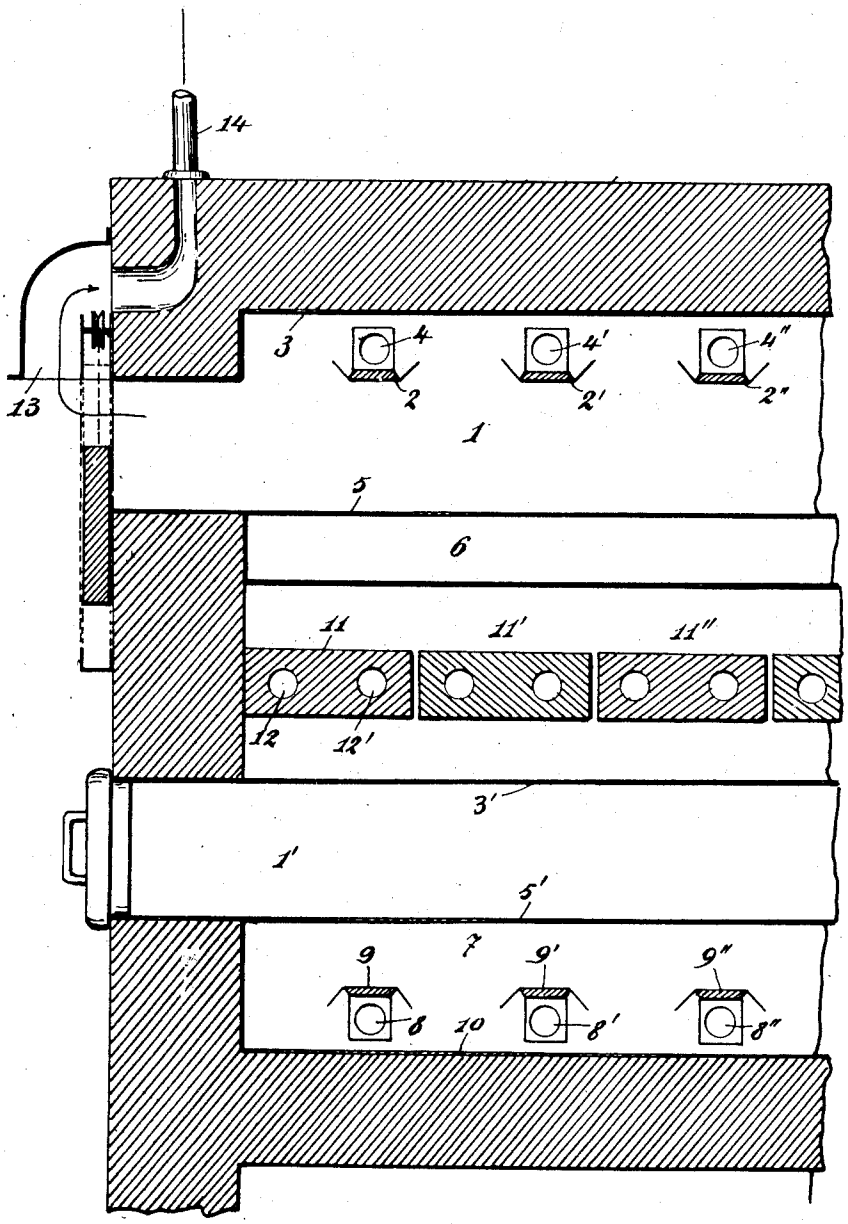
Aug. 2, 1927. 1,637,659

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THERMOELECTRIC OVEN

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THERMOELECTRIC OVEN.

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This invention relates to thermo-electric ovens and has for its object to so construct an oven that perfect uniformity in the distribution and regulation of the temperature in the heating chamber is obtained.

According to the invention heating elements are disposed in channels made in tiles placed in such a manner as to prevent direct radiation of the heat towards the bottom plate of the heating chamber by deflecting it towards the top or roof which reflects this heat uniformly distributed towards the said bottom plate. The improved oven is further characterized in that the said heating elements do not occupy the whole length of the said chamber and are themselves capable of being displaced therein in such a manner as to permit a transverse regulation of the heat upon the bottom plate. Finally the oven is characterized in that it permits the combination of this indirect heating with a heating by thermo-electric accumulation.

The single figure of the accompanying drawing is a fragmental longitudinal section showing, as an example, one embodiment of the invention. In the heating chamber 1 are placed channels 2, 2^1 and 2^{11} which face towards the ceiling or roof 3 in such a manner as to intercept the radiant heat of the thermo-electric elements 4, 4^1, 4^{11}, which would tend to radiate towards the bottom 5. These channels are lined with an insulating substance which may, for example, comprise iron enamelled with an insulating enamel and thereby reflect the heat. The roof or ceiling 3 may likewise be lined with a covering of enamelled iron.

This arrangement ensures the advantage that the heat is distributed upon the bottom plate as well as upon the ceiling or roof in such a manner that it can be rendered perfectly uniform by a suitable arrangement of the channels. In order to complete this possibility of regulation, the elements 4, 4^1, 4^{11}, can be constructed of several independent sections adjustable in the channels.

In some constructions of oven it may be necessary also to heat the bottom plate. In such case, there may be disposed underneath the said bottom plate 5, as an addition to the intermediate space 6, a chamber similar to the lower chamber 7 which may contain the heating elements 8, 8^1, 8^{11}, housed in the channels 9, 9^1, 9^{11} in the reverse position facing the reflecting bottom surface 10 which sends back the heat diffused towards the plate forming the ceiling or roof of the said auxiliary heating chamber. But since the plate itself forms an equalizing dispersing mass, the channels may be disposed so that they face towards the said plate in such a manner as to render unnecessary the reflecting bottom 10.

This arrangement may also be utilized for constructing mixed ovens in which a part of the heating is effected by thermo-electric accumulation, which permits the raising of the whole mass of the oven economically to a temperature which is in the neighborhood of the working temperature.

In the annexed drawing there are shown the accumulator bodies 11, 11^1, 11^{11}, in which are placed the resistances 12, 12^1, and which are arranged in the space underneath the bottom plate 5 of the heating chamber 1 or above the roof or ceiling 3^1 of the heating chamber 1^1.

The arrangement of the channels characterized by the present invention has also the advantage that they constitute perfect protection for the thermo-electric elements which might be damaged by being knocked by the shovel during a stoking or clearing out. Further these channels assure perfect electric insulation of the heating elements.

The form, construction and arrangement of the channels in the furnace as above described, can be varied without departing from the spirit of the invention.

I claim:

1. An electric oven provided with an internal heating chamber having a heat-reflecting wall; a plurality of heat-reflecting channel members in said chamber disposed to face such wall; and thermo-electric heating elements arranged in said channels, whereby the radiant heat emitted by said heating elements at one side thereof is intercepted by the channels and reflected by the same exclusively against said wall to be reflected uniformly by the latter against the opposite wall of the chamber.

2. An electric oven provided with an internal heating chamber having a heat-reflecting top wall; a plurality of heat-reflecting channel members in said chamber disposed to face said top wall; and thermo-electric heating elements arranged in said channels, whereby the latter intercept the radiant heat emitted toward them by said heating elements and reflect it exclusively against the top wall to be reflected uni-

formly by the latter against the bottom wall of the chamber.

3. An electric oven provided with an internal heating chamber having a heat-reflecting top wall; a plurality of metal channel members in said chamber disposed to face such wall and having their surfaces coated with enamel; and thermo-electric heating elements arranged in said channels, whereby the latter intercept the radiant heat emitted toward them by said heating elements and reflect it exclusively against the top wall to be reflected uniformly by the latter against the bottom wall of the chamber.

4. An electric oven provided with separate upper and lower internal heating chambers, the upper chamber having a heat-reflecting top wall, and the lower chamber having a heat-reflecting bottom wall; a plurality of heat-reflecting channel members in each chamber disposed to face the heat-reflecting wall thereof; and thermo-electric heating elements arranged in the channels in both chambers, whereby the channels in each chamber will intercept the radiant heat emitted by the heating elements toward the wall opposite the heat-radiating wall of the chamber and will reflect such heat exclusively toward the heat-radiating wall, to be reflected uniformly by the latter wall against said opposite wall.

In testimony whereof I affix my signature.

SECONDO SACERDOTE.