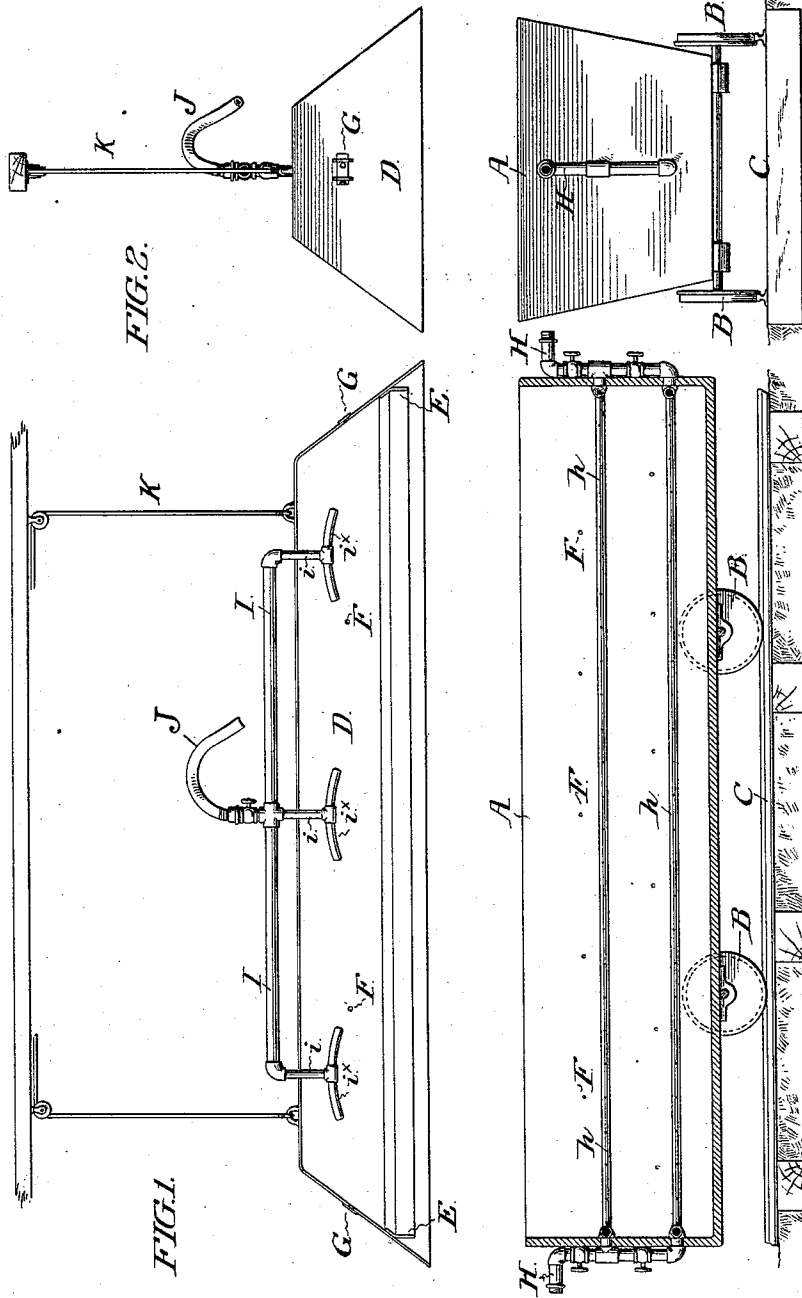


(No Model.)

T. R. OSBOURN.
APPARATUS FOR QUENCHING COKE.

No. 469,867.

Patented Mar. 1, 1892.



WITNESSES:

A. E. Paige
Frank Quinn

INVENTOR

Thomas R. Osbourn
By his attorney
Strawbridge & Taylor

UNITED STATES PATENT OFFICE.

THOMAS R. OSBOURN, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR QUENCHING COKE.

SPECIFICATION forming part of Letters Patent No. 469,867, dated March 1, 1892.

Application filed December 17, 1890. Serial No. 375,044. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. OSBOURN, a citizen of the United States, residing in the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Quenching Coke and for Use in Connection with Coke Ovens, of which the following is a specification.

In the coking of coal it has been generally customary to carry on the coking operation in a suitable oven, and after the coke has been produced to treat the mass with water, in a manner well understood. Heretofore this treatment with water has usually been carried on in the oven in which the coal has been coked. This method has, however, been disadvantageous because the water chills the oven, and after the coke has been removed and a fresh charge of coal supplied to it, the temperature of the oven has been found to be too low to carry on the coking process.

It is the object of my invention to provide an apparatus in which the operation of treating the hot coke with water may be conveniently and economically carried on.

In the drawings I show and herein describe a good form of a convenient embodiment of my invention, the particular subject matter claimed as novel being hereinafter definitely specified.

In the drawings, Figure 1 is a view in side elevation of an apparatus conveniently embodying my invention, and Fig. 2 is a view in end elevation of the same.

Similar letters of reference indicate corresponding parts.

In the drawings A represents a box like receptacle conveniently formed of sheet metal, and mounted upon wheels B which enable it to run upon a track C supposed extending along in proximity to a battery of coke ovens. The box, or car as I hereinafter term it, is of any preferred dimensions and form, being designed to receive the contents of one, or any number of coke ovens.

D is a lid, adapted to be seated upon the top of the car, so as to inclose the same, and is preferably of an oblique walled or hip-roofed form, for two purposes viz: first, to inclose the coke when its highest portions may

rise above the edge of the car, and, second, to promote the circulation of steam and gases generated by the treatment with water. The lower edges of the roof overhang the edges of the car to some extent, by which arrangement the roof is caused to center and properly seat itself upon the car. E is a stop located upon the under side of the lid and adapted by contact with the edge of the car or box to support the lid in position. In the drawings this stop is shown as consisting of a continuous ledge.

F are a series of holes in the wall of the car and its lid, designed to permit the escape of steam and gas.

G is a lidded inspection opening in the lid through which the condition of the contents may be observed.

Spray pipes are arranged in any preferred manner to distribute water in desired quantities over the mass of coal.

H is a supply pipe leading into the end of the car, and h are branches from said supply pipe, two of said branches conveniently extending along each side of said car, but said branches may in practice be of such number and be so otherwise located as to effect the most thorough and uniform treatment of every part of the mass with water and steam.

I is a pipe extending along the exterior of the lid, provided with a series of branches i extending through to the interior of the lid and provided therein with perforated extensions or roses i'.

J is a flexible or jointed supply pipe leading to the pipe I.

K are ropes by which the lid may be lifted and lowered at will.

In operation, the heated coal from the oven is deposited within the car in any preferred manner, and the lid lowered into position. The valves of the pipes are then set so as to permit the influx of the desired quantity of water, and the completion of the coke making operation is thus effected.

In the operation of the apparatus a series of cars are brought one by one beneath the cover or lid D. The water introduced into the mass of hot coke in a series of finely divided streams, is by the heat almost instantly transformed into steam. The utilization of

the heat of the mass to thus transform the water into steam, which it is able to do by reason of the water entering only in fine jets, is a feature of great value inasmuch as the steam effectually performs the operation desired, and the resultant coke not having absorbed a mass of water, is of a much drier character than is obtainable when such transformation does not take place, as when water enters in large volumes.

Having thus described my invention, I claim:

1. The combination to form a device for quenching coke, of a box, a lid or cover fitted thereto, water distributing pipes situated within the box, and water distributing pipes

mounted in and supported by the lid, substantially as set forth.

2. The combination to form a device for quenching coke, of a box, a lid having inclined walls, water distributing pipes situated within the box, and water distributing pipes mounted in and supported by the lid, substantially as set forth.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 11th day of November, A. D. 1890.

THOMAS R. OSBOURN.

In presence of—

F. NORMAN DIXON,
FRANK QUINN.