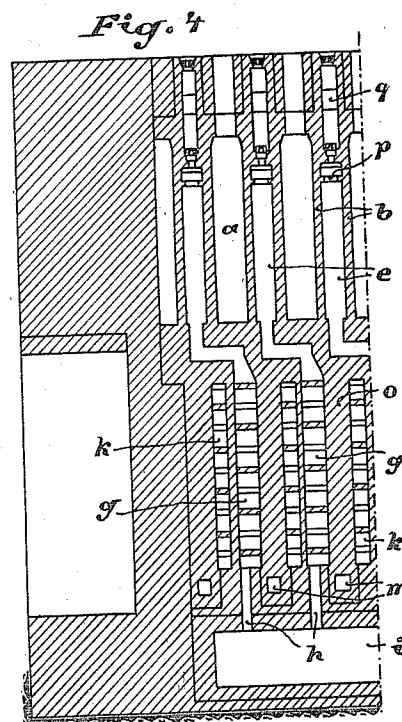
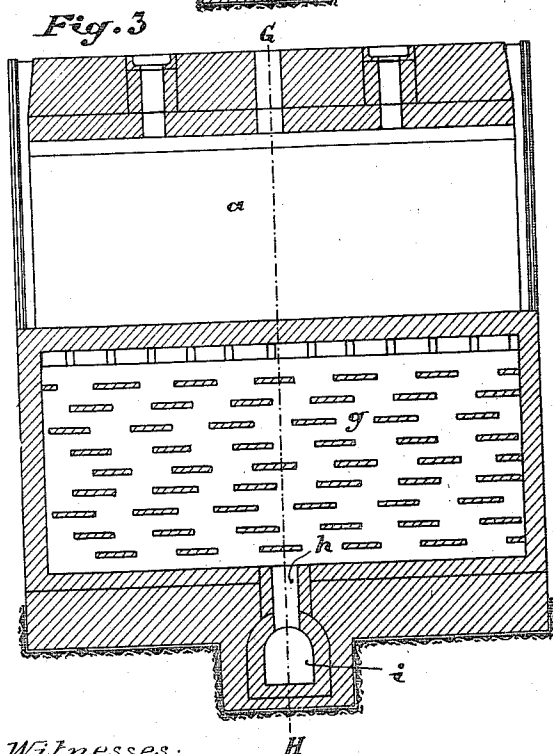
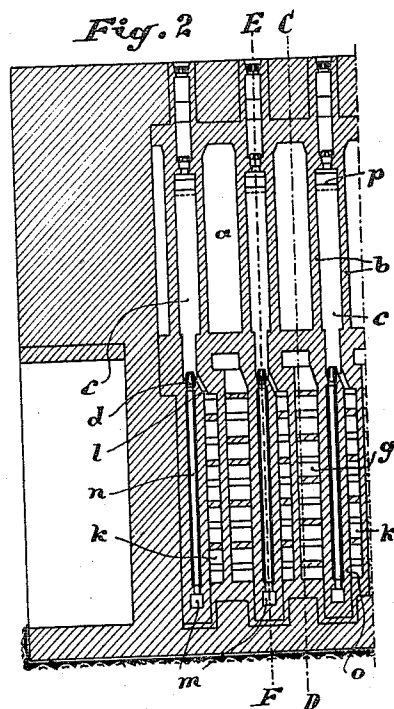
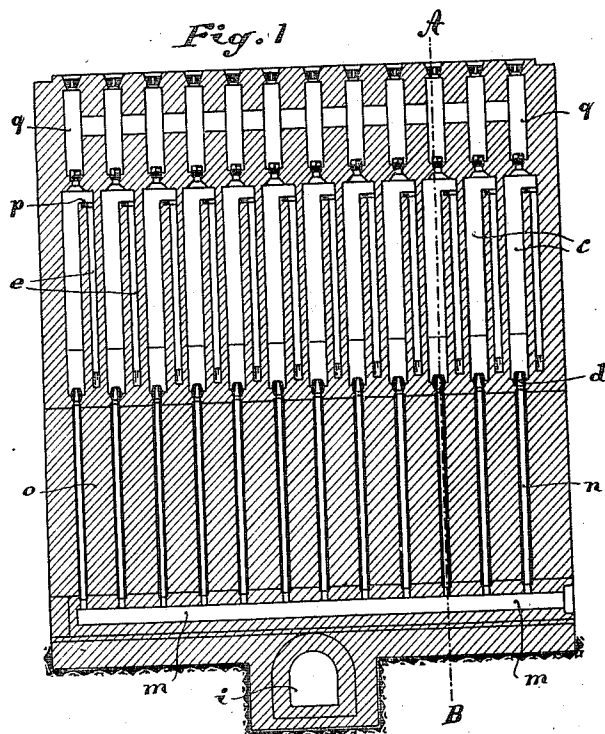


H. KOPPERS.
COKING AND GAS GENERATING OVEN.
APPLICATION FILED MAY 20, 1909.

Patented Mar. 7, 1911.

985,909.



Witnesses:
H. R. Schatz.
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UNITED STATES PATENT OFFICE.

HEINRICH KOPPERS, OF ESSEN-ON-THE-RUHR, GERMANY.

COKING AND GAS-GENERATING OVEN.

985,909.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed May 20, 1909. Serial No. 497,173.

To all whom it may concern:

Be it known that I, HEINRICH KOPPERS, a citizen of the German Empire, and resident of 30 Isenbergstrasse, Essen-on-the-Ruhr, Germany, have invented new and useful Improvements in Coking and Gas-Generating Ovens, of which the following is a specification.

This invention relates to coking and gas generating ovens, and substantially consists in obviating the difficulty of arranging the gas distributing channels in the brickwork, by arranging the said channels below the air-heater, instead of between the oven and air-heater, and connecting them to the nozzles by means of channels in the supports of the heating walls. This arrangement not only has the advantage that the gas distributing channels can be constructed of a cross-section enabling them to be conveniently cleaned out when necessary, but also causes the heating gas to be pre-heated in the branch conduits leading upward through the structure of the air-heater, and the heat generated by the combustion is thus increased.

In the accompanying drawing: Figure 1 is a vertical section on line E—F, Fig. 2, through a coke oven embodying my invention; Fig. 2 a vertical section on line A—B, Fig. 1; Fig. 3 a vertical section on line C—D, Fig. 2, and Fig. 4 a vertical section on line G—H, Fig. 3.

At each side of each coking chamber *a*, there extends upwardly a heating wall *b*, having a series of heating flues *c*, provided at their lower ends with gas nozzles *d*. At their upper ends, flues *c*, communicate with ducts *e*, arranged within wall *b*, intermediate flues *c*, and opening into the waste heat chambers *g*, of the air-heater or regenerator. Chambers *g*, in turn, communicate by passages *h*, with the waste-heat gallery *i*. Air for combustion passes through the chambers *k*, of the air-regenerator and leaves the same through inclined ducts *l*, that direct the pre-heated air toward nozzles *d*.

The fire-brick gas-distributing channels *m* are located below the walls *b*, between the air-heater and waste-heat channel, where

there is ample room. Tubular ducts *n* in the pillars *o* connect the channels *m* to the several gas-nozzles, so that the streams of gas are pre-heated by their passage through the structure of the regenerator.

In the case of ovens heated by means of generator gas, as is usual in gas-works, the ducts leading to the heating flues are liable to become clogged with dust. The dust is principally deposited where the ducts branch off from the distributing pipes, scales being formed on the walls of the ducts. The arrangement of the distributing channel *m* in the plane of the heating wall, and of the several ducts *n* in the axes of the flues, enables the deposits to be easily removed by means of bars inserted through normally closed apertures *q*, which also serve for inspection of the gas-nozzles and access to the dampers *p*.

What I claim is:—

1. A coking and gas generating oven, comprising a plurality of heating walls, intermediate coking chambers, air preheating chambers located below the coking chambers, waste heat chambers flanking the air preheating chambers, gas distributing channels located below the air preheating chambers and the waste heat chambers, and gas ducts extending upwardly from said channels intermediate the air preheating chambers and the waste heat chambers.

2. A coking and gas generating oven, comprising a plurality of heating walls, intermediate coking chambers, vertical heating flues formed in the walls, air preheating chambers located below the coking chambers, waste heat chambers flanking the air preheating chambers, gas distributing channels located below the air preheating chambers and the waste heat chambers, and gas ducts connecting said channels with the heating flues and passing upwardly intermediate the air preheating chambers and the waste heat chambers.

Signed by me at Joliet, Illinois this 11th day of May 1909.

HEINRICH KOPPERS.

Witnesses:

LOUIS WILPERTH,
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