G. A. YOUNG.

OVEN WALL.

APPLICATION FILED JUNE 5, 1916.

1,312,663.

Patented Aug. 12, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

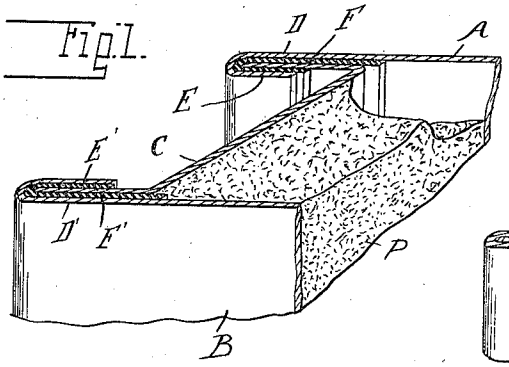



Fig. 2.

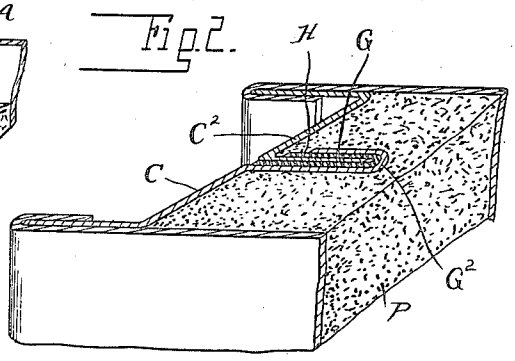



Fig. 3.

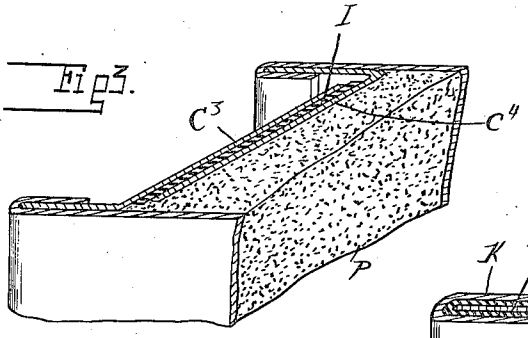



Fig. 4.

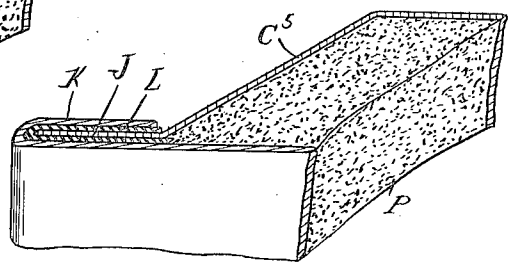
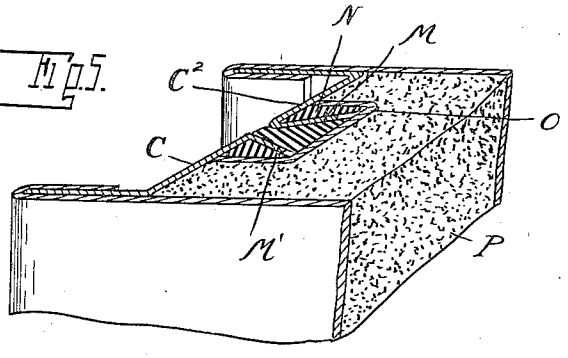



Fig. 5.




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2 SHEETS—SHEET 2.

Fig. 6.

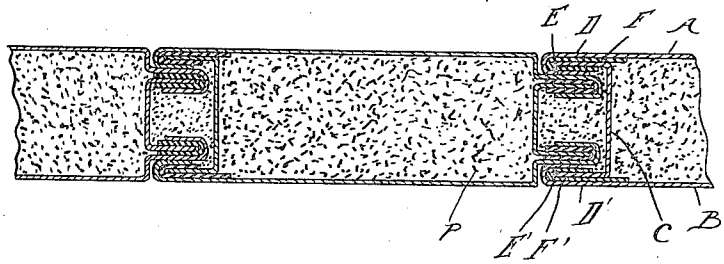



Fig. 8.

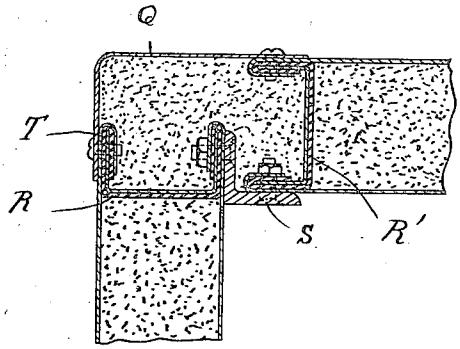
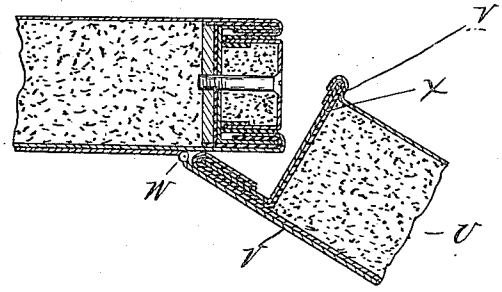



Fig. 7.




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# UNITED STATES PATENT OFFICE.

GEORGE A. YOUNG, OF DETROIT, MICHIGAN, ASSIGNOR TO YOUNG BROTHERS COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

## OVEN-WALL.

1,312,663. Specification of Letters Patent. Patented Aug. 12, 1919.

Application filed June 5, 1916. Serial No. 101,852.

*To all whom it may concern:*

Be it known that I, GEORGE A. YOUNG, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Oven-Walls, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to ovens of that type formed from sections, provided with outer and inner metallic walls and connecting edge strips. It is the object of the present invention to increase the efficiency of the heat-insulation, by so forming these sections as to avoid or limit to the minimum the metallic connection between the outer and inner walls, while at the same time maintaining the necessary mechanical strength.

In the drawings:

Figures 1 to 5 are perspective views showing portions of modified constructions of my improved oven wall;

Fig. 6 is a horizontal section showing two of the wall sections in engagement with each other;

Fig. 7 illustrates another modification; and

Fig. 8 illustrates a corner construction.

A is the outer wall of the section and B the inner wall thereof, both being formed of sheet-metal and being parallelly-arranged and spaced from each other. C is a cross strip connecting the inner and outer walls and forming in connection therewith a closure for the insulating air space. Instead, however, of connecting this strip so as to form a metallic or heat-conducting bridge between the inner and outer walls it is arranged in conjunction with non-metallic heat insulation, which will greatly lessen the heat conductivity.

Thus as shown in Fig. 1, the strip C is provided with the flanges D and D′, which engage the return-bent flanges E and E′ on the outer and inner walls. There is not, however, direct contact between these flanges, but a suitable heat-insulating material, such as asbestos, is placed between the adjacent flanges, as indicated at F and F′.

In the construction shown in Fig. 2, instead of a single strip C a pair of complementary strips C′ and $C^2$ are employed, said strips being in metallic engagement with the outer and inner walls, but having heat-insulation between each other. Thus as shown, the strip $C^2$ has a flange G and the strip C′ the return-bent flange $G^2$, heat-insulating material H being placed therebetween.

In Fig. 3, strips $C^3$ and $C^4$ are metallically engaged with the inner and outer walls and extend parallel to each other, heat insulation I being placed therebetween.

In Fig. 4 the construction is similar to Fig. 1, with the exception that one of the walls has the edge-strip $C^5$ integral therewith, and a flange J on this strip is engaged with the return-bent flange K on the other wall, with heat insulation L therebetween.

In Fig. 5 the complementary strips C′ and $C^2$ are provided with flanges M and M′, which are embedded in insulating material N capped by the channel member O.

With each of the constructions as above described, a closed air-chamber is formed between the outer and inner walls and the edge-strips, while heat conduction through said edge-strips is retarded by the interposed non-metallic heat insulation.

If desired, other heat-insulating material may be placed within the closed chamber, such as indicated at P, to prevent convection by the air and to further increase the efficiency.

To form a corner in the wall, the construction may be as illustrated in Fig. 8, in which Q is an outer angle sheet, R and R′ are channel strips, and S is a reinforcing angle or supporting post. These parts are assembled with heat insulation T between the adjacent metallic surfaces, so as to limit the heat conductivity.

In Fig. 7 a door construction is illustrated, in which U is the door section having the outer wall V thereof hinged at W to the outer wall of the stationary section. An angle strip X connects the outer and inner walls of the door, and heat insulation Y is folded into the seams, as shown.

What I claim as my invention is:—

1. In a heat insulating wall, a section comprising inner and outer spaced metallic plates and metallic edge strips, a flange on one engaging a return-bent flange on the adjacent member, and a sheet of flexible non-metallic heat insulation clamped between

said flange and return-bent flange for forming a sealed joint and interrupting the metallic continuity.

2. In a heat insulating wall, a unit section comprising outer and inner spaced metallic plates, one of said plates having a return-bent flange, a metallic edge strip extending between said plates and having a flange engaging said return-bent flange, and non-metallic heat insulation clamped between said flange and return-bent flange for forming a sealed joint and interrupting the metallic continuity, said joint flanges forming a projecting portion for overlapping an adjoining unit.

In testimony whereof I affix my signature.

GEORGE A. YOUNG.