

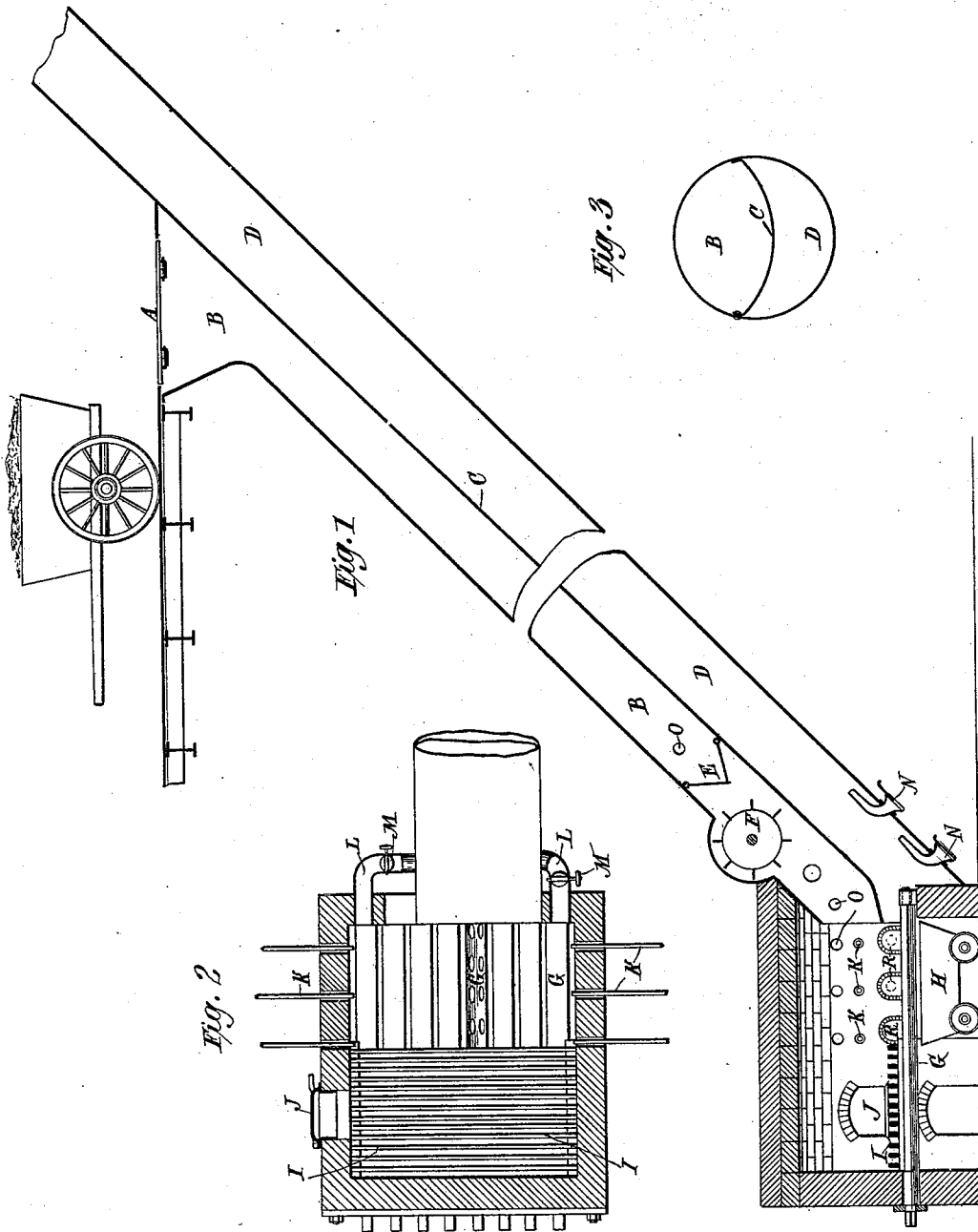
(No Model.)

J. WILSON.

FURNACE FOR THE INCINERATION OF GARBAGE.

No. 474,933.

Patented May 17, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN WILSON, OF NEW YORK, N. Y., ASSIGNOR TO ROMAN DEBES, OF SAME PLACE.

FURNACE FOR THE INCINERATION OF GARBAGE.

SPECIFICATION forming part of Letters Patent No. 474,933, dated May 17, 1892.

Application filed November 16, 1891. Serial No. 412,095. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILSON, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Furnaces for the Incineration of Garbage, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

This invention is a new and improved furnace for burning or incinerating the garbage collected from cities and towns, or other like refuse matter, with a view to the safe and more economical disposition of the same.

The improvements which characterize my invention are in the features of construction of the furnace and its accessories and are illustrated in the accompanying drawings.

Figure 1 is a vertical central section of the furnace. Fig. 2 is a horizontal section of the same, and Fig. 3 is a cross-section of a combined chute and flue.

The garbage and refuse matter to be burned or disposed of is brought in suitable cars to a sorting-table A, upon which it is dumped. Here it is sorted—rags, paper, metal, and glass being, as far as practicable, recovered from it and laid to one side for whatever use such materials may be adapted. The remainder of the garbage is then scraped off the table into a chute B. I prefer to hinge the table A or arrange it in any way conveniently for dumping the material thereon into the chute B. The chute B is contained in and formed by a circular iron tube or cylinder divided longitudinally by a partition C into two compartments. The partition C is concaved on the side of the chute, and the space D under it forms the passage for the smoke and products of combustion to the chimney. In the chute B is arranged a valve formed by hinged flaps E, that permit the free passage of materials down through the chute, but which closes or may be closed to prevent smoke or gases from passing upward from the furnace. The garbage, after passing through the valve E, is propelled by a feed or choke drum F, located within the chute B, into the furnace proper. This drum is of any suitable construction—such as a metal cylinder with projections or

teeth that take up the garbage in their rotation and force it onward into the fire below.

The furnace is of any suitable character; but I prefer to construct it with an arched roof of fire-brick or the like and to wall it in with masonry. The entire space is divided by rotary grate-bars G, of such character that the residue after burning may be shaken down through them into a car H, running below the furnace.

In the forward part of the furnace I arrange a supplemental grate I and provide a door J for a coal fire, while in the rear portion of the same I provide a series of jets or nozzles K for supplying a hydrocarbon for an oil fire.

L L are the passages for smoke and gas leading from the furnace into the flue D. Dampers M are placed in these passages to regulate the draft, and air-holes N, with dampers, are provided for the flue D and near the bottom of the same.

A series of sight-holes O are provided in the sides of the furnace and in the lower part of the chute B, which are preferably closed by sheets of mica. Openings R are also made in the sides of the furnace for permitting access to the interior for inspection or repairs. These are closed with refractory material in the ordinary way.

The garbage, while in the chute B and while passing to the fire, will be heated by the heated gases passing up through the flue D to the stack or chimney. In this way it will be partially dried out before reaching the fire and its combustion much facilitated.

The residue after combustion can be ground or mixed with manures, bones, lime, or other material and utilized as a fertilizer.

By the apparatus above described the disposal of garbage may be effected rapidly and economically and products of value as fertilizers obtained in a condition easy of manipulation.

What I claim is—

1. In a furnace for burning garbage, the combination, with the fire-chamber, of an exterior cylinder or tube leading from the fire-chamber and set in an inclined position, a metallic partition dividing the tube into two

longitudinal compartments or passages, the upper passage being provided with a hopper for the delivery of garbage to the furnace, the lower compartment being adapted to serve as
5 a flue for carrying off the products of combustion, as set forth.

2. In a furnace for burning garbage, the combination, with the fire-chamber, of an exterior cylinder or tube leading from the said
10 cylinder and set in an inclined position, a metallic partition dividing the tube into two longitudinal compartments or passages, a feed-drum located in the upper passage near the fire-chamber, and valves or dampers for closing such passage and preventing the escape
15 through the same of the products of combustion, as set forth.

3. In a furnace for burning garbage, the combination, with the fire-chamber, of a chute

for the delivery of garbage into the rear of
20 the chamber, a grate for a coal fire in the forward part of the fire-chamber, and a series of jets or nozzles for oil-blasts arranged at opposite sides of said chamber and at the rear thereof, as set forth.

4. The combination, with the fire-chamber
25 of a garbage-furnace, of a metallic tube divided longitudinally by a partition C, concave on its upper side and forming a chute for the delivery of garbage into the fire-chamber, and
30 a flue below the chute, passages from the fire-chamber into said flue, and dampers for regulating the same, as set forth.

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Witnesses:

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