

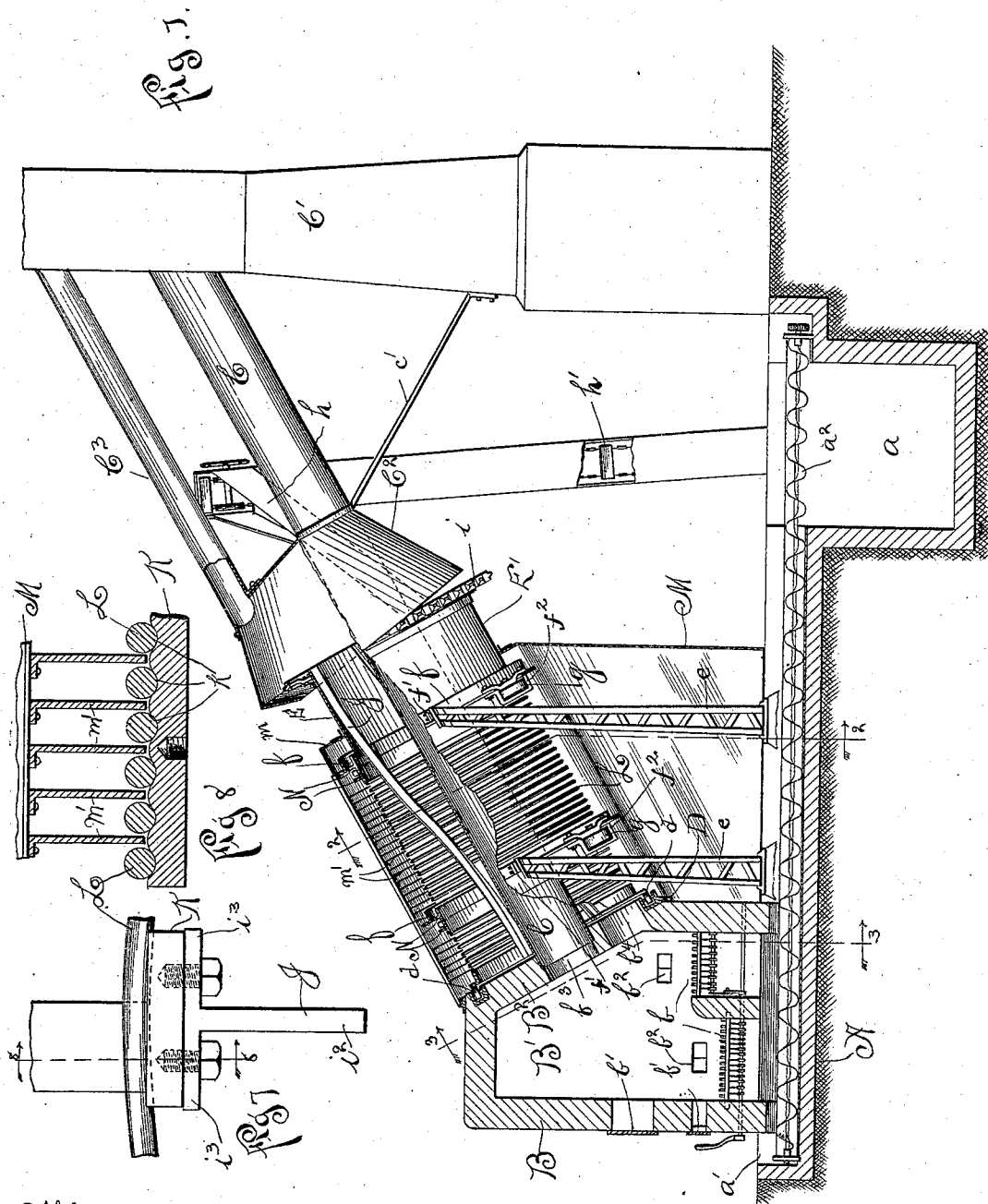
(No Model.)

4 Sheets—Sheet 1.

W. G. PARR.
GARBAGE BURNER.

No. 575,981.

Patented Jan. 26, 1897.



Witnesses
Harry White,
J. B. News.

Inventor
William G. Parr.
by Chas. C. Kilham, atty.

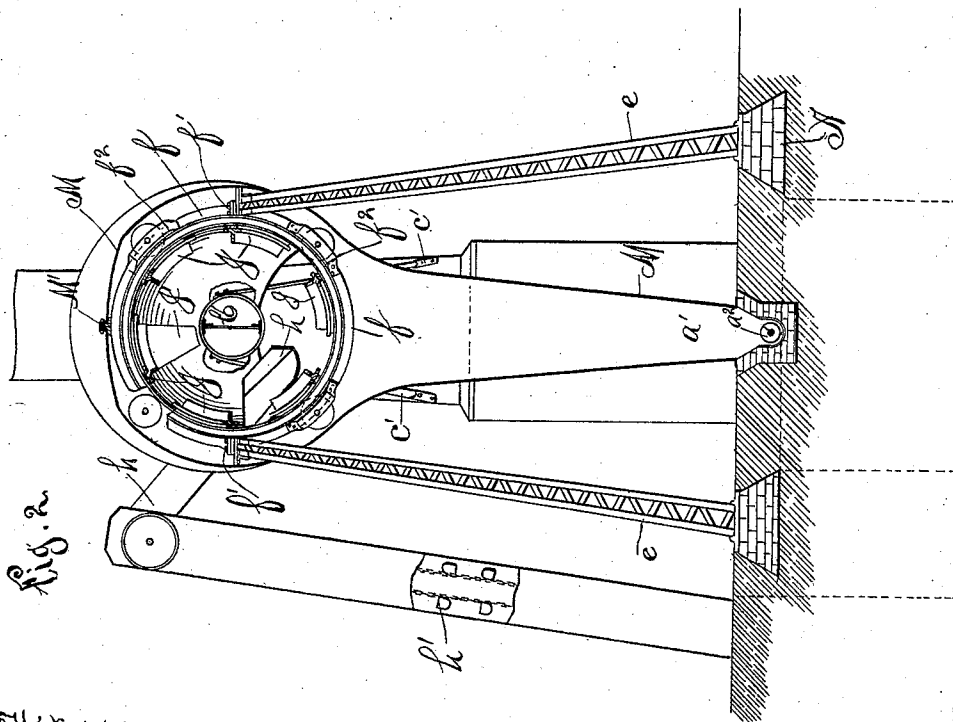
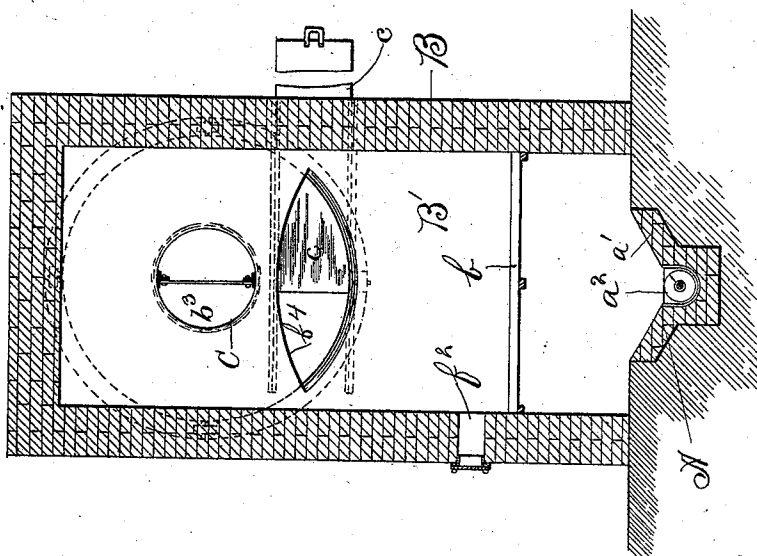
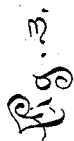
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Witnesses
Harry White
J. B. Weir.

Inventor
William G. Parr.
by Chas. C. Tillman. Atty

(No Model.)

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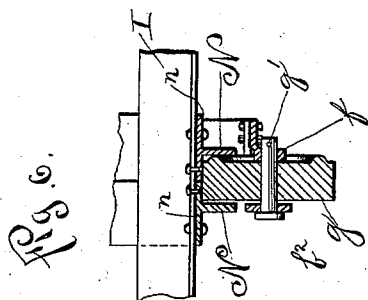
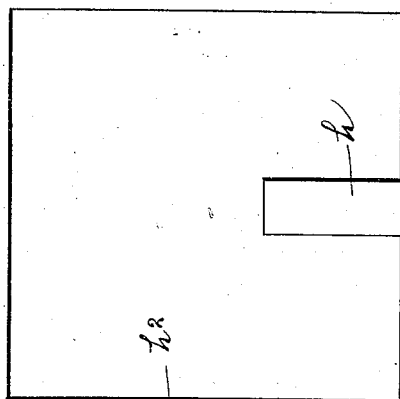
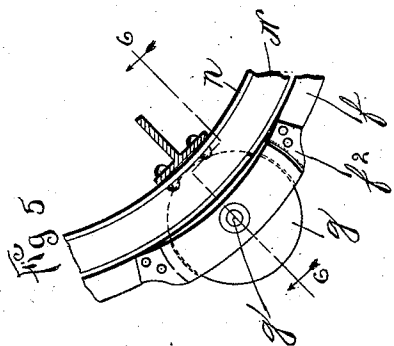
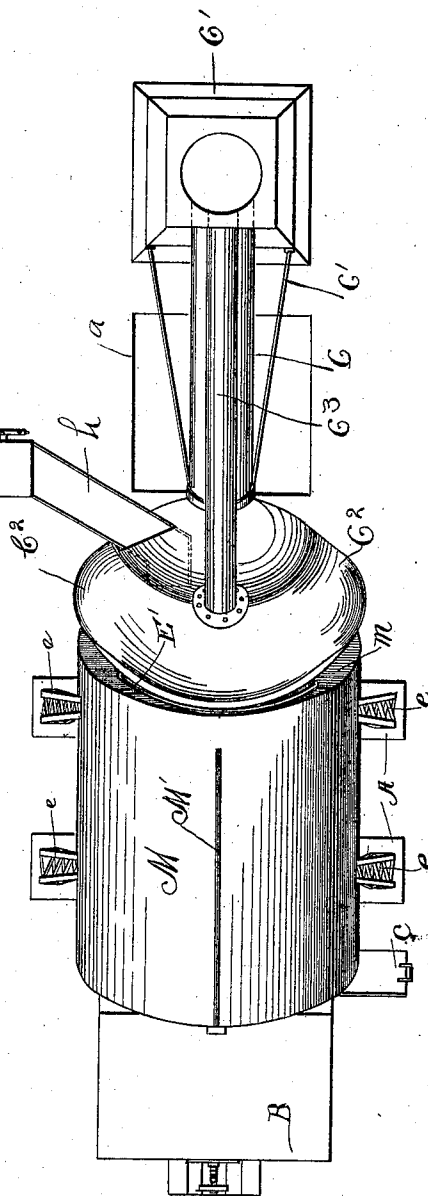


Fig. 4.



Witnesses
Harry White,
J. B. Herr.

Inventor
William G. Parr.
Chas. C. Kilman Atty

(No Model.)

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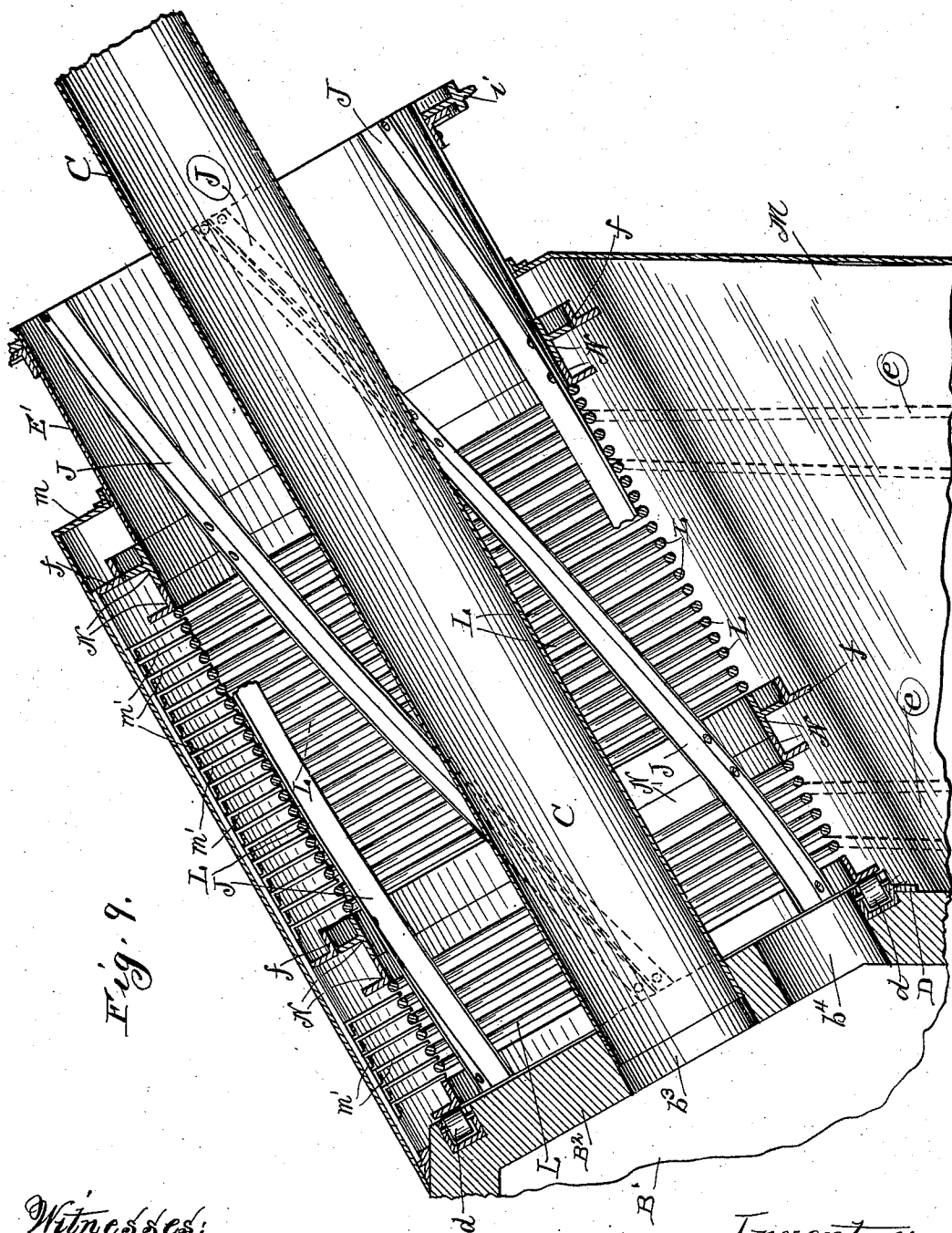


Fig. 9.

Witnesses:
W. J. Jaeger,
E. A. Duggan.

Inventor:
William G. Parr,
By Chas. C. Tilgham
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM G. PARR, OF CHICAGO, ILLINOIS, ASSIGNOR TO JACOB A. PATTON, OF SAME PLACE.

GARBAGE-BURNER.

SPECIFICATION forming part of Letters Patent No. 575,981, dated January 26, 1897.

Application filed March 9, 1896. Serial No. 582,366. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. PARR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Garbage-Burners, of which the following is a specification.

This invention relates to improvements in garbage burners or crematories more especially designed for the use of cities and towns; and it consists in certain peculiarities of the construction and the novel means hereinafter described for passing the garbage through a revolving cylinder to the combustion-chamber of a specially-designed furnace, where it is readily consumed.

One of the main objects of the invention is to separate the ashes and other non-combustible material from the combustible part of the garbage and at the same time remove as much moisture as possible therefrom before it enters the combustion-chamber; and this object is attained by passing the garbage through a revolving cylinder through which an escape-flue passes, thereby utilizing the heat from the combustion-chamber to keep the inside of the cylinder hot, the cylinder being so constructed that the greater part thereof is foraminous, by means of a series of rings placed parallel with one another, yet with spaces therebetween through which the ashes and non-combustible material may pass in its revolution, the ashes being guided in their fall to a point below by means of a suitable jacket enveloping the cylinder, from which point they are removed to the pit by means of a suitable conveyer.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view, partly in elevation and partly in section, of my burner as it appears when ready for operation, showing the garbage cylinder or receptacle broken away to expose the interior thereof and the escape-flue. Fig. 2 is a vertical sectional view, partly in elevation, taken on line 2 2 of Fig. 1. Fig. 3 is an enlarged vertical sectional view taken on line 3 3 of Fig. 1, showing a portion of the

furnace, of the ash-trough, and its conveyer. Fig. 4 is a plan view of the burner, showing the elevator for the garbage connected therewith. Fig. 5 is a view showing one of the supporting-rollers for the cylinder, its bearing and guide piece, the latter being secured to one of the longitudinal T-shaped irons shown in cross-section. Fig. 6 is a sectional view, partly in elevation thereof, taken on line 6 6 of Fig. 5. Fig. 7 is a detail view in elevation of a portion of the cylinder, showing one of the longitudinal T-shaped irons, illustrating the manner of securing the rings thereon and exhibiting a portion of one of the cleaning-fingers for said rings. Fig. 8 is a cross-sectional view taken on line 8 8 of Fig. 7, and Fig. 9 is an enlarged longitudinal vertical sectional view of the cylinder and jacket therefor.

Similar letters refer to like parts throughout the different views of the drawings.

A represents the base or support upon which the burner is erected and is provided at its rear portion with an ash-pit *a*, to which the ashes from the furnace and garbage receiver or cylinder may be conveyed through a trough *a'* by means of a suitable screw conveyer *a''*, which is located longitudinally in said trough and may be operated by any suitable means, but usually by the same power that is employed for revolving the receiver or cylinder and the elevator for the garbage. On the front of the base is located a furnace B, which may be built of any suitable size and material and is provided with grates *b*, doors *b'*, and stoke-holes *b''* for admission of fuel to the combustion-chamber B' and stoking the same. The rear upper portion of the furnace is formed with an inclined wall B², which is provided with a central opening *b''* for the escape-flue C and below the same with another opening *b''*, through which the garbage passes to the grates in the combustion-chamber. This inclined wall is provided with a damper *c* to be used for opening and closing the opening *b''* to regulate the quantity of garbage to be deposited into the combustion-chamber. On the outer surface of the inclined portion B² of the furnace is located a number of grooved pieces D, in each of which is located a roller *d*, on

which the adjacent end of the cylinder or receptacle for the garbage rests and operates.

To the rear of the furnace and on each side of the ash-trough are located standards or uprights *e*, on the upper portions of which are secured the trunnion-bands *f*, which are made of segments of angle-iron and are provided at their ends with projections *f'*, which rest on the standards or uprights *e* and are secured thereto by means of bolts or otherwise. At suitable points the bands *f* are provided with bearings *f*² for the axles or trunnions *g'* of the rollers *g*, which are employed to support and reduce the friction on the revolving cylinder or receptacle. The upper or outer portion *E'* of said cylinder is made of sheet metal or solid material and is open at its end to receive the garbage through a suitable chute *h*, into which it is deposited by means of the elevator *h'*, which may be of the ordinary or any preferred construction and can be readily operated by any suitable mechanism so as to take the garbage from the pit or depositing-receptacle *h*², where it may have been dumped from wagons or carts. The outer portion of the part *E'* of the cylinder or garbage-receptacle is provided on its periphery with sprockets *i* to engage a sprocket chain or belt, which may be connected to the driving mechanism. (Not shown.)

To the inner surface of the portion *E'* of the cylinder are secured, and usually at equidistances apart, a series of bars *J*, which are T-shaped in cross-section and extend longitudinally and spirally or helically with the cylinder and preferably throughout its entire length, thus forming a screw-like conveyer on the interior of the cylinder to facilitate the passage of the garbage therethrough to the combustion-chamber. To the ribs *i*² of one of the bars *J* is secured a piece *J'*, which depends to near the surface of the escape-flue *C*, as is clearly shown in Fig. 2 of the drawings, and is used for removing or scraping therefrom any garbage or matter which may have become caked or incrustated thereon by reason of the intense heat or otherwise. On the webs or flanges *i*³ of the bars *J* and extending from the portion *E'* of the cylinder or garbage-receptacle to near their lower ends are secured saddles *K*, which are provided with corrugations or depressions *k* for the reception and retention of the rings *L*, which constitute the foraminous or grated portion of the cylinder or garbage-receptacle. These rings, as is clearly shown in Figs. 1 and 8 of the drawings, are placed parallel with one another and a slight distance apart, so as to permit of the passage therebetween of ashes and other non-combustible material, which will be sifted or screened from the combustible material and be guided in its descent to the ash-trough *a'* by means of a jacket *M*, which envelops the foraminous part of the cylinder or garbage-receptacle and is secured to the top and inclined portion of the furnace. The upper or outer end of the jacket *M* is

formed with an internal flange *m* to encircle the part *E'* of the cylinder to allow it to revolve therein, but to prevent the escape of the heat therebetween. On the upper part of the jacket *M* is located a longitudinal bar or piece *M'*, to which are secured a series of fingers *m'*, which extend between the rings *L*, and are adapted to disengage the garbage which might cling thereto, thus keeping the spaces between said rings open. Within the opening *b*² of the inclined wall *B*² of the furnace and extending centrally and longitudinally through the garbage cylinder or receptacle and into the smoke-stack *C'* is located the escape-flue *C* for the smoke and gases from the combustion-chamber. On the flue *C* and above the upper or outer end of the garbage cylinder or receptacle is secured a hood *C*², which is provided in its upper portion with a flue or pipe *C*³, connected at its upper end to the smoke-stack for the passage of the gases and smoke which escape from the open end of the said cylinder.

The flue *C* may be supported by means of suitable braces *c'*, secured to the smoke-stack, as shown in Figs. 1 and 4 of the drawings. On the bars *J* and at proper places to form guideways or tracks for the rollers *g* are secured the flanges or webs *n* of the bands *N*, which are T-shaped in cross-section, as is clearly illustrated in Fig. 6 of the drawings.

From the foregoing and by reference to the drawings it will be seen and clearly understood that the garbage may be carried, by means of the elevator *h'*, from the ground and deposited into the chute *h*, from whence it will pass into the portion *E'* of the cylinder or receptacle therefor, the upper end of which portion is open, and in the revolution of the said cylinder it will be conveyed therethrough, by reason of its own gravity and the spiral or screw like operation of the bars *J*, until it reaches the inclined wall *B*² of the furnace, from whence it will pass through the opening *b*⁴ into the combustion-chamber, there to be consumed. It is apparent that as the garbage passes through the grated or foraminous portion of the cylinder the ashes and non-combustible matter therein will be sifted therefrom and any water which may be contained therein will likewise pass through the grated portion of the cylinder and fall with the ashes to the trough beneath. The heat from the furnace passing through the flue *C* will serve to dry the contents of the receptacle and cause the moisture thereof to escape through the open end of the cylinder, from whence it will be conveyed into the smoke-stack through to the flue *C*³ therefor.

By using a cylinder constructed with its upper portion of sheet metal or non-perforated material it is apparent that as the garbage is deposited in said portion from the chute, which portion is rendered very hot by the passage of the heat and gases through the flue *C*, the moisture and water contained in the garbage will be removed therefrom to

a great extent by evaporation, and as the cylinder is kept continually revolving that the garbage will be almost completely dried before reaching the foraminous portion of the cylinder.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a furnace, of a partly-foraminated and revolvable cylinder communicating therewith, a flue communicating with the furnace and passing through the cylinder, a series of spirally and longitudinally arranged bars on the interior of the cylinder, and a mechanism to operate the cylinder, substantially as described.

2. The combination of a furnace having an inclined wall, with antifriction-rollers journaled on the outer surface of said wall, a revolvable and inclined cylinder communicating with the furnace and resting on said rollers, and means for turning the cylinder, substantially as described.

3. The combination with a furnace having an inclined wall, of antifriction-rollers journaled on the outer surface of said wall, a revolvable and foraminated cylinder communicating with the furnace and resting on said rollers, a flue communicating with the furnace and passing through the cylinder, and means for turning the cylinder, substantially as described.

4. The combination of a furnace having an inclined wall, with antifriction-rollers journaled on the outer surface of the wall, a partly-foraminated and revolvable cylinder supported in an inclined position and resting on said rollers, a series of spirally and longitudinally arranged bars on the interior of the cylinder, a flue communicating with the furnace and passing through the cylinder, and means for turning the cylinder, substantially as described.

5. The combination with a furnace having an inclined wall, of a number of antifriction-rollers, on the outer surface of said wall, a cylinder composed partly of sheet metal and partly of rings located a slight distance apart, supports provided with rollers for the cylinder, a jacket over the cylinder, projections

extending from said jacket between the rings, and means for turning the cylinder, substantially as described.

6. The combination with a furnace having an inclined wall, of antifriction-rollers on its outer surface, a cylinder composed partly of sheet metal and partly of rings located a slight distance apart, guideways around the cylinder, supports provided with rollers for the said guideways on the cylinder, a jacket over the cylinder, projections extending from the jacket between the rings, a series of spirally and longitudinally arranged bars on the interior of the cylinder, a flue communicating with the furnace and passing through the cylinder, a piece secured to one of the spiral bars and extending to near the said flue, and means for turning the cylinder, substantially as described.

7. The combination with a furnace, of a revolvable cylinder communicating therewith, composed of rings secured a slight distance apart, a number of projections secured at the exterior of the cylinder and extending between the rings thereof, substantially as described.

8. The combination with a furnace, of a revolvable cylinder communicating therewith, composed partly of rings secured a slight distance apart and partly of sheet metal, a number of projections secured at the exterior of the cylinder and extending between said rings, substantially as described.

9. The combination with a furnace, of a revolvable cylinder communicating therewith, composed partly of rings secured a slight distance apart, and partly of sheet metal, a flue communicating with the furnace and passing through the cylinder, a series of spirally and longitudinally arranged bars on the interior of the cylinder, a piece or scraper secured to one of said bars, and extending to near the surface of the flue, substantially as described.

March 7, 1896.

WILLIAM G. PARR.

Attest:

CHAS. C. TILLMAN,
E. A. DUGGAN.