

(No Model.)

2 Sheets—Sheet 1.

J. B. WAYT.
GARBAGE FURNACE.

No. 523,699.

Patented July 31, 1894.

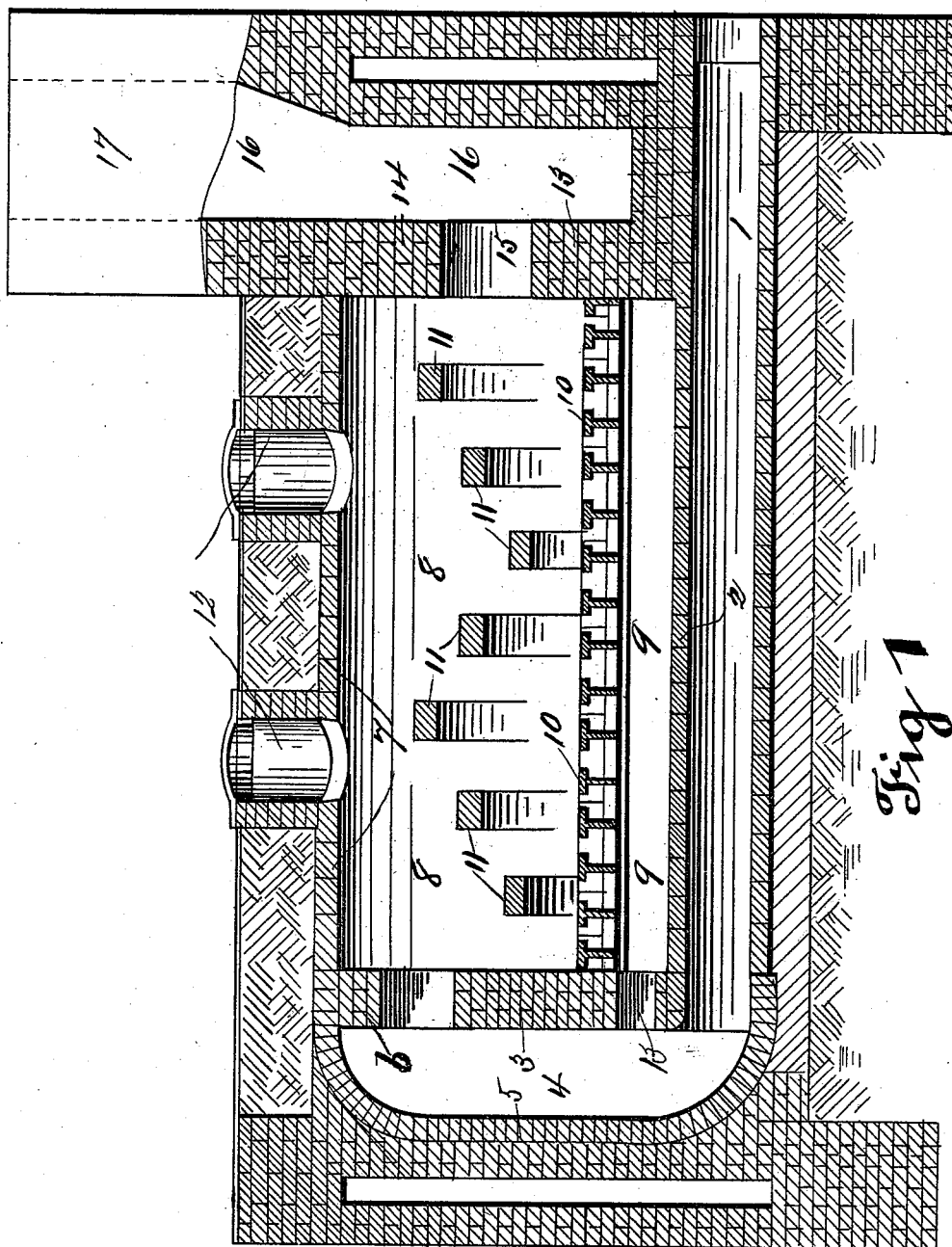


Fig. 1

Witnesses

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Geo. S. Smith

Inventor

James B. Wayt.
By *R. H. Russell* Attorney

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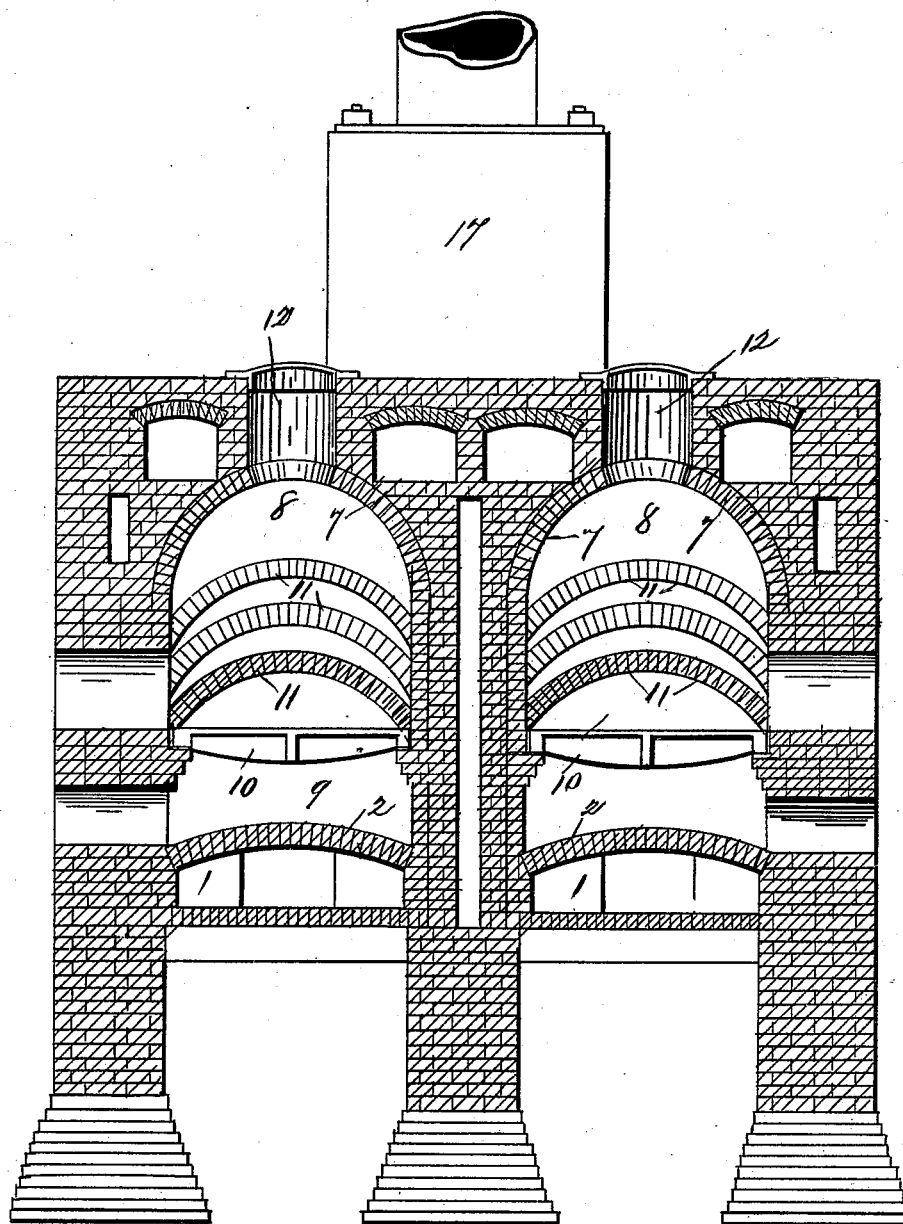


Fig 2

Witnesses

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By *his* Attorney
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UNITED STATES PATENT OFFICE.

JAMES B. WAYT, OF INDIANAPOLIS, INDIANA.

GARBAGE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 523,699, dated July 31, 1894.

Application filed November 4, 1893. Serial No. 490,196. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. WAYT, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Garbage-Furnaces, of which the following is a specification.

My invention relates to new and useful improvements in furnaces for burning garbage or other refuse matter, and consists in a novel arrangement of refuse burning chamber and the means for heating and burning the garbage in said chamber, and will be hereinafter more fully set forth.

The object of my invention is to provide a refuse burning furnace that will the more rapidly consume all matter of an obnoxious nature without emitting any disagreeable odor. I attain this object by means of the furnace illustrated in the accompanying drawings in which similar numbers of reference designate like parts throughout the several views.

Figure 1. is a longitudinal sectional elevation taken through the center of the garbage chamber and the heating furnace of the same, and Fig. 2. is a transverse sectional elevation of the same.

The main furnace 1 is surmounted by the arch 2 which is of fire-brick and extends longitudinally along the bottom of the structure toward the rear wall 3, and connects with the back-up-take 4, formed by said bridge wall 3, and the rear wall 5 of the furnace.

The deflecting arch 6, which is built into the arch 7. of the refuse chamber 8, is provided for the purpose of deflecting the flame and heated gases downwardly against the material in the chamber 8 to consume or reduce it to ashes. The chamber 9, below the chamber 8, is formed by the bars 10, and is provided for the purpose of receiving the ashes as they fall from said grates.

Within the chamber 8, are arranged a series of arches 11, arranged at different heights and distances apart, said arches being provided for the purpose of receiving and scattering or spreading the material within said chamber the more readily to consume it; said arches being of fire clay or other suitable refractory heat absorbing material and which owing to their positions within said chamber, are impinged against by the heated gases, as

they pass through the furnace, thereby intensifying the heat therein and having a great capacity for heat to desiccate and burn the material very rapidly by direct contact.

Over and on the top of the chambers 8, are the dumping holes 12, through which the refuse or other material to be consumed is introduced in the chamber 8. I provide the opening 13, formed in the bridge wall 3, and of much smaller area than the back uptake or the flue opening above the bridge wall 3, for the purpose of introducing a portion of the heated gases beneath the grates to evaporate all moisture that may be admitted into the ash-chamber 9, and to assist in drying the refuse in the chamber 8 from beneath and to accelerate its combustion.

The end wall of the furnace is formed of the bridge wall 13, and the arch wall 14, the latter arch wall being built in the arch 7, of the chamber 8 in such a manner as to bring the flue or consumed gas opening 15, beneath the level of the upper deflecting and refuse supporting arches 11, thereby causing the heated gases to flow downwardly and to impinge against any material resting on said supports 11, to rapidly consume it, said opening connecting with the stack or chimney 17. by which the consumed gases escape into the atmosphere.

It will be readily seen that with a furnace of this description that the flame and heated gases passing from the fire place 1, up through the uptake 4, into the chamber 8, will impinge against all the arches 11, which will all be intensely heated thereby confining the intensity of the heat in the garbage or refuse burning chamber to a very great extent, which being the case all material is at once consumed and all moisture escaping therefrom is at once decomposed into its elements and consumed rapidly without emitting any offensive odor to the atmosphere. The working of such a furnace is well known and needs no special description.

Having thus fully described the nature and construction of my invention, what I claim as new and useful, and desire to cover by Letters Patent of the United States therefor, is—

1. In a garbage furnace, the combination with an upper garbage chamber and a lower fire place extending longitudinally beneath

said garbage chamber, a back uptake connecting said fireplace to said garbage chamber below the crown or top thereof, a series of arches of a refractory material arranged at different heights and distances apart, a forward wall having a gas exit opening beneath the level of said chamber arches, and a suitable flue or stack for discharging the products of combustion, substantially as set forth.

2. In a garbage furnace, the combination with an upper garbage chamber and a lower fire chamber beneath said garbage chamber, a back uptake connecting said fire chamber to said garbage chamber, below the crown thereof, a series of arches of a refractory material arranged at different heights and distances apart, a grate extending along said garbage

chamber and beneath said arches thereof, and forming a lower chamber, a rear wall of said chamber having an opening connecting with said fire chamber, a forward wall having a gas exit opening connecting with said chamber and the exit flue and a suitable flue for discharging the products of combustion into the atmosphere, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. WAYT.

Witnesses:

THOMPSON R. BELL,
JNO. G. THURTL.