Oct. 19, 1937. I. RÄSÄNEN 2,096,649

HEATING DEVICE

Filed Feb. 21, 1936

Fig. 1.

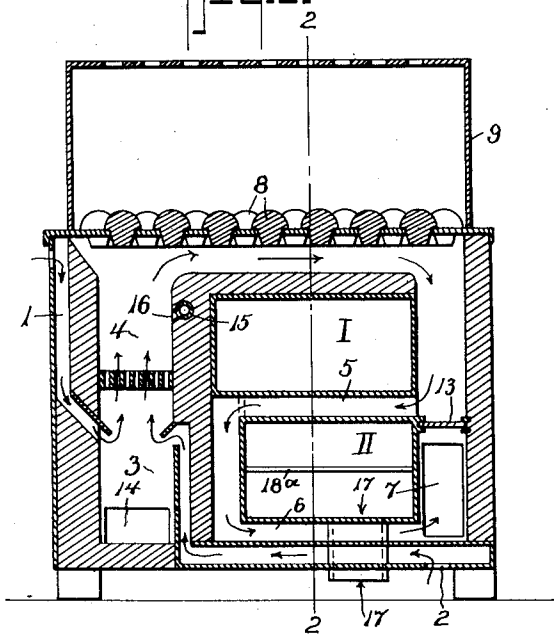
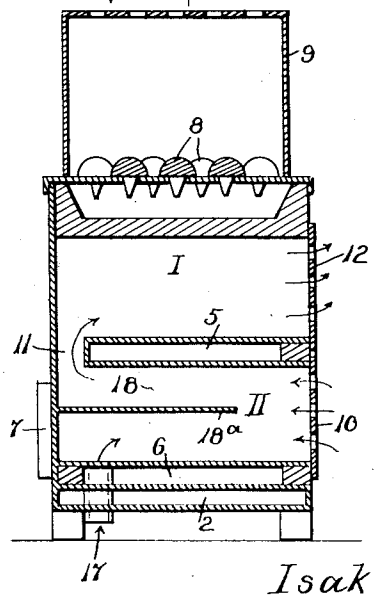


Fig. 2.



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HEATING DEVICE

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Application February 21, 1936, Serial No. 65,165

1 Claim. (Cl. 126—4)

This invention relates to a heating device or stove which is especially designed for the heating of air within a room that is only occasionally heated, for example, the rooms of sporting huts, week-end huts, conference rooms, churches and the like, being especially designed for bathing houses.

The invention further has for its object the construction of a heating device or stove which can be adapted for cooking, frying and other similar purposes when desired.

The invention further has for its object the construction of a heating device which is especially useful in so-called Finnish baths or sweating baths since by its use a large quantity of steam may be obtained.

In the accompanying drawing, which illustrates the embodiment of the invention especially adapted for use in Finnish baths,

Fig. 1 is a vertical sectional front view of the device;

Fig. 2 is a cross sectional view on the line A—B of Fig. 1.

In the drawing I and II indicate two ovens or heating chambers which are interconnected at the back by a channel 11 and at the front are covered by perforated plates which permit air to enter the lower oven II through the openings 10 and to pass out from the upper oven I through the openings 12. The ovens I and II are located within a suitable casting constituting a skeleton frame for the stove, the casting at the back of the stove being covered by a sheet metal wall. At one side of the ovens I and II the casting is formed with a combustion chamber 4 in which is located a suitable grate and in which any suitable solid fuel may be burned.

15 designates a tube for the inlet of secondary air which passes therefrom through openings 16 into the combustion chamber 4. The air passing from the tube 15 is pre-heated air and assists combustion. The primary air for combustion is obtained through the passages 1 and 2 that enter the chamber 3 beneath the grate. 14 designates the ash pit clean-out door by which the ashes from the pit 3 can be withdrawn when desired.

The top of the stove is constituted by a plate which, when the stove is to be used in connection with sweating baths, is provided with protuberances 8, or their equivalent, which become highly heated by the products of combustion passing beneath the same in contact with the inner or lower ends of the protuberances, so that when water is thrown upon the top plate it will be instantly converted into steam.

13 designates a slide which can be moved to open a down passage into the flue 7 or closed to deflect the products of combustion through the passages 5 and 6 to the flue, as may be desired.

When the parts are positioned as shown in the drawing, the products of combustion pass from the chamber 4 under the top of the stove, contacting the lower end of the protuberances 8. The products of combustion also pass over the top of the oven I and down the opposite side thereof, thence under the oven I and over the oven II, thence down the side of oven II which is adjacent the ash pit, thence beneath the oven II to the flue 7. The products of combustion thus heat the ovens I and II and cause a circulation of air through these ovens from the openings 10 in front of the lower oven, via connecting channel 18 at the back, and out of the upper oven through the openings 12. Thus the air of the room is circulated through the ovens without taking up any of the products of combustion, and by throwing water on the protuberances 8 the heated air of the room is correspondingly humidified.

When it is desired to use the stove for baking purposes, the front plates of the stove are provided with means for closing the openings 10 and 12, i. e., with imperforated doors in lieu of perforated plates. Then the ovens I and II can be used as ordinary baking ovens.

When it is desired to use the stove for frying purposes, the frying pans can be placed upon the protuberances 8, or the top plate having the protuberances may be removed and a plain plate substituted therefor.

If the stove is to be used exclusively for air heating purposes, a hood 9 may be placed over the protuberances 8 to conceal the same, the hood 9 radiating heat into the surrounding atmosphere.

If desired, the oven II may be provided with a horizontal wall 18 dividing it into an upper and a lower portion, the wall 18, however, terminating short of the front portion of the oven. A similar partition may, if desired, be provided in the oven I, thus providing pockets for retaining stagnant air, and consequently increasing the heating factor of the stove.

What I claim is:

A stove comprising a frame having a front plate and a back plate, said frame including a combustion chamber, an ash pit and channels for the circulation of the products of combustion to a flue opening located at the rear of the stove, an upper and a lower oven within the stove, said ovens communicating at the back by an air

passage, the front of each oven having openings in virtue of which air will pass into the lower oven at the front, flow to the back, pass upwardly through the interconnecting passage, thence through the upper oven to the front thereof and out through the openings in the front wall portion of the upper oven, said frame having a down air passage alongside the combustion chamber for delivering air beneath the grate of the stove, and having another air passage from beneath the stove to the space beneath the grate of the stove for admitting primary air for combustion.

ISAK RÄSÄNEN.