of a grate applicable for use in connection with a furnace or boiler such as the one illustrated, described, and claimed in application No. 202,188, filed in the United States Patent Office on the 14th day of May, A. D. 1886, by John L. Peslin, of Appleton, Wisconsin, the object of the present invention being to facilitate the dumping of the coke from the coking-chamber into the main combustion-chamber.

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 all the views.

Figure 1 is a front elevation of a boiler and its furnace, part of the front plate being broken away to disclose the location and construction of my improved form of grate. Fig. 2 is an enlarged cross sectional view of the grate, the parts being represented in the position they assume when the grate is tilted. Fig. 3 is a plan view of a portion of the grate-frame, one of the grate-sections being shown in position within the frame; and Fig. 4 is a view of the operating-lever and connections, the front wall and floor of the furnace being shown in section.

In the drawings above referred to, 10 represents the boiler; 11, the main combustion-chamber; 12, the grate of said chamber; 13, the main ash-pit; 14, the coking-chambers, which are arranged upon either side and slightly above the main combustion-chamber 11, from which they are divided by partitions or walls 15. A partition, 16, and a screen, 17, are arranged as shown, and serve to cut off communication between the coking-chamber and the ash-pit 13, except by way of a flue, 20, which leads from the coking-chamber to the ash-pit 13.

The grates of the coking-chambers to which my invention relates consist of end pieces, 21, that are united by bars 22, said bars fitting between lugs 2 formed on the end pieces, the bars being held to place by bolts 3.

A bar, 23, formed with trunnions 24, is mounted in apertures formed in the end pieces, 21, and the trunnions of this bar are in turn mounted in proper bearings that are fixed to the furnace-casing and serve as the supports for the grate.

To the forward ends of the end pieces, 21, there is secured a curved face-plate, 26, said plate being formed with lugs 4, through which and the end pieces there are passed bolts 5. The face of the plate 26 is concentric with the axis of the trunnions 24. A straight plate, 27, is secured to the opposite ends of the pieces 21 in a manner similar to that by which the plate 26 is attached, and the two plates 26 and 27 are preferably made of fire-clay.

In each of the end pieces, 21, there are a series of recesses, 6, and within these recesses there rest the trunnions 7 of the grate-sections 8, there being as many of these sections as may be desired or be advisable; but in practice I would prefer to use four or five of such sections. The sections 8 are made integral with or rigidly connected to downwardly-extending arms 9, which arms 9 are pivotally connected to a bar, 30, to which there is also pivotally connected a connecting-rod, 31, the lower end of which is connected to the horizontal arm 32 of a bell-crank lever, 33, that is mounted in a bracket, 34, fixed to the floor of the furnace beneath the screen 17, the connecting-rod 31 passing through an aperture formed in said screen.

A lever, 35, is pivotally mounted in a bracket, 36, arranged as best shown in Figs. 1 and 4, and this lever 35 is connected with the bell-crank lever 33 by means of a rod or bar, 37, which passes through the front wall of the furnace.

The grate described is usually supported in the position in which it is shown in Fig. 1 by a post or standard, 38, which is stepped in a socket, 39, and passes up through an opening formed in the screen 17.

The operation of the grate is as follows: Fires having been built in the chambers 11 and 14, the coal within the chambers 14 is allowed to partially coke, all gases and smoke passing from said chambers, by way of the flues 20, to a point beneath the fires of the main combustion-chamber, there to be consumed after the coal in the coking-chamber is partially coked. The lever 35 is then drawn to the position

shown in dotted lines in Fig. 4, which movement of the lever 35 will carry the grate of the coking-chamber to the position shown in full lines in Fig. 2, thus permitting the partially-coked coal to fall within the main combustion-chamber, a few glowing coals being, however, retained by the edges *a* of the grate-sections S, the idea being to save fire for the coking of a fresh supply of coal.

I do not claim any of the constructions herein illustrated which are common to the John L. Peslin application, above referred to, my invention relating to the construction of the grate.

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

1. In a grate, the combination of a pivoted outer frame, a bar arranged below and at right angles to the pivots of the said frame, grate-sections pivoted in their outer frame and provided with downwardly-projecting arms pivoted to the said bar, and an operating-rod pivoted to the bar at one side of the pivots of the outer frame, substantially as described, whereby provision is made for tilting both the outer frame and the grate-sections by manipulating the rod connected to said bar, as set forth.

2. In a grate, the combination, with an outer frame having recesses in its side bars and the bar 23, provided with trunnions 24, of the grate-sections S, provided with the trunnions resting in the recesses of the outer frame and with downwardly-projecting arms 9, the bar 30, arranged below and at right angles to the bar 23, and to which the arms of the grate-sections are pivoted, the rod 31, pivoted to the bar 30 at one side of the trunnions of the outer frame, and means for operating the said rod, substantially as herein shown and described.

3. In a grate, the combination, with an outer frame made up of end pieces, 21, the bar 23, provided with trunnions 24, and fire-clay plates 26 and 27, the parts being properly united, of inner sections formed with trunnions which rest in recesses formed in the end pieces of the outer frame, substantially as described.

4. In a grate, the combination, with an outer frame, of an inner series or set of grate-sections formed with arms 9 and supported by the outer frame, a bar, 23, formed with trunnions upon which the grate is supported, a bar, 30, to which the arms 9 are pivotally connected, a connecting rod, 31, pivoted to the bar 30 at one side of the trunnions of the grate, a bell-crank lever, 33, a connecting-rod, 37, and a lever, 35, all substantially as described.

FRED C. PESLIN.

Witnesses:
KATE PIER,
C. K. PIER.