A. MAEHLER.

SECTIONAL OVEN WALL.

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1,320,882.

Patented Nov. 4, 1919.

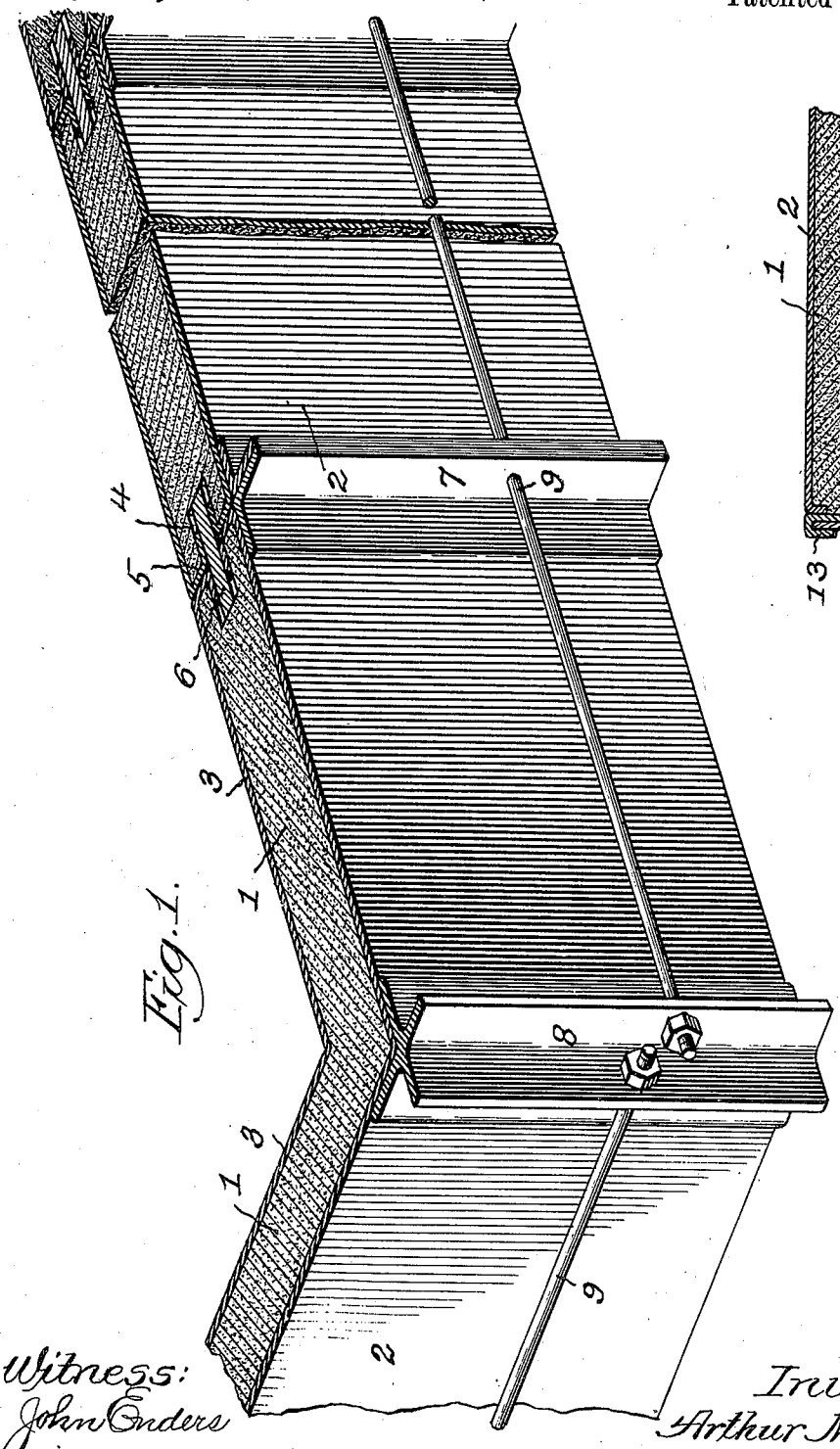


Fig. 1.

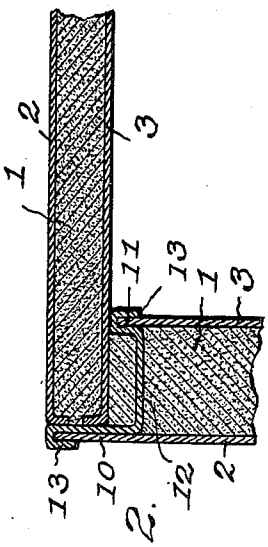


Fig. 2.

Witness:
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UNITED STATES PATENT OFFICE.

ARTHUR MAEHLER, OF CHICAGO, ILLINOIS.

SECTIONAL OVEN-WALL.

1,320,882. Specification of Letters Patent. Patented Nov. 4, 1919.

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To all whom it may concern:

Be it known that I, ARTHUR MAEHLER, a citizen of the United States of America, and a resident of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Sectional Oven-Walls, of which the following is a specification.

This invention relates to that class of walls for enameling and like ovens in which a plurality of metal clad slabs or plates constitute the walls and roof of the oven. And the present improvement has for its objects:—

To provide a structural formation and association of the non-conducting body or filling of a wall slab or plate and the sectional sheet metal casing thereof, whereby the inner and the outer sections of the sheet metal casing are attached to said body or filling in an effective and substantial manner, without heat conducting contact between said inner and outer sections, and with which a simple, non-conducting and effective connection between abutting ends of the slabs is attained.

To provide a structural formation of the upper end of the metal clad wall slabs or plates aforesaid, whereby an effective support and attachment is provided for a similar slab or plate arranged horizontally to constitute a roof portion of the oven, all as will hereinafter more fully appear.

In the accompanying drawing:—

Figure 1, is a sectional perspective view of a lower corner portion of an oven, illustrating the vertical wall structure of the present improvement.

Fig. 2, is a detail vertical section of an upper end of an oven, illustrating the roof connection of the present improvement.

Like reference numerals indicate like parts in both views.

Referring to the drawing, 1 designates the inner and main body or filler of a wall slab or plate formed of any usual and suitable non-combustible and non-conducting material or composition, and 2 and 3 designate the respective outer and inner sheet metal inclosing plates applied to the respective outer and inner faces of the body or filler 1 to constitute a metal clad wall slab. One part of the present improvement involves structural means whereby the sheet metal plates 2, 3, are attached to the body or filler 1 to protect the faces, corners and ends of the same without any direct heat conducting contact between said sheet metal plates, and accordingly consists as follows:

4 designates a rectangular groove extending longitudinally of the slab body or filling 1 and formed midway in an end of the same, and into which rebent folds 5 of adjacent ends of the outer and inner sheet metal plates are bent to embrace the outer and inner walls of said groove 4, with the innermost flanges of said folds 5 separated from each other by a longitudinal space adapted to receive the joining tongue or strip now to be described.

6 designates a joining tongue or strip of suitable non-combustible and non-conducting material or composition, and having a thickness equal to the aforesaid space separating the inner flanges of the folds 5, and a width equal to twice the depth of said space, so that when introduced into the spaces of two adjoining wall slabs or plates of the present construction, the said joining tongue 6 will form a tight, substantial and heat intercepting joint at the seam between said slabs or plates.

The above described construction is equally applicable to the usual plane rectangular slabs used as sectional members of the oven wall, as well as in the angularly formed corner members of said wall, as illustrated in Fig. 1.

7 designates structural metal angle bars attached to the wall slabs adjacent to the meeting edges thereof, and 8 designates a companion cross-shaped structural metal bar secured to an angularly formed corner wall slab, with the outstanding flanges of the said bars orificed to receive a plurality of horizontal tie rods or bolts 9, by which a sectional oven wall of the present construction is drawn together and held in a strong and substantial manner.

Another part of the present improvement involves a construction of the upper end of an aforesaid slab or plate, whereby a similar slab or plate used as a roof forming member, is supported in place in an effective and substantial manner, and consists as follows:

10 and 11 designate portions of the outer and inner sheet metal casing plates 2 and 3, extending a distance above the top of the body or filler 1, with the portion 10 having a greater vertical extension than the portion 11 as shown.

12 designates a sheet metal rider plate or

member formed with rebent folds 13, adapted to fit over the upper ends of the aforesaid casing portions 10 and 11, and when in position provide an angularly formed pocket to receive and support an end of a horizontally arranged metal clad slab or plate, used as a roof member, as illustrated in Fig. 2 and adapted to provide a tight, substantial and heat intercepting joint at such point in the wall structure of an oven.

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

1. A metal clad slab for oven walls, comprising a main non-conducting body formed with a longitudinal groove in its end face, and outer and inner metal casing plates formed with rebent folds adapted to embrace the outer and inner walls of said groove and separated by a space adapted to receive a joining tongue, substantially as set forth.

2. A metal clad slab for oven walls comprising a main non-conducting body, outer and inner metal casing plates attached to the opposite sides of said main body and provided with upper extensions of different heights, and a rider plate formed with rebent folds having engagement with said extensions and adapted to provide an angular pocket for the end of a roof slab, substantially as set forth.

3. In a sectional oven wall of the type described, the combination of a series of vertically arranged slabs formed with grooves in their meeting ends, outer and inner metal casing plates having engagement with said grooves, a joining strip fitting said grooves, angle bars secured to the meeting ends of said slabs, and tie bolts extending through flanges of said angle bars, substantially as set forth.

4. In a sectional oven wall of the type described, the combination of a series of vertically arranged flat slabs, an angularly formed corner slab, said slabs being formed with grooves in their vertical meeting ends, outer and inner metal casing plates having engagement with said grooves, joining strips fitting said grooves, structural metal angle and cross bars secured to the vertical edges and corners of said slabs, and tie rods extending through flanges of said bars, substantially as set forth.

Signed at Chicago, Illinois, this 6th day of June, 1919.

ARTHUR MAEHLER.