A. MAEHLER.

SECTIONAL OVEN.

APPLICATION FILED DEC. 13, 1919.

1,339,601.

Patented May 11, 1920.

Fig. 1.

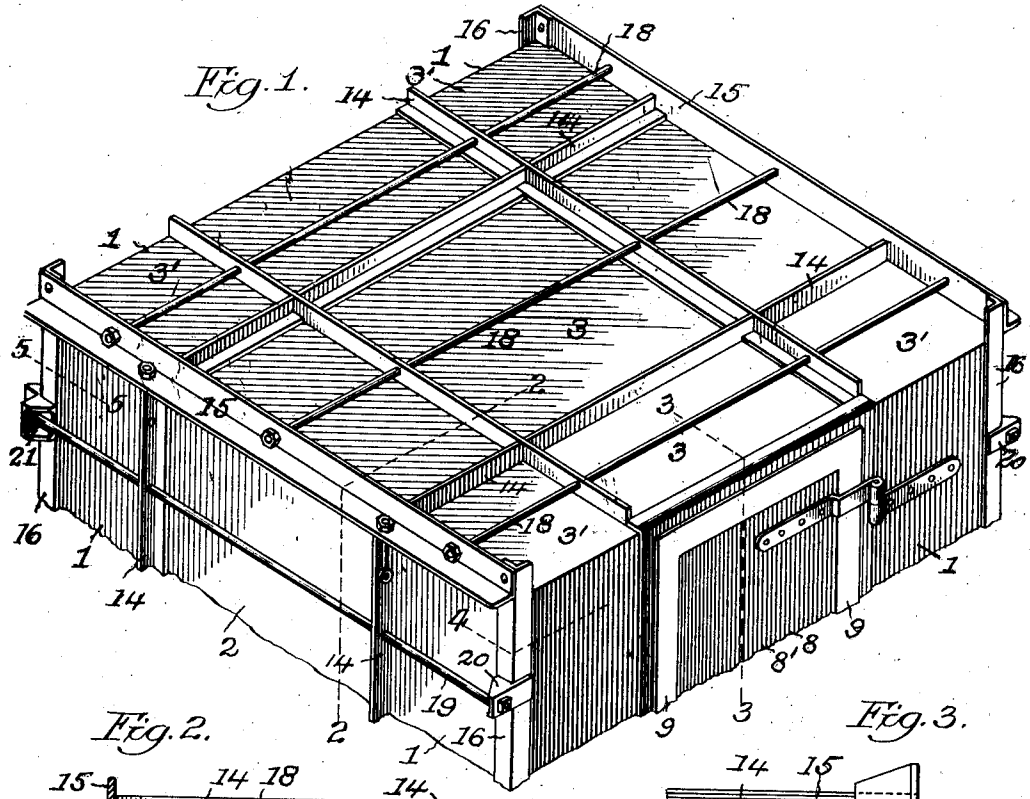


Fig. 2.

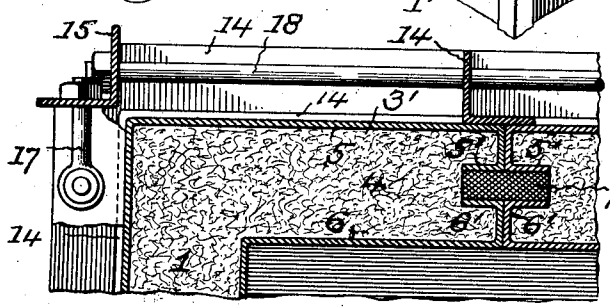


Fig. 3.

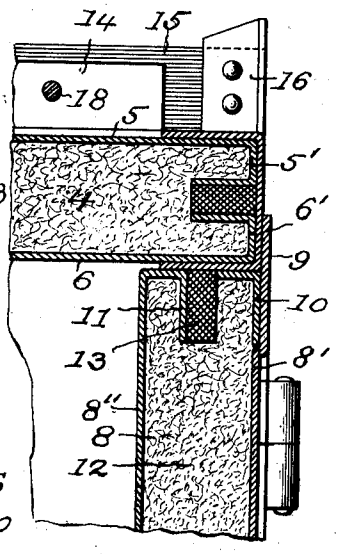


Fig. 5.

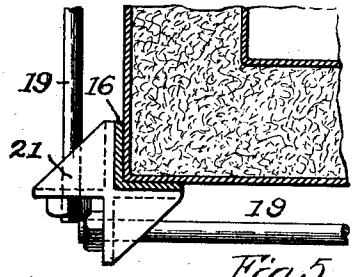
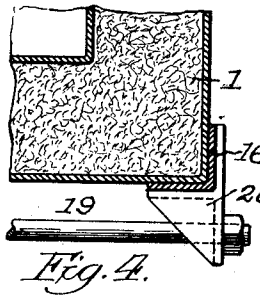


Fig. 4.



Witness:
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UNITED STATES PATENT OFFICE.

ARTHUR MAEHLER, OF CHICAGO, ILLINOIS.

SECTIONAL OVEN.

1,339,601. Specification of Letters Patent. Patented May 11, 1920.

Application filed December 13, 1919. Serial No. 344,743.

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 Ovens, of which the following is a specification.

This invention relates to that type of sectional insulated oven and like walls which constitutes the subject matter of my prior Letters Patent No. 1,320,882, dated Nov. 14, 1919, and has for its various objects:

To provide a simple and substantial formation of the corner forming sections of the oven, adapted for ready connection with adjacent wall and roof sections of the oven.

To provide means for effecting additional closure of the seams between the oven sections in a ready and effective manner, and which in addition is adapted to assist in maintaining said sections in properly alined position.

To provide a structural formation and association of parts whereby the oven sections are drawn together and substantially held in proper assembled relation.

To provide a structural formation and association of parts in the oven door, whereby an effective heat insulation is imparted thereto, all as will hereinafter more fully appear.

In the accompanying drawing:—

Figure 1, is a perspective view of the upper portion of a sectional oven embodying the present invention.

Fig. 2, is a detail vertical section on line 2.—2. Fig. 1.

Fig. 3, is a similar view on line 3.—3. Fig. 1.

Fig. 4, is a detail horizontal section on line 4.—4 Fig. 1.

Fig. 5, is a similar view on line 5—5. Fig. 1.

Like reference numerals indicate like parts in the several views.

As represented in the drawing the oven is composed of a series of corner sections 1, a series of intermediate wall sections 2, and a series of horizontal upper or roof sections 3, with all of the sections preferably of the detail construction set forth in my prior Patent No. 1,320,882, and each section comprising an inner slab or filler 4 of heat insulating material, and outer and inner inclosing plates 5 and 6 of metal secured to the slab or filler 4 by end folds 5′ and 6′ of said plates engaging in grooves in the ends of the slab or filler 4 in a manner to avoid direct heat conducting contact between said plates as shown more particularly in Fig. 2.

7 designates a joining tongue or strip of insulating material, which as in my former patented construction, fits the end grooves of adjoining oven sections to form a tight and substantial joint between said sections and maintain the same in proper alinement.

One portion of the present invention consists in forming the corner sections 1 of the oven with vertical members in angular relation to each other and with a top member 3′ of a rectangular form. Said vertical members and top member 3′ being of an integral formation, and with each member provided with the above described joining groove in the end which adjoins an adjacent section of the oven structure, as shown more particularly in Fig. 2.

Another portion of the present invention involves a door or closure member 8 for the oven, of substantially the same detail construction as the wall and roof sections above described with the addition thereto of marginal extensions 9 on the outer plate 8′ of the door member adapted to lap over the margins of the oven doorway or opening as illustrated in Fig. 3. In the preferred construction shown in said Fig. 3, the said outer plate 8′ will carry an angle bar or frame 10, which in connection with the infold 11 of the inner door plate 8″ will constitute the engaging means for said plates with the end grooves in the inner insulating slab or filler 12 of the door, as well as provide bearing surfaces for a filling strip 13 of insulating material.

Another part of the present invention comprises an angle bar 14 secured adjacent to a meeting end of an oven section, and adapted to overlap the like end of an adjoining oven section and afford a more complete closure of the joint between said sections, and maintain the same in proper assembled relation. In the preferred construction of the above described parts opposed pairs of the vertical angle bars 14 are integrally connected to corresponding upper horizontal bars 14′ to afford a strong and economical construction, and in such arrangement the bends at the meeting point of the vertical and horizontal portions are formed by slitting the outstanding web of the angle bar

and then bending the base web to the required angular relation, as shown more especially in Fig. 2. In addition to economy in manufacture such formation of parts provides a rectangular corner pocket adapted to receive top bracing angle bars now to be described.

15 designates bracing angle bars arranged at opposite top corners of the oven structure, and resting in the above described rectangular pockets of the angle bars 24. The bracing angle bars 15 are secured in place by attachment to the corner bracing bars 16 of the oven and by anchor bolts 17 connecting said bars 15 to the angle bars 14 aforesaid.

18 designates tie bolts extending across the top of the oven and passing through the bracing angle bars 15 and through roof angle bars 14 to tie and hold together the roof sections in proper assembled relation.

19 designates horizontal tie bolts passing through brackets 20 and 21 secured to the aforesaid corner bracing bars 16 of the oven to secure the vertical side sections of the oven together in manner substantially as set forth in my prior patent aforesaid.

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

1. A corner member for sectional ovens of the type described, comprising vertical portions in angular relation, and a rectangular top portion in angular relation to said vertical portions, said portions being integrally formed and provided with grooves in their joining ends for the reception of a joining strip, substantially as set forth.

2. A sectional oven of the type described, comprising a plurality of wall sections, a plurality of roof sections, and a plurality of corner sections, each corner section comprising vertical portions in angular relation and a rectangular top portion, said portions being integrally formed and provided with grooves in their joining ends for the reception of a joining strip, substantially as set forth.

3. A door for sectional ovens of the type described, comprising a filler slab of insulating material formed with grooves in its end faces, outer and inner plates having portions engaging in said grooves, and filler strips arranged in said grooves, the outer plate having marginal extensions beyond the filler slab, substantially as set forth.

4. A door for sectional ovens of the type described, comprising a filler slab of insulating material formed with grooves in its end faces, outer and inner plates associated with said slab, the inner plate having rebent portions engaging in the grooves of the slab and marginal extensions beyond the slab, and filler strips arranged in said grooves, substantially as set forth.

5. In a sectional oven of the type described, a section comprising a slab of insulating material formed with grooves in its end faces, inner and outer casing plates having engagement with said grooves, joining strips fitting said grooves, and an angle bar secured to a margin of said outer plate and overhanging the end of the slab in which a groove aforesaid is formed, substantially as set forth.

6. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges, each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, and angle bars secured to said sections and overlapping the meeting edges of the sections, substantially as set forth.

7. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges, each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, angle bars secured to said sections and overlapping the meeting edges of the sections, bracing angle bars arranged at the upper corners of the oven and attached to the angle bars aforesaid, and tie rods extending through said bracing angle bars substantially as set forth.

8. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges, each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, angle bars secured to said sections and overlapping the meeting edges of the sections, bracing angle bars arranged at the upper corners of the oven and attached to the aforesaid angle bars by anchor bolts, and tie rods extending through said bracing angle bars, substantially as set forth.

9. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges, each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, angle bars secured to said sections and overlapping the meeting edges of the sections, vertical bracing bars attached to the corners of the oven, bracing angle bars arranged at the upper corners of the oven and attached to the marginal angle bars and vertical bracing bars aforesaid, and tie rods extending through said bracing angle bars substantially as set forth.

10. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges,

each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, angle bars secured to said section and overlapping the meeting edges of the section, vertical bracing bars attached to the corners of the oven, and horizontal tie rods connecting said bracing bars together, substantially as set forth.

11. A sectional oven of the type described, comprising a series of wall and roof sections formed with grooves in their meeting edges, each wall section comprising a vertical portion and a horizontal portion integrally connected together, joining strips fitting the grooves aforesaid, angle bars, secured to said sections and overlapping the meeting edges of the sections, vertical bracing bars attached to the corners of the oven, horizontal tie rods connecting said bracing bars, together, bracing angle bars arranged at the upper corners of the oven and attached to the marginal angle bars and vertical corner bracing bars aforesaid, and tie rods extending through said bracing angle bars, substantially as set forth.

Signed at Chicago, Illinois, this 10th day of December, 1919.

ARTHUR MAEHLER.