

E. HELLER.
GENERATOR FURNACE.
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1,022,480.

Patented Apr. 9, 1912.

Fig. 1.

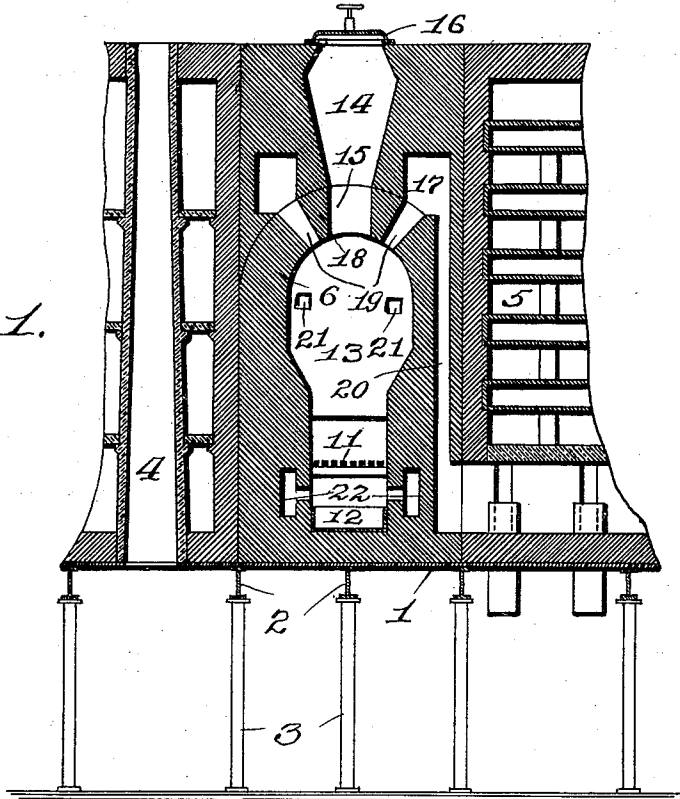
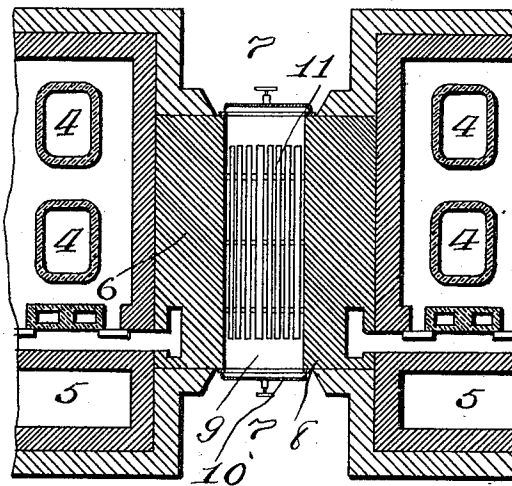


Fig. 2.



WITNESSES:
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ERNST HELLER, OF ST. LOUIS, MISSOURI.

GENERATOR-FURNACE.

1,022,480.

Specification of Letters Patent.

Patented Apr. 9, 1912.

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To all whom it may concern:

Be it known that I, ERNST HELLER, a subject of the Emperor of Germany, and resident of St. Louis, Missouri, have invented
5 certain new and useful Improvements in Generator-Furnaces, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part
10 hereof.

My invention relates to improvements in generator furnaces for producing gas for heating retorts, the object of my invention being to generally improve the construction
15 of the furnace and its setting and to arrange it in such relation to the retort settings that there will be a maximum of operating space at each end of the furnace and a maximum of operating space beneath the retorts and
20 furnace.

With the above purposes in view my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described,
25 pointed out in the claims and illustrated in connection with vertical retort settings by the accompanying drawing, in which—

Figure 1 is a vertical, sectional elevation through the furnace and shows its relation
30 to a pair of retorts; and Fig. 2 is a sectional plan illustrating my improved furnace between a pair of retorts.

Referring by numerals to the accompanying drawings: 1 designates the platform or
35 cast iron base plates for the furnace and retort settings, 2 designates I-beams and 3 supporting columns for the platform.

4 designates vertical retorts which are built in any common manner upon the platform and have regenerators 5 of common
40 construction.

6 designates the furnace proper which, as shown, is supported on the platform and, as shown in Fig. 2, is of less length than the
45 retort settings, so that there is an operating space 7 at each of its ends between the retort settings and upon the platform. At each end of the furnace in walls 8 there is an opening 9 affording access to the furnace
50 for purposes of stoking or removing clinkers and the like, which openings are closed airtight by doors such as 10. The furnace is supplied with grates 11 which may be of

any ordinary construction and beneath which there is an ash pit 12 and above
55 which, inclosed by the walls of the furnace, is the fire chamber 13. Extending lengthwise of the furnace there is a chamber 14 for containing a supply of fuel, said chamber being in communication with the fire
60 chamber through a slot 15 extending the length of the fire chamber. Arranged over the top of the supply chamber 14 to feed said supply chamber are filling doors such
as 16. 65

17 designates fire gas flues, one on each side of the generator arch 18. Each fire gas flue is in connection with the fire chamber 13 through several apertures 19. Through
70 these apertures the produced fire gases enter the flues 17 and are led down passage ways 20 to the combustion chamber of the retort settings.

21 designates openings in both end walls 8 which control the heating gas apertures
75 19 and through these the fire gas passes to the flues 17. Said openings are usually closed by means of stoppers or air-tight doors.

22 designates primary air flues, which lead
80 the preheated air under the grate of the furnace.

For horizontal retort settings the arrangement would be the same as described, with the omission of the platform. 85

I claim:

1. The combination of the spaced-apart retort settings, the furnace arranged between the retort-settings, and clinker doors for providing access to the interior of the
90 furnace at each of its ends.

2. The combination of the spaced-apart retort-settings the furnace of less length than the retort-settings, and arranged between the retort-settings, and clinker doors
95 for providing access to the interior of the furnace at each of its ends.

3. The combination of the spaced-apart retort-settings, a furnace arranged between the retort-settings, clinker doors for providing
100 access to the interior of the furnace at each of its ends, and a filling-door at the top of the furnace.

4. The combination of the spaced-apart retort-settings, a furnace arranged between
105 the retort-settings, clinker doors for provid-

ing access to the interior of the furnace at each of its ends, a fuel magazine arranged the full length of the furnace over the fire chamber, a filling door at the top of said
5 magazine and means for conducting the fire gases from each side of the furnace for separate and independent uses.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

ERNST HELLER.

Witnesses:

E. L. WALLACE,
JOHN C. HIGDON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
