

(No Model.)

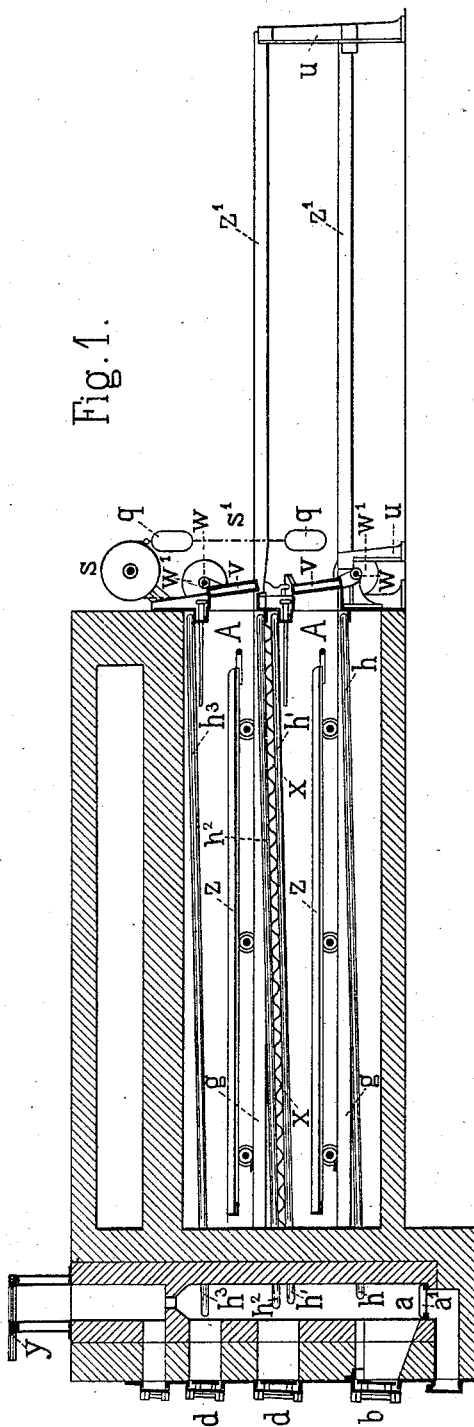
3 Sheets—Sheet 1.

W. A. F. WIEGHORST.
BAKING OVEN.

No. 302,457.

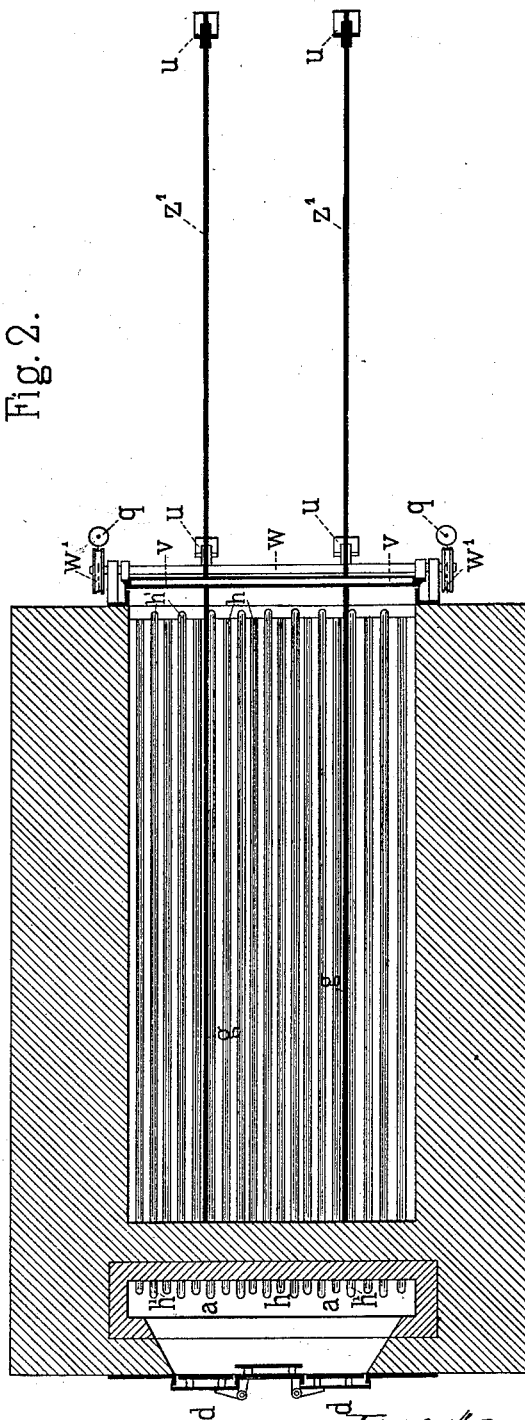
Patented July 22, 1884.

Fig. 1.



Witnesses:
C. J. Bell
Oscar Kauch,

Fig. 2.



Inventor:
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(No Model.)

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Fig. 3.

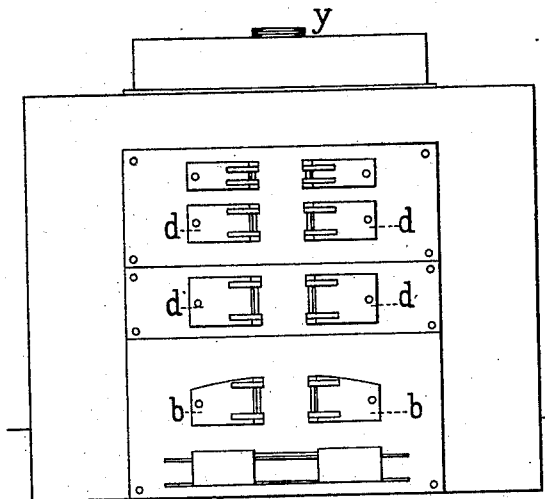
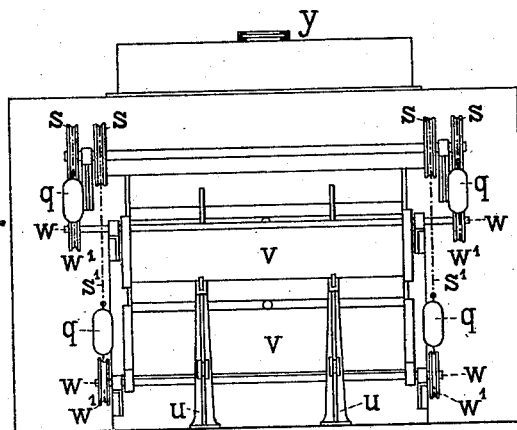


Fig. 4.



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Fig. 5.

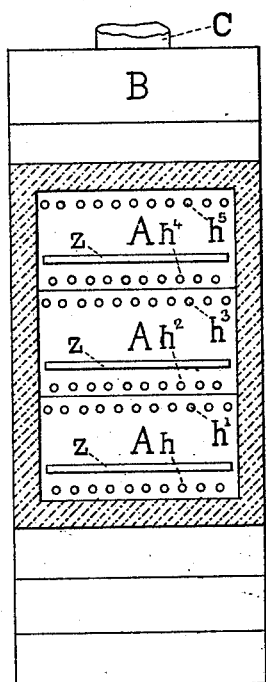
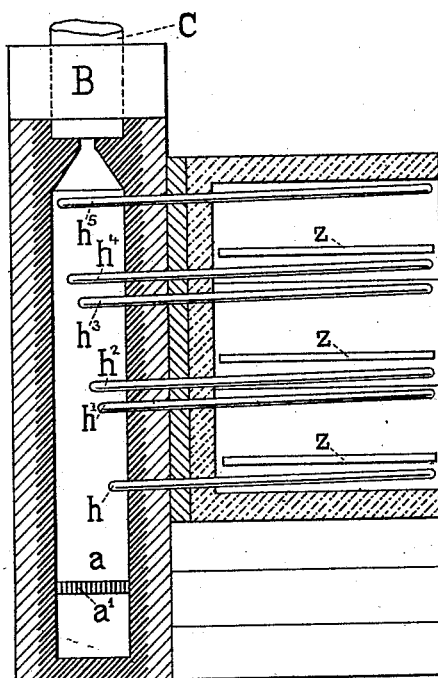


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILHELM ANTON FRIEDRICH WIEGHORST, OF HAMBURG, GERMANY.

BAKING-OVEN.

SPECIFICATION forming part of Letters Patent No. 302,457, dated July 22, 1884.

Application filed October 2, 1883. (No model.) Patented in Belgium June 18, 1883, No. 61,739.

To all whom it may concern:

Be it known that I, WILHELM ANTON FRIEDRICH WIEGHORST, a subject of the Emperor of Germany, and resident of Hamburg, in the German Empire, have invented certain new and useful Improvements in Baking-Ovens, of which the following is a specification.

My invention relates to improvements in the class of baking-ovens which are heated by pipes entirely closed and partly filled with water; and the objects of my improvements are, first, to heat two or more baking-chambers arranged one above the other by the same fire-place; second, to obtain an equal heat throughout in all the chambers; and, third, to facilitate the charging of the oven. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of an oven with two baking-chambers. Fig. 2 is a plan thereof, partly in section; Fig. 3, a back view, and Fig. 4 a front view. Fig. 5 is a vertical section of an oven with three chambers, and Fig. 6 a sectional side elevation thereof.

Similar letters refer to similar parts throughout the several views.

The oven illustrated by Figs. 1 to 4 is heated by the pipes h , h' , h^2 , and h^3 , partly filled with water and closed at both ends, one of which is exposed to the heat of the fire-box a . The fuel is introduced into the fire-box through the doors b . The ends of the pipes h to h^3 , which enter into the fire-box a , are heated by the fire, and communicate the heat by means of the water inclosed in the pipes, and the steam therefrom generated to those parts of the pipes which are inside the baking-vault. The soot, which will cover by degrees the ends of the pipes entering into the fire-box, and as a non-conductor will prevent a quick communication of the heat developed in the fire-box, is taken off through the doors d and b , which are arranged in such a manner as to make the pipe ends easily accessible. The draft of the fire-box is regulated by the damper y .

The baking-vault is divided by one or more horizontal corrugated plates, x , into two or more baking-chambers, A A, &c., each of which is heated by two series of pipes, h , h' ,

h^2 , and h^3 —the one at the floor and the other at the top. The ends of the different sets of pipes h which enter into the fire-box a are pretty short in the lowest series, and become longer according to their increasing distance from the fire-grate a' , in such a manner as to obtain the largest heating-surface in the series which are at the ceiling of the upmost chamber. It will thus be seen that the projecting ends of the pipes of the lowest oven, which are close down to the fuel, present the smallest heating-surface, while those of the top oven present the most surface within the furnace, the amount of heating-surface increasing with the distance of the several sets of heating-pipes from the bed of coals; hence each set of pipes receives approximately the same amount of heat, and I obtain a practically uniform temperature throughout all the ovens. Each chamber is provided with rails g , for guiding the rolling platform z thereon. To put the bread in the oven the platforms z are drawn out onto the outside rails, z' , fixed to the stands u . There they are filled and rolled into the baking-chambers again. Each baking-chamber is closed by a door, v , fixed to a shaft, w . The latter is rotated by means of a counter-weight, q , the connecting-chain s' of which is fastened to a drum, w' , keyed to the shaft w and drawn over pulleys s .

The oven illustrated by Figs. 5 and 6 is constructed according to the described principle. It is provided with three baking-chambers, and serves more especially as a ships' oven. A receptacle, B, arranged around the chimney-pipe C, is used for heating water.

I am aware that balanced bake-oven doors have been heretofore used—as, for example, in the oven illustrated in the patent of Aff and Jordans of February 8, 1881, which also shows a single furnace of the pattern herein described; but the specific arrangement and construction of the doors herein described is an improvement upon those heretofore used, inasmuch as they swing out from the jamb of the door, and hence cannot get caught or fastened by the expansion of the iron-door frames.

Having thus fully described my invention, I wish to claim and secure by Letters Patent—

1. In a baking-oven, the combination of

two or more baking-chambers, A, with the fire-box *a* and several series of closed pipes, *h*, which extend through into the fire-box at one end, each series of pipes projecting farther into the fire-box than the underlying series, whereby a uniform heat throughout the several ovens is secured, substantially as set forth.

2. A balanced door for a baking-oven, consisting of the door *v*, attached to a horizontal shaft, *w*, and adapted to shut against the face of the door opening, in combination with the

drums *w'*, carried by the shaft, the chains *s'*, attached to said drums and passing over the pulleys *s*, and weighted with the counter-weights *g*, all as and for the purpose set forth. 15

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 29th day of August, 1883.

WILHELM ANTON FRIEDRICH WIEGHORST.

Witnesses:

ALEXANDER SPECHT,
EMIL HAASE.