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J. W. GREENE

MEANS FOR DISCHARGING SMOKE AND GAS FROM COKE OVENS

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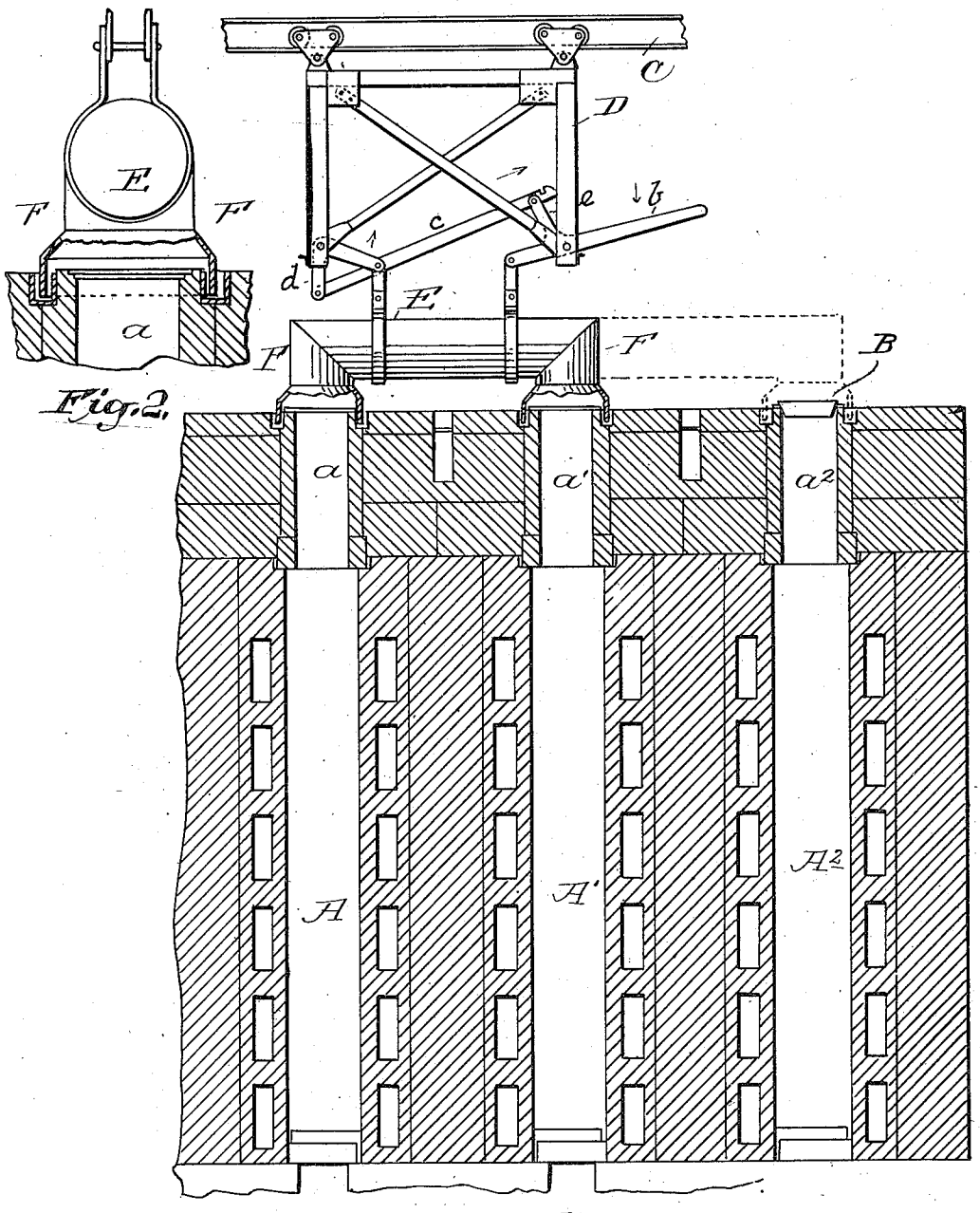


Fig. 2.

Fig. 1.

INVENTOR

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MEANS FOR DISCHARGING SMOKE AND GAS FROM COKE OVENS.

Application filed August 12, 1921. Serial No. 491,654.

To all whom it may concern:

Be it known that I, JOHN W. GREENE, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented a new and Improved Means for Discharging Smoke and Gas from Coke Ovens, of which the following is a specification.

In the operation of charging a hot coke oven with coal, a great quantity of smoke and gas is given off, which unless otherwise provided for, escapes through the charging openings, with consequent inconvenience and loss of valuable material.

The object of my improvement is to prevent such discharge and conserve the volatile elements given off from the coal in the charging operation.

The invention will be best understood by reference to the accompanying drawings illustrating an embodiment thereof, Fig. 1 of which shows a vertical, longitudinal section of a portion of a battery of coke ovens with a side elevation of the smoke discharging device mounted thereon, and Fig. 2 shows a vertical transverse section of the smoke discharging means.

Referring to the drawings A, A′, A^2, indicate three contiguously located coke oven chambers, forming a portion of a battery of similar chambers, each of which is provided with a smoke vent *a*, *a′*, a^2, which when the ovens are in operation, are normally closed by covers, as indicated at B. Above the smoke vents and disposed longitudinally of the battery is a track C, upon which is mounted a wheeled carriage D, adapted to travel the length of the battery of ovens. Upon the carriage D is mounted a vent pipe E, adapted to be raised and lowered by means of pivoted levers *d*, *e*. The vent pipe E is provided with depending branches F, F, so spaced apart as to register at the same time with the smoke vents *a*, of any two adjacent chambers, as A, A′. If desired the vent pipe E, may be so extended as to have more than two depending branches, as indicated by dotted lines in Fig. 1, and thus when in use to connect more than one adjacent oven with that being charged.

In using the device when the coke has been discharged from an oven, as A, and before a fresh charge of coal is charged into the chamber, the covers, B, of the vent pipe *a*, of the oven A, and one or more adjacent ovens, as of A′, are removed, and the carriage D is moved into proper position and the vent pipe E is lowered so that its branches F, F, engage the open vents, as *a*, *a′*, thus providing a communicating passage between the two ovens.

When the fresh charge of coal is charged into the empty oven, A, the smoke and gases given off pass through the vent pipe E, and its branches into the connected oven, as A′, and thence into the hydraulic main or usual gas collecting system.

In this manner not only is the escape of such smoke and gases into the atmosphere prevented, but they are conserved and their contents of value recovered in the usual manner.

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

1. The method of recovering the gaseous products evolved during the recharging of an empty, hot, retort coke-oven with coal which consists in discharging such products into an oven which is in operation and mingling them with the gaseous products of distillation in such oven.

2. A device for effecting the discharge of smoke and gas from a coke oven during the operation of charging the oven with coal consisting of a pipe adapted to be connected with such oven and with an adjacent oven, so as to form a communicating passage between such ovens.

3. A device for effecting the discharge of smoke and gas from coke ovens during the operation of charging the ovens with coal which consists of a vertically adjustable pipe adapted to be connected with adjacent ovens, so as to form a temporary communicating passage between such ovens.

4. A device for effecting the discharge of smoke and gas from coke ovens during the operation of charging the ovens with coal which consists of a pipe, arranged to be moved longitudinally of the battery of ovens and adapted to be connected with adjacent ovens, so as to form a temporary communicating passage between such ovens.

5. A device for effecting the discharge of smoke and gas from coke ovens during the operation of charging the ovens with coal which consists of a vertically adjustable pipe

arranged to be moved longitudinally of the battery of ovens and adapted to be connected with adjacent ovens so as to form a temporary communicating passage between such ovens.

6. A battery of coke ovens, each of which has a vent opening, provided with a pipe movable longitudinally of the battery and adapted to be connected with the vent openings of adjacent ovens so as to provide a communicating passage between such ovens.

In testimony whereof I affix my signature, this 9th day of August, 1921.

JOHN W. GREENE.