

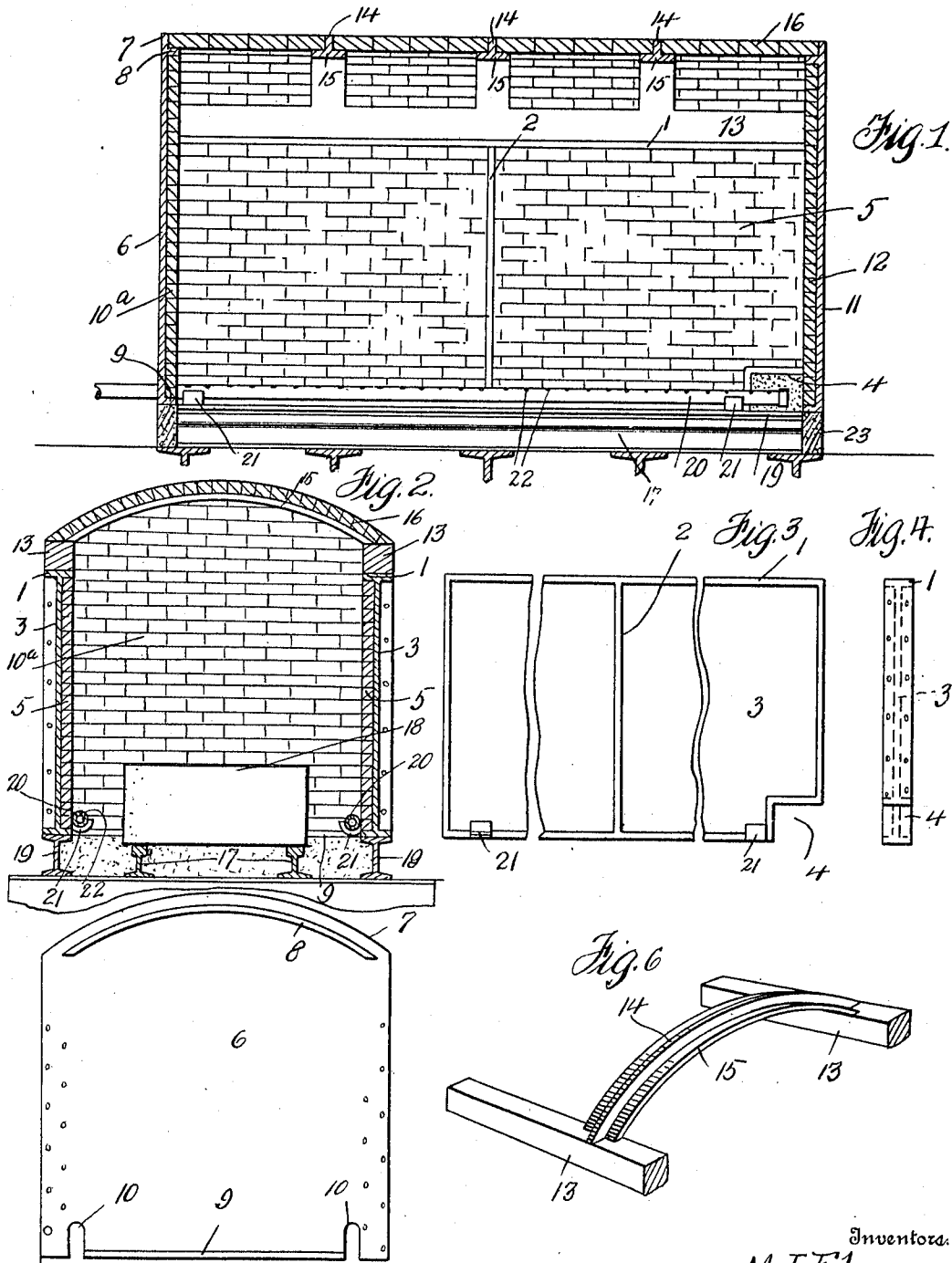
M. J. ELMER & J. FIELD.

OVEN.

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945,382.

Patented Jan. 4, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

MATTHEW J. ELMER AND JOHN FIELD, OF PITTSBURG, PENNSYLVANIA.

OVEN.

945,382.

Specification of Letters Patent.

Patented Jan. 4, 1910.

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To all whom it may concern:

Be it known that we, (1) MATTHEW J. ELMER and (2) JOHN FIELD, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ovens, of which the following is a specification.

This invention relates to certain new and useful improvements in ovens, and the invention has for its primary object to provide a portable oven that can be advantageously used in mills or shops where it is desirable to subject articles, as molds to the action of heat.

Another object of the invention is to furnish oven units easily and quickly assembled to provide a strong and durable structure.

A further object of the invention is to provide a furnace wherein gas, either natural or artificial, can be utilized as a heating medium to obtain a desired degree of heat for treating various articles over which the oven is placed.

These and such other objects as may hereinafter appear are attained by a structure that will be presently described in detail and then claimed, and reference will now be had to the drawing forming part of this specification, wherein,

Figure 1 is a longitudinal sectional view of an oven constructed in accordance with my invention, Fig. 2 is a cross sectional view of the same, Fig. 3 is a side elevation of one of the side walls, Fig. 4 is an end view of the same, Fig. 5 is an elevation of the rear wall of the oven, and Fig. 6 is a perspective view of a portion of the roof of the oven.

Each side wall comprises a metallic rectangular frame 1, having a central vertical brace 2, said frame being provided with a web 3 serving functionally as the body of the wall. The lower forward edge of the frame is cut away, as at 4, to afford easy access to the interior of the oven, for a purpose that will hereinafter appear. The frames 1 are lined with fire-brick 5 or a similar non-fusible material.

The rear wall comprises a metallic plate 6 having an upper curved edge 7. Adjacent to the edge 7 is a curved rib 8 and at the lower edge of said plate is a flange 9, said flange extending between slots 10 provided for a purpose that will presently appear. Between the rib 8 and the flange 9, fire-brick

10^a or a non-fusible material is placed. The front wall is similarly constructed with a plate 11 and fire-brick 12, only, the slots 10 are dispensed with.

The roof comprises longitudinal beams 13 adapted to rest upon the upper edges of the side walls, and connecting said beams are arched girders 14, substantially tee-shaped in cross section and providing lateral supporting flanges 15. The flanges 15 of the girders, together with the beams 13 support fire-brick 16 or a similar material. The brick at the ends of the oven roof rest upon the ribs 8 of the front and rear walls.

In order that material or molds can be supported in the oven whereby all parts of the molds will be subjected to the action of the heat within the oven, rails 17 are positioned within the oven to receive an article or mold 18, these rails also eliminating the necessity of turning, handling or disturbing the mold while being heated. To provide sufficient clearance for the rails 17, the walls of the oven are supported upon longitudinal I-beams 19 of a length corresponding to the side walls.

As a heating medium gas is used and is conveyed to the oven by burners or pipes 20 extending through the slots 10 of the rear wall, said pipes being supported by brackets 21, carried by the inner sides of the side walls, at the lower edges thereof. These pipes are perforated, as at 22, and extend to the cut away portions 4 of the side walls, whereby the gas can be easily ignited from the exterior of the oven. The space between the beams 19 beneath the rear and front walls is closed by transverse bars 23 at the termination of the ends of rails 17, said bars being made of a non-fusible material.

After the oven is placed over the article 18 and the front wall placed in position, the cut away portions 4 of the side walls are sealed with a non-fusible material, whereby the heat units cannot escape during the heating operation.

The rear end of the oven or furnace can be riveted or otherwise secured to the rear ends of the side walls to form a permanent structure.

It is thought that the operation and utility of our invention are apparent from the foregoing description, and while in the drawings there is illustrated a preferred embodiment of the invention, it is evident that the structural elements thereof can be varied as

to the size, proportion and manner of assemblage without departing from the spirit or scope of the invention.

Having now described our invention what we claim as new, is:—

1. A portable oven consisting of side walls, front and rear walls, and a roof, said side walls comprising rectangular frames having the lower front edges thereof cut away, brackets carried by the inner sides of said frames, burners carried by said brackets and extending to the cut away portions of said side walls, a non-fusible material mounted upon the inner sides of said walls, said front and rear walls comprising plates, one of said plates being cut away to provide clearance for said burners, a non-fusible material carried by the inner sides of said front and rear walls, said roof comprising beams mounted upon said side walls, arch-shaped girders carried by said beams, and a non-

fusible material supported by said girders and the upper edges of said front and rear walls.

2. In a portable oven, the combination with rails for supporting a mold, of I-beams located at the outer sides of said rails, side walls carried by said I-beams, front and rear walls adapted to span said rails and inclose said mold between said side walls, a non-fusible material carried by the inner sides of said side walls, front and rear walls, an arched roof supported by said side walls, and burners supported by the lower inner edges of said side walls.

In testimony whereof we affix our signatures in presence of two witnesses.

MATTHEW J. ELMER.
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Witnesses:

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