

(No Model.)

2 Sheets—Sheet 1.

W. OEHLSTROM.
SMOKE CONSUMING FURNACE.

No. 483,237.

Patented Sept. 27, 1892.

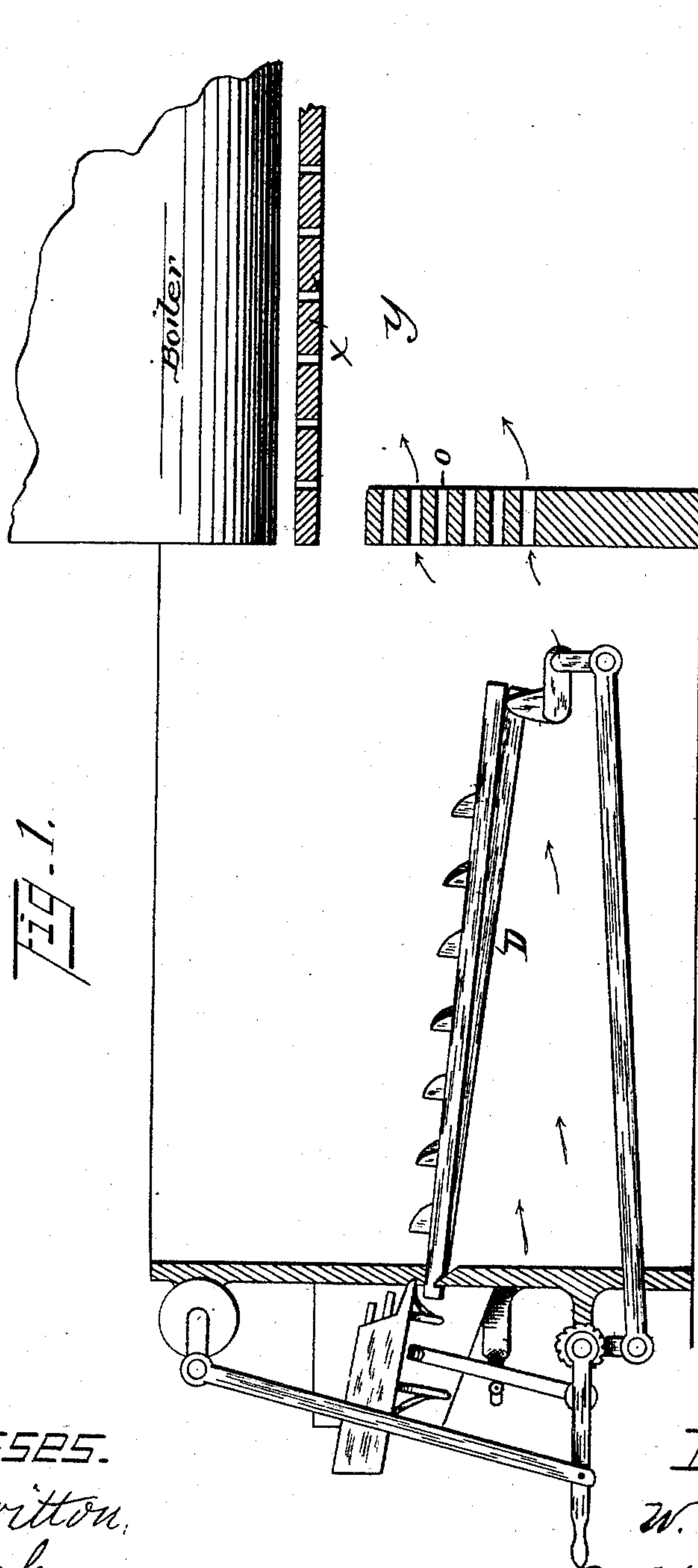


Fig. 1.

Witnesses.

W. Britton.
L. C. Fish

Inventor.

W. Ohlstrom

By W. B. Burdick atty.

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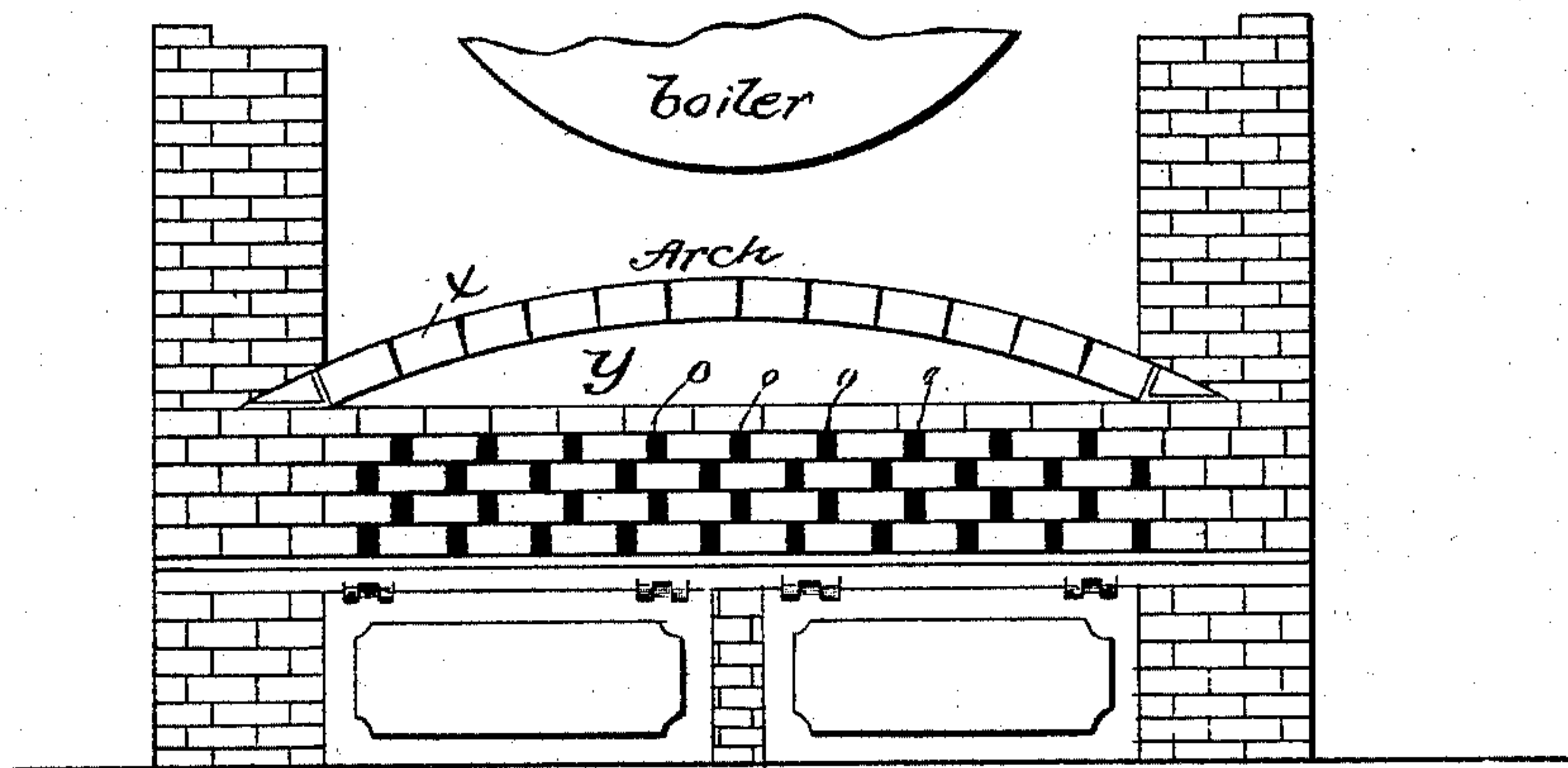


Fig. 2.

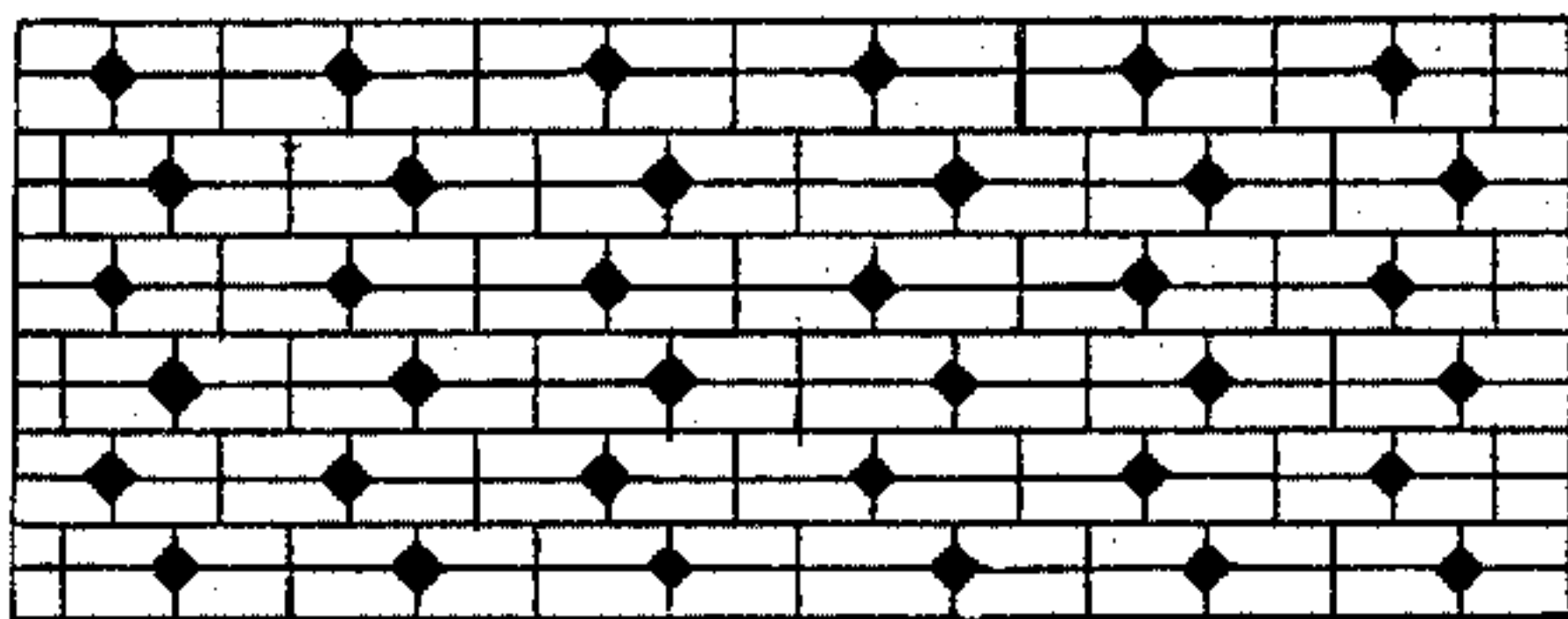


Fig. 3.

Witnesses
G. H. Schneider
H. R. Coates

Inventor
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By W. H. Burridge
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM OEHLSTROM, OF CLEVELAND, OHIO.

SMOKE-CONSUMING FURNACE.

SPECIFICATION forming part of Letters Patent No. 483,237, dated September 27, 1892.

Application filed July 16, 1890. Serial No. 358,898. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM OEHLSTROM, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new Improvements in Smoke-Consuming Furnaces, of which the following is a full description.

The invention relates particularly to the arrangement of a perforated bridge-wall combined with a perforated arch extending rearwardly therefrom under the boiler, so that an air-chamber is formed for commingling the products of combustion with the air in order to consume said products thoroughly.

In the drawings, Figure 1 is a longitudinal sectional view through my boiler-furnace. Fig. 2 is a front view of the perforated bridge-wall, the arch, and a part of the boiler. Fig. 3 is a plan view of part of the arch.

The grate is shown at D.

The bridge-wall, being perforated, as indicated at *o*, admits of the inflammable gases from the furnace passing through said perforations into the heating-chamber Y, which is between the top of the bridge-wall and below the arch *x*, (said heating-chamber extends from the bridge-wall to the rear end of the boiler,) and the exterior air passes in through the doors under the furnace and bridge-wall, also into the heating-chamber on the opposite side of the bridge-wall from the furnace, and in this heating-chamber the air and inflammable gases therein are combined and a combustion thereof takes place, and passing through the openings in the arch commingles

with the smoke and inflammable products of combustion from the furnace, and there combining above the arch results in a consumption of all the available results from the furnace, which are thus utilized in increasing the degree of heat under the boiler and arresting the discharge of smoke and soot from the stack.

The air for combustion enters the furnace through any suitable inlets at the front. These, being well known, are not shown in the drawings.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a boiler-furnace, the combination of the grate, the bridge-wall having perforations whereby the air passing beneath the grate may pass therethrough and into the air-chamber Y, and the perforated arch extending at a slight distance below the boiler longitudinally thereof and rearward from the bridge-wall, whereby the products of combustion mingling with the air in the chamber Y and igniting will be utilized to heat the boiler by passing through the perforations in the arch and consuming the smoke passing between the perforated arch and the bottom of the boiler, substantially as described.

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

WILLIAM OEHLSTROM.

Witnesses:

W. H. BURRIDGE,
W. F. WITTICH,