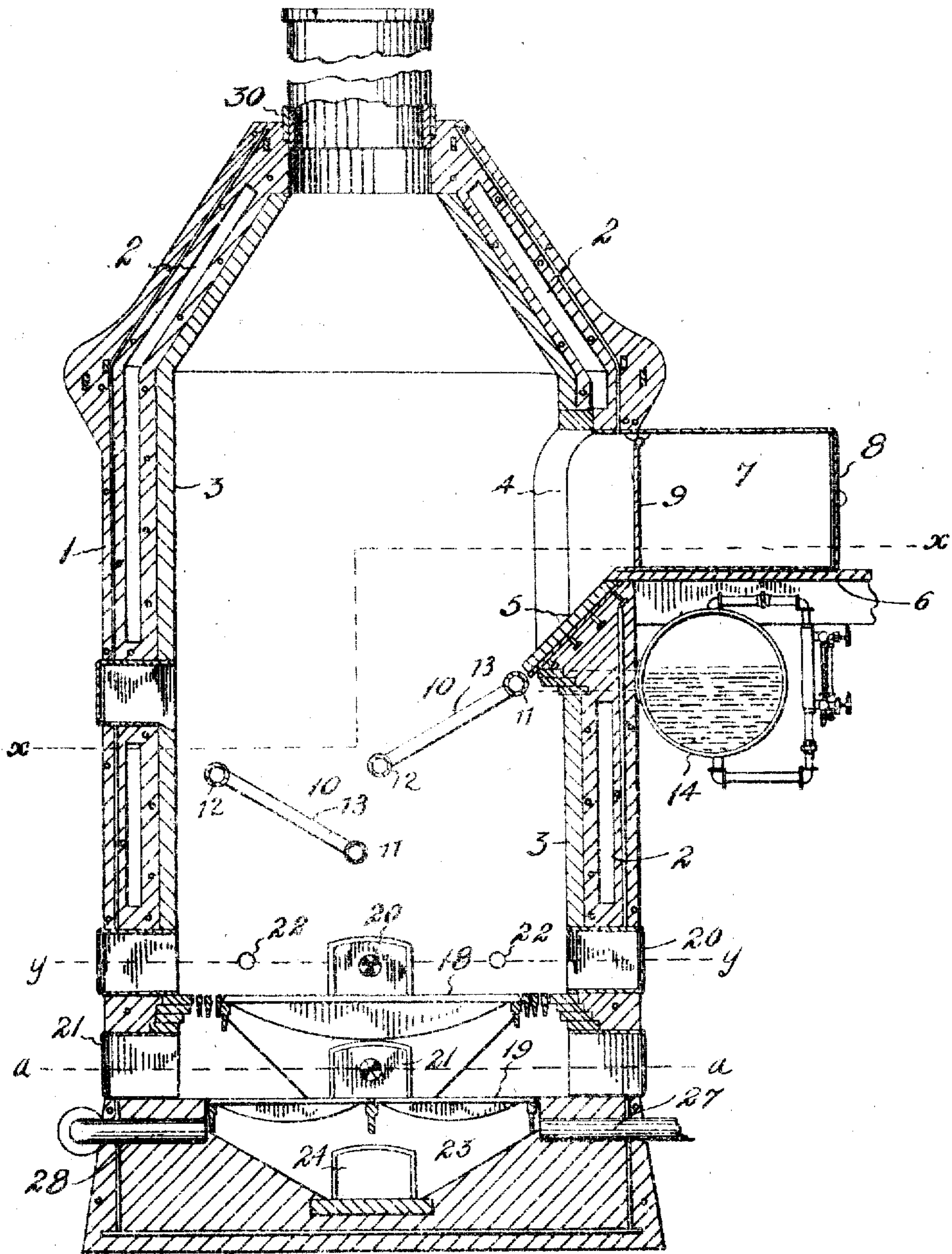


J. A. THOMPSON.
GARBAGE CREMATORY.
APPLICATION FILED JAN. 29, 1908.

952,651.

Patented Mar. 22, 1910.

3 SHEETS—SHEET 1.



WITNESSES:

Thym. Davis
Jack A. Baker *Fig. 1*

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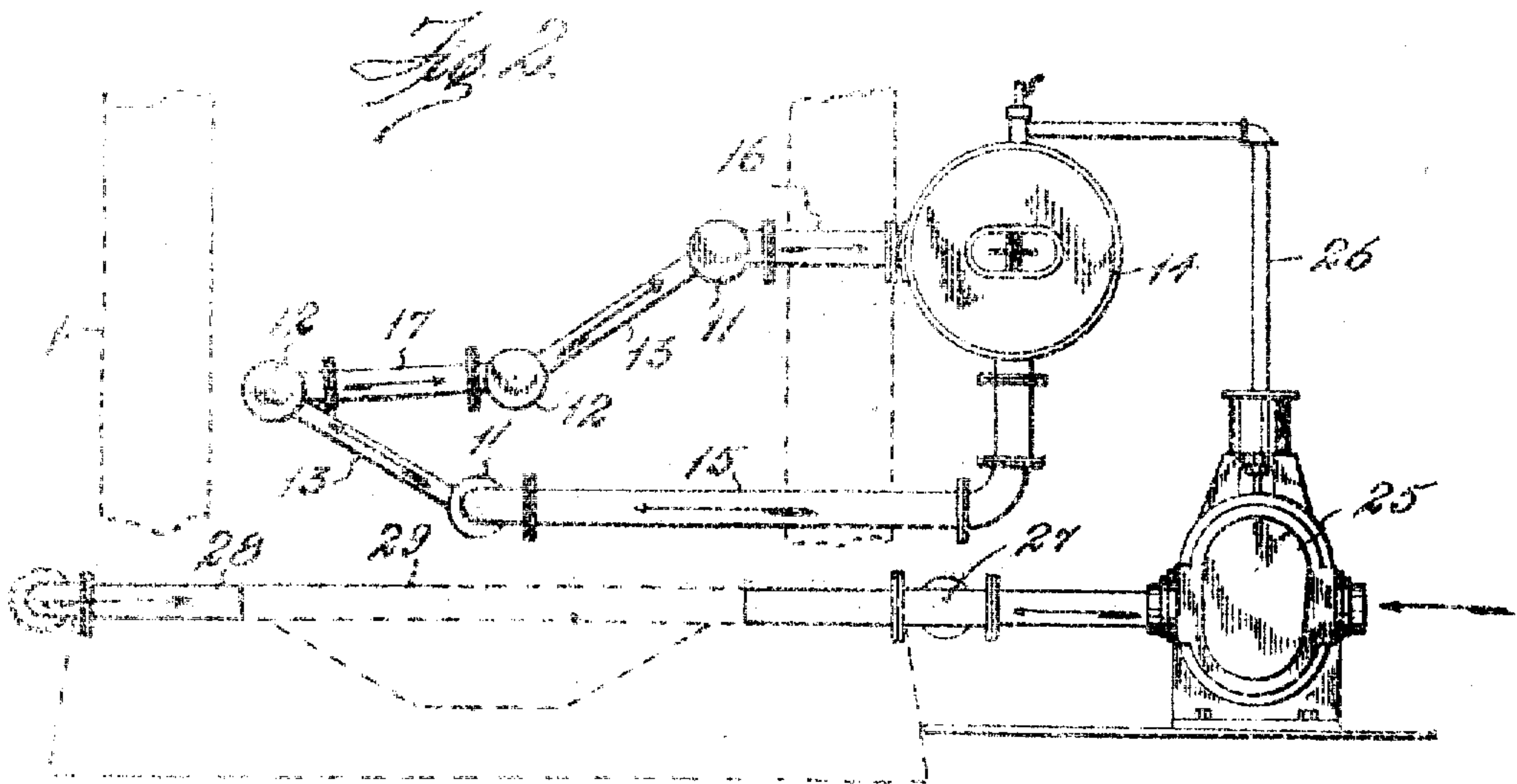
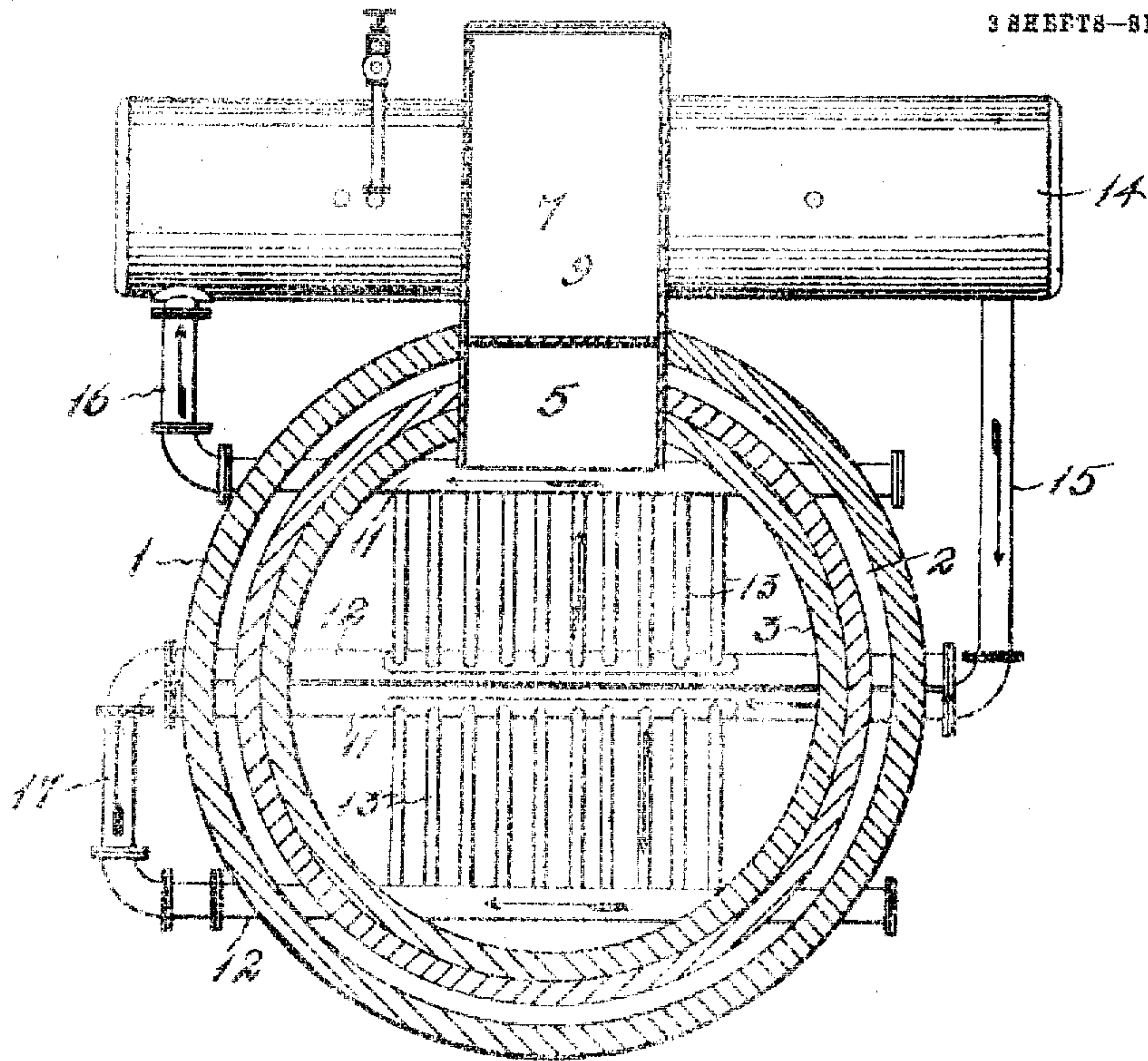
J. A. THOMPSON.
CABBAGE CREMATORY.

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952,651.

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3 SHEETS—SHEET 2.



WITNESSES:

James Davis
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Fig. 3.

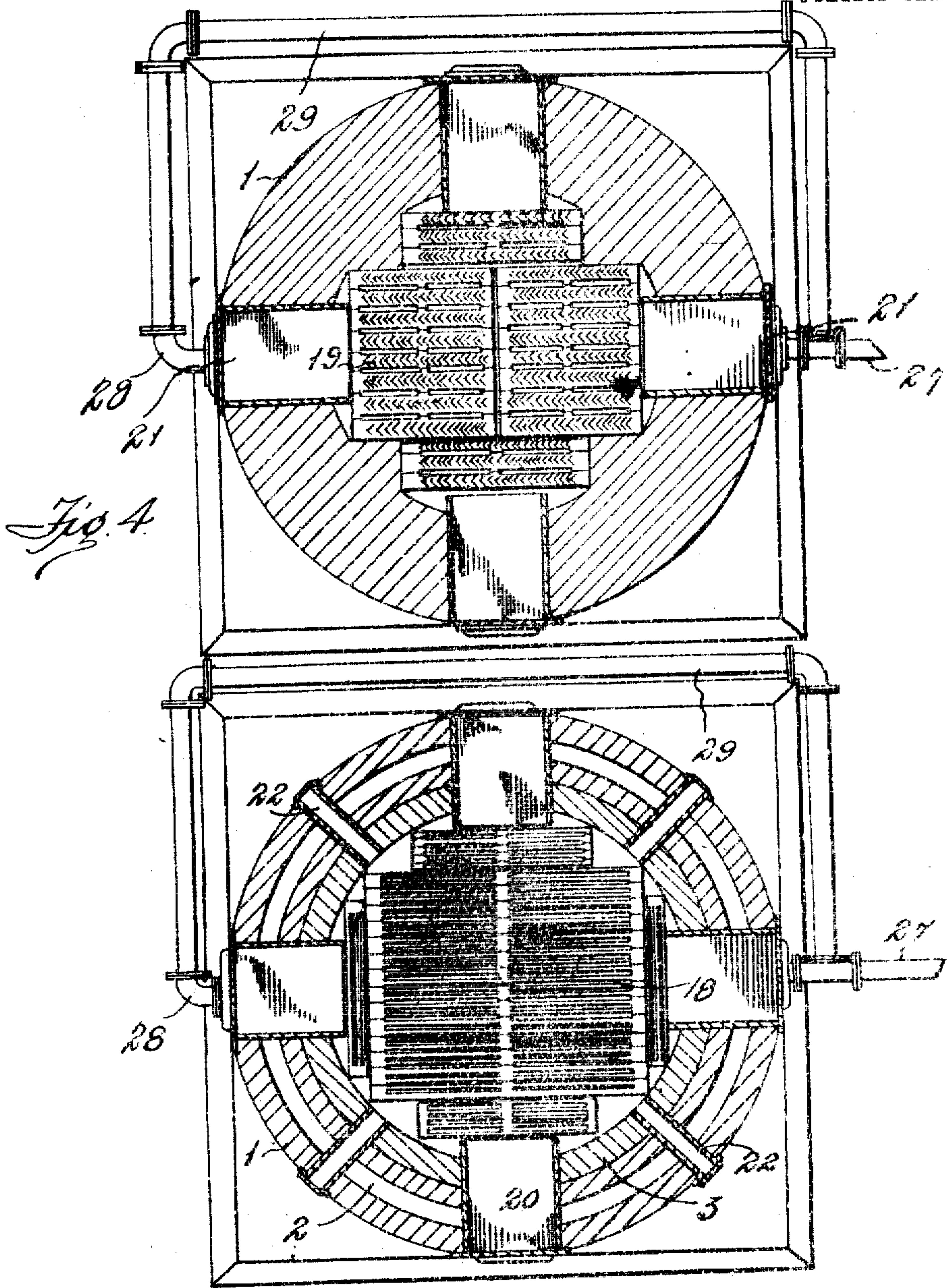
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J. A. THOMPSON.
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3 SHEETS—SHEET 3.



WITNESSES:

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Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES A. THOMPSON, OF HOUSTON, TEXAS.

GARBAGE-CREMATORY.

952,651.

Specification of Letters Patent.

Patented Mar. 22, 1910.

Application filed January 29, 1908. Serial No. 413,302.

To all whom it may concern:

Be it known that I, JAMES A. THOMPSON, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, having invented a new and useful Garbage-Crematory, of which the following is a specification.

My invention relates to new and useful improvements in garbage crematories.

10 The object of the invention is to provide a crematory constructed to cremate garbage without the use of fuel other than the garbage itself and arranged to first dry the garbage to such an extent as to enable it to
15 incinerate itself.

A further object is to provide means for producing the required forced draft and also the production of a reinforced furnace constructed to withstand the intense heat
20 resulting from the cremating of the garbage.

Finally the object of the invention is to provide a device of the character described that will be strong, durable, simple, efficient and comparatively inexpensive to construct
25 and also one in which the several parts will not be liable to get out of working order.

With the above and other objects in view, my invention has relation to certain novel features of operation and construction, an
30 example of which is described in the following specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical sectional view of the crematory, Fig. 2 is a horizontal sectional view taken on the line $x-x$ of Fig. 1 showing underlying parts in plan, Fig. 3 is an elevation of the water tube grate and the forced draft means and component parts, and showing part of the furnace in dotted
40 lines, Fig. 4 is a horizontal sectional view taken on the line $a-a$ of Fig. 1, and Fig. 5 is a horizontal sectional view taken on the line $y-y$ of Fig. 1.

In the drawings, the numeral 1 designates
45 a vertical cylindrical furnace, the walls of which are constructed of a suitable plastic material in which metallic reinforcing rods and strips are embedded and which walls are provided with annular air spaces 2. The interior of the furnace has a lining of fire
50 brick 3. By provision of the air spaces 2 the outside wall is protected from the intense heat and the inside wall from the atmosphere so that both walls will be protected
55 against sudden changes of temperature.

Near its upper end the furnace is provided

with an arched opening 4 at the bottom of which an incline 5 is arranged. A platform 6 extends from the opening and supports a chute 7 covering the opening 4 and having a
60 door 8 closing its outer end. A door 9 is pivoted in the chute from its top near the incline 5 and forms a guard preventing the products of combustion from entering the chute, but permits garbage delivered into the
65 chute to pass on to the incline 5.

Water tube grates 10 are supported at angles across the furnace one below the other and the uppermost positioned adjacent to the incline 5 so that garbage passing down
70 the latter will fall upon the said uppermost grate from which it will pass to the lowermost grate. These grates are formed of horizontal supporting pipes 11 and 12, the pipe 11 in each grate being connected with
75 the pipe 12 by a plurality of suitably spaced supporting pipes 13.

At the outside of the furnace and beneath the platform 6 a horizontal boiler 14 is suitably supported. This boiler has connection
80 with the pipes 11 of the grates 10 by means of pipes 15 and 16, while the pipes 12 are connected by a pipe 17 as clearly shown in Fig. 2. Water is supplied to the grates by the pipe 15 and may freely circulate through
85 the grates passing back to the boiler through the pipe 16. However, when the grates become hot steam is generated and passes through the boiler by way of the pipe 16. It will be noted that by provision of the cir-
90 culation of the water through the grates the same are protected from the intense heat.

As before stated, garbage delivered into the chute 7 and on to the incline 5 will pass down the same on to the uppermost grate 10
95 and from thence to the lowermost grate 10. In this way the garbage is temporarily suspended and dried sufficiently to be burned and consumed. The lowermost grate 10 being inclined downward, will direct the gar-
100 bage on to an underlying upper grate 18. This grate has comparatively coarse bars as is shown in Fig. 5 and is designed to be the main grate of the furnace.

Beneath the grate 18 a grate 19 of much
105 finer construction is arranged so as to catch and consume any unconsumed portion of the garbage which may pass through the main grate. Suitable draft regulating doors 20 and 21 are provided in the furnace
110 walls in horizontal alinement with the grates 18 and 19 and furnish access thereto and are

especially used in stoking. Slightly above the main grate a plurality of air conduits 22 as shown in Figs. 1 and 5, are provided in the furnace wall and are suitably arranged to supply air as desired. Below the grate 19 a suitable ash pit 23 provided with a clean out door 24 is arranged.

It is obvious that in order to properly incinerate the garbage a powerful draft must be provided. In order to produce a forced draft a suitable blower engine 25 is connected with the boiler 14 by a pipe 26. A pipe 27 extends from the engine through the base of the furnace to the ash pit 23 while a pipe 28 enters the opposite side of the ash pit having communication with the pipe 27 by a branch pipe 29 extending around the base of the furnace as shown in Figs. 4 and 5. Forced draft supplied in this way passes up through the grate accelerating the natural draft entering through the doors 20 and 21 and the conduits 22 passing with the waste products of combustion through a chimney 30 provided at the upper end of the furnace.

It is apparent that garbage deposited in this furnace will be first dried so as to freely burn, it being understood that in starting the furnace a fire is first kindled on the main grate 18. The garbage being dried and falling upon the main grate will be quickly burned or incinerated, however, should any part thereof fall through the grate 18 it will be caught and consumed upon the underlying grate 19.

What I claim, is:

1. In a garbage crematory, the combination with a furnace body having a fuel receiving opening, of an inclined water tube grate arranged below the opening so as to receive fuel therefrom, a horizontal grate arranged some distance below the water tube grate and adapted to receive the fuel therefrom, and a second horizontal grate arranged below the first horizontal grate, said second grate having smaller openings than the first horizontal grate and arranged to

receive unconsumed fuel passing through the first horizontal grate.

2. In a garbage crematory, the combination with a furnace body having a fuel receiving opening, of inclined water tube grates arranged below the opening, a main grate supported below the water tube grates, a secondary grate supported below the main grate, draft regulating means associated with the main grate, and draft regulating means associated with the secondary grate.

3. In a garbage crematory, a furnace comprising a grate 18, oppositely arranged preliminary drying grates 10 arranged to successively support the material at points above the grate and to deliver the material to the grate, the grates being in combination with an incline 5 arranged in approximate alignment with the first grate 10, but at a somewhat greater inclination for guiding the matter after its introduction into the furnace to said grate, substantially as described.

4. In a garbage crematory a furnace comprising the preliminary burning grate 18, a second burning grate 19 arranged to receive material from the grate 18, and a pair of oppositely inclined preliminary drying grates 10 adapted to initially support the material and arranged above the burning grates and adapted to deliver the material to said grates, substantially as described.

5. In a garbage crematory, a furnace comprising a burning grate, preliminary drying grates arranged in staggered relation thereabove, said grates being fixed in position and inclining in opposite directions toward each other from points near the side walls of the furnace to approximately the vertical center thereof whereby to successively support the material and acting by gravity to feed the material to the burning grate, substantially as described.

JAMES A. THOMPSON.

Witnesses:

GEO. R. BRINGHURST,
J. A. MIEDERMEIER.