

J. V. CHOWN.
ELECTRIC OVEN.
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985,144.

Patented Feb. 28, 1911.

Fig. 1.

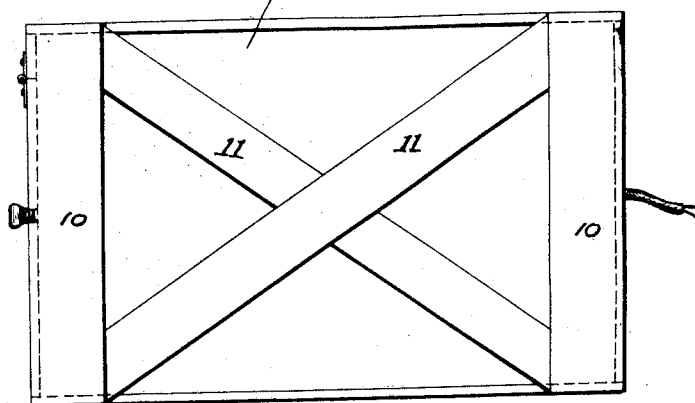
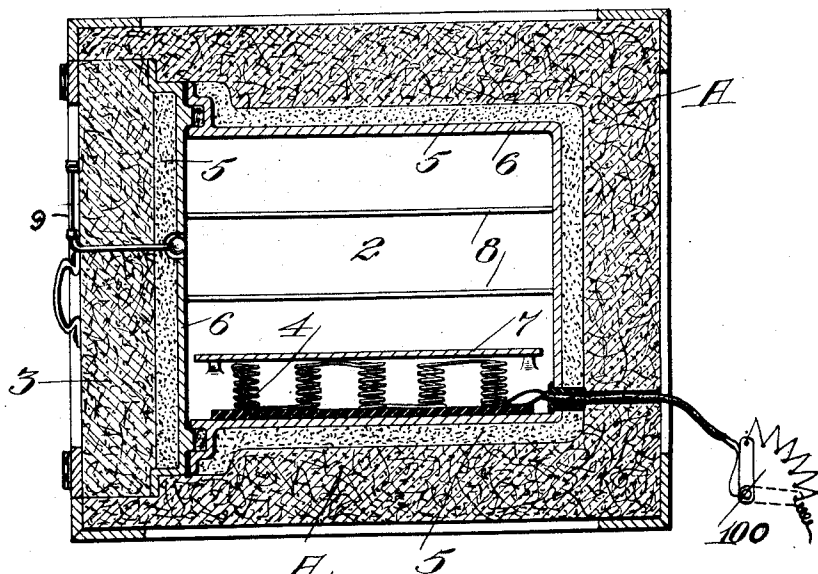


Fig. 2.

Witnesses:
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Inventor:
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By G. A. Strong,
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UNITED STATES PATENT OFFICE.

JAMES V. CHOWN, OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-SIXTH TO R. PORTER GILES, ONE-SIXTH TO WILLIAM S. COX, ONE-SIXTH TO J. CLEM ADY, AND ONE-HALF TO JESSIE MARIAN CHOWN, ALL OF OAKLAND, CALIFORNIA.

ELECTRIC OVEN.

985,144.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed November 29, 1909. Serial No. 530,331.

To all whom it may concern:

Be it known that I, JAMES V. CHOWN, citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Electric Ovens, of which the following is a specification.

My invention relates to electric ovens or heating chambers wherein the heat used for cooking or other purposes is generated through the medium of suitable electrical resistance.

The object of the invention is to provide a simple, cheap, economically-operated, practical oven, particularly designed for household purposes to take the place of the ordinary gas stove or oven which is so injurious to health, and in which oven or heating vessel I employ a latent heat-holder or retainer into which the heat is absorbed as the oven is gradually heated up; suitably insulating this latent heat-holder from the outside atmosphere so that after a sufficient heat is obtained in the oven a part of the current may be cut off, and a sufficient cooking heat will be maintained through the remaining small current used, and the reserve supply of heat stored in the latent heat-holder, and which is gradually returned to the oven.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of the invention. Fig. 2 is a plan view of the same.

My oven, as actually constructed and successfully used, consists of an outside wall A of suitable material, such as diatomaceous earth, carbonate of magnesia, or other non-conductor of heat. I prefer to use diatomaceous earth, or a mixture of diatomaceous earth, sawdust and lime, since experience shows that this is an exceedingly good heat insulator. These walls A are of suitable thickness to successfully prevent the radiation of any heat generated within the baking chamber 2. This oven is preferably provided with a door 3 of the same material as the walls A, and the door may be hinged at one side and made with step joints, as shown, so that when the door is closed practically

all the heat generated by the coil 4 will be retained within the oven. Both the walls A and the door 3 of the oven are lined on the inside, as shown at 5, with a suitable latent heat-holder, such as soapstone or fire-clay, either of which has the quality of absorbing the heat. This lining 5 is in marked contrast to the outside insulating wall A, and the distinction is one to be carefully borne in mind. The outside shell A prevents the heat from passing beyond the heat absorbing and retaining lining 5, so that if the heat in the coil 4 is cut off or reduced and the oven allowed gradually to cool, the heat stored in the lining 5 will be given back into the oven, rather than allowed to escape to the outer atmosphere and be lost. Preferably the lining 5 is covered on the inside of the oven by a metal shell 6 which is in the nature, more or less, of a good conductor of heat and does not interfere with the return radiating action of the heat stored in lining 5 back into the oven.

Any suitable form of electrical heater 4 may be employed, and the interior of the oven may be provided with removable shelves 7 and ribs 8 for the support of such shelves.

The metal lining is preferred, as it keeps the odors generated within the cooking chamber from penetrating into the more or less absorbent lining 5, and makes the oven easy to clean.

If desired, a thermometer 9 may be attached to the oven door, so as to indicate to the operator the temperature of the oven chamber 2.

In order to give stability to the structure and prevent the composition of the oven walls being broken or injured, I employ in practice a skeleton frame-work of iron or wood, and represented in the drawings by the corner pieces 10 and diagonal pieces 11.

In practical operation, the article or articles to be cooked are put into the oven chamber and the door 3 securely closed. Preferably the coil 4 is connected with a suitable electrical controlling device, as the rheostat 100, whereby when the heat is first turned on the full current will be allowed to pass through the coils, so as quickly to heat up the oven chamber. When the temperature of the oven chamber has been raised sufficiently and the absorptive lining 5

highly heated, the rheostat can be turned so as to regulate the strength of the current through all of the coils a reduced current, when supplemented by the reserve supply of heat stored in the latent heat-holding lining 5, being sufficient to maintain the oven at a proper temperature.

It is understood that the sides, ends, and top and bottom of the oven chamber are surrounded by this latent heat-holder 5 in the outside insulating shell A.

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

15 An electric oven comprising a shell embodying a mixture of diatomaceous earth,

sawdust and lime, and having its interior lined with a coating of fire-clay, said composition and lining inclosing an oven chamber, a door of like composite material similarly lined closing said oven chamber, an electric heating coil for the oven, with means for regulating the amount of heat from the outside.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES V. CHOWN.

Witnesses:

RAYMOND A. LEONARD,
CHARLES EDELMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."