

No. 663,638.

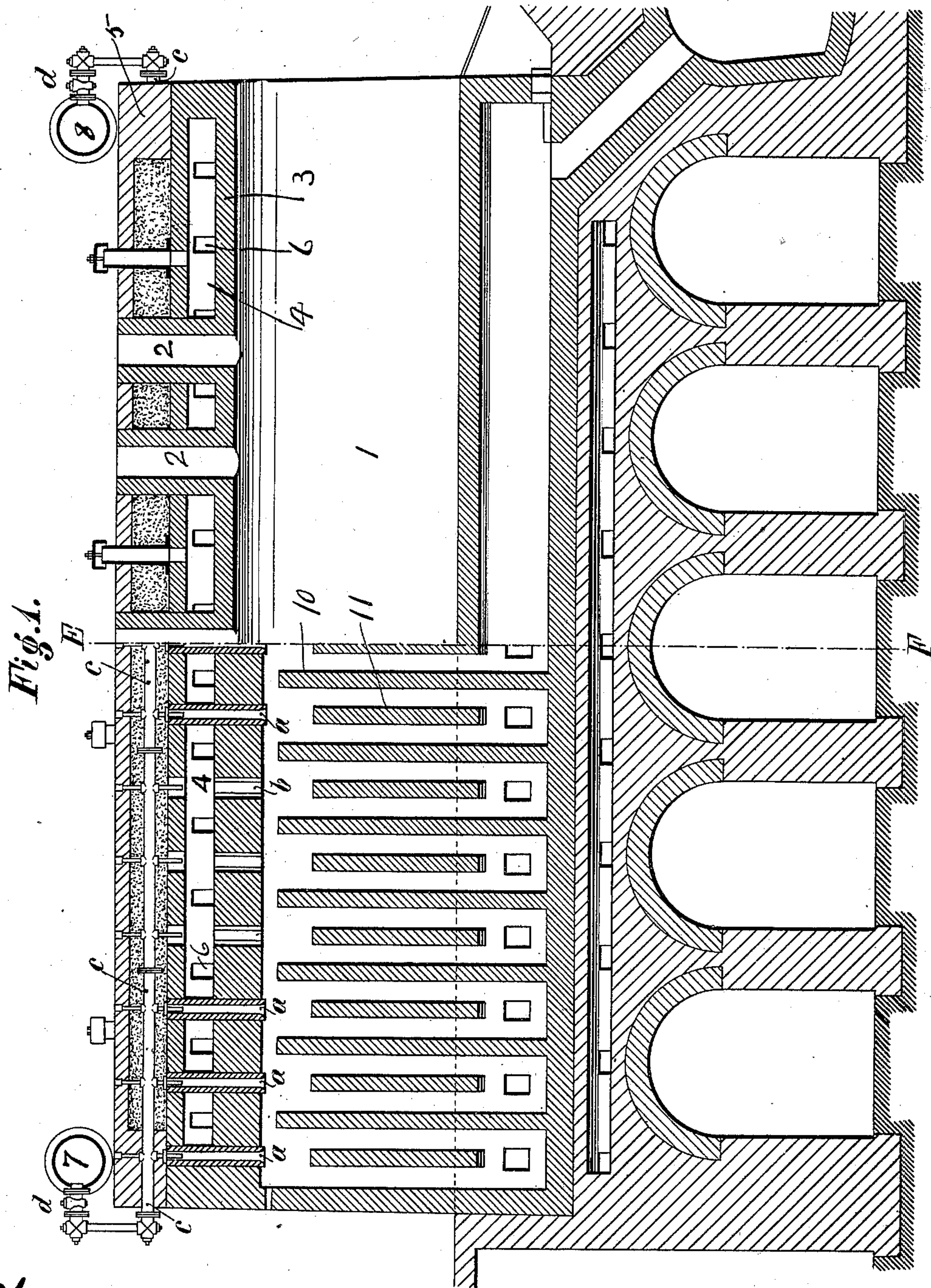
Patented Dec. 11, 1900.

H. POETTER.
COKE OVEN.

(Application filed Feb. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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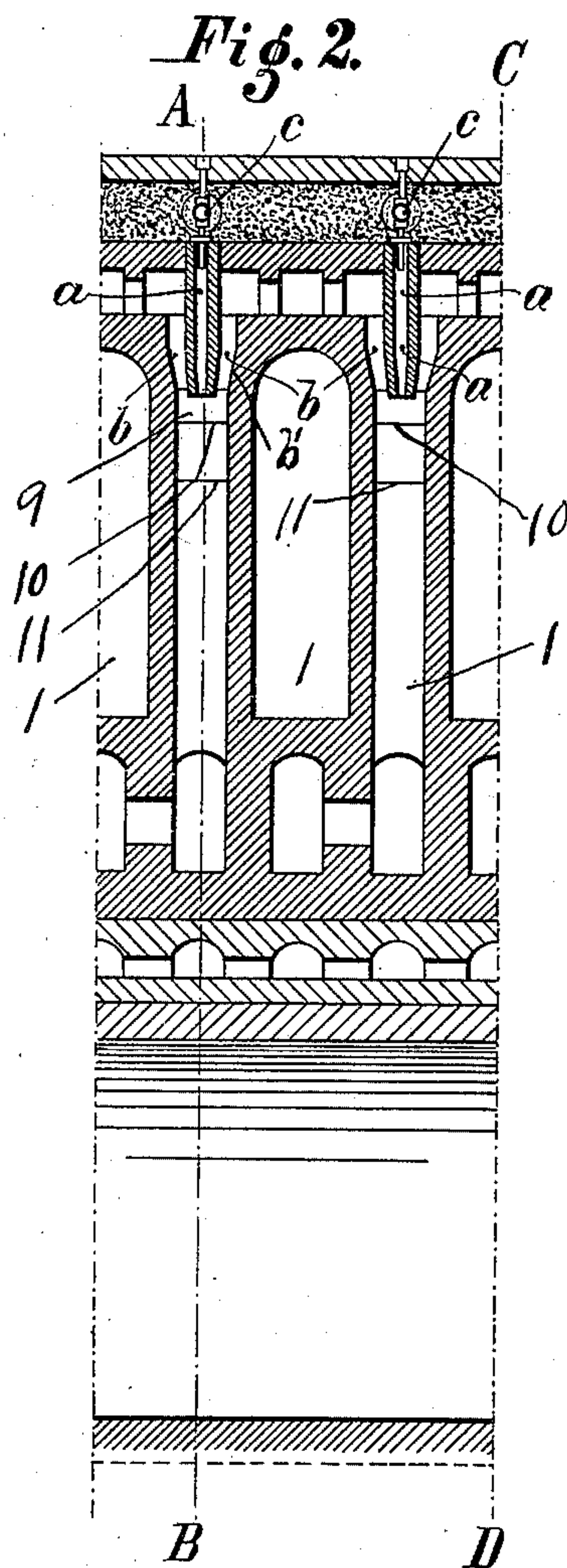
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UNITED STATES PATENT OFFICE.

HEINRICH POETTER, OF DORTMUND, GERMANY.

COKE-OVEN.

SPECIFICATION forming part of Letters Patent No. 663,638, dated December 11, 1900.

Application filed February 28, 1899. Serial No. 707,158. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH POETTER, a subject of the King of Prussia, German Emperor, residing at Dortmund, Prussia, German Empire, have invented certain new and useful Improvements in Coke-Ovens, of which the following is a specification.

This invention relates to an improved coke-oven.

10 The best method of heating coking-ovens for obtaining by-products is from above, as with this arrangement the heating-gases can pass to the walls of the oven by the shortest path. The utilization of the heat is, on ac-
15 count of the slow speed at which the heating-gases flow, greater than with other arrangements wherein the said gases are conveyed to and fro. Furthermore, any considerable differences of pressure in the walls are avoid-
20 ed. Experiments hitherto made, however, have been unfavorable to heating from above, as in all such constructions overheating of the upper portion of the oven of the gas-space occurred, whereby the by-products were injured
25 and the heating and lighting value of the gas diminished. In the arrangement which forms the subject of this invention the commencement of combustion is effected below the level of the coke-charge, whereby the above-men-
30 tioned disadvantages are avoided.

In the accompanying drawings I have illustrated an oven constructed according to the invention.

35 Figure 1 is a vertical longitudinal section through the oven, the left half being a section on the line A B and the right half a section on the line C D of Fig. 2. Fig. 2 is a vertical section on the line E F, Fig. 1.

40 1 represents the coke ovens or chambers, from which extend passages 2 through the top wall 3, the air-chamber 4, and the roof or covering 5 over the same.

6 represents air-inlets to the air-chamber.

45 7 8 are gas-supplies at opposite ends of the furnace and communicate with pipe *c* at its opposite ends through pipes in which are cocks *d*.

50 9 represents heating or combustion chambers in the walls between the ovens 1, and therein are several long partitions 10, which extend from the bottoms of chambers 9 to near the tops thereof. The shorter partitions 11

extend from a distance above the bottom to a short distance below the tops of partitions 10.

a represents nozzles arranged directly over 55 partitions 11 and receive gas from pipes *c* in the roof above the air-chambers. Pipes *c* are larger than required to furnish the several nozzles *a* connected thereto. This causes pipe *c* to act as a reservoir, and gas will be 60 supplied therefrom in the same quantity to each nozzle. The gas which issues from the nozzles will strike directly on the upper edges of partitions 11.

b represents openings through the top walls 65 of chambers 9 alongside of the nozzles in position to be also directly over partitions 11, so that currents of air and gas commingle above the partitions 11 or strike on the upper edges of said partitions and are thus commingled. 70 As shown in Fig. 2, openings *b* are contracted at the bottom by the slight inward bends *b'* in the rear walls of the grooves which form openings *b*.

Since a large number of nozzles or burners 75 *a* are used, the heating of the oven-walls and the chambers 1 is regular, whereby decomposition in the chambers is more quickly effected and the ovens are increased in durability.

I claim—

80 1. The combination of coke-oven 1, heating-chamber 9, partitions 10, 11, in the heating-chamber, nozzles in the top of chamber 9 above partitions 11, gas-pipe *c* communicating with the nozzles, means for supplying gas 85 to both ends of pipe *c*, an air-chamber 4 above the oven, air-passages beside the nozzles and inclined toward each other so that the air and gas currents meet and commingle above par-
90 titions 11, as set forth.

2. The combination of coke-oven 1, heating-chamber 9, partitions 10, 11, in the heating-chamber, nozzles in the top of chamber 9 above partitions 11, gas-pipe *c* communicating with the nozzles, pipe *c* being of larger 95 capacity than that required by the combined flow through its several nozzles *a*, thereby serving as a gas-reservoir, means for supplying gas to both ends of pipe *c*, an air-chamber 4 above the oven, air-passages beside the 100 nozzles and inclined toward each other so that the air and gas currents meet and commingle above partitions 11, as set forth.

3. The combination of coke-oven 1, heat-

ing-chamber 9, partitions 10, 11, in the heating-chamber, nozzles in the top of chamber 9 above partitions 11, gas-pipe *c* communicating with the nozzles, means for supplying gas
5 to both ends of pipe *c*, an air-chamber 4 above the oven, air-passages beside the nozzles and inclined toward each other so that the air and gas currents meet and commingle above par-

titions 11, as set forth, said nozzles extending below the tops of the coke-ovens. 10

Signed at Dortmund, Germany; this 25th day of January, 1899.

HEINRICH POETTER.

Witnesses:

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