

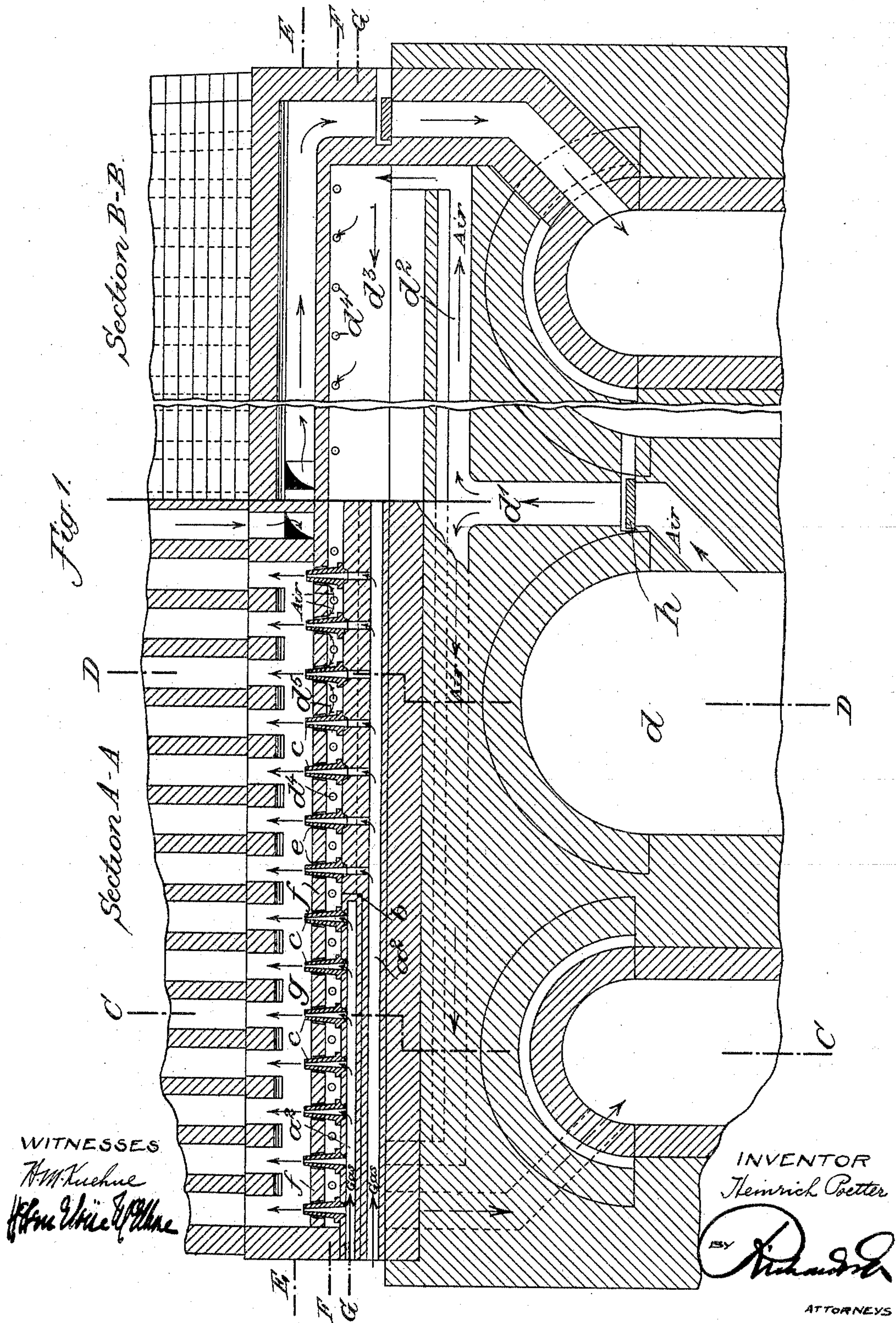
No. 766,898.

PATENTED AUG. 9, 1904.

H. POETTER.
HORIZONTAL COKE OVEN.
APPLICATION FILED JUNE 23, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



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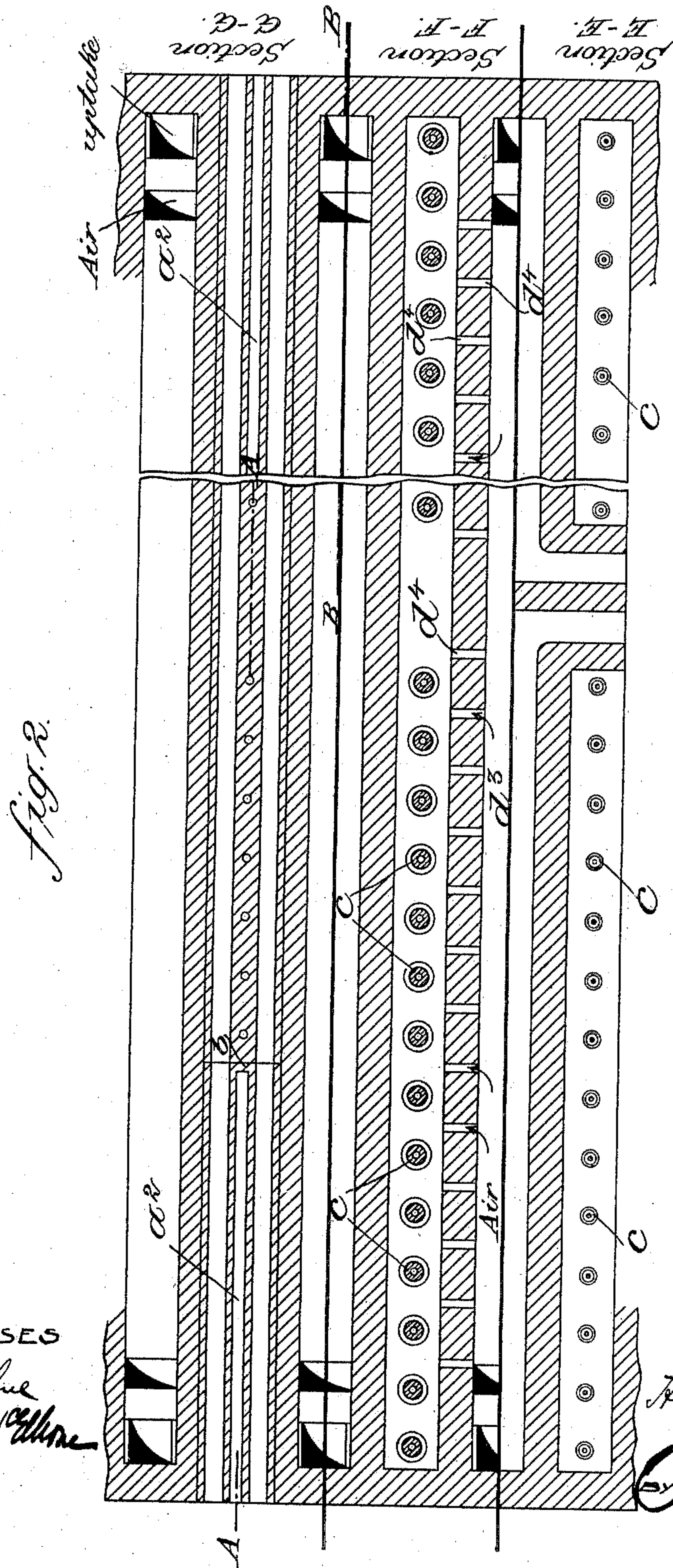
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4 SHEETS—SHEET 2.



WITNESSES
Am. Kuehne
Ben. Glueck & W. W. W. W.

INVENTOR
Heinrich Potter

By *Richard*
ATTORNEYS

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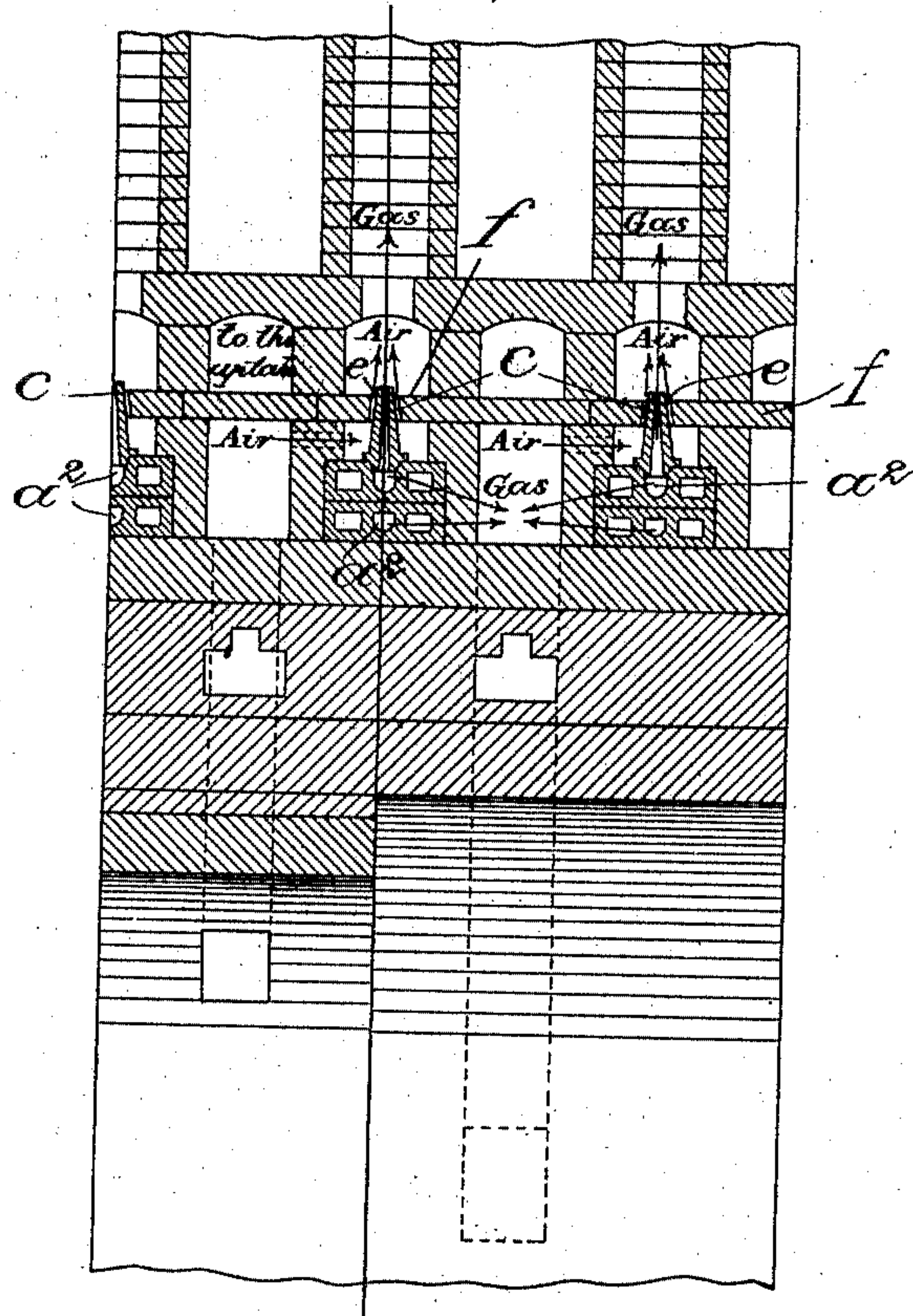
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4 SHEETS—SHEET 3.

fig. 3.

Section C-C. Section D-D.



WITNESSES

J. M. Kuehne
Edwin Elmer McNamee

INVENTOR

Heinrich Poetter

By *Richardson*

ATTORNEYS

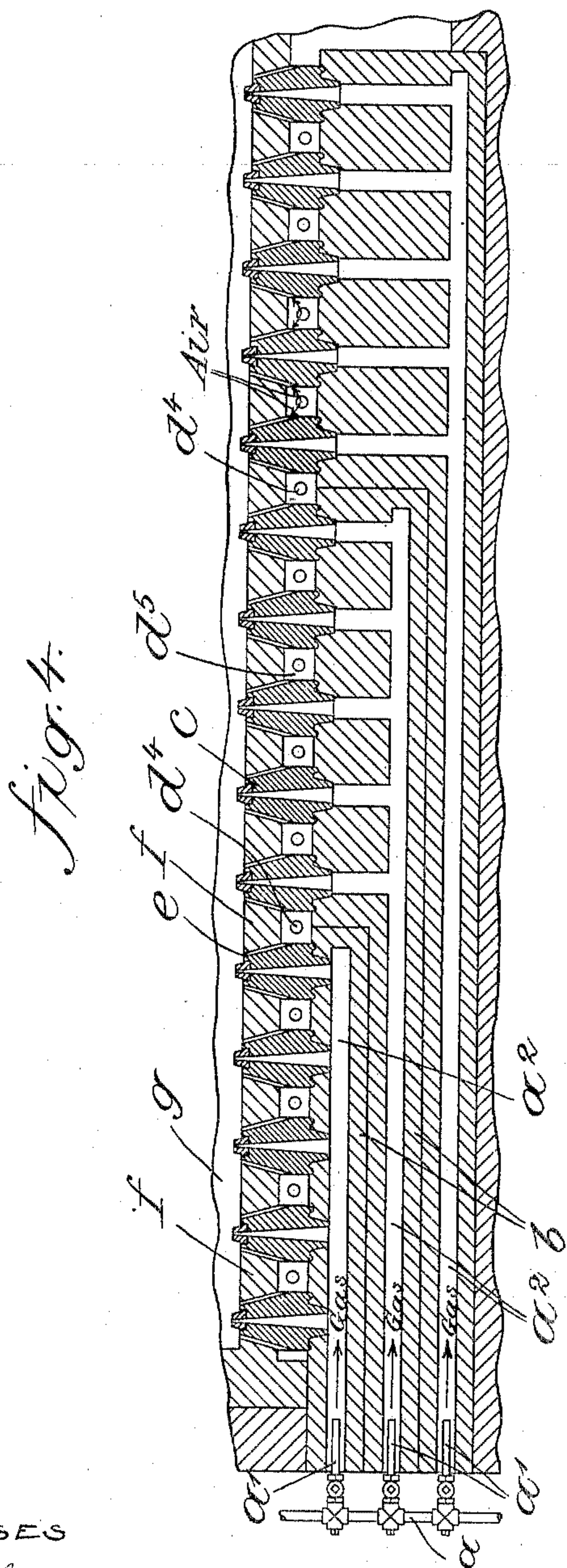
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4 SHEETS—SHEET 4.



WITNESSES

J. M. Kuehne
H. E. Elmer & Co.

INVENTOR

Heinrich Poetter

BY *Richardson*

ATTORNEYS

UNITED STATES PATENT OFFICE.

HEINRICH POETTER, OF DORTMUND, GERMANY.

HORIZONTAL COKE-OVEN.

SPECIFICATION forming part of Letters Patent No. 766,898, dated August 9, 1904.

Application filed June 23, 1903. Serial No. 162,794. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH POETTER, engineer, a subject of the Emperor of Germany, residing at Kaiser Wilhelmsallee 50, Dortmund, Germany, have invented certain new and useful Improvements in Horizontal Coke-Ovens, of which the following is a specification.

My invention relates to an improvement in horizontal coke-ovens provided with vertical heating-flues, and has for its object to afford a more uniform heating of the oven-walls by dividing as far as practicable the heating-gases, as well as the heated air, led into the oven. According to my invention the heating-gases are conducted simultaneously from both oven-crowns below on each side by a lateral piping and two branched-off gas-pipes or more into two or several gas-dividing ports, which are disposed below each other, so as to be mutually quite independent. From said gas-dividing ports the heating-gases pass through vertical nozzles in the heating or combustion ports, in which they become mixed with strongly-heated air and are then burned, whereby said gases during their ascension heat one-fourth or less of the oven-wall. Owing to this division or distribution of the heating-gases onto two or several spaces which are completely separated or independent from each other, the result is obtained that said gases flow out from all nozzles with the same pressure, so that all the combustion-ports are uniformly heated. Further, as according to my construction the point of combustion of the gases can be set as closely as desirable to the bottom of the oven, and consequently the path of the burning gases is as short as possible and also the air is strongly heated, a quick and uniform carbonization of the coal to be coked is obtained.

In the accompanying drawings, forming a part of this specification, and in which similar letters refer to corresponding parts throughout the several views, two constructional forms of my improved coke-oven are represented.

Figure 1 is a vertical sectional view on the lines A A and B B of Fig. 2; Fig. 2, a horizontal sectional view on the lines E E, F F, and G G of Fig. 1; Fig. 3, a vertical cross-

section on the lines C C and D D of Fig. 1, and Fig. 4 a vertical sectional view of a constructional modification of my coke-oven in which three gas-dividing ports instead of two are provided.

The gases as they come back from the purifier plant are led from two mains *a*, Fig. 4, lying along both sides of the group of ovens, through nozzles *a'* into the gas-dividing ports *a''*, lying beneath the coking-chambers, Figs. 1 and 4. Between said gas-dividing ports *a''* are disposed partition-walls *b* in any desired number. If only one partition-wall *b* is used, as to be seen in Fig. 1, section A A, two independent ports *a''* are formed, while if, for example, two partition-walls *b* are disposed, Fig. 4, three ports *a''* are produced; but of course four partition-walls *b* or more may be provided. From the ports *a''* the gases pass in independent streams through vertical nozzles *c* in the combustion-port *g*. In the disposition shown in Fig. 1 two gas streams are formed on each side, so that said gases are conducted into the combustion-ports *g* in four independent streams. In the construction represented in Fig. 4, however, three independent gas streams are originated on each side, so that the gases are led in six independent streams to the combustion-ports *g*.

The combustion-air passes through the vaulted channel *d* and the lateral ports *d'* *d''* in the space *d'''*, situated beneath the bottom port proper. Thence the combustion-air is conducted through the numerous openings *d''* into the spaces *d'''*, wherefrom said air passes through the annular openings *e* between the nozzles *c* and the ceiling *f* in the combustion-port *g*. At this point the combustion-air is mixed with the gases coming from the ports *a''*. The air can be heated either in the above-named ports or channels or in suitable regenerative chambers in order to use up completely the waste heat. The admission of the combustion-air is regulated by means of registers *h*.

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

1. A horizontal coke-oven, comprising partition-walls *b* forming gas-distributing chan-

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nels a^2 , nozzles c adapted to lead the heating-gases to the combustion-flues, air-flues d d' d^2 d^3 , openings d^4 for the passage of said air, spaces d^5 , and annular passages e between said
5 nozzles c and the ceiling f , said passages e being adapted to lead the air to the combustion-ports in order to be mixed with said heating-gases, substantially as set forth.

2. A horizontal coke-oven, comprising a
10 gas-main a , nozzles a' , partition-walls b forming gas-distributing channels a^2 , nozzles c adapted to lead the heating-gases to the combustion-flues, air-flues d d' d^2 d^3 , openings d^4

for the passage of said air, spaces d^5 , and annular passages e between said nozzles c and the
15 ceiling f , said passages e being adapted to lead the air to the combustion-ports in order to be mixed with said heating-gases, substantially as set forth.

In witness whereof I have hereunto signed
20 my name, this 6th day of June, 1903, in the presence of two subscribing witnesses.

HEINRICH POETTER.

Witnesses:

CONRAD SCHLIESER,
JOSEF BÖRNER.