

No. 690,748.

Patented Jan. 7, 1902.

R. D. MARTIN.
COKE OVEN.

Application filed Mar. 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

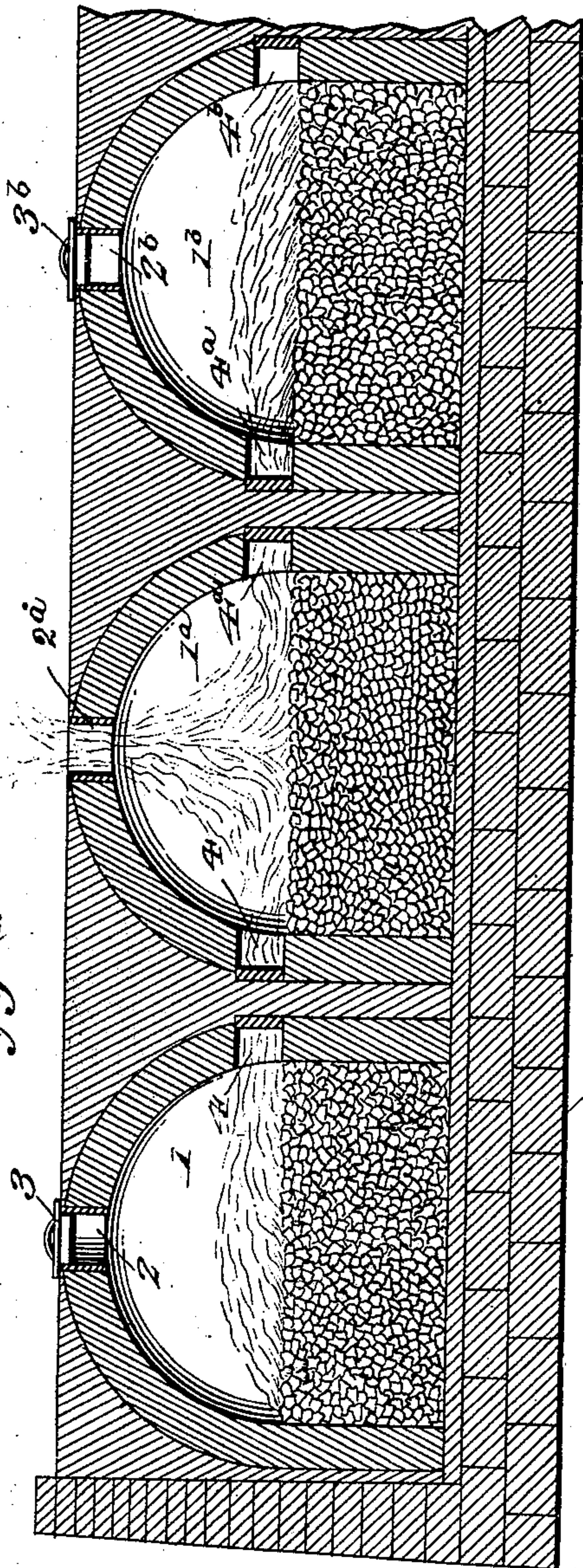


Fig. 3.

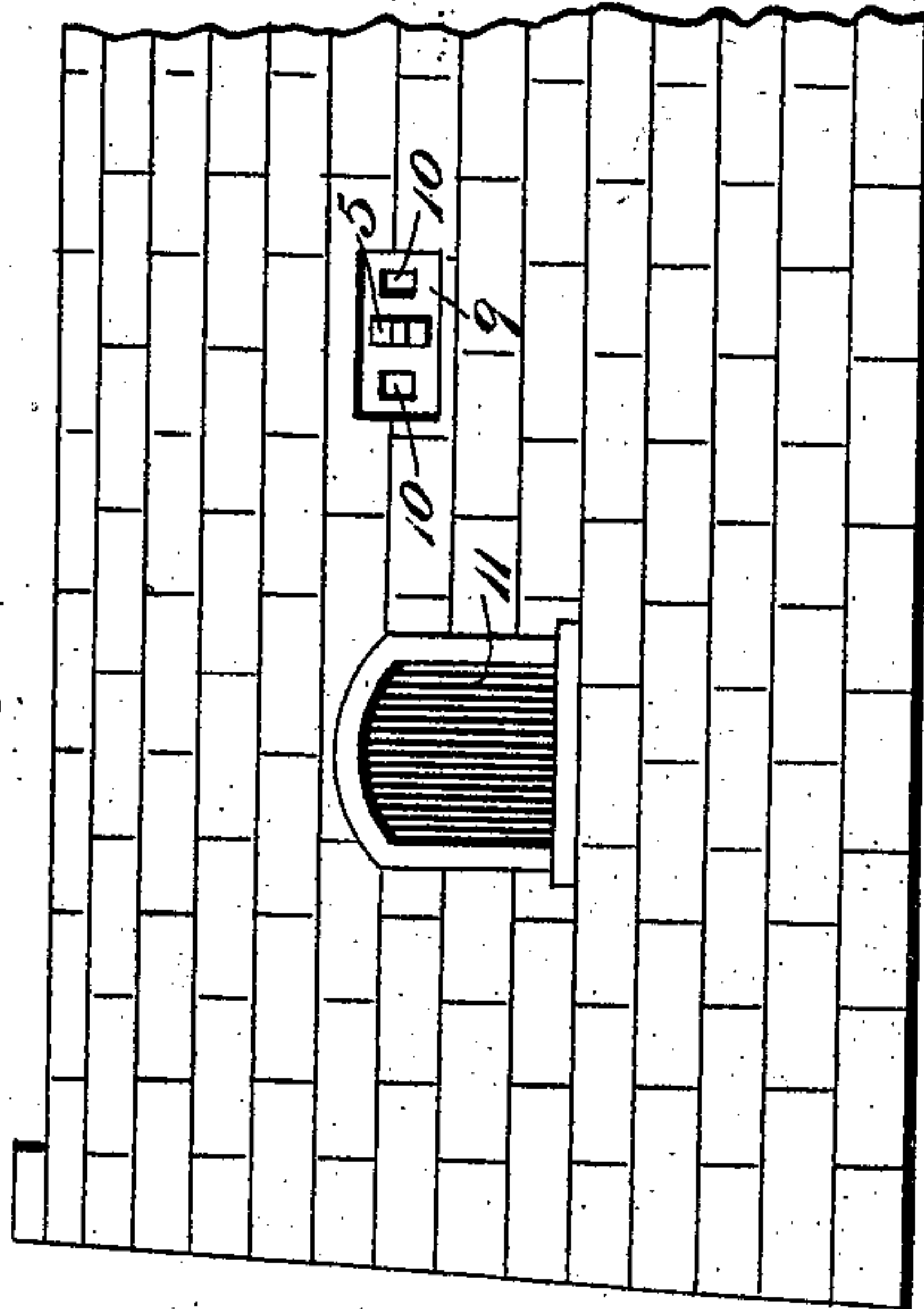
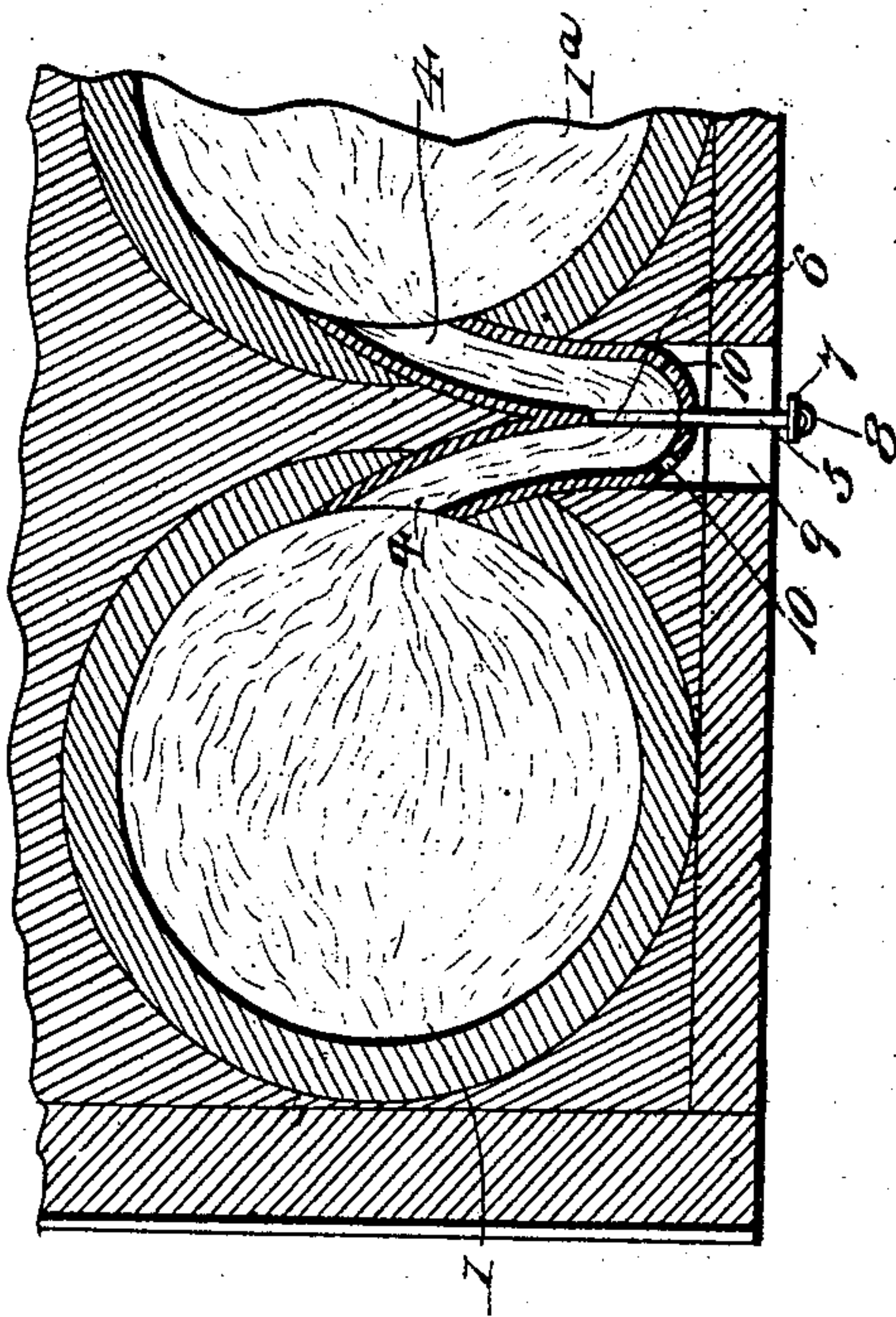


Fig. 2.



Inventor
R. D. Martin

Witnesses
Edwin S. McKee
Geo. Ackman.

By Victor J. Evans. Attorney

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Fig. 4.

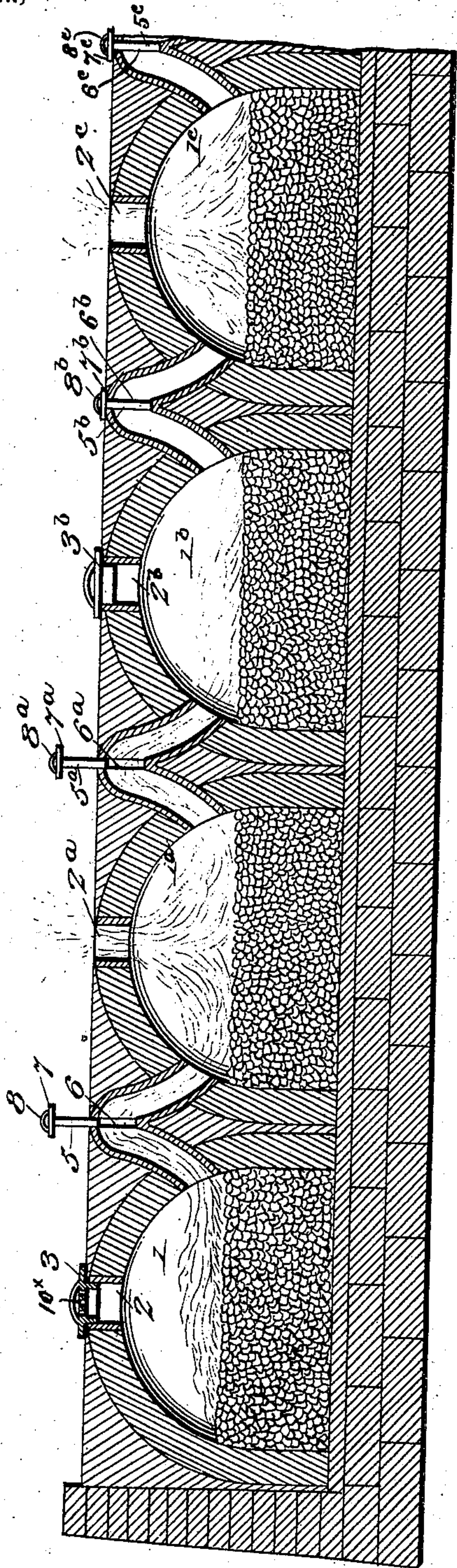
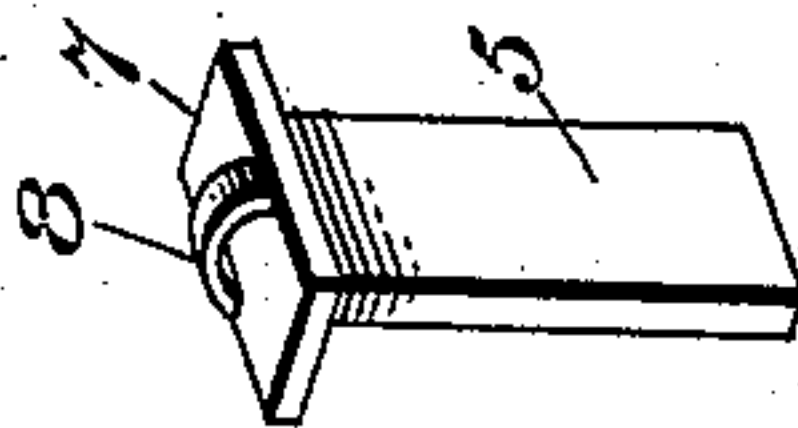


Fig. 5.



Witnesses
Edwin H. McKee

Geo. Ackerman.

Inventor
R. D. Martin

By
Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

RICHARD D. MARTIN, OF ALDERSON, INDIAN TERRITORY.

COKE-OVEN.

SPECIFICATION forming part of Letters Patent No. 690,748, dated January 7, 1902.

Application filed March 11, 1901. Serial No. 50,704. (No model.)

To all whom it may concern:

Be it known that I, RICHARD D. MARTIN, a citizen of the United States, residing at Alderson, in the Choctaw Nation, Indian Territory, have invented new and useful Improvements in Coke-Ovens, of which the following is a specification.

This invention relates to coke-ovens; and the object of the invention is to maintain the heat in a drawn oven until said oven can be recharged, thus assisting in igniting a newly-charged oven. This result is accomplished by a particular arrangement of the ovens or compartments with relation to each other and the means by which the said ovens or compartments are placed in communication with each other, together with devices for shutting off communication at the necessary points in order to direct the products of combustion into and through the oven or compartment to be recharged.

The detailed objects and advantages of the invention will appear more fully in the course of the ensuing description.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through a series of circular ovens or compartments, showing the communication between the same and the means for shutting off communication, &c. Fig. 2 is a horizontal section taken in line with the air-passages. Fig. 3 is an elevation of one of the ovens, showing an oven-door, draft-openings, and damper. Fig. 4 is a similar view showing a slight modification in the arrangement of the air-passages and vent-openings. Fig. 5 is a detail perspective view of one of the dampers.

Similar numerals of reference designate corresponding parts in all figures of the drawings.

Referring to the drawings, and particularly Fig. 1, it will be seen that I have illustrated a series of ovens or compartments 1 1^a 1^b 1^c, arranged side by side and provided at their tops with vent-openings or flues 2 2^a 2^b 2^c for the escape of the products of combustion or a certain proportion thereof. The flues 2 2^a 2^b 2^c are provided with sealing or closing caps 3 3^a 3^b 3^c, which are flanged, so as to adapt them to snugly fill and fit over the upper ends of the flues, as clearly illustrated in Fig. 1.

Each pair of adjoining ovens or compart-

ments 1 is connected by means of V-shaped air-passages 4 4^a 4^b 4^c, the diverging terminal portions of which communicate with the ovens at points just above the normal level of the coal placed therein, as clearly shown in Figs. 1 and 4. The central portion of each one of the passages reaches to a point adjacent to one side of the masonry, as clearly shown in Fig. 2, or to a point near the top of the masonry, as shown in Fig. 4, in order to give access to a short damper 5 or 5^a 5^b 5^c, the body of which is adapted to extend across the central portion of the air-passage 4 or 4^a 4^b 4^c for closing the same whenever desirable. The side edges of the dampers 5 5^a 5^b 5^c are slidably fitted in grooves 6 6^a 6^b 6^c, respectively, as shown both in Figs. 2 and 4, and each damper is provided with a flange or head 7 7^a 7^b 7^c, respectively, for sealing the opening through which the damper slides, and further provided with an operating-handle 8 8^a 8^b 8^c, respectively.

An opening 9 is formed in the side wall of the masonry to give access to the central portion of the air passage or conduit 4, and under the arrangement shown in Fig. 2 said air-passage is provided on opposite sides of the damper 5 with draft-openings 10, which supply fresh air to the ovens just above the bed of coals and give the necessary draft for promoting combustion.

It will be understood that an air-passage corresponding to that above described extends between each pair of adjoining ovens or compartments and that each passage is supplied with a damper, so that any one oven may have the adjoining ovens on each side thereof placed in communication therewith. For example, by reference to Fig. 1 it will be seen that an intermediate oven has just been recharged with coal and the dampers 5 5^a in the passages leading from opposite sides thereof are withdrawn, so as to allow the products of combustion from the oppositely-lying ovens or compartments to enter the intermediate oven. It will also be noticed that the cap 3^a has been removed from the flue 2^a of the intermediate oven 1^a, so as to allow the products of combustion to pass outward there-through and produce the necessary draft, the caps 3 3^b of the contiguous ovens being placed upon the flues 2 2^b. In this way the heat of

the adjoining ovens is conveyed to the intermediate and recently-recharged oven, with the result that a rapid heating and ignition of the coal in the intermediate oven will be effected.

It will be evident that the proper time to conduct the hot air into an oven is immediately after it has been emptied and recharged, as this will enable the original heat to be maintained; but in case the withdrawal of the coke from the oven has been accomplished too slowly, so as to partly cool the oven, then the hot air from adjoining ovens may be allowed to pass into the empty oven until the oven has attained the desired heat. By means of the construction and arrangement described an empty oven or compartment which has become cool while being cleaned or repaired may be thoroughly heated preparatory to recharging it. It may also be here stated that while Figs. 1 and 4 show only one longitudinal row of ovens in practice the ovens are arranged in two parallel and adjoining communicating rows, the transversely-related ovens being in communication with each other as well as those which are arranged in the longitudinal rows. Each of the ovens will of course be provided with an oven-door, as illustrated at 11 in Fig. 3. The draft-openings 10 are designed solely for the admission of fresh air into the ovens and may be entirely closed when advisable by placing bricks or other obstructions over said openings within the space 9.

In Fig. 4 the draft-openings 10 are omitted in the V-shaped air-passages, but the cap 3 is provided with draft-openings 10^a.

By bringing the passages to one side of the walls of the masonry a short damper can be utilized for controlling the passage and the latter can be readily cleaned from the outside of the ovens.

I do not desire to be limited to the details of construction hereinabove set forth, and illustrated in the drawings, and accordingly reserve the right to change, modify, or vary the construction within the scope of this invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. Adjoining coke-ovens separated by an intervening wall having a V-shaped passage leading directly from one oven to the other through the outer part of the masonry, in combination with means for opening and closing said passage.

2. Adjoining coke-ovens separated by an intervening wall having a V-shaped passage leading directly from one oven to the other through the outer part of the masonry, flues leading upward from the ovens, and caps fitted to said flues, in combination with means for opening and closing said passage.

3. The combination with a series of coke-ovens separated by intervening walls having V-shaped passages leading directly from one to the other through the outer part of the masonry and also provided with flues in their upper portions, and caps for closing said flues, of dampers arranged in the passages between said ovens and adapted to open and close said passages.

4. Adjoining coke-ovens separated by an intervening wall having a connecting V-shaped passage with inwardly-diverging end portions communicating with the ovens and a middle portion provided with draft-openings, and extending through the outer part of the masonry, and means for opening and closing said passage adjacent to the point of convergence of the said inwardly-diverging end portions.

5. The combination with a series of coke-ovens separated by intervening walls, of V-shaped air-passages leading through the masonry between the ovens and entirely inclosed within the masonry, means for closing said passages, and flues leading outward from the upper portions of the ovens and provided with closing-caps.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD D. MARTIN.

Witnesses:

GEO. HUDSON,
G. A. HEATON.