

No. 848,321.

W. PINNEY, DEC'D. PATENTED MAR. 26, 1907.
J. W. PINNEY, EXECUTRIX.
SMOKE CONSUMER.
APPLICATION FILED MAR. 22, 1906.

2 SHEETS—SHEET 1.

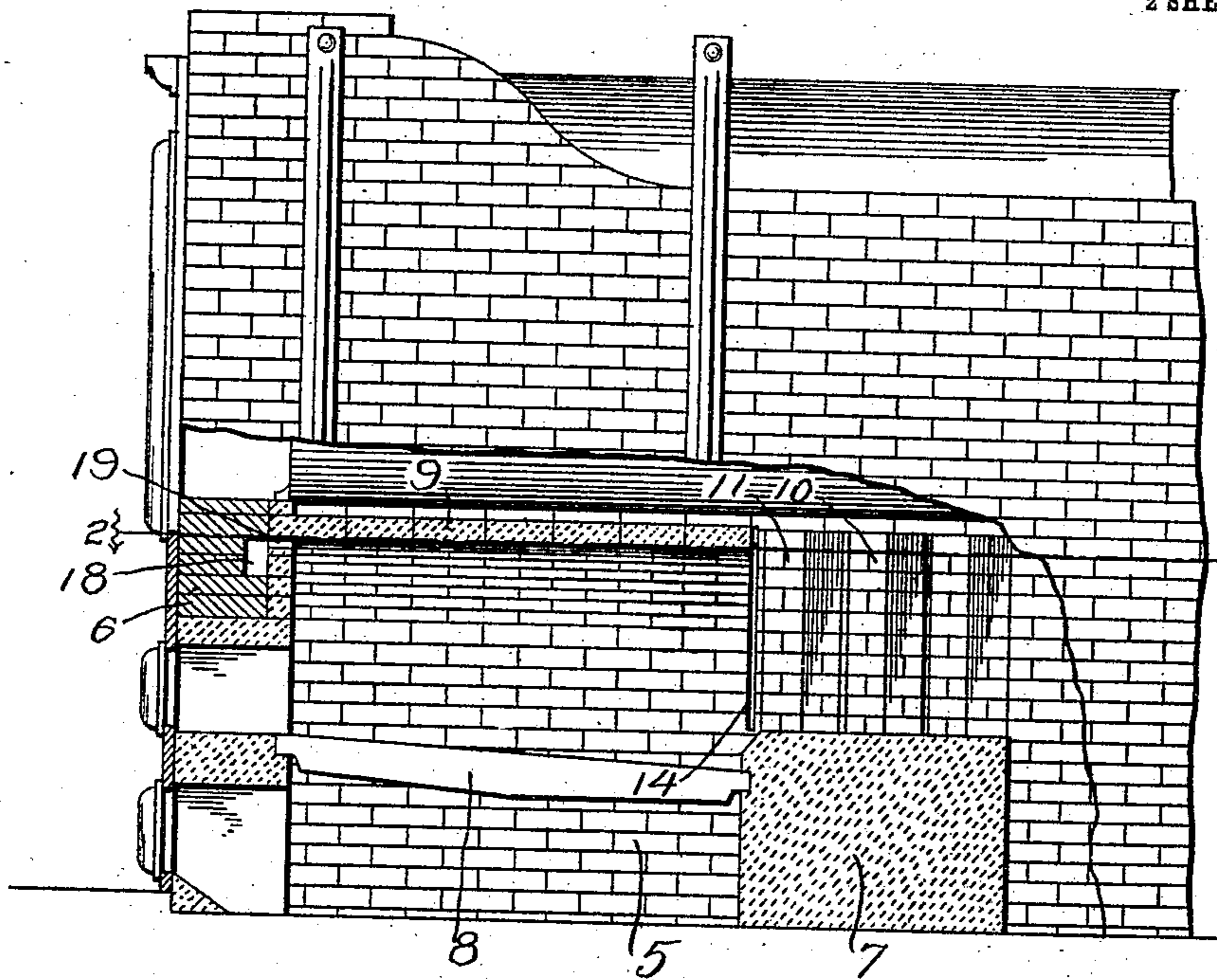


Fig. 1.

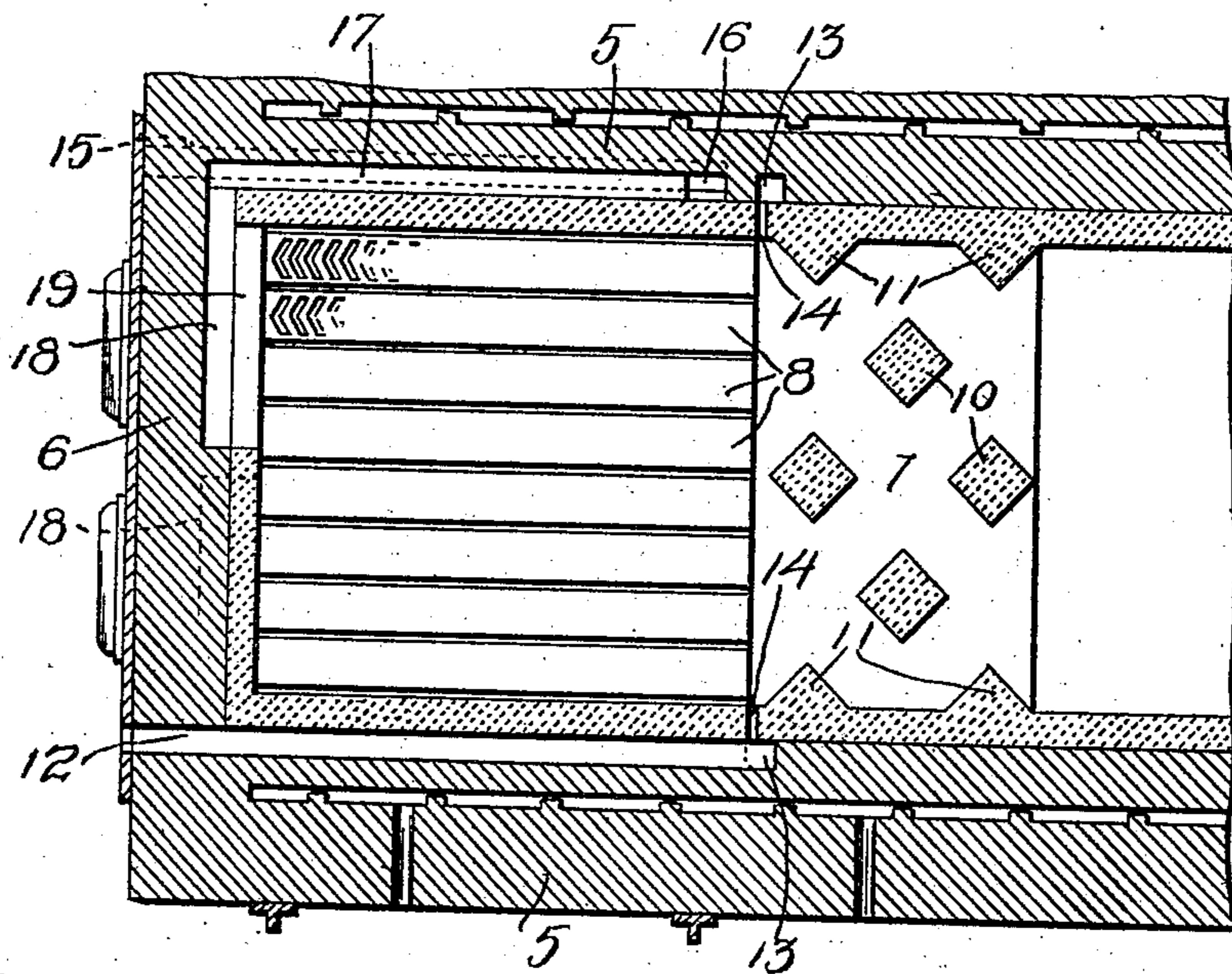


Fig. 2.

WITNESSES:
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J. C. Jones

INVENTOR
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executrix of the estate of
W. Pinney.
BY *[Signature]* Attorneys

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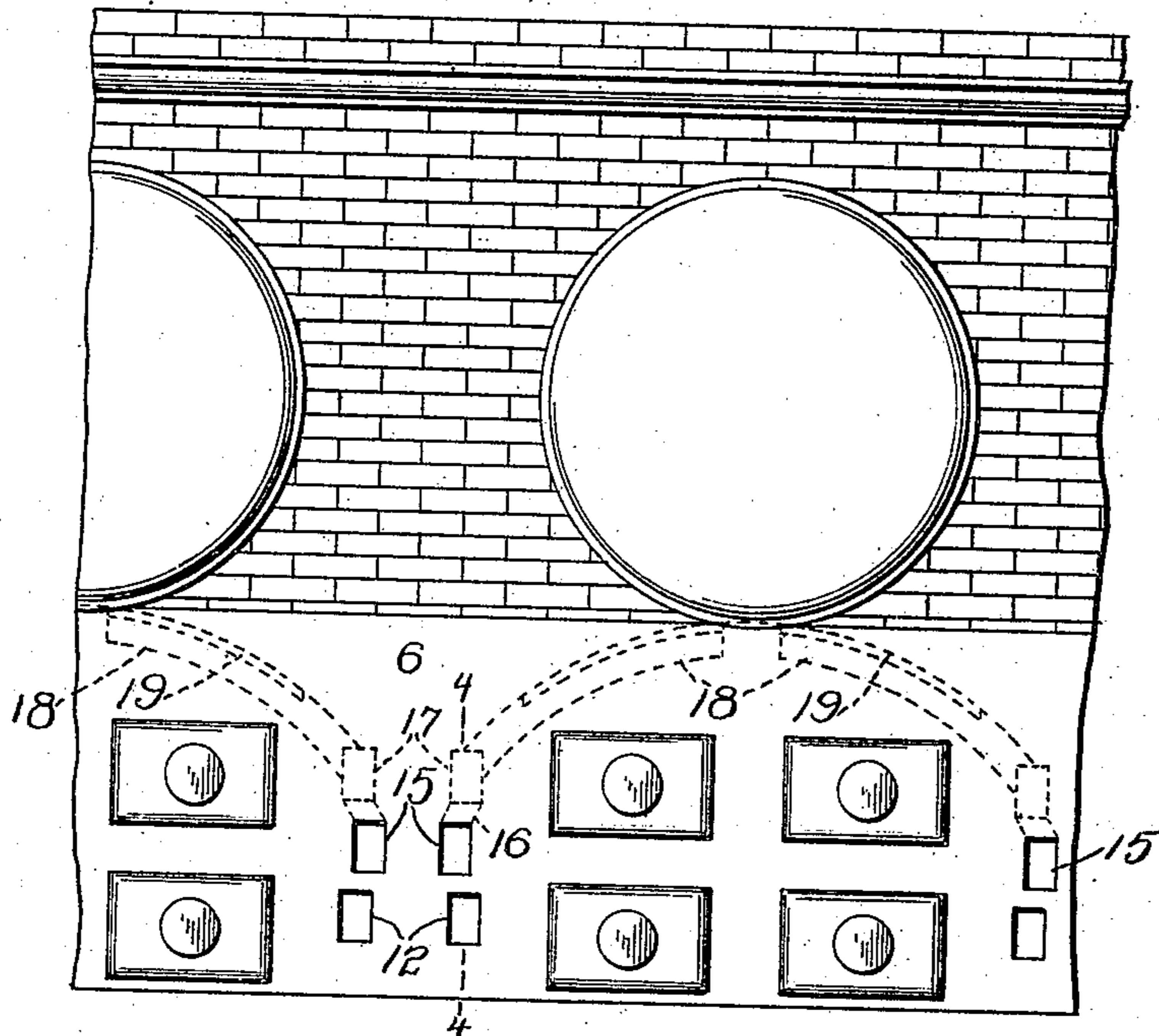


Fig. 3.

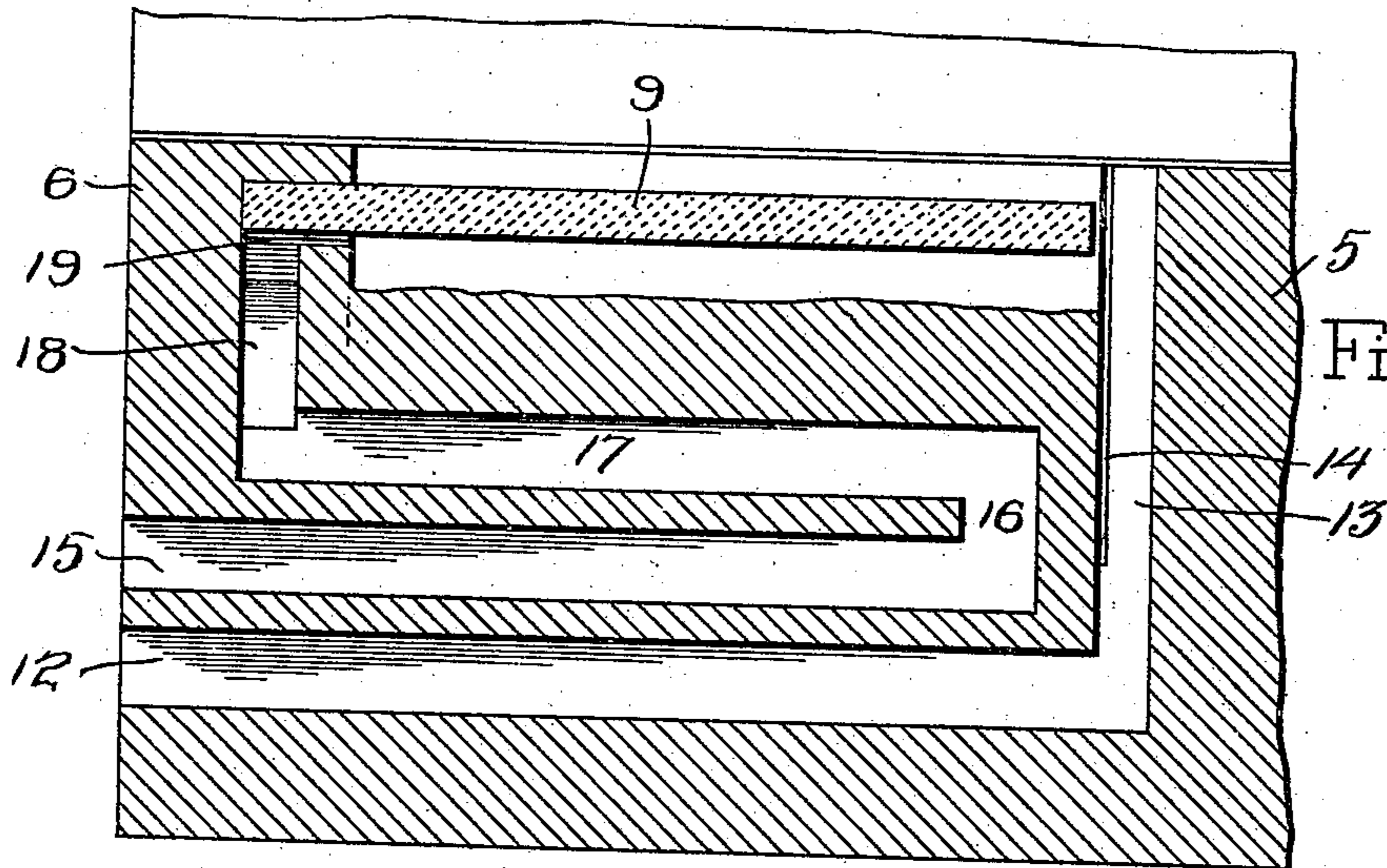


Fig. 4.

WITNESSES:

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By

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UNITED STATES PATENT OFFICE.

JEMIMA W. PINNEY, OF SALT LAKE CITY, UTAH, EXECUTRIX OF WILLIAM PINNEY, DECEASED.

SMOKE-CONSUMER.

No. 848,321.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed March 22, 1906. Serial No. 307,548.

To all whom it may concern:

Be it known that WILLIAM PINNEY, deceased, late a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, did invent certain new and useful Improvements in Smoke-Consumers, and I, JEMIMA W. PINNEY, executrix, do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to smoke-consumers, and has for its object to provide a boiler-furnace of such construction that currents of air will be admitted above and in rear of the grate of the furnace to cause complete combustion of the fuel.

With the above and other objects in view the present invention consists in the construction and arrangement of parts shown in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view through a portion of a boiler-furnace embodying my invention. Fig. 2 is a horizontal sectional view on the line 2 2 of Fig. 1. Fig. 3 is a front elevation of the furnace, parts being broken away; and Fig. 4 is a detail vertical sectional view on the line 4 4 of Fig. 3.

Referring to the drawings, the numeral 5 denotes the side walls of the boiler-furnace, and 6 the front wall thereof.

Extending from one of the side walls to the other is the usual bridge-wall 7, and secured at their ends in the said bridge-wall 7 and the front wall of the furnace are grate-bars 8.

Located in the fire-box of the furnace above the grate-bars is the usual fire-brick arch 9.

Extending upwardly from the bridge-wall 7 to the top of the fire-box are baffle-piers 10, the said baffle-piers 10 being placed with their vertical edges directed toward the side and front and rear walls of the furnace. Extending inwardly from opposite points upon the side walls of the furnace at the point of location of the adjacent wall 7 are baffle-piers 11, which are each substantially in the form of a half of one of the baffle-piers 10.

Formed in the side walls 5 of the furnace are flues 12, which open through the front wall of the furnace and which extend rearwardly and thence upwardly, as at 13. The upwardly-directed portions of the flues 12

open through slots 14, formed through the fire-brick lining of the furnace, the said slots communicating with the fire-box directly in advance of the foremost baffle-piers 11.

Flues 15 open through the front wall of the boiler-furnace slightly above the flues 12 and extend rearwardly and thence upwardly, as at 16, after which they extend forwardly in spaced parallel relation to their rearwardly-extending portions. The flues 15 thence extend upwardly, as at 18, and toward each other in the arc of a circle and in a line with the lower face of the fire-brick arch 9. The curved portion of each of the flues communicates with the fire-box directly beneath the arch 9 by means of a slot 19, formed through the lining of the front wall of the furnace.

From the foregoing it will be seen that air is admitted through the said flues and is directed into the fire-box of the furnace above and forwardly of the grate and rearwardly and to each side of the same to insure perfect combustion of the fuel, thereby preventing smoking of the furnace.

What is claimed is—

1. A furnace of the class described including front and side walls, a bridge-wall, a grate, an arch located above said grate, baffle-piers located upon said bridge-wall, means for admitting air to each side of said grate and above the same and in advance of the said baffle-piers, and means for admitting air beneath said arch, said last-named means being located within the front and side walls and opening through the said front wall.

2. A furnace of the class described including front and side walls, a bridge-wall, a grate, an arch located above said grate, and baffle-piers located upon said bridge, said side walls being provided with passages for admitting air to each side of said grate and above the same and in advance of the said baffle-piers, said passages opening through the front wall of the furnace, and the front wall being provided with passages for admitting air beneath the said arch.

In testimony whereof I affix my signature in the presence of two witnesses.

JEMIMA W. PINNEY,
Executrix of the estate of William Pinney, deceased.

Witnesses:

LAVENIA M. ANGELL,
A. J. SOWN, Jr.