

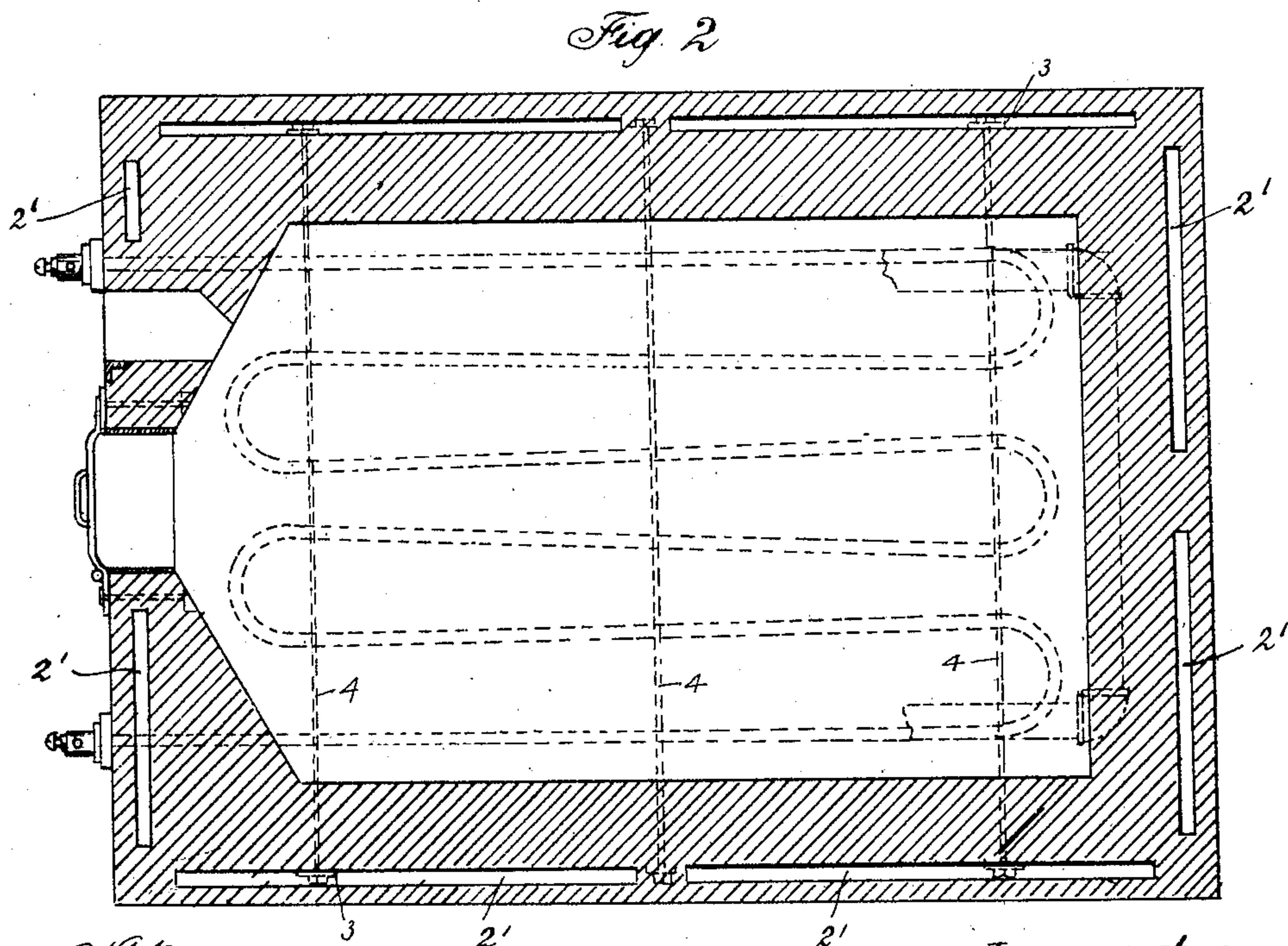
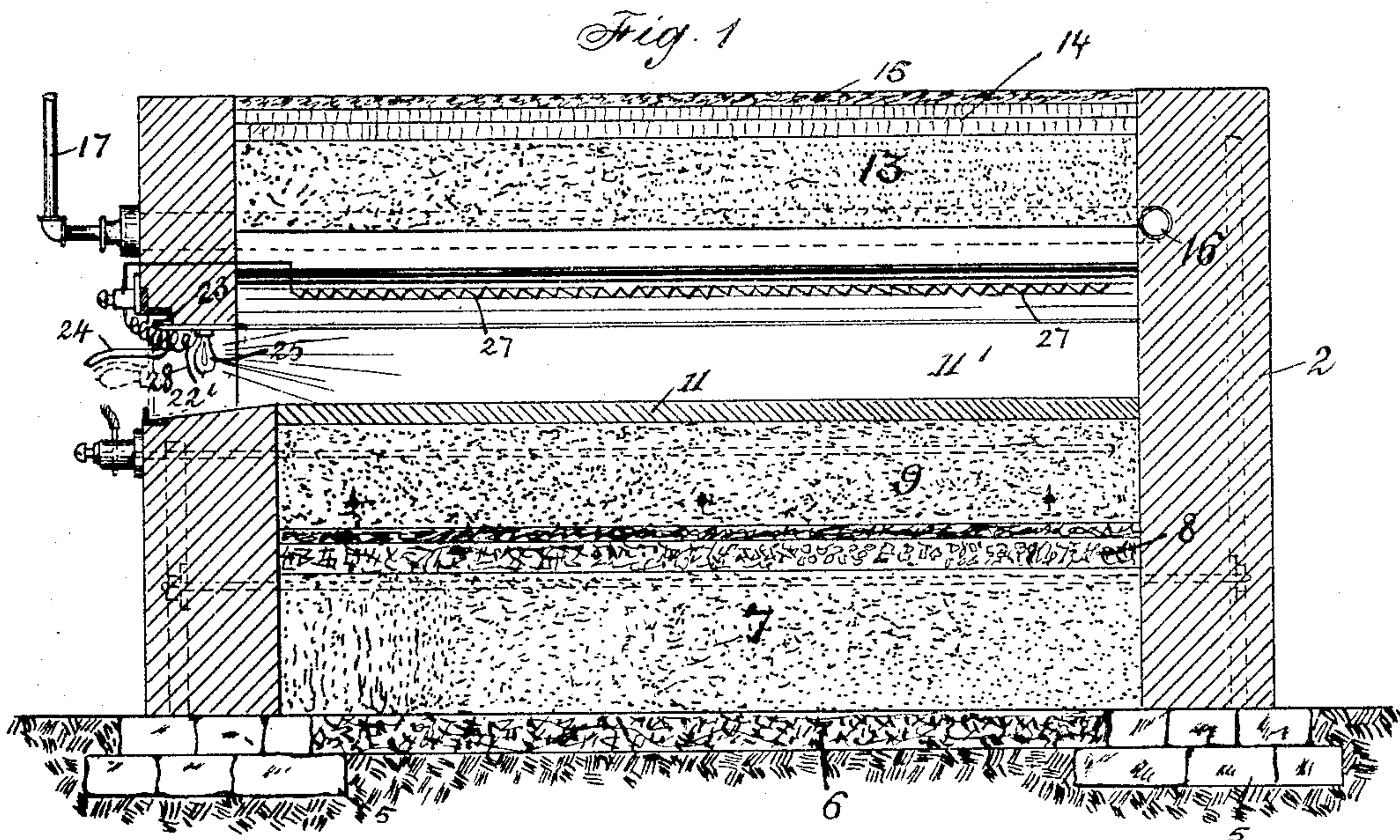
No. 779,428.

PATENTED JAN. 10, 1905.

E. KAISER.
BAKER'S OVEN.

APPLICATION FILED JULY 7, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

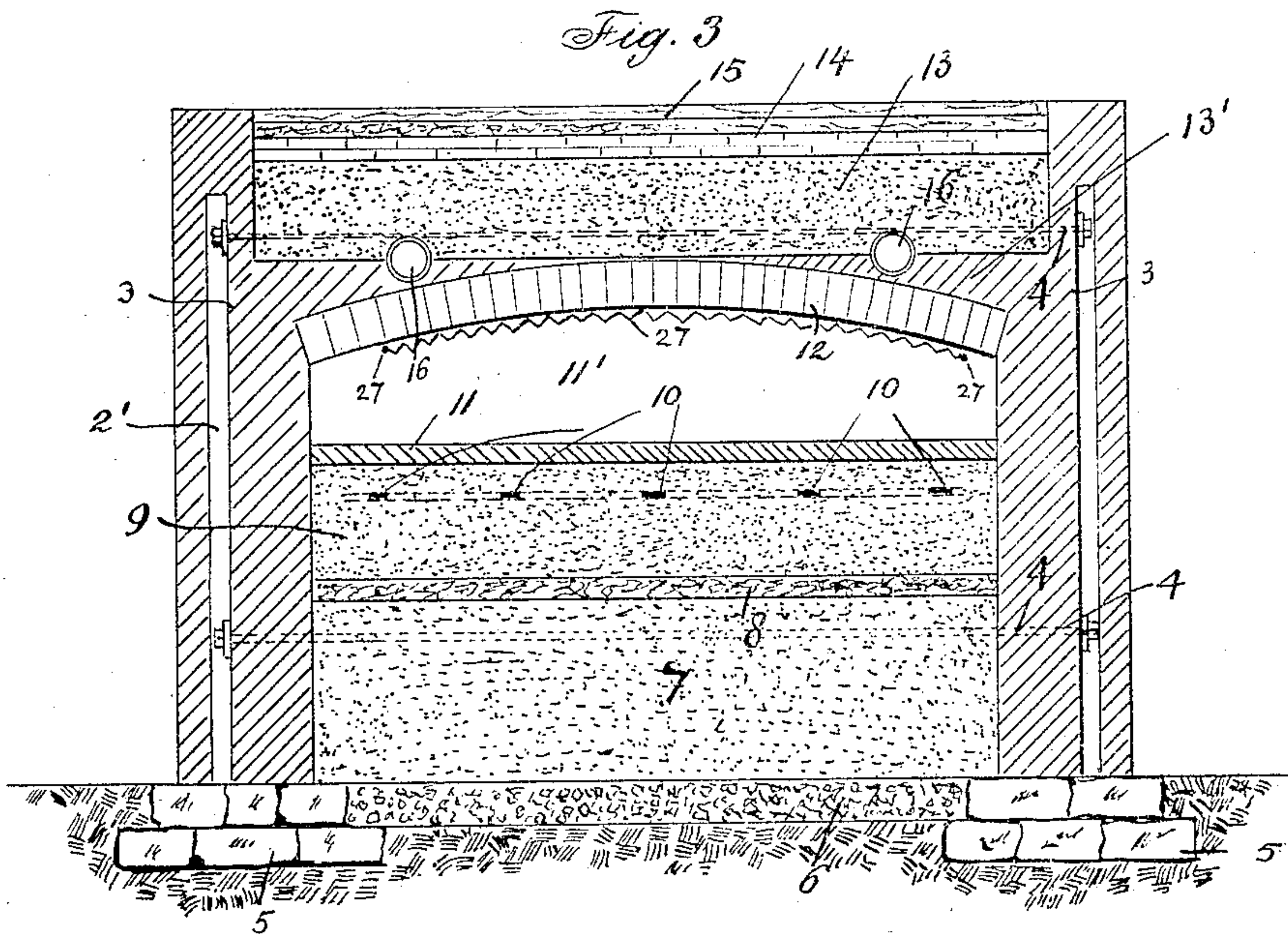
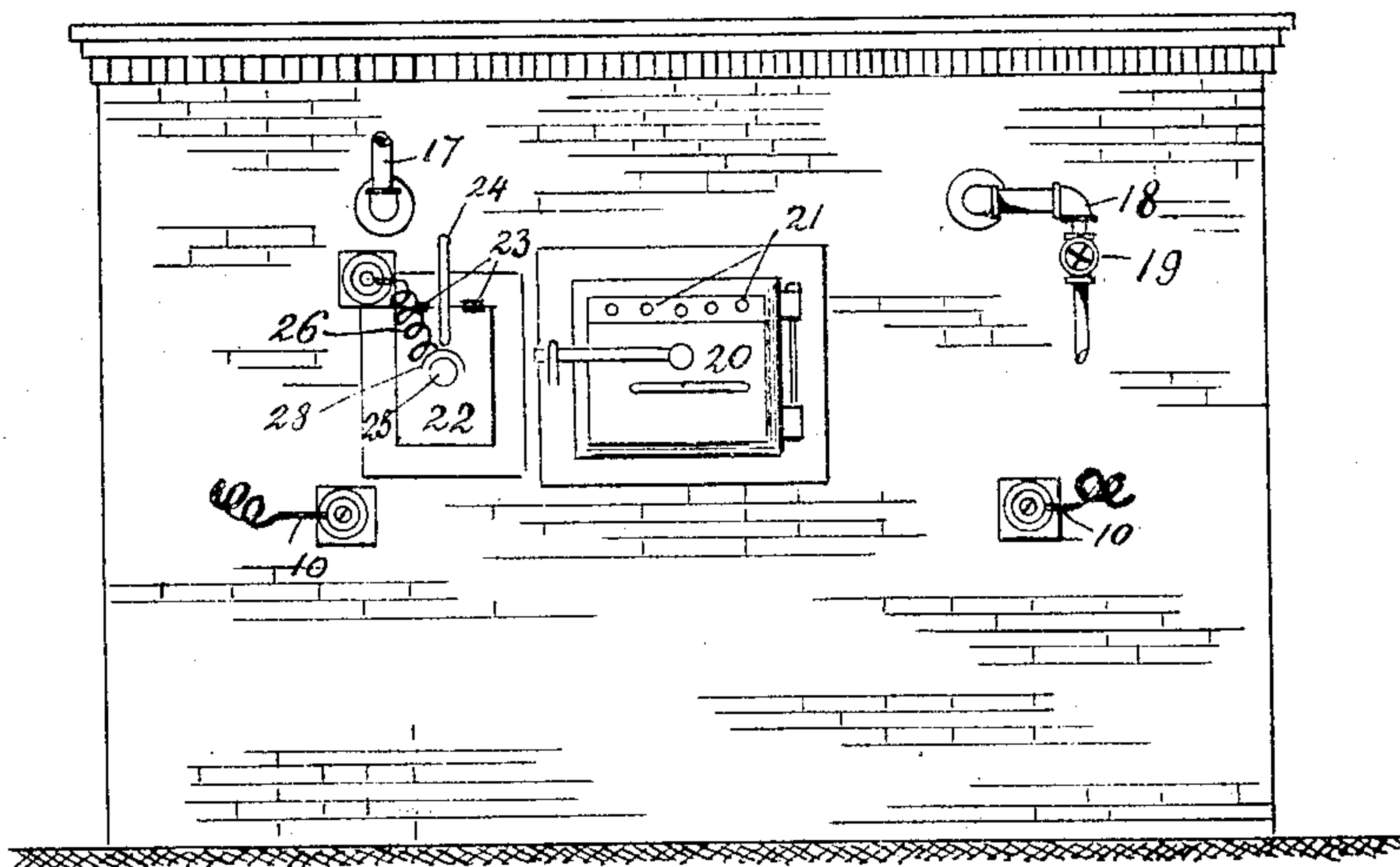


Fig. 4.



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UNITED STATES PATENT OFFICE.

ENGELBERT KAISER, OF CHICAGO, ILLINOIS.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 779,428, dated January 10, 1905.

Application filed July 7, 1904. Serial No. 215,581.

To all whom it may concern:

Be it known that I, ENGELBERT KAISER, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

This invention relates to baking-ovens with particular reference to that class of ovens which utilize electricity as the source of thermal energy.

The general object of the invention is to effect economy of heat, to attain comparative uniformity of temperature during protracted or continuous baking processes, to obviate dampness in the baking-chamber, to provide improved means for illuminating same, &c.; and with the above objects in view the invention consists in the novel construction and arrangement of parts hereinafter described in detail, illustrated in the drawings, and incorporated in the claims.

In the drawings, Figure 1 is a longitudinal vertical section. Fig. 2 is a longitudinal horizontal section, Fig. 3 a transverse vertical section, and Fig. 4 a front elevation, of an oven embodying my invention.

Referring to the drawings, 2 represents side and end walls constructed out of brick and having air-spaces 2'. These walls are anchored together by means of steel straps 3 and tie-rods 4 (shown by dotted lines) and rest on stone foundations 5. The interior construction comprises a bottom layer of concrete 6, a substantial layer or bed of sand 7, another layer of concrete, 8, then another layer of sand, 9, within which are embedded German silver wires or conductors 10. On the top of the bed of sand 9 is laid the hearth or floor 11 of the baking-chamber 11'. This floor consists of tiles. Over the baking-chamber is a fire-brick arch or roof 12, on top of which is another bed of sand, 13, covered with a layer of bricks 14, laid with asbestos cement, and several layers of asbestos coverings 15 form the top of the oven.

16 is a hot-water pipe having an inlet 17 and an outlet 18, controlled by a valve 19, embedded partially in the upper sand-bed 13

and partially in bricks 13', filling the wedge-shaped spaces between the arch 12 and the bed of sand 13. The purpose of this pipe is to supply the baker with whatever hot water is required for his baking operations.

20 is the oven-door provided with a ventilator 21. 22 is a smaller door suspended to swing inwardly upon hinges 23 into the opening 22'. The door 22 is employed merely for the purpose of inspecting the interior of the baking-chamber, and said door has rigidly secured thereto a handle 24, arranged with its major portion extending substantially parallel to the face of the door. Upon the outside of the door 22 is an electric lamp 25 in circuit with the wire 26 and wire coils 27, provided for heating the top of the baking-chamber 11'. The lamp 25 is provided with a reflector 28, arranged so that when the door 22 is opened or tilted inwardly by means of the handle 24 the reflector will reflect the light from the lamp inwardly into the baking-chamber and shade the eyes of the person inspecting from the glare of the light. When the door 22 is in its normal position, the lamp 25 serves to illuminate the exterior surroundings of the oven.

The hollow brick walls of the oven resist radiation to a very considerable extent, and the beds of sand above and below the baking-chamber absorb heat radiating therefrom and tend to maintain a uniform temperature within the oven by reason of the stored heat supplying temporary deficiencies, due to variations in the original source or cooling of the baking-chamber when the door is opened. By embedding the wires in the sand I thoroughly isolate them from contact with the exposed parts and at the same time provide a very efficient element of heat retention. The wires or conductors are preferably made out of German silver, and their size or gage will be such as to offer the necessary resistance to the current employed to provide the desired temperature, and the wires in the upper portion of the oven are preferably provided with separate cut-offs, so that either one or both sets may be employed at the same time, according to the degree of heat required.

The separate layers of concrete 6 and 8, with the bed of sand 7 therebetween, will effectually prevent ground moisture from reaching the baking-chamber when the oven is built directly upon the ground.

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

1. An oven having hollow side walls constructed of highly porous material and a bottom and top portion formed of alternate layers of, respectively, comparatively loose and solid material.

2. An oven having hollow vertical walls constructed of porous material such as brick and having the portions above and below the baking-chamber constructed of layers of sand or the like and comparatively moisture-proof layers of concrete or the like, and electric wires embedded in one of said layers of sand.

3. An oven having hollow vertical walls constructed of porous material such as brick and having the portions above and below the baking-chamber constructed of layers of sand with comparatively moisture-proof intervening layers of denser material, and electric wires

for heating said oven embedded in said layers of sand.

4. An oven constructed with double vertical walls having intervening air-spaces, a baking-chamber having a tile floor resting upon alternate layers of sand and concrete and having a roof of fire-brick, concrete, sand and asbestos arranged in alternate layers.

5. An oven having double walls with an air-space between said walls, tie-rods and binding-straps connecting said walls, a baking-chamber having a tile floor and a fire-brick arch or roof, said chamber being protected above and below by alternate layers of loose or highly porous material and dense material, and electric wires embedded in said loose material.

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

ENGELBERT KAISER.

Witnesses:

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L. ABRAHAM.