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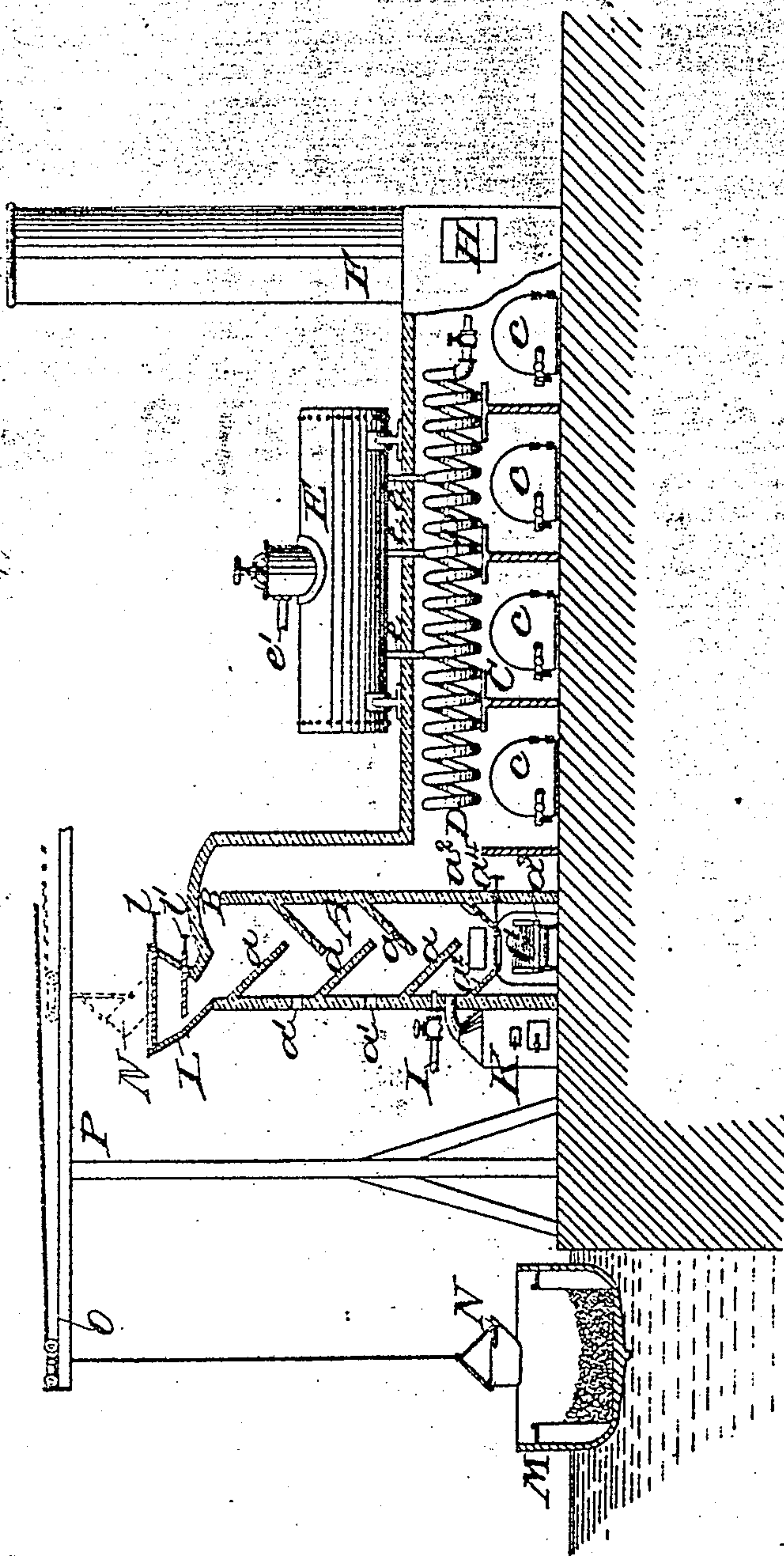
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(No Model.)

R. A. CHESEBROUGH.
MEANS FOR CREMATING GARBAGE.

No. 551,849.

Patented Dec. 24, 1895.



Witnesses:-
George Barry,
C. Sundgren

Inventor:-
Robert A. Chesbrough
by attorneys
Brown & Ward

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UNITED STATES PATENT OFFICE.

ROBERT A. CHESEBROUGH, OF NEW YORK, N. Y.

MEANS FOR CREMATING GARBAGE.

SPECIFICATION forming part of Letters Patent No. 551,849, dated December 24, 1895.

Application filed July 27, 1894. Serial No. 518,689. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. CHESEBROUGH, of New York, in the county and State of New York, have invented a new and useful Improvement in the Means for Cremating Garbage, of which the following is a specification.

My invention relates to an improvement in the means for cremating garbage in which the garbage is taken from a boat or other receptacle in which it is collected and subjected to a coking action as it is distributed under the influence of gravity in a hollow shaft, the coking-flame being directed upwardly throughout the downwardly-moving material and effectually commingled with the mass.

In the accompanying drawing I have shown a refuse-burner in side elevation, partly in section, which embodies my invention.

The particular form of apparatus which I have shown consists of a vertical hollow shaft A, which may be made six feet square, more or less, lined with fire-brick, as is common in furnaces where great heat is to be employed, and provided at intervals throughout its height with downwardly-inclined shelves or retarding-plates *a*, projecting alternately from opposite sides of the furnace and overlapping one another, the angle of inclination being forty-five degrees, more or less, as may be found efficient for causing the garbage to free itself under the influence of gravity from one shelf to another. One wall of the shaft A is conveniently provided with peep-holes or hand-holes *a'* through which a suitable implement, such—for example, as a rake—may be inserted for the purpose of freeing the shelves from any matter which may be unintentionally retained thereon, or which may accumulate thereon under the coking action of the heat. The retarding-plates may be formed of fire-brick.

On the top of the shaft A a passage-way B extends over and downwardly for directing the gases and hot products of combustion which escape from the garbage-receiving shaft downwardly and then horizontally along the chamber C, in which is located a pipe-coil or worm D for the reception of water from a suitable supply. The worm D is sur-

mounted by a steam-dome E, connected by suitable pipes *e* with the worm and provided with a suitable steam-discharge outlet *e'* for conveying the steam to the point where it is to be utilized. From the horizontal chamber C the hot products of combustion and gases escape into an uptake F, from which they are discharged into the outside air.

At the base of the shaft A, I locate a hopper *a''* for directing the coked garbage into suitable receptacles, which may be run, one after another, under the mouth of the hopper to carry away the coked material. These receptacles may conveniently consist of cars G, arranged to run on a suitable track through an opening *a'''* at the bottom of the shaft A, and the mouth of the hopper may be provided with a gate *a'''* for opening and closing it to discharge loads of the coked garbage into the cars.

At intervals along the horizontal chamber C there may be formed openings *c* for the purpose of removing any dust or sediment that may be deposited from the products of combustion which are carried over into the downward flue B.

At the base of the uptake F a scrubber of any well-known or approved form may be employed for the purpose of collecting sulphate of ammonia from the discharged gases. The scrubber is indicated conventionally at H.

At or near the base of the shaft A, I locate an oil-burner I, of any well-known or approved form, which oil-burner may be connected with a suitable oil-supply (not shown) and also with the steam-drum E and with the outside air, for the purpose of introducing oil, steam and air, in the proper combination, into the base of the shaft A for producing the amount of heat required for coking the garbage. The preliminary heating up of the shaft A may be accomplished by means of a furnace K, located adjacent to the shaft A in position to discharge its flame and products of combustion into the shaft A.

At the top of the shaft A, I locate a hopper L, provided with an upper gate *l* and a lower gate *l'*, so that a charge or car-load of garbage may be admitted into the hopper onto the lower gate by opening the upper gate, and the

upper gate *l* may then be closed and the lower gate *l'* opened to permit the load of garbage to fall into the upper portion of the shaft *A*.

I have here represented the shaft *A* as located near the edge of a dock, and have indicated a boat *M* as a receptacle from which the garbage is to be transmitted to the shaft *A*. I have shown the garbage as being transmitted from the boat to the shaft *A* by means of buckets *N*, which may be hoisted by a hoisting-engine of any well-known or approved form (not shown herein) up to a track *O* at the top of a suitable support *P*, the track being so arranged as to convey the loaded bucket along to a point over the receiving-hopper at the top of the shaft *A*, where it may be unloaded into the hopper. The empty bucket may then be returned to the boat, and

a bucket, which has been in the meantime loaded, may be attached to the hoisting-rope and moved to the receiving-hopper.

What I claim is—

A refuse-burner having a substantially vertical coking passage open throughout its length to permit the continuous downward movement of the material under the influence of gravity alone, means for retarding the said downward movement of the material and means for confining the coking flame and directing it upwardly throughout the downwardly moving material; substantially as set forth.

ROBERT A. CHIESEBROUGH.

Witnesses:

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