

No. 746,421.

PATENTED DEC. 8, 1903.

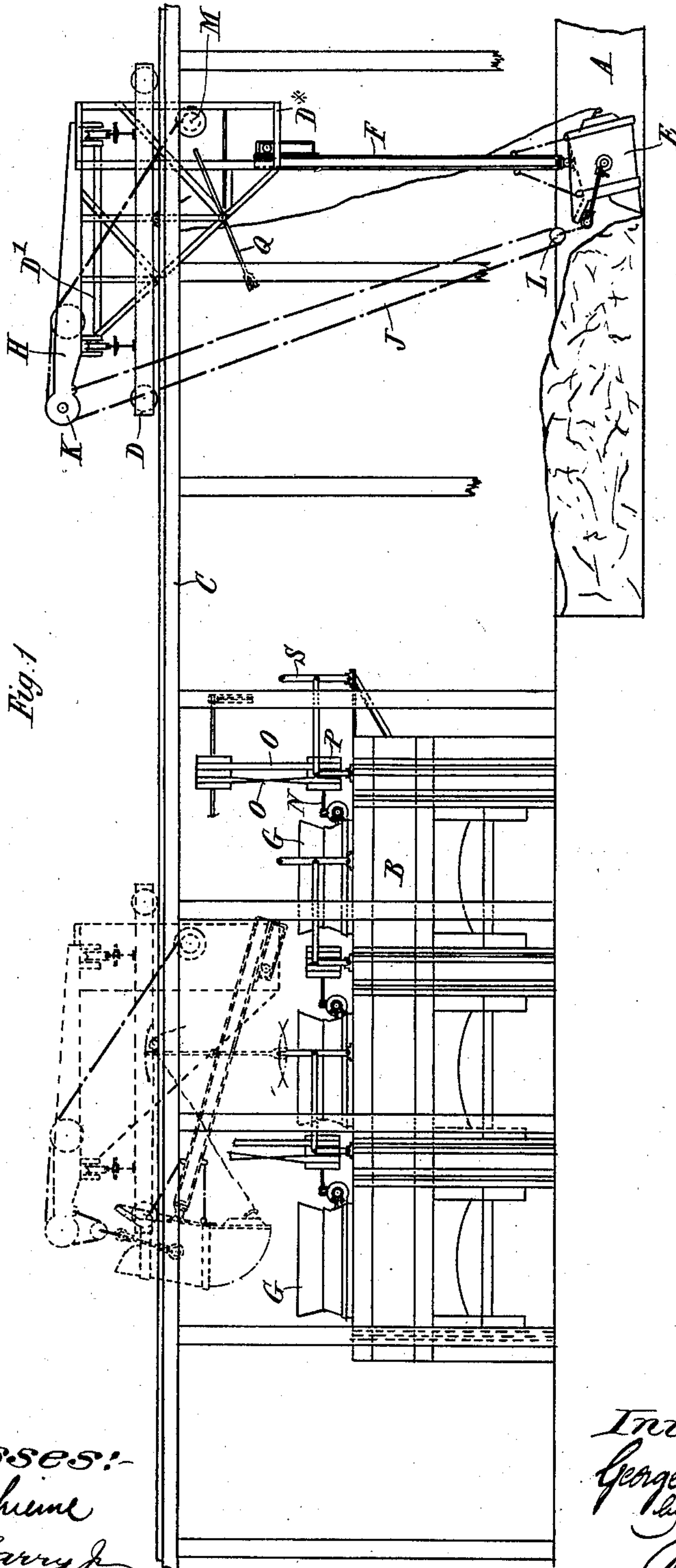
G. WATSON.

APPARATUS FOR DESTROYING REFUSE.

APPLICATION FILED APR. 1, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:
Henry Rhine
George Barry

Inventor:
George Watson
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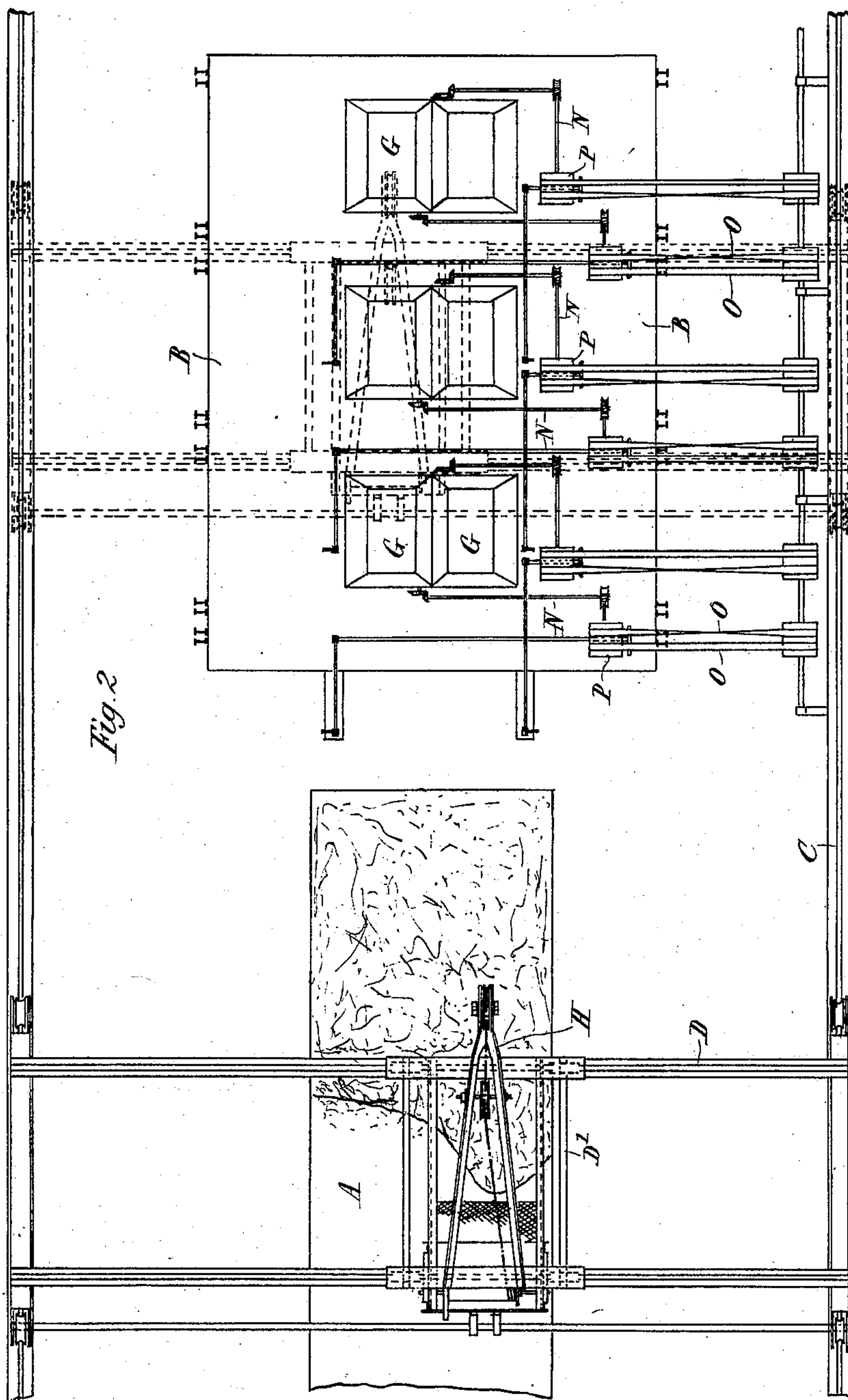
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3 SHEETS—SHEET 2.



Witnesses:
Henry Thorne
George Barry Jr.

Inventor:
George Watson
By attorneys
Brown & Howard

UNITED STATES PATENT OFFICE.

GEORGE WATSON, OF LEEDS, ENGLAND.

APPARATUS FOR DESTROYING REFUSE.

SPECIFICATION forming part of Letters Patent No. 746,421, dated December 8, 1903.

Application filed April 1, 1903. Serial No. 150,516. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WATSON, a subject of the King of Great Britain, and a resident of Lord Street Works, Whitehall Road, Leeds, in the county of York, England, have invented certain new and useful Improvements in Apparatus for Destroying Refuse, of which the following is a specification.

In the accompanying drawings, Figure 1 shows in side elevation the apparatus employed in carrying out this invention. Fig. 2 is a plan view of the same; and Fig. 3 is an end view, on an enlarged scale, of part of the apparatus, showing the means for operating the charging-doors of the furnaces.

The destruction of refuse by incineration has become an accomplished fact; but the apparatus required for the purpose still leaves much to be desired in various ways; and it is the object of the present invention to obviate certain difficulties which have arisen and to simplify the apparatus.

Hitherto it has been general to discharge the refuse direct into furnaces from the collecting-carts, and in order to do this it has been necessary to provide an inclined roadway from the level of the ground to the top of the furnace. This has necessitated a very large expenditure in construction, as the inclined roadway or ramp has in most cases to be built up, and it must be of considerable length, so as to make the inclination as gradual as possible, for reasons that will be obvious. The fact of the carts having to pass along the top of the furnaces also necessitated the building of the furnaces in a very substantial manner, thereby increasing the expense. Now according to my invention I seek to dispense with the ramp, and as the carts will no longer be driven onto the top of the furnaces I am enabled to reduce the expense of the construction of the furnaces.

In carrying out my invention I may employ any kind of furnace which is provided with a charging-hole at the top, my invention relating more particularly to the charging of the furnace and not to the furnace itself.

A is a well or dumping-pit placed in close proximity to the furnaces and preferably at the end of a series of furnaces and below the ground-level, into which pit the refuse is dumped from the carts. This well or pit is

of suitable dimensions and is built of brick, stone, or concrete, with a slightly-inclined bottom either to one side or one end, so that moisture may run off to a gutter or drain.

B B represent the furnaces arranged in two series of three each back to back, and G G are the charging-holes of the same.

C is an elevated railway of suitable construction placed at a level above the furnaces B and extending beyond the well A. Upon this elevated railway C is mounted a carriage D, of convenient construction, arranged to travel longitudinally of the railway C and provided with a second carriage D', which is capable of moving transversely of the carriage D. This carriage D' has a pendent open-work frame D*, having a rigid character and arranged to carry an arm F, which is pivoted thereto in any convenient manner, and to the opposite end of this arm F is attached a mechanical scoop E, such as is used in a steam-navvy for excavations. This arm F is of such a length that the scoop E when lowered will practically scrape along the bottom of the well or pit A. The carriage D' has a beam H, which projects beyond the carriage, and to this beam is attached one end of a chain or rope J. This beam is provided with a pulley K for the chain or rope J, which after passing round a pulley L on the scoop E and over the pulley K is made fast to a winch M, carried by the frame D*.

The carriage D may be driven by any suitable power, mechanical or electrical, so that it may be moved along the elevated railway as desired, the movement being directed by an attendant riding on the carriage D.

When it is desired to charge a furnace, the carriage D is run back and the chain J is lowered, so that the scoop may enter the well or pit A clear of the pile of refuse therein. The carriage is then moved forward to bring the scoop E into contact with the refuse, and the chain is wound up by the winch, by which means the scoop is caused to cut into the heap of refuse and take up a load. By hauling on the chain J the scoop E is raised to such a height as to clear the top of the furnaces, and the carriage is then moved forward, so as to bring the loaded scoop over one or other of the charging-holes G. The refuse is then discharged into the furnace

by the attendant releasing a door, which forms the bottom of the scoop.

The charging-hole G of each furnace will be provided with a suitable door—such, for instance, as those shown in the specifications of Letters Patent of the United States of America granted to me, bearing date, respectively, December 23, 1902, No. 716,601, and November 4, 1902, No. 713,024. This door or cover may be opened and closed by bevel or other gearing N, belts O, and fast and loose pulleys P, driven from a suitably-driven shaft. This gearing is set in motion in either direction to open or close the door or cover by the attendant connecting one of the forked levers Q with a pin R on the rocking lever S, belonging to the furnace to be charged. Thus the operation of charging a number of furnaces may be performed by one man. Any other kind of door or cover may be employed and be operated by any other convenient means or power, mechanical or electrical.

When the scoop is discharged, the carriage will be run back and the scoop again lowered into the pit A in order to take up another load of refuse, the door of the scoop closing and automatically locking itself.

It will of course be understood that the scoop may turn over, so as to discharge its load into the furnace; but I prefer to use the movable bottom.

The winch will be operated by the same power that drives the carriage, any well-known mechanism being employed for that purpose.

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

1. In apparatus for destroying refuse, the combination of a furnace having a charging-hole at the top provided with a movable cover, a refuse pit or well in close proximity to the furnace and below the ground-level, an overhead railway, extending over both the furnace and the pit, a traveling carriage on the railway arranged to travel in two directions, means carried by the carriage for picking up and discharging a load of refuse, means for raising said mechanism to the charging position, also carried by the carriage, means for driving the said carriage and means for removing the cover of the charging-hole, the said means being operated by an attendant on the carriage, all as herein shown and described.

2. The combination with a furnace for destroying refuse, of a dumping-pit below the ground-level to receive the refuse direct from collecting-carts, a scoop and means for operating the same to scoop up the refuse from said pit and means for carrying said scoop to the top of the furnace for discharging its contents thereinto, substantially as herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WATSON.

Witnesses:

ROBERT NIXON MATHER,
CLAUDE VIRR PULLEIN.