

(No Model.)

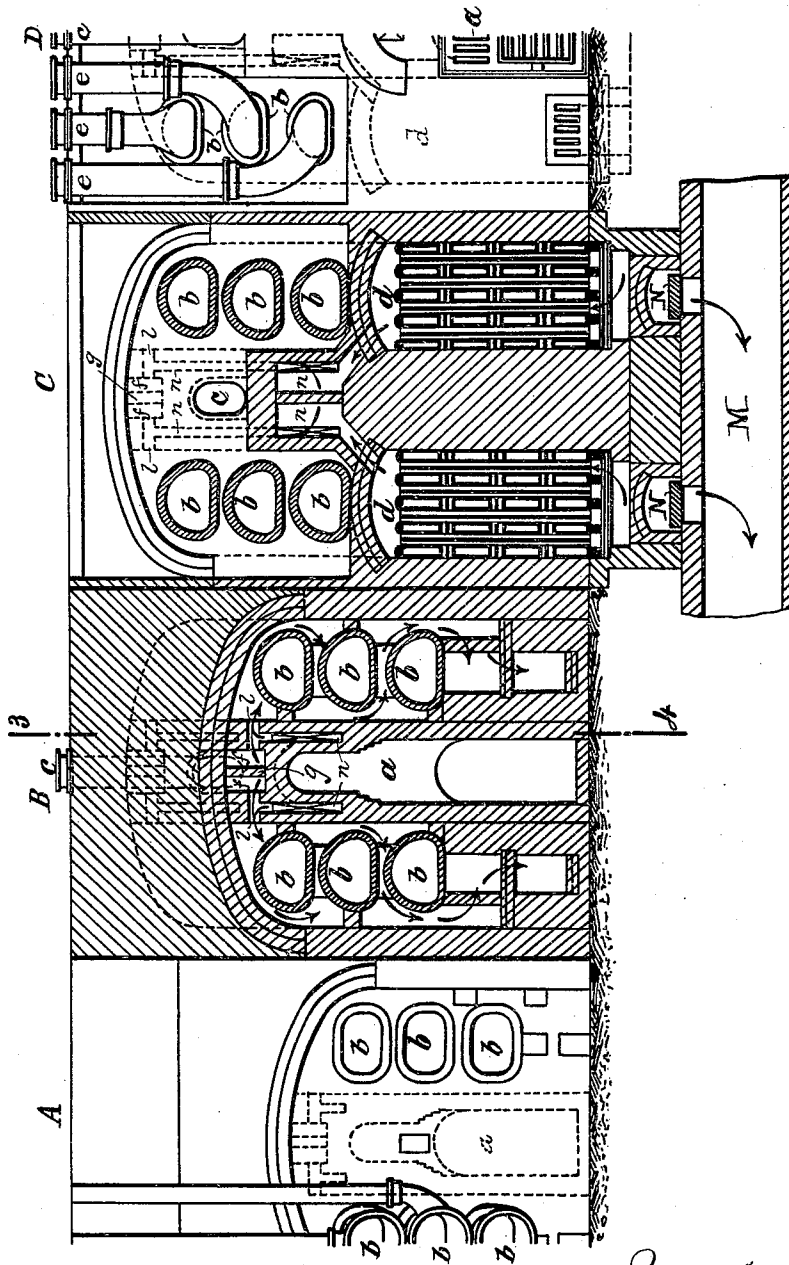
4 Sheets—Sheet 1.

A. COZE & A. LENCAUCHEZ.
APPARATUS FOR THE MANUFACTURE OF GAS.

No. 478,571.

Patented July 12, 1892.

FIG. 1.



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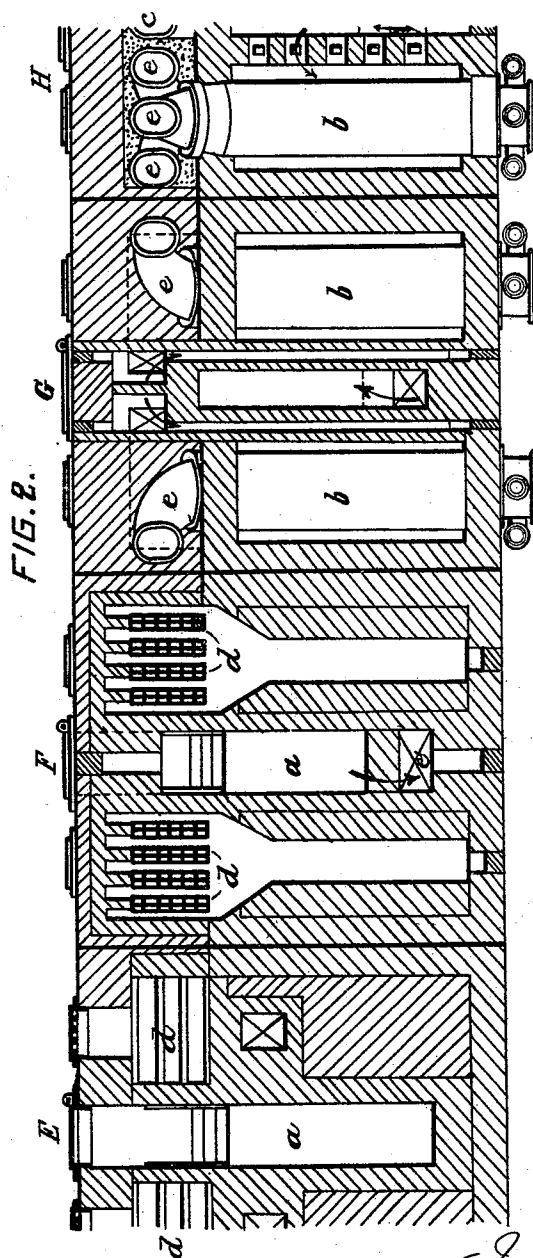
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4 Sheets—Sheet 2.

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4 Sheets—Sheet 3.

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FIG. 5.

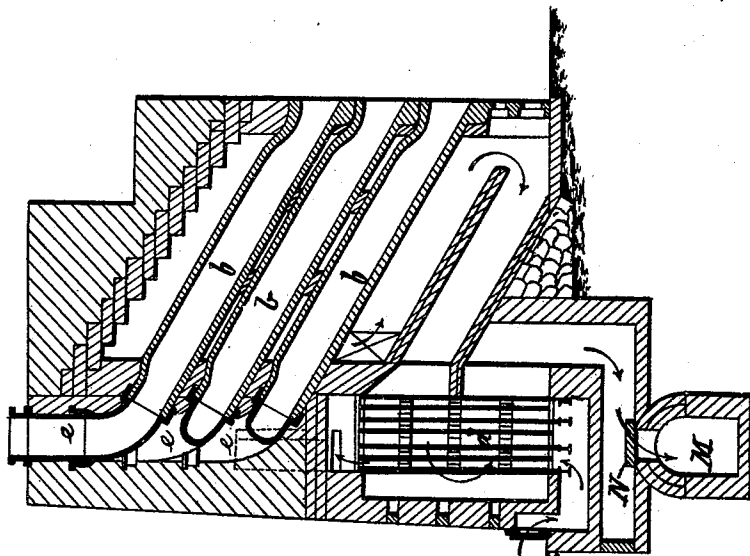
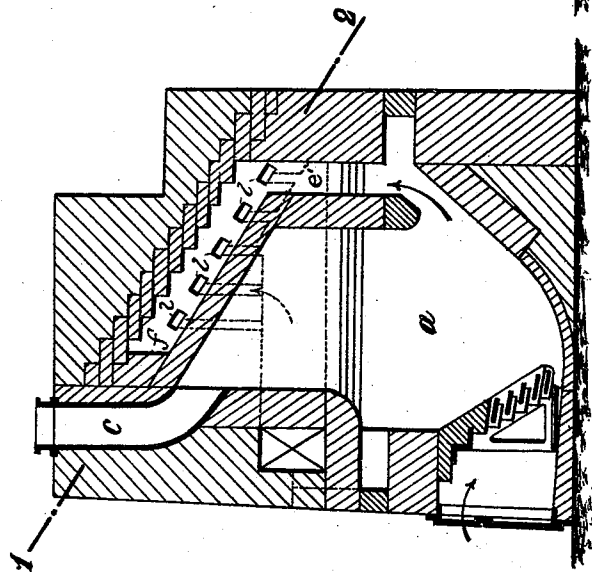


FIG. 3.



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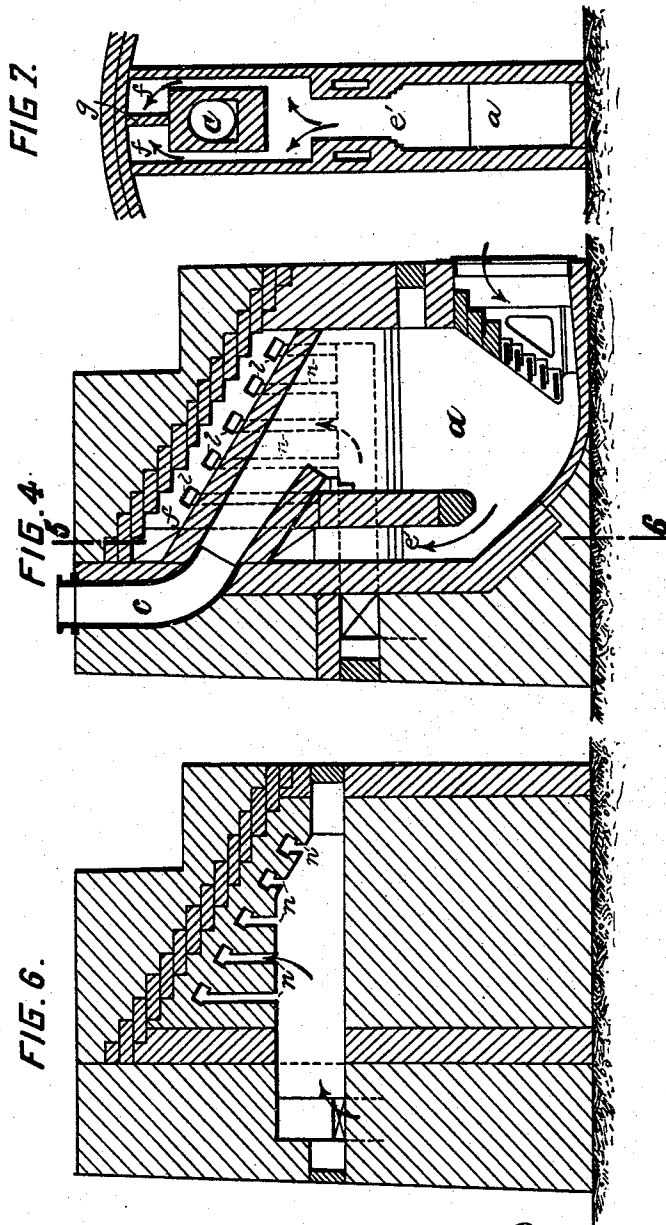
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UNITED STATES PATENT OFFICE.

ANDRÉ COZE, OF RHEIMS, AND ALEXANDRE LENCAUCHEZ, OF PARIS, FRANCE, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO SOCRATES NEWMAN AND JAMES GREEN, OF ST. LOUIS, MISSOURI.

APPARATUS FOR THE MANUFACTURE OF GAS.

SPECIFICATION forming part of Letters Patent No. 478,571, dated July 12, 1892.

Application filed March 29, 1890. Serial No. 345,884. (No model.) Patented in France August 30, 1889, No. 200,501.

To all whom it may concern:

Be it known that we, ANDRÉ COZE, of the city of Rheims, and ALEXANDRE LENCAUCHEZ, of the city of Paris, France, have invented Improvements in Apparatus for the Manufacture of Gas, (for which we have obtained Letters Patent in France for fifteen years, dated August 30, 1889, No. 200,501.) of which the following is a full, clear, and exact description.

Our invention relates to improvements in gas-making apparatus.

The improvement consists in constructing the apparatus in such manner as to allow of its being divided into two distinct parts, which may either be worked independently or together.

The invention will be described with reference to the accompanying drawings, in which—

Figure 1 shows at A a front elevation, at B a vertical cross-section, at C a similar section taken through the regenerators, and at D a rear elevation of the apparatus. Fig. 2 represents a series of horizontal sections taken, respectively, at E through the lower part of the furnace and regenerators, at F through the said furnace and regenerators at about mid-height, at G through the air-passage to the regenerators, the distributing-chamber, and upper part of the furnace, and at H through the oblique line 1 2, Fig. 3, passing through the combustion-chamber, the outlet-orifices for the gases, and the point of contact of the latter with the air. Figs. 3 and 4 are transverse vertical sections taken through the furnace, the grate being arranged on the left and right hand sides, respectively. Fig. 5 is a transverse vertical section taken through one of the rows of retorts and the corresponding regenerator. Fig. 6 is a transverse vertical section taken on line 3 4, Fig. 1, showing the combustion-chamber and air distribution. Fig. 7 is a vertical section taken on line 5 6, Fig. 4, showing the circulation of the gases toward the combustion and distributing chambers.

The same letters of reference represent the same parts in all the figures.

a is the furnace, so arranged as to divide

the apparatus into two distinct parts, which may be heated either together or separately. To this end I may provide the exit-passages for the products of combustion leading from each regenerator into the common draft-passage M with separate dampers or their equivalents N, whereby the draft of the products of combustion through either regenerator and around either set of retorts can be cut off, thereby compelling all of the products of combustion to pass around the air-tubes of the other regenerator, and consequently restricting the heating action to the retorts above said latter regenerator.

b are the retorts disposed on each side of the furnace a, the number and arrangement of which may be varied. The arrangement of the furnace itself may also be varied.

c is a mouth or chute, of cast-iron or earthenware, having a bend, as shown, whereby the charge of coke may be introduced into the furnace a.

It will be noted that in heating the retorts the furnace-gases rise through an uptake e' and thence pass into the distributing-chamber f. Said distributing-chamber is divided into separate compartments by the partition-wall g, so that either or both of the sets of retorts may be supplied, according as the draft is established, through a single one of the regenerators or through both. The partition-wall serves to cut off direct communication between the two sets of retorts and the combustion-flues, within which the sets of retorts are respectively located, so as to insure the working of the two parts of the bench either independently or together. The distributing-chamber discharges its producer-gas through openings l above the retorts and meets thereat a supply of air issuing from the air-supply flues n, which are in communication with the air-passages of the air-regenerators, as shown. The products of combustion flow downwardly past the retorts, said retorts being alternately connected along one edge to the one side or the other of the combustion-flues, so as to compel the products of combustion to pursue a zigzag path around and about the retorts. After passing the retorts the waste gases pass through the heating-flues of the air-regener-

ators and thence to the common exit-passage M. This arrangement permits of the furnace being built with the grate either at the front or rear, as shown, respectively, in Figs. 3 and

5 4. As the chute *c* extends upward and its mouth opens out to the same level or platform as the mouths *e* of the retorts, the furnace can in this manner be charged from the same level as the retorts, which greatly facilitates working.

10 This improvement is applicable to all kinds of gas-making apparatus.

As will be seen from the drawings, and more especially by the arrows in Fig. 5, this system also admits of heating the retorts by downwardly-directed flames. We utilize the space left beneath the retorts by reason of their inclined position for containing the regenerators *d*.

20 By combining the several parts of the apparatus as described we are enabled to construct it in a more economical manner, as well as to facilitate the charging and insure a more efficient action.

25 We claim—

1. A gas-retort bench having a centrally-disposed furnace provided with an inclined vault or arch and two sets of inclined retorts on opposite sides of said furnace in passages between the side walls of the furnace and the adjacent side walls of the bench, substantially as described.

30 2. A gas-retort bench having a vaulted furnace, retorts located at the side of the furnace, an uptake at the rear end of the vaulted furnace, a distributing-chamber located above

the furnace-vault and connected with the uptake and having discharge-openings above the retorts, and air-supply flues also opening above the retorts, substantially as described. 40

3. A gas-retort bench having inclined retorts whose charging-mouths are arranged at substantially the same level above the bench and having the furnace thereof provided with a charging-chute whose mouth is at substantially the same level with the charging-mouths of the retorts, whereby the furnace can be charged at the same level as the retorts, substantially as described. 45

4. A gas-retort bench having a centrally-disposed furnace, inclined retorts at each side thereof, and a regenerator in the rear of each of the substantially triangular spaces comprised between the lower retorts and the back wall and base of the bench, substantially as described. 50 55

5. A gas-retort bench having a centrally-disposed furnace provided with an inclined vault or arch, inclined retorts at each side thereof, and a regenerator in the rear of each of the substantially triangular spaces comprised between the lower restorts and the back wall and base of the bench, substantially as described. 60

The foregoing specification of our improvements in apparatus for the manufacture of gas signed by us this 29th day of January, 1890. 65

ANDRÉ COZE.

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