G. H. HODGE AND J. C. ROBINSON.

STEAM BAKING OVEN.

APPLICATION FILED NOV. 28, 1919.

**1,332,216.** Patented Mar. 2, 1920.

*Fig. 1.*

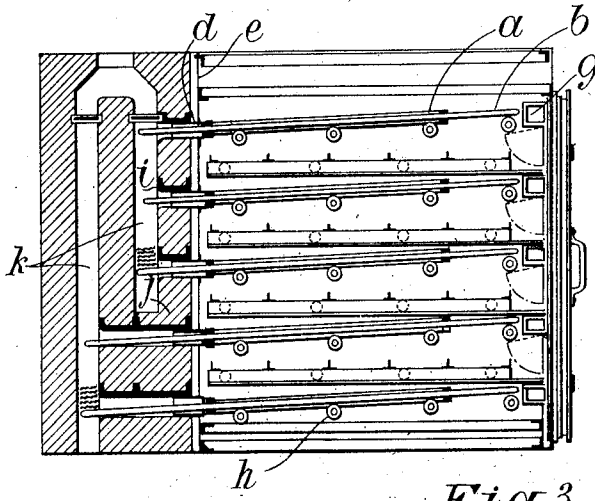



*Fig. 2.*

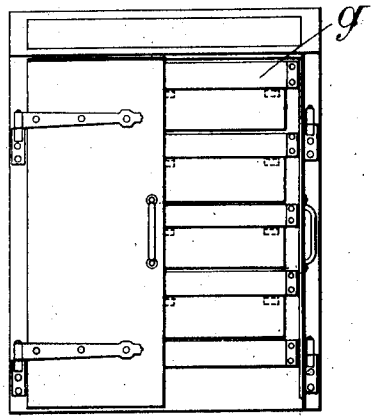



*Fig. 3.*

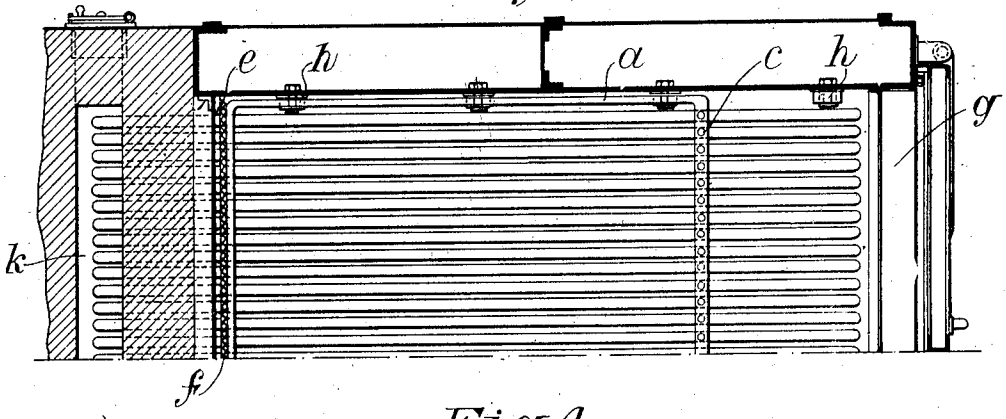
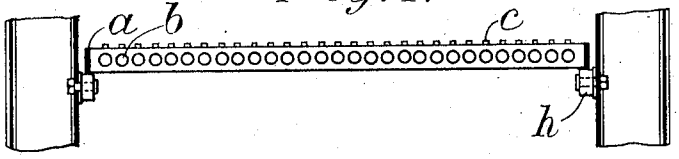



*Fig. 4.*




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# UNITED STATES PATENT OFFICE.

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## STEAM BAKING-OVEN.

1,332,216. Specification of Letters Patent. Patented Mar. 2, 1920.

Application filed November 28, 1919. Serial No. 341,263.

*To all whom it may concern:*

Be it known that we, GEORGE HENRY HODGE and JOSEPH CHARLTON ROBINSON, subjects of His Majesty the King of England, and residents of London, in the county of Middlesex and Kingdom of England, have invented certain new and useful Improvements in Steam Baking-Ovens, of which the following is a specification.

The invention relates to improvements in steam baking ovens. The objects in view being, the removal of the tubes for inspection, and renewals without disturbing the construction of the oven.

The invention provides for the convenient detachment and withdrawal of the tubes by sliding or rolling them out of the oven through an aperture in the front part of the oven, the construction being such that the tubes may be removed as a battery or that any tube may be removed singly.

The said aperture in the front part of the oven is sealed by a detachable cover.

The invention also provides for making a smoke tight joint about the aperture at the back of the oven where the tubes pass through into the furnace.

The invention can be applied to the ordinary or any other type of oven.

The accompanying drawings illustrate the method we prefer in actual practice. In these drawings:—

Figure 1 is a vertical longitudinal section of an oven the packing being omitted;

Fig. 2 is a front elevation of said oven;

Fig. 3 is a sectional plan thereon; and

Fig. 4 is a vertical cross section through the tubes.

As shown, the tubes *b* are assembled in a frame *a* the front and rear members of which are drilled for the tubes to pass freely through.

The tubes *b* are secured to the front member of the frame *a* by set screws at *c* and can be adjusted here to give the required projection in the furnace *k*. A sleeve between the brickwork *j* and the back plate *e* of the oven forms an abutment for the packing washer *f* of asbestos or other suitable material surrounding the tubes *b* behind the rear member of the frame *a*.

The detachable cover on the front of the oven through which the tubes pass either singly or as a battery is shown at *g*, this cover being here shown of box form for heat insulation.

The side members of the frame *a* rest on rollers *h* mounted off the sides of the oven, or simple slide rails may be preferred to the rollers.

It will be seen that the tubes *b* pass freely through a space in the brickwork *j* into the furnace *k*, also that a smoke tight joint is made against the tube frame *a* and the back plate or wall *e* of the oven, and that by removing the detachable front covers *g* a whole battery of tubes can be freely run in or out, or a single tube can be released and withdrawn from the frame.

The cast iron bearers *i* in the firebox form together with the brickwork *j* the slot or clearance in the brickwork of the firebox for the tube ends to enter the furnace chamber.

What we claim as new and desire to secure by Letters Patent of the United States is:—

1. A steam baking oven, steam tubes for heating said oven, and means for mounting said tubes to permit their free movement into or out of the oven.

2. A steam baking oven, steam tubes for heating said oven, and means for mounting said tubes to permit their free axial movement into or out of the oven.

3. A steam baking oven formed with an opening, steam tubes for heating said oven arranged in a frame, and means for mounting said frame in the oven to permit moving said tubes entirely in or out of said oven through said opening as a battery in the frame without disturbing the construction of the oven, said tubes being mounted in the frame for independent separation therefrom.

4. A steam baking oven formed with an opening, steam tubes for heating the oven arranged in a frame and means for axially moving said tubes entirely in or out of said oven through said opening as a battery in the frame without disturbing the construction of the oven, said tubes being mounted in the frame for independent separation therefrom.

5. A steam baking oven having steam tubes for heating the oven arranged in batteries in a plurality of frames, the said tubes being secured in said frames for independent separation therefrom when desired, said oven having openings through which any frame of tubes or any tube of any frame may be removed from operative position.

6. A steam baking oven formed with an opening, a frame, steam tubes carried in said frame, and means carried by the oven for supporting the frame for free sliding movement relative to the oven, whereby said frame and tubes may be freely moved into or out of the oven through said opening.

7. A steam baking oven, a frame, steam tubes carried in said frame for independent separation therefrom at will and means carried by the oven for supporting the frame for free sliding movement relative to the oven, whereby said frame or any tube in said frame and tubes may be freely moved into or out of the oven.

8. A steam baking oven having steam-tube carrying frames mounted for free bodily movement in the oven, the said oven having an opening alined with such frames in operative position, whereby to permit the bodily withdrawal of such frames.

9. A steam baking oven having steam-tube carrying frames mounted for free bodily movement in the oven, each tube being independently and removably mounted, in the frames, the said oven having an opening alined with such frames in operative position, whereby to permit the bodily withdrawal of such frames.

In testimony whereof we have hereunto signed our names.

GEORGE HENRY HODGE.
JOSEPH CHARLTON ROBINSON.