

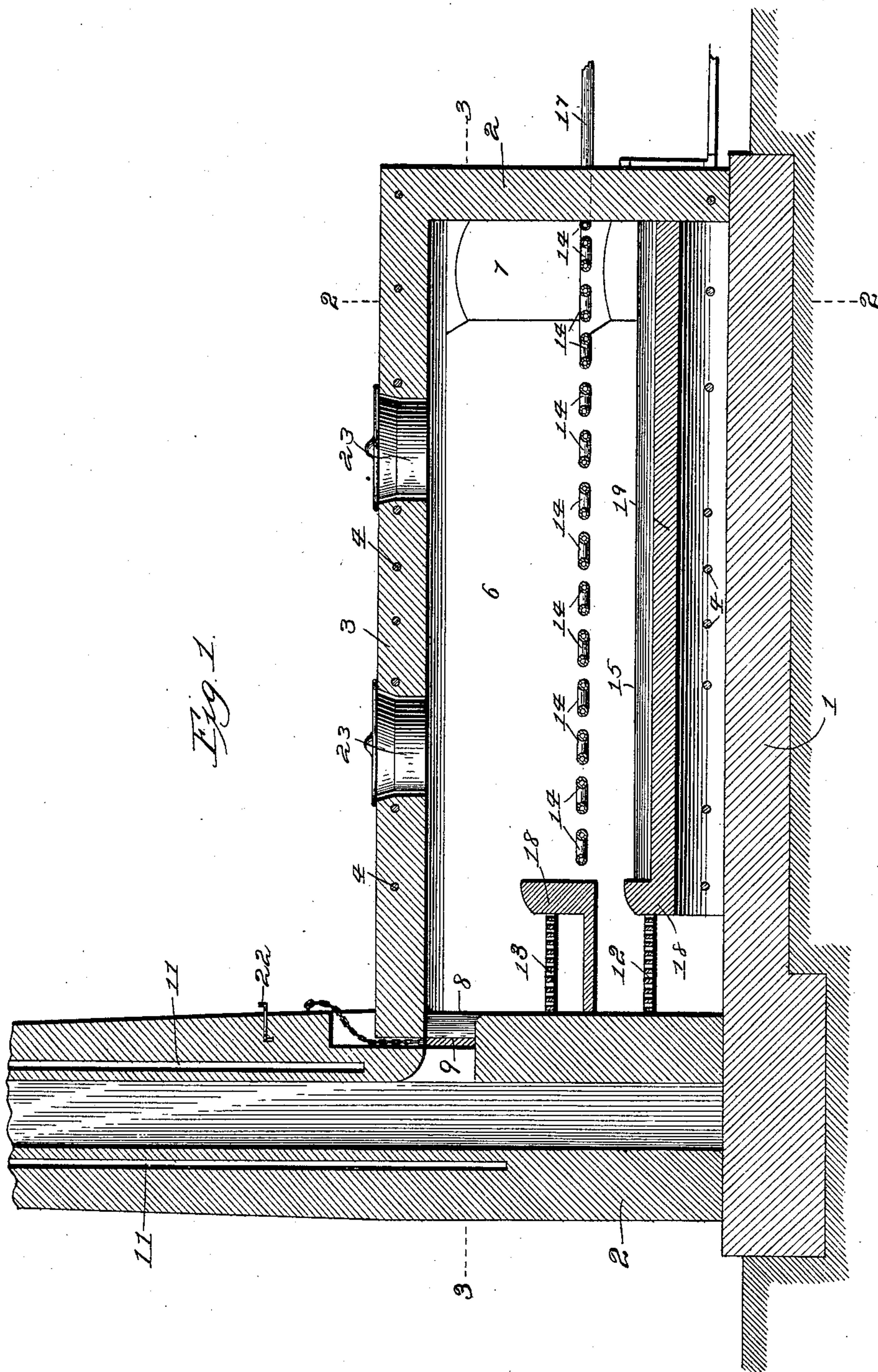
(No Model.)

2 Sheets—Sheet 1.

U. K. STRINGFELLOW.
GARBAGE CREMATION FURNACE.

No. 583,663.

Patented June 1, 1897.



Witnesses:
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Geo. C. Cruise.

Inventor:
Ulysses K. Stringfellow.
By *Knights*
Attorneys.

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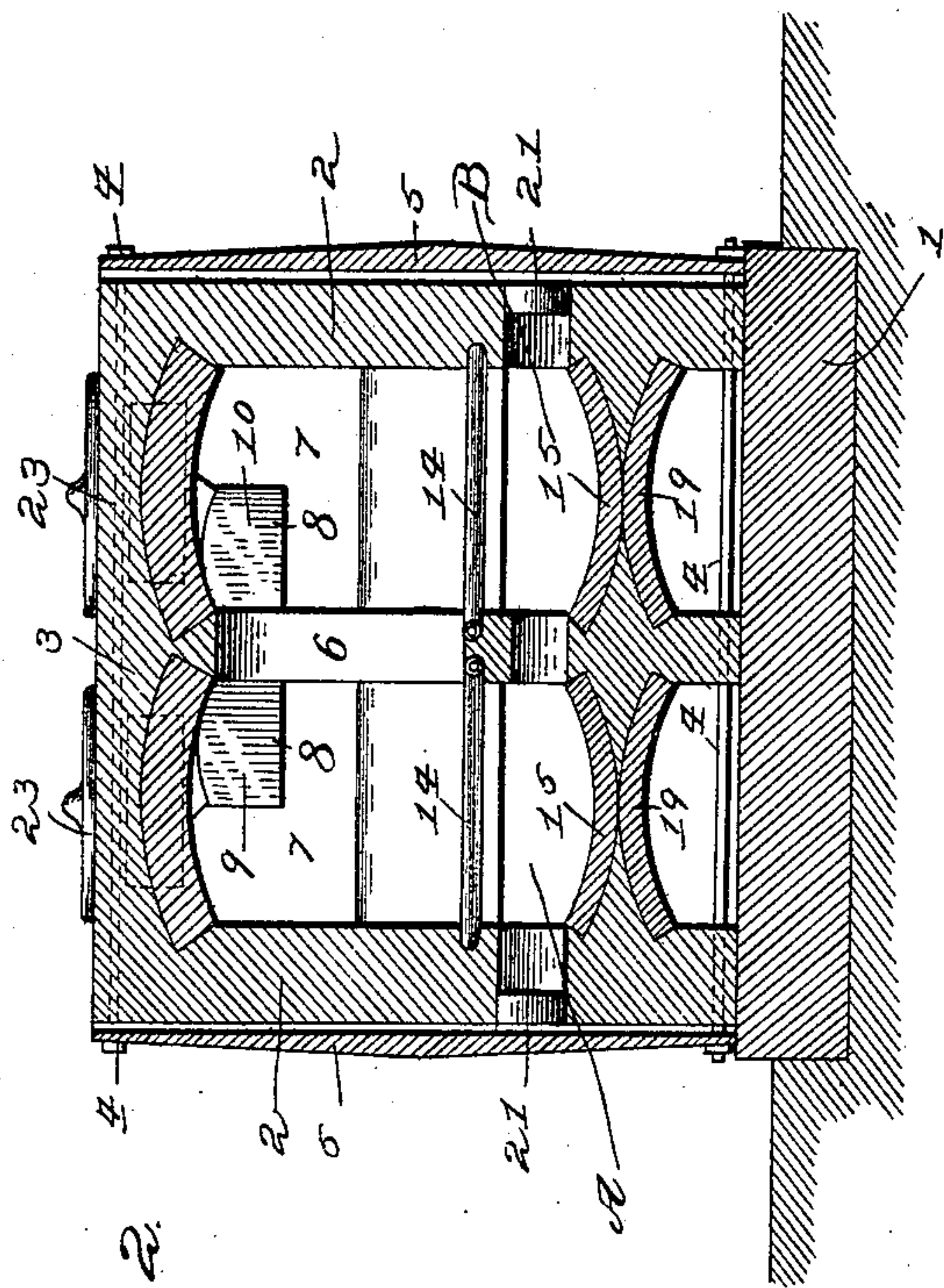


Fig. 2.

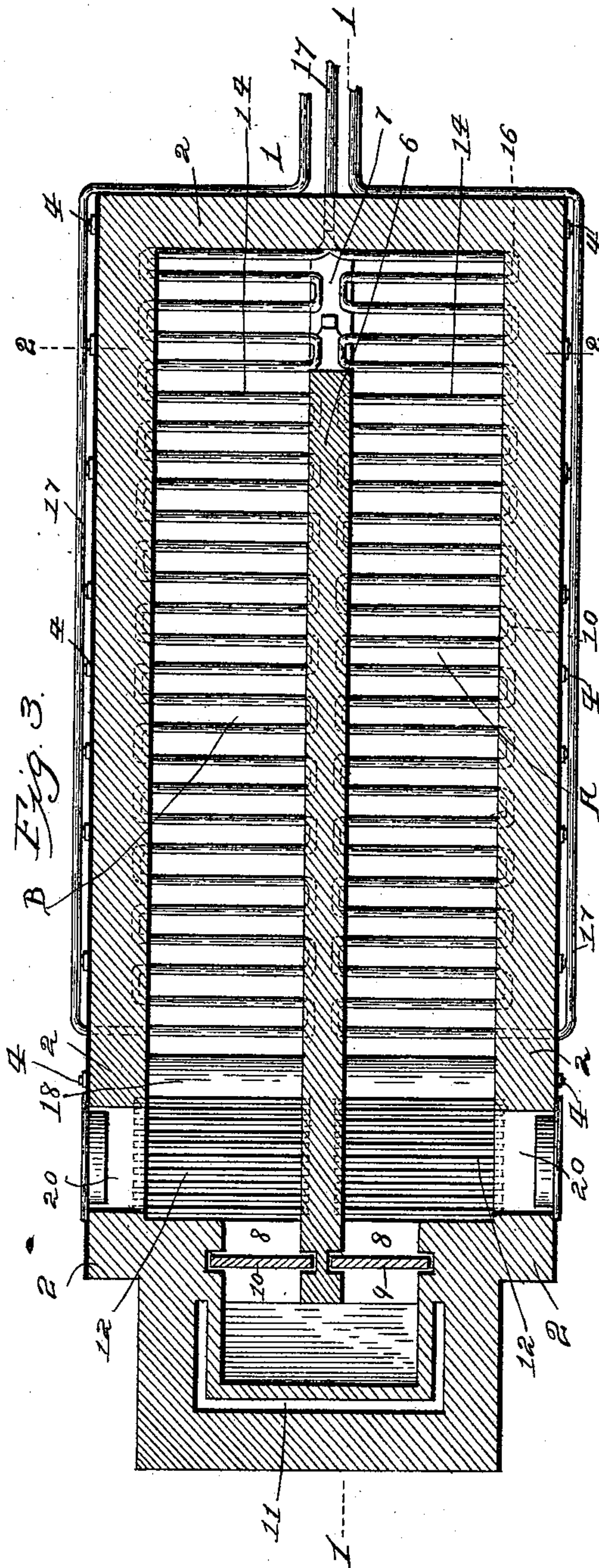


Fig. 3.

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UNITED STATES PATENT OFFICE.

ULYSSES K. STRINGFELLOW, OF FINDLAY, OHIO.

GARBAGE-CREMATATION FURNACE.

SPECIFICATION forming part of Letters Patent No. 583,663, dated June 1, 1897.

Application filed December 19, 1895. Serial No. 572,635. (No model.)

To all whom it may concern:

Be it known that I, ULYSSES K. STRINGFELLOW, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Garbage-Cremation Furnaces, of which the following is a specification.

The object of my invention is to provide a simple and durable furnace which will consume garbage and refuse of any description and also the gases arising therefrom. In furnaces of this description they have been found objectionable and expensive, inasmuch as they fail to effectively consume the gases arising from the garbage and that they consume a large amount of fuel. Furthermore, the grates generally employed to hold the solid matter become worn, necessitating frequent changes of them and at no little expense. I overcome the above-noted objections and attain my object by the following construction of furnace, which consists, essentially, of a furnace formed in two compartments so arranged that either may be filled without interfering with the burning of the garbage in the other and in locating the fires in the compartments at one end thereof, so that the heat from the fire in one compartment will pass the whole length of that compartment into the second compartment and out at the end of the second compartment after passing the whole length thereof. Thus it will be seen that by this arrangement I not only obtain the heat from the first fire, but the heat from the burning garbage in that compartment, so that when the combined amount of heat reaches the second compartment the garbage in that chamber will be effectively consumed, thus obviating the necessity of a large fire in the second compartment. All gases arising from the burning garbage in both compartments will be consumed as they pass out of the second compartment by a fire therein at the outlet end thereof.

My invention further consists of certain details of construction that will be hereinafter referred to, and specifically pointed out in the claims.

In order that my invention may be fully

understood, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section taken on the line 1 1, Fig. 2. Fig. 2 is a vertical cross-section taken on the line 2 2, Figs. 1 and 3, looking in the direction of the fires; and Fig. 3 is a horizontal section in plan taken on the line 3 3, Fig. 1.

In the said drawings, 1 represents the furnace-base, 2 the side and end walls thereof, and 3 the top. The whole framework of the furnace is braced and supported by means of the tie-rods 4, which pass through the top and lower part of the furnace, and which are connected at their ends by the stays 5.

The interior of the furnace is divided into two compartments by the central wall 6, and they communicate with each other at the end of the furnace farthest from the smoke-stack through the opening 7 in the central wall and with the smoke-stack at the opposite end of the furnace through the openings 8, which are closed by the dampers 9 and 10. As will be seen from the drawings, the stack may be constructed with the furnace, and it is provided with an air-space 11. It will be understood, however, that the smoke-stack may be separate, as the furnace could be constructed so as to be made portable, if so desired.

Each compartment or chamber of the furnace is provided with two or more fire-grates 12 and 13, located at the stack end of the furnace and one above the other, as shown, and with the hollow grate-bars 14 for holding the solid matter and with the troughs 15 for holding the liquid matter. The grate-bars are made hollow and connected as shown in Fig. 3, and they are adapted to have water passed through them. This is accomplished by joining one end of each series of piping with a single pipe 16 (see Fig. 3) and connecting this pipe and the pipe 17, connected to the other ends of the grates, to a suitable water-reservoir. As soon as the water becomes heated in the portion of the pipes located in the furnace a circulation of water will be started through them. Thus by using this form of grate-bar the life thereof is greatly prolonged, which obviates the fre-

quent necessity and expense of changing them, which is the case in other forms of furnaces of this character.

18 represents the fire-wall of the fire-grates, and 19 represents a suitable support for the liquid-troughs.

20 represents the openings, closed by suitable means, for feeding fuel to the fires, and 21 represents suitable openings for removing the ashes of the burned garbage from the troughs.

22 represents means for suspending the dampers 9 and 10 in order that the passages 8 can be kept open, as desired, and 23 suitable openings in the top wall, closed by covers, and over each chamber, (see Fig. 2,) through which garbage is supplied to the furnace.

The operation of my furnace is as follows: Fires are started in one of the chambers A, and the opening leading from that chamber to the stack is closed by the damper 9. As the fires burn the heat passes over the garbage in the trough and on the grate and consumes it. The heat from the fire and that coming from the burning garbage has to pass the whole length of that chamber, and when it reaches the end thereof it passes through the opening in the central wall into the other chamber B and consumes the garbage in that chamber. A fire is also started in the upper grate in the chamber B, and as the gases and unconsumed products of combustion pass through chamber B they are consumed as they pass over the fire. This operation is continued until all the garbage in chamber A is destroyed. When this has been done, both the fires in chamber B are started, the damper 10 closed, and damper 9 in chamber A opened. The direction of the heat is now reversed, and that garbage remaining in

chamber B is consumed, and the new garbage which has been placed in chamber A is treated in the same manner as was the garbage in chamber B. By this arrangement while the garbage in one chamber is being consumed green garbage can be put into the second chamber without interfering with the burning of the garbage in the first chamber.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A garbage-furnace comprising a suitable stack having two separate and distinct openings thereinto, dampers for controlling the openings, a longitudinal dividing-wall extending from the stack to a point near the opposite end of the furnace providing an opening for connecting the chambers formed by the dividing-wall, the superposed fire-grates located in each chamber at the stack end of the furnace, and the garbage grate-bars extending across the chambers on a line between the lower and upper fire-grates; substantially as described.

2. A garbage-furnace comprising a suitable stack and two separate chambers; said chambers communicating independently with the stack with dampers controlling said communications and having garbage-grates, and fire-grates located respectively above and below the garbage-grates in the ends of the chambers adjacent to the stack, and said chambers having communication, both above and below garbage-grates at their ends distant from the stack; substantially as and for the purpose set forth.

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Witnesses:

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