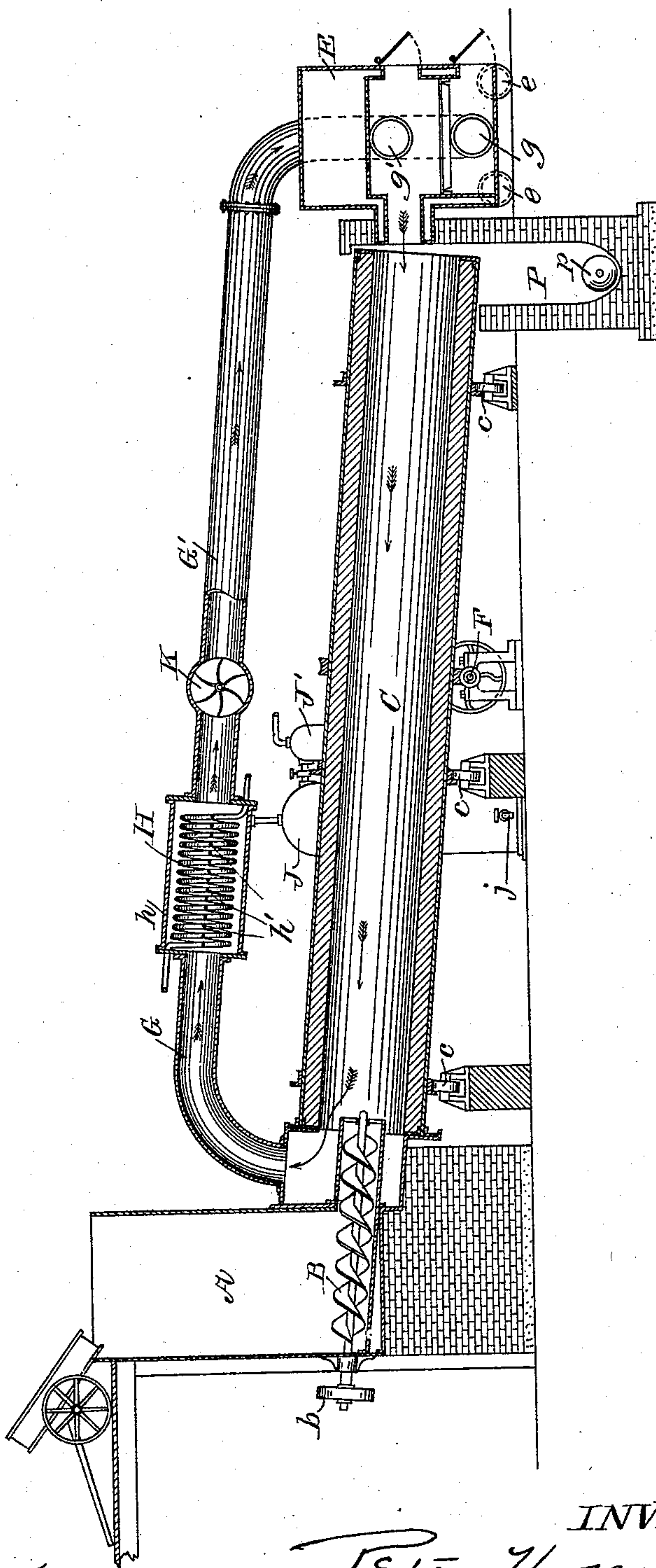


(No Model.)

P. HOGAN.
APPARATUS FOR MAKING FERTILIZERS.

No. 572,258.

Patented Dec. 1, 1896.



WITNESSES:

John W. Fisher
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UNITED STATES PATENT OFFICE.

PETER HOGAN, OF BALLSTON, NEW YORK.

APPARATUS FOR MAKING FERTILIZERS.

SPECIFICATION forming part of Letters Patent No. 572,258, dated December 1, 1896.

Application filed March 7, 1893. Serial No. 465,040. (No model.)

To all whom it may concern:

Be it known that I, PETER HOGAN, a citizen of the United States, residing at Ballston, county of Saratoga, State of New York, have
5 invented a new and useful Improvement in Garbage-Burners, of which the following is a specification.

My invention relates to improvements in devices for burning garbage; and the objects
10 of my invention are to provide an odorless garbage-burner and a means for collecting for use the escaping ammoniacal gases and the ash-containing fertilizing properties. I
15 accomplish these objects by means of the mechanism illustrated in the accompanying drawing, which represents a vertical section of my apparatus.

The successful burning of garbage is difficult owing to the large and varying amount
20 of moisture contained and the disagreeable odors evolved during the treatment.

For the purpose of obviating these difficulties I provide a receiving-tank A, which may be closed for the reception of the garbage before treatment. At the lower portion of this
25 tank A, I arrange a feed-propeller B, operated by suitable attachments, illustrated by the pulley *b*, which propeller B extends toward the revolving incinerating-chamber C, the operation of which is to force the garbage
30 within the tank A into the revolving chamber C. The revolving chamber C is open at each end, communicating with the furnace E at the end opposite the tank A.

35 The chamber C is caused to revolve slowly upon the trunnions *c* by means of a worm-gearing F or any suitable mechanism.

The upper portion of the end of the chamber farthest from the furnace communicates
40 with the pipe G, which communicates with the condensing-cylinder *h*, placed about midway between the ends of the chamber C and above the same, which condensing-cylinder *h* contains a coil of pipe H, through which cold
45 water is passed, thus forming a means for condensation.

The lower portion of the condensing-chamber connects with the tank J. The condensing-cylinder *h* connects with the pipe G',
50 which opens into the furnace E either below the grate at *g* or above the grate at *g'*, as desired.

Within the pipe G and between the condensing-cylinder *h* and the furnace E, I arrange a fan-blower or exhaustor K. Communicating with the upper portion of the
55 tank J, I connect the receptacle J'.

The furnace E, I have shown mounted on wheels *e*.

At the end of the chamber C, adjoining the
60 furnace E, I arrange a pit P, provided with a propeller or chain movement *p*, for the purpose of removing the ash deposited within the pit P, escaping from the revolving chamber C, when the contents of said chamber
65 have become incinerated, said ash having some commercial value for fertilizing purposes.

I do not limit myself to the apparatus exactly as described.

The operation of my invention is simple
70 and apparent.

The garbage having been placed within the tank A the tank is closed at the top, the feed-propeller B is set in motion, and portions of
75 the contents of the tank A are forced into the revolving drying, incinerating, and burning chamber C. The fire from the use of coal, petroleum, or other fuel is properly maintained within the furnace E without being
80 smothered or dampened by the introduction of material within the chamber C, with which the fire in the furnace has direct communication.

While the garbage is under treatment the
85 fan-blower or exhaustor K is kept in motion, thus creating a circulation or draft through the chamber C, the pipe G, the condensing-cylinder *h*, and the pipe G' without the use of a stack or chimney, or it may be used in
90 connection therewith.

The vapor rising from the mass within the chamber C coming into contact with the cold-water pipes H or spray therefrom within the condensing-cylinder *h* becomes condensed
95 and passes into the tank J, the cold-water pipes H being perforated at *h'*, allowing a spray of water to escape into the chamber.

It should be noticed that the condensing-cylinder *h* is placed at an angle to the horizontal, and the discharge-pipe connecting with the tank J is placed at the lowest portion of the condensing-chamber *h*, forming a drain therefor.
100

The gases remaining after passing through the condensing-cylinder *h* are conveyed into the furnace E, where they are consumed and rendered innocuous. Water from the condensed vapor in the tank J is conveyed, by means of the opening *j*, into drains usually communicating with the river below low tide.

The small retort J' is for the reception of escaping ammonia, which may be condensed for use.

I deem the use of the independent furnace for the generation of heat of great importance because of the facility of removing it for cleaning or repairs.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a garbage-burner, a receiving-tank, a

revolving incinerating-chamber, a propeller adapted to feed the contents of the tank into said incinerating-chamber, a pipe communicating with the incinerating-chamber at one end and a source of heat at the other, through which pipe smoke and gases from the incinerating-chamber are conducted to the furnace, a condensing-chamber placed within said pipe, a perforated coil carrying water in said condensing-chamber, providing for a spray of water into the chamber, a fan-blower arranged in said pipe, substantially as described and for the purpose set forth.

PETER HOGAN.

Witnesses:

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THOMAS F. KEOGH.