

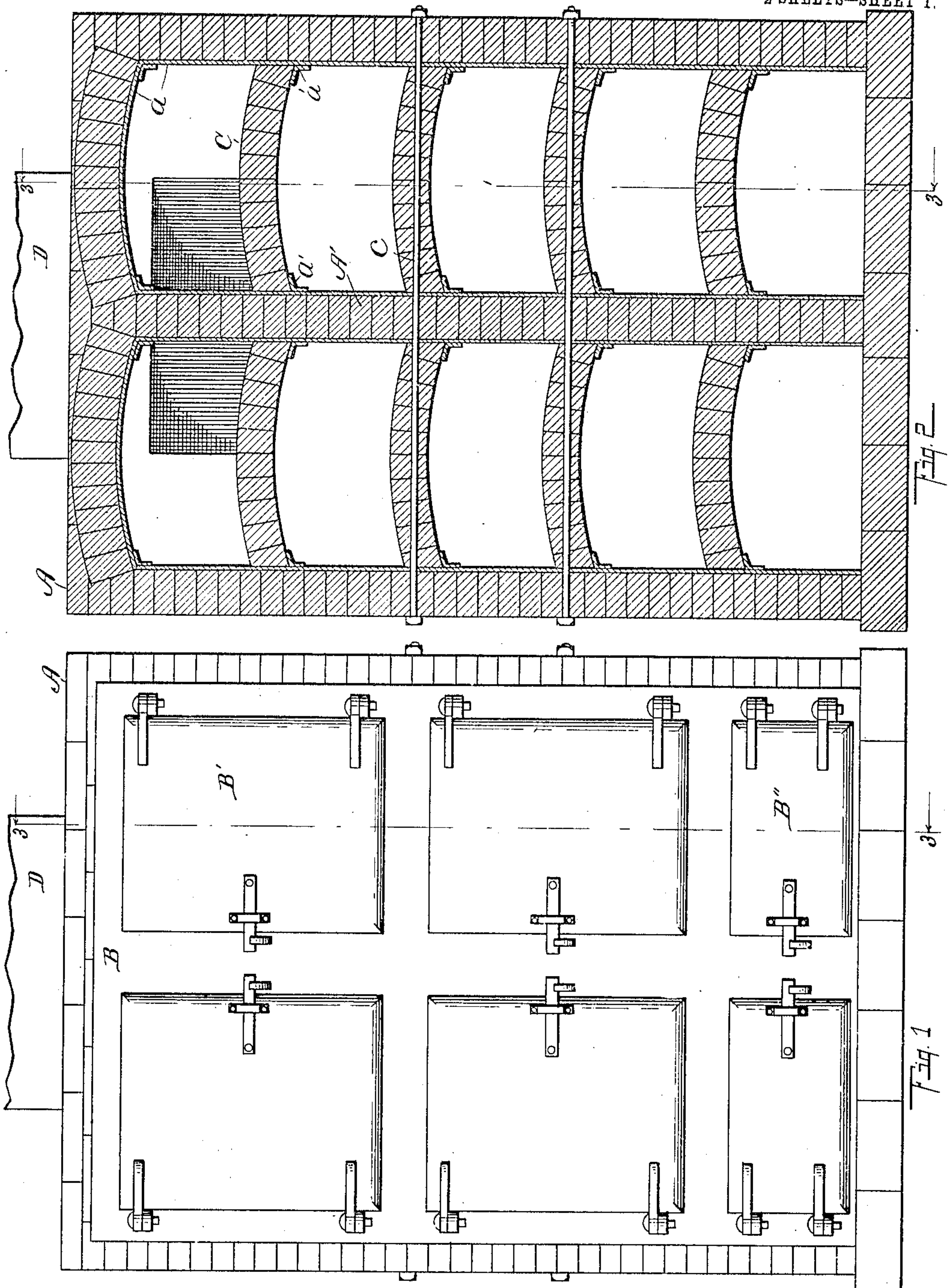
No. 871,854.

O. BEGUELIN.  
FURNACE.

PATENTED NOV. 26, 1907.

APPLICATION FILED JUNE 22, 1906.

2 SHEETS—SHEET 1.



Witnesses:

*A. J. Adams*  
*Lulu G. Greenfield*

Inventor.

*Oscar Beguelin*  
By *Chappell & Earl*  
Att'ys



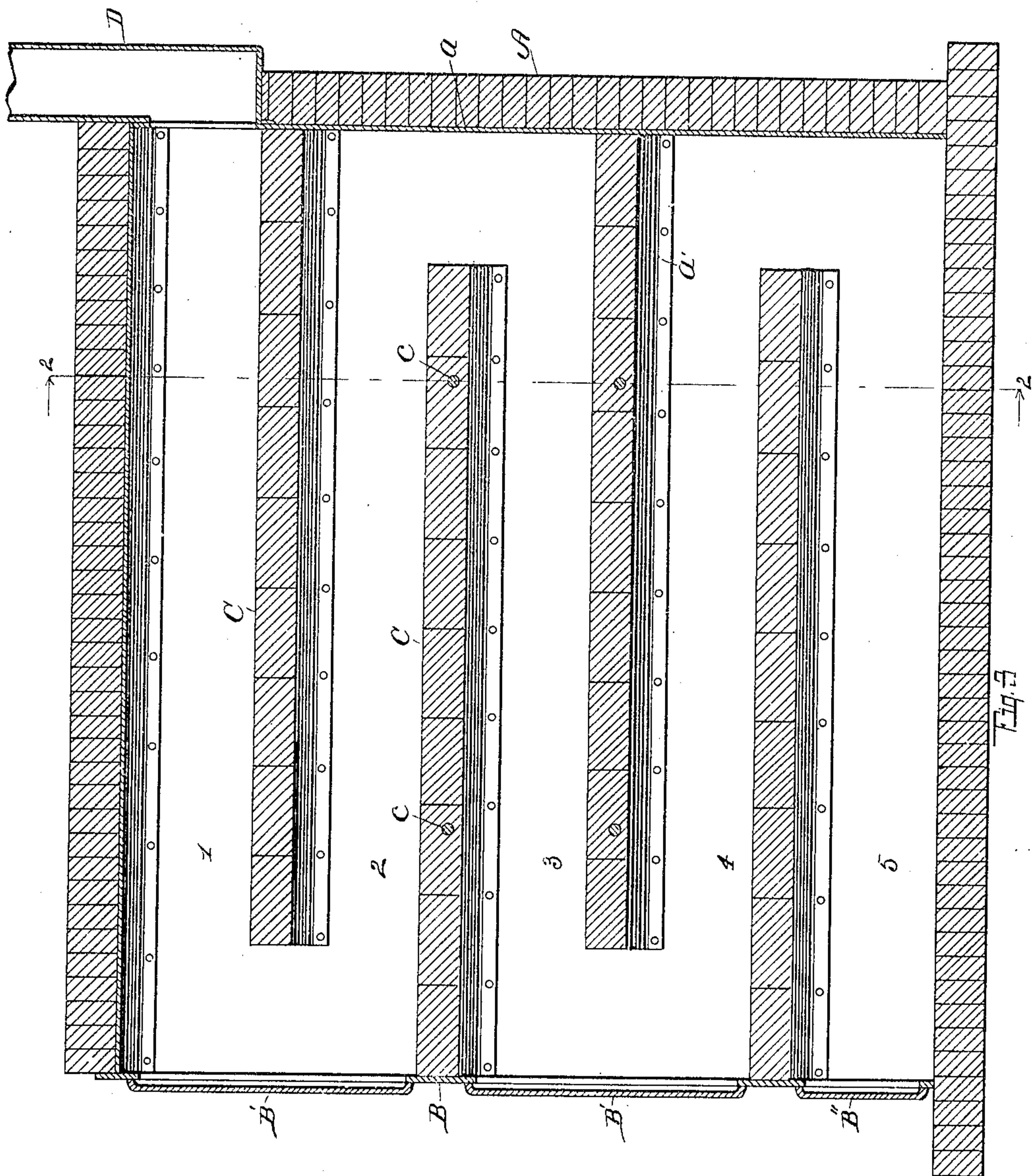
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Witnesses:

*A. J. Thoms*  
*Lucas G. Greenfield*

Inventor.

*Oscar Beguelin*  
By *Chappell & Earl*  
Att'ys



# UNITED STATES PATENT OFFICE.

OSCAR BEGUELIN, OF BATTLE CREEK, MICHIGAN.

## FURNACE.

No. 871,854.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed June 22, 1906, Serial No. 322,889.

*To all whom it may concern:*

Be it known that I, OSCAR BEGUELIN, a citizen of the United States, residing at Battle Creek, county of Calhoun, and State of Michigan, have invented certain new and useful Improvements in Furnaces, of which the following is a specification.

This invention relates to improvements in furnaces.

10 My improved furnace is especially designed as a furnace for baking ovens and for the burning of slack, although it is adapted for other uses and for the burning of other fuels.

15 The objects of this invention are, first, to provide an improved furnace adapted to maintain an even temperature and one which requires very little attention, the fuel being put in only at comparatively long intervals. Second, to provide an improved furnace adapted to the burning of slack or coal siftings or refuse.

25 Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

30 A structure embodying the features of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which,

35 Figure 1 is a front elevation of my improved furnace. Fig. 2 is a cross section taken on a line corresponding to line 2—2 of Fig. 3. Fig. 3 is a longitudinal section taken on a line corresponding to line 3—3 of Figs. 1 and 2.

40 In the drawings, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar letters of reference refer to similar parts throughout the several views.

45 Referring to the drawing, the outer wall A of my improved furnace is preferably formed of brick and is provided with a lining *a* of sheet iron. The furnace is preferably divided into two chambers by a vertical central partition A', running from front to rear. The sheet metal lining *a* extends over the sides and top of these chambers. These chambers are divided into a plurality of fire chambers 1, 2, 3, and 4 by the solid grates or

fire floors C. The fire floors C are preferably 55 formed of brick, and are supported by horizontally arranged ledges *a'* secured to the side walls and to the central partition. These ledges preferably consist of angled pieces riveted to the sheet iron lining. The floors 60 C are arched so that no other support is necessary than these side ledges upon which they rest.

In practice, I provide tie rods *c* running transversely through the furnace to prevent 65 the spreading of the walls. These are arranged through the fire floors C so as to be protected from the heat. The fire floors C extend only partially across the furnace and arranged alternately so that the fuel may be 70 raked from the one of the fire floors to the one next below it.

The front B of the furnace is preferably of sheet metal and is provided with doors B' and B'', the doors B'' being for the bottom 75 chambers 5 which are the ash pits.

A flue or chimney D is provided which preferably communicates with the two top fire chambers as clearly appears from the 80 drawing.

In operation, the fresh fuel is placed upon the upper fire floor, a considerable quantity being introduced, the furnace being preferably of such size as to receive three to five hundred pounds of slack. After the fuel 85 has burned for 12 or 24 hours in this chamber, it is raked down upon the fire floor next below and a fresh supply introduced into the first chamber. The fuel is allowed to burn in the chambers 1 and 2 for another period 90 of time when that from chamber 2 is raked down into chamber 3, that of chamber 1 into chamber 2 and a fresh supply introduced. This operation is continued each time, raking 95 each fire floor onto the one next below until delivered into the ash pits 5. It is found that practically nothing but ashes reaches this chamber, the combustible portions of the fuel being entirely consumed. I also find that it is not necessary to give this fur- 100 nace attention oftener than 12 hours and satisfactory results may be obtained if attended only once in each 24 hours. The furnace is particularly valuable as a furnace for baking, as by it a steady temperature 105 may be maintained and with comparatively little attention. Another advantage is that I am enabled to use a fuel ordinarily con-



sidered of little value and impractical for use in furnaces without being prepared in some way therefor.

I have illustrated and described my improved furnace in detail in the form preferred by me on account of the structural economy and convenience in use. I am, however, aware that it is capable of considerable variation in structural details without departing from my invention.

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

1. In a furnace, the combination of an outer wall; a central vertical wall extending from the front to the rear of the furnace, and dividing the same into two chambers; a plurality of solid grates or fire floors, said floors extending only partially across said chambers and dividing the same into a plurality of fire chambers, said floors being alternately arranged so that the material raked from one floor falls upon the floor next below; a smoke flue opening into the upper

pair of fire chambers; and doors arranged to open a pair of said fire chambers, for the purpose specified.

2. In a furnace, the combination of an outer wall; a central vertical wall extending from the front to the rear of the furnace, and dividing the same into two chambers; a plurality of solid grates or fire floors, said floors extending only partially across said chambers and dividing the same into a plurality of fire chambers, said floors being alternately arranged so that the material raked from one floor falls upon the floor next below; a smoke flue opening into the upper pair of fire chambers, for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses

OSCAR BEGUELIN. [L. s.]

Witnesses:

A. C. BOURDEAU,  
B. R. WOOD.