

(No Model.)

2 Sheets—Sheet 1.

A. BROWNLEE.
GARBAGE FURNACE.

No. 448,115.

Patented Mar. 10, 1891.

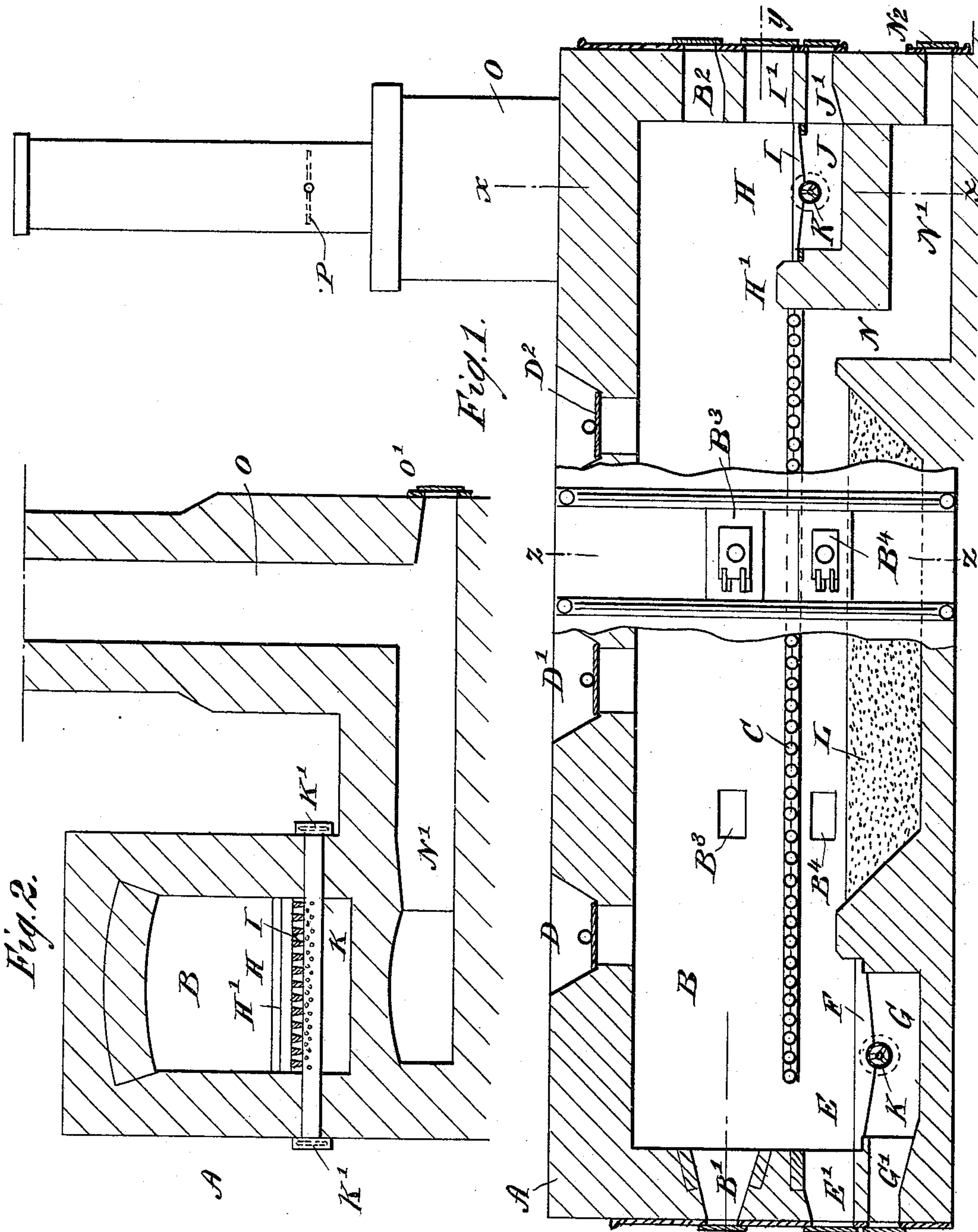


Fig. 2.

Fig. 1.

WITNESSES:

Don W. Twitchell
C. Sedgwick

INVENTOR:

A. Brownlee

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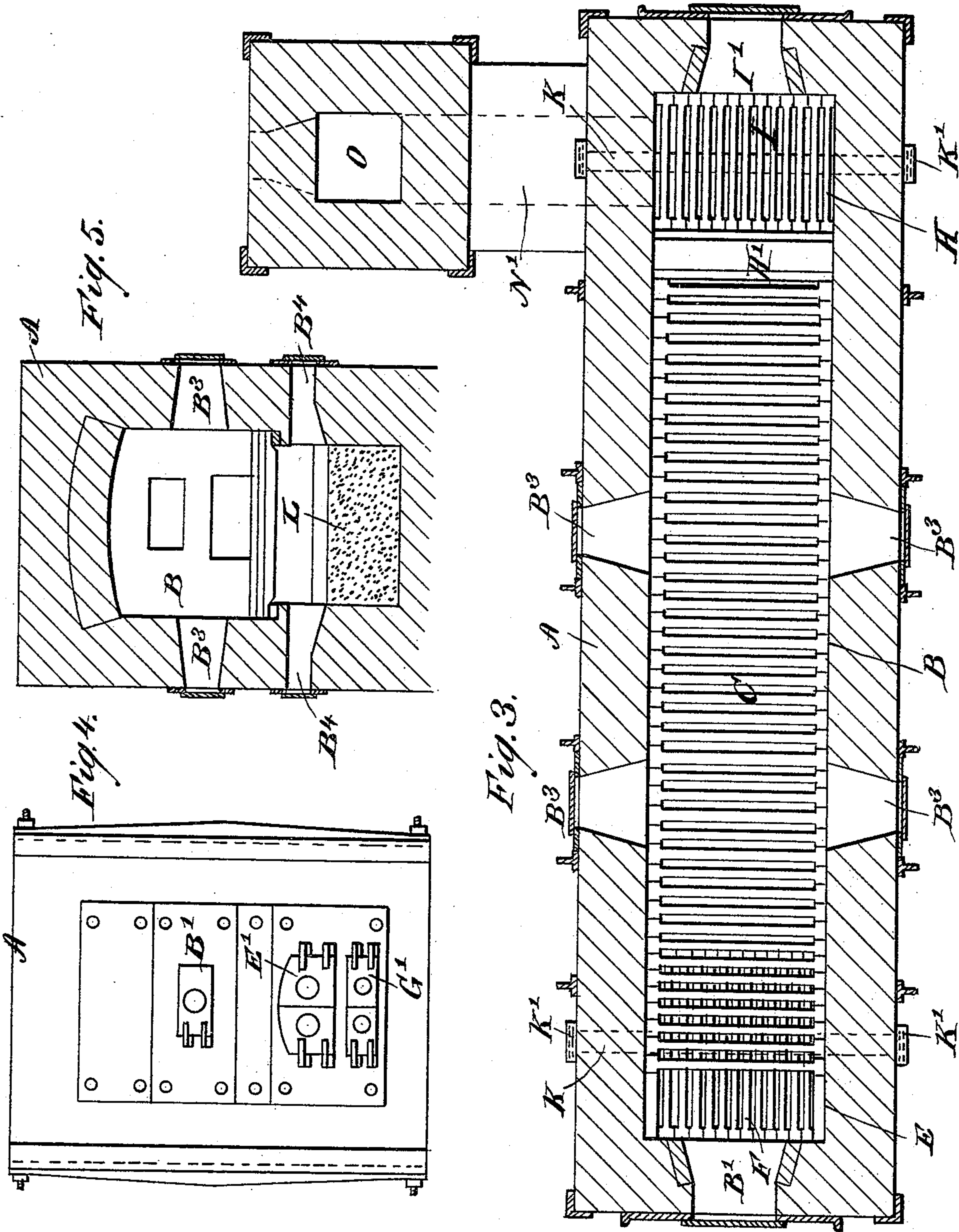
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UNITED STATES PATENT OFFICE.

ALEXANDER BROWNLEE, OF DALLAS, TEXAS.

GARBAGE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 448,115, dated March 10, 1891.

Application filed October 14, 1890. Serial No. 368,110. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER BROWNLEE, of Dallas, in the county of Dallas and State of Texas, have invented a new and Improved Garbage-Furnace, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved garbage-furnace, which is simple and durable in construction and very effective for burning dry or wet garbage.

The invention consists of a chamber provided with a grate and adapted to be charged from the top and two fire-boxes connected with the ends of the said chamber.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement with parts in elevation. Fig. 2 is a transverse section of the same on the line $x x$ of Fig. 1. Fig. 3 is a sectional plan view of the improvement on the line $y y$ of Fig. 1. Fig. 4 is an end elevation of the same, and Fig. 5 is a transverse section of the same on the line $z z$ of Fig. 1.

The improved garbage-furnace is provided with a casing A, built of suitable material and containing a chamber B, provided with a grate C, on which the garbage, which is introduced through feed-holes D, D', and D², is placed. The feed-holes are arranged in the top of the casing A and are provided with suitable doors, which can be readily opened and closed.

At one end of the grate C is arranged a fire-box E in communication with the chamber B and having its grate-bars F arranged somewhat below the end of the grate C. Below the grate-bars F is formed the ash-pit G, which as well as the fire-box E and the chamber B are provided with the usual inlets G', E', and B', respectively, formed in this end of the casing A. At the other end of the chamber B is arranged a fire-box H, having its grate-bars I arranged about on a level with the grate C, the latter being divided from the grate-bars I by the usual bridge-wall H'.

Below the grate-bars I is arranged the ash-pit J, which as well as this end of the chamber B and the fire-box H are provided with inlet-holes I', B², and J', respectively. Underneath the grate-bars F and I extend transversely the pipes K, each perforated and passing through the sides of the casing A. The outer ends of the pipes K are provided with suitable dampers K' for regulating the admission of air from the outside to the grate-bars F and I. The openings E' and I' serve to introduce the fuel into the grate-bars F and I, while the openings G' and J' permit removal of the ashes from the ash-pits G and J. The openings B' and B² serve to agitate or stir the garbage by suitable means at or near the ends of the grate C.

Below the grate C between the fire-boxes E and H is arranged an ash-pit L, filled with sand or other similar material and onto which liquid matter from the garbage can drip, to be evaporated by the sand contained in the said sand-box. In order to agitate the garbage in the middle part of the grate C, openings B³ are formed in the sides of the casing A, through which suitable instruments may be introduced for manipulating the garbage. In order to remove ashes or other matter from the top of the sand in the ash-pit L, openings B⁴ are formed in the sides of the casing A, through which the ashes or other matter can be removed from the sand in the ash-pit L.

Between the bridge-wall H' and the adjacent end of the ash-pit L is formed a downwardly-extending channel N, leading into a horizontally-extending channel N', extending to one side of the casing A and connecting with the lower end of the chimney O. The latter is provided with a suitable damper P for regulating the draft in the furnace. A door O' is also arranged in the lower part of the chimney O to clean the said chimney whenever necessary. A similar door N² is formed on the channel N' for the same purpose. It is understood that suitable doors are placed over the openings at the ends of the casing A.

The operation is as follows: In starting the furnace, fuel is introduced into the fire-boxes E and H and ignited on the grate-bars F and I, so that the chamber B is heated. Garbage is introduced through the several feed-holes

D, D', and D², the more liquid matter of the garbage being introduced through the central feed-hole D'. The heat emanating from the burning fuel on the grate-bars F and I heats the sand contained in the ash-pit L, so that the liquid matter dripping onto the said sand is quickly evaporated. The heat from the said grate-bars soon dries the garbage, and in order to facilitate the drying the garbage is frequently agitated with suitable tools introduced through the end openings B' and B² and side openings B³. The garbage near the fire-boxes E and H naturally dries the quickest, and when in a very dry state can be raked onto the fuel of the grate-bars F and I, so as to be burned thereon. Thus the garbage forms part of the fuel for drying the rest. Smoke, gases, fumes, &c., arising from the burning fuel and from the garbage pass into the channel N, and from the latter through the channel N' into the chimney O to escape to the air. The necessary air for combustion for the fire-boxes E and H is furnished through the perforated pipes K, extending to the outside. The furnace is continually charged with new garbage, so that the burning may be kept up uninterruptedly for any desired length of time.

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

1. A garbage-furnace comprising a chamber having a grate for the reception of the garbage, a fire-box at each end, and a sand-box between the fire-boxes below the grate, substantially as described.

2. A garbage-furnace comprising a chamber

having feed-openings in its top, a fire-box at each end and in different planes, a sand-box between the fire-boxes, and a grate for the reception of the garbage, said grate being arranged in about the same horizontal plane with the grate-bars of one fire-box and extending partly over the grate-bars of the other fire-box, substantially as described.

3. In a garbage-furnace, the combination, with a casing provided with a fire-box at each end and in different horizontal planes, of a sand-box between the fire-boxes, a grate extending from the bridge-wall of one fire-box to and partially over the grate-bars of the other fire-box, and a channel between the sand-box and bridge-wall and extending below the fire-box to the chimney, substantially as herein shown and described.

4. In a garbage-furnace, the combination, with the casing A, provided with openings in its top, sides, and ends, of the fire-boxes E H at opposite ends of the casing and in different planes, the fire-box H being provided with the bridge-wall H', the grate C, extending from the bridge-wall H' to and partially over the grate-bars of the fire-box E, the sand-box L below the grate and between the fire-boxes, and the channels N N', leading down between the bridge-wall H' and the sand-box L below the ash-pit of fire-box H to the chimney, substantially as herein shown and described.

ALEXANDER BROWNLEE.

Witnesses:

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L. A. SMITH, Jr.