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(54) **ELECTRIC OVEN FOR PIZZA AND THE LIKE**

(57) Electric oven (1) made to be coupled to a wood burning stove (10), wherein said oven comprises a metal box-shaped body provided with a front access opening, with a closing door (101), and a cooking chamber (701) accessible from that opening, and being provided in correspondence of the top wall and the bottom wall of the electrical heating means (801, 811), being suitably con-

nected to the rear wall of said chamber, a conduit (601) that opens to a substantial portion of the rear wall, and is provided, at the opposite end to that connected to said rear wall, of sealing means (611, 621) along a substantial portion of its perimeter; the said end is bound to the temporary coupling to the feed opening of a wood burning stove (10).

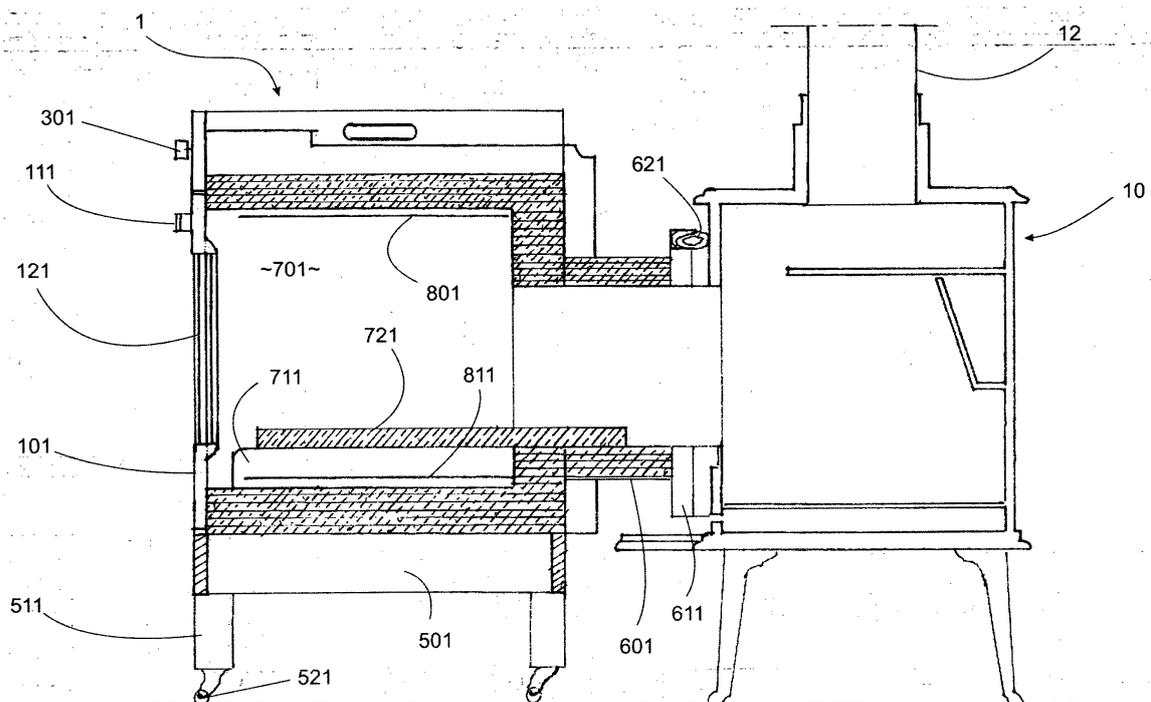


Fig. 2

## Description

**[0001]** The present invention relates to the ovens for cooking food based upon wheat flour paste or the like, and particularly relates to an electric oven for pizzas, bread, buns and the like, to be coupled to a wood stove.

**[0002]** Even if the technology developed in the last decades has rendered the electric ovens increasingly performing in the field of industrial bakery, and even if a lot of bakeries as well as restaurants use electric ovens or gas ovens which directly heat the base plate of the oven, made of refractory material, difficultly the customers are able to give up the typical taste conferred by the wood to the cooking of pizza. At the state of the art are known ovens in which the wood is burnt in a special compartment, communicating with the cooking compartment of the oven by means of a plurality of through openings, which allow the entering of smoke and wood aroma, but preferably preventing the massive presence of ashes and other combustion residues.

**[0003]** At home today there is no possibility of obtaining an optimal cooking with the characteristic aroma of wood, unless you have a wood oven in your own home; in fact the size of the devices described above is designed for use by public exercises, restaurants and pizzerias and cannot be adapted to an average home context.

**[0004]** The aim of the present invention is therefore to provide an oven that can, on the one hand, guarantee the optimum cooking temperature for pizza and other similar foods, and on the other hand, it may give to the food cooked inside it the characteristic scent of burnt wood. At the same time, it was considered the increasing number of families that, especially in single-family houses, have installed wood-burning stoves for the heating system, and therefore has a firewood that is not usable for this type cooking. In fact, the stoves, even if they have a cooking compartment, do not communicate with the combustion chamber of the wood, and therefore do not achieve the desired flavoring effect.

**[0005]** The object of the present invention is therefore an electric oven made to be coupled to a wood burning stove, wherein said oven comprises a metal box-shaped body provided with a front access opening, with a closing door, and a cooking chamber accessible from that opening, and being provided in correspondence of the top wall and the bottom wall of the electrical heating means, being suitably connected to the rear wall of said chamber, a conduit that opens to a substantial portion of the rear wall, and is provided, at the opposite end to that connected to said rear wall, of sealing means along a substantial portion of its perimeter; the said end is bound to the temporary coupling to the feed opening of a wood burning stove.

**[0006]** In an embodiment, said duct is mounted removably, and can be replaced by a closing plate, making the furnace in fact a common electric oven. This makes it possible to use the oven in combination with the stove and independently, making it commercially more appeal-

ing.

**[0007]** In a preferred embodiment, the oven has a metal or stone slab disposed near the bottom wall, parallel to the same and above the heating means. This slab, conveniently supported, forms a cooking plan that can directly accommodate the foods to be cooked. The slab can be of steel, but it is advantageous to use the slate, which has always been used in cooking.

**[0008]** The sealing gasket, that is arranged around a portion of the perimeter of the end of the conduit connectable to the wood stove, preferably occupies a portion of said perimeter greater than 60%. The portion that is left without sealing means allows to maintain appropriate levels of draft in the stove, which is however suitably adjusted to cause the smoke to circulate inside the oven baking chamber.

**[0009]** Such gasket may be made of sufficiently cushionable material able to be adapted to the irregularities of the front wall of the stove, and furthermore this material must be able to withstand the operating temperatures of the apparatus, which may be in the order of 300 ° C. In a preferred embodiment, such gasket is obtained by rolling a fireproof cover and disposing it along the perimeter of the open end of said conduit. !

**[0010]** Further advantages and features will become apparent from the following detailed description of an embodiment of the present invention, for exemplifying and not limiting purposes, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of the oven according to the present invention, coupled to a wood stove;

Figure 2 is a longitudinal section view of the apparatus shown in Figure 1;

Figure 3 is a top plane view of the oven according to the present invention; and

Figure 4 is an enlarged perspective view of a detail of the oven of Figure 1.

**[0011]** Figure 1 illustrates the oven according to the present invention, designated by the numeral 1, coupled to the wood stove 10. The oven is provided with side walls 401, a front door 101 of access to the cooking chamber, not visible in the present figure. Door 101 is provided with a handle 111 and an inspection glass 121 inside the oven. The front panel of the oven 1 is provided with regulators 201 for the heating means and with the timer 301. The oven 1 is supported by the frame 501 provided with four legs 511. The rear wall of the oven 1 has a duct 601 which at the free end has a coupling flange 611 with the front wall of the stove 10, said flange 611 being provided with sealing means 621. The door 11 of the stove is open to allow the coupling of the duct 601 with the opening of the stove 10, which is provided with a chimney 12.

**[0012]** Figure 2 shows the furnace 1 and the stove 10

coupled to each other; equal parts correspond to the same numerals. In the figure, the legs 511 of frame 501 supporting oven 1 are provided with wheels 521, which allow for easier movement of oven 1. Flange 211 is not provided on the underside, thus allowing access to the air. In addition, the oven furnace chamber 701 is visible, in which the heating means 801 and 811, preferably electric resistances of a total power of between 1.5 and 3.0 kW are located. Near the bottom wall of the baking chamber 701 there is provided a baking slab 721, supported by the supports 711, as well as partially resting on the inner wall of said duct 601. From Figure 3 it can be noted that the duct 601 is placed on the rear wall of the oven 1 according to the present invention.

**[0013]** Figure 4 shows an embodiment of duct 601 described above and illustrated in figures 1 to 3. The duct comprises a parallelepiped box-like body 601 provided at one end of a radial flange 631 provided with a plurality of through holes 641 which allow coupling with suitable fastening means such as screws, bolts or the like to the rear wall of said oven and at the opposite end of an axial flange 611 disposed along only three sides of the perimeter of said duct and provided inside with a sealing gasket 621.

**[0014]** The operation of the electric oven according to the present invention will be apparent from the following. The oven according to the present invention is arranged to be coupled with the wood stove 10 by joining the end of the duct 601 with the flange 611 and the seal 621 to the front wall of the stove so that the flange 611 and the seal 621 surround in fact, for most of its perimeter, the supply opening formed in the front wall of the stove.

**[0015]** The stove had previously been properly charged and lit; in this way, the combustion fumes of the wood loaded in the stove can circulate, as is apparent from Figure 2 of the accompanying drawings, in the oven baking chamber 701. The food placed on the baking slab 721 is thus intended to absorb the burnt woody aroma that is released into the stove and which through the duct 601 can access the above-mentioned baking chamber.

**[0016]** Gasket 621 surrounds three of the four sides of the perimeter of duct 601, leaving an opening to allow the air to enter the combustion chamber of the stove. The gasket can be made of different materials, provided that they are adaptable to the shape of the front wall of the stove and are resistant to the operating temperatures of the oven coupled to the stove itself. In the illustrated embodiment, the gasket has been made with a rolled fireproof cover to form a cylinder of about 50 mm in diameter, then cut into three segments which are arranged on the flange 611 as illustrated in Figure 4 of the attached drawings.

**[0017]** The baking slab 721 can be made of metal material, such as steel or of stone material, such as, and preferably, in slate; the thickness of the slab in the latter case can be between 10 and 20 mm. On the one hand, this cooking plate allows one to distribute the heat evenly in the lower part of the cooking chamber, and on the other

provides an ideal cooking surface for both use and maintenance.

**[0018]** The baking chamber of the electric oven according to the present invention not only benefits from coupling to the wood stove from the point of view of the aromas that are produced by the combustion of the same wood but also uses a portion of the heat produced in that stove. In any case, the upper and lower heating means of the oven chamber are dimensioned, from the point of view of the power, so that they can withstand the cooking also independently.

**[0019]** Advantageously, when the oven according to the invention is not used in conjunction with the wood stove, it may be necessary to remove the duct 601 and replace it with a closing plate, so as to obtain a conventional electric oven, which can in any case be easily converted to the coupleable version again.

**[0020]** The electric furnace according to the present invention therefore allows the baked foods to contain a fragrance comparable to that achieved by a wood oven, without causing its structural and maintenance complexities.

## 25 Claims

1. Electric oven (1) made to be coupled to a wood burning stove (10), wherein said oven comprises a metal box-shaped body provided with a front access opening, with a closing door (101), and a cooking chamber (701) accessible from that opening, and being provided in correspondence of the top wall and the bottom wall of the electrical heating means (801, 811), being suitably connected to the rear wall of said chamber, a conduit (601) that opens to a substantial portion of the rear wall, and is provided, at the opposite end to that connected to said rear wall, of sealing means (611, 621) along a substantial portion of its perimeter; the said end is bound to the temporary coupling to the feed opening of a wood burning stove (10).
2. Electric oven according to claim 1, wherein said conduit (601) is removably mounted.
3. Electric oven according to claim 1 or 2, wherein said oven has a cooking slab (721) disposed in the vicinity of the bottom wall, parallel to the same and positioned above the heating means (811).
4. Electric oven according to claim 3, wherein said cooking slab (721) is a slate slab of a thickness comprised between 10 and 20 mm.
5. Electric oven according to any of the preceding claims 1 to 4, wherein the sealing means (621) which is disposed around a portion of the perimeter of the duct end coupled to the wood burning stove, prefers

to occupy a portion greater than the 60 % of the said perimeter.

- 6. Electric oven according to claim 5, wherein said gasket (621) is made of sufficiently resilient material able to adapt to the irregularities of the front wall of the stove, and suitable to withstand the operating temperatures of the equipment, which may be in the order of 300 ° C. 5
- 7. Electric oven according to claim 6, wherein said gasket (621) is obtained by rolling a fireproof cover, and arranging it along the perimeter of the open end of said conduit. 10
- 8. Electric oven according to any of the preceding claims 1 to 7, wherein said heating means have an overall power of between 1.5 and 3.0 kW. 15
- 9. Oven according to any of the preceding claims 1 to 8, wherein said conduit comprises a parallelepiped box-shaped body (601) provided at one end of a radial flange (631) provided with a plurality of through holes (641) that allow the coupling, by means of suitable fixing means such as screws, bolts similar, to the rear wall of said oven (1), and at the opposite end provided with an axial flange (611), disposed along only three sides of the perimeter of said conduit (601), and provided on the inside with a sealing gasket (621). 20

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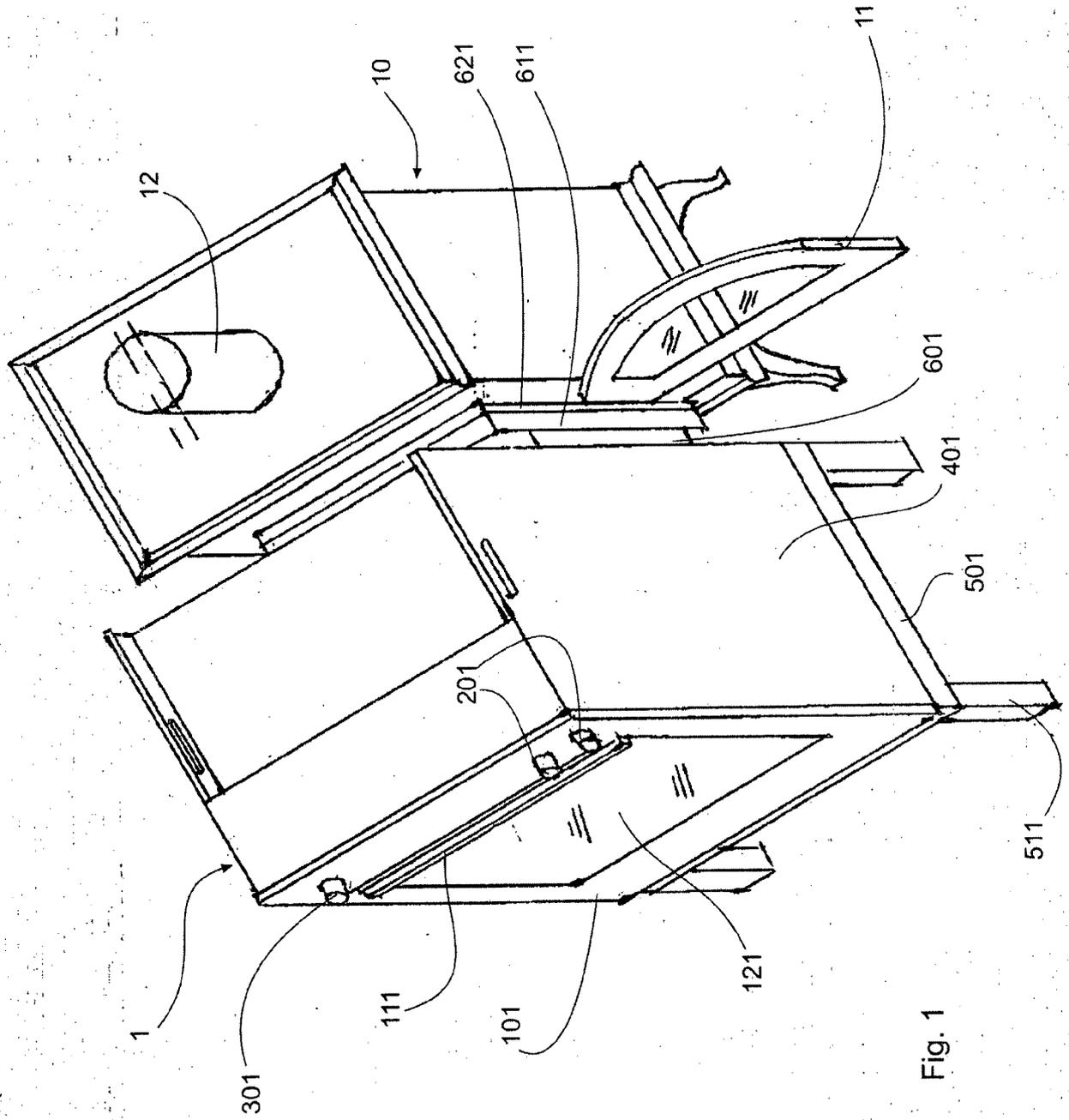


Fig. 1

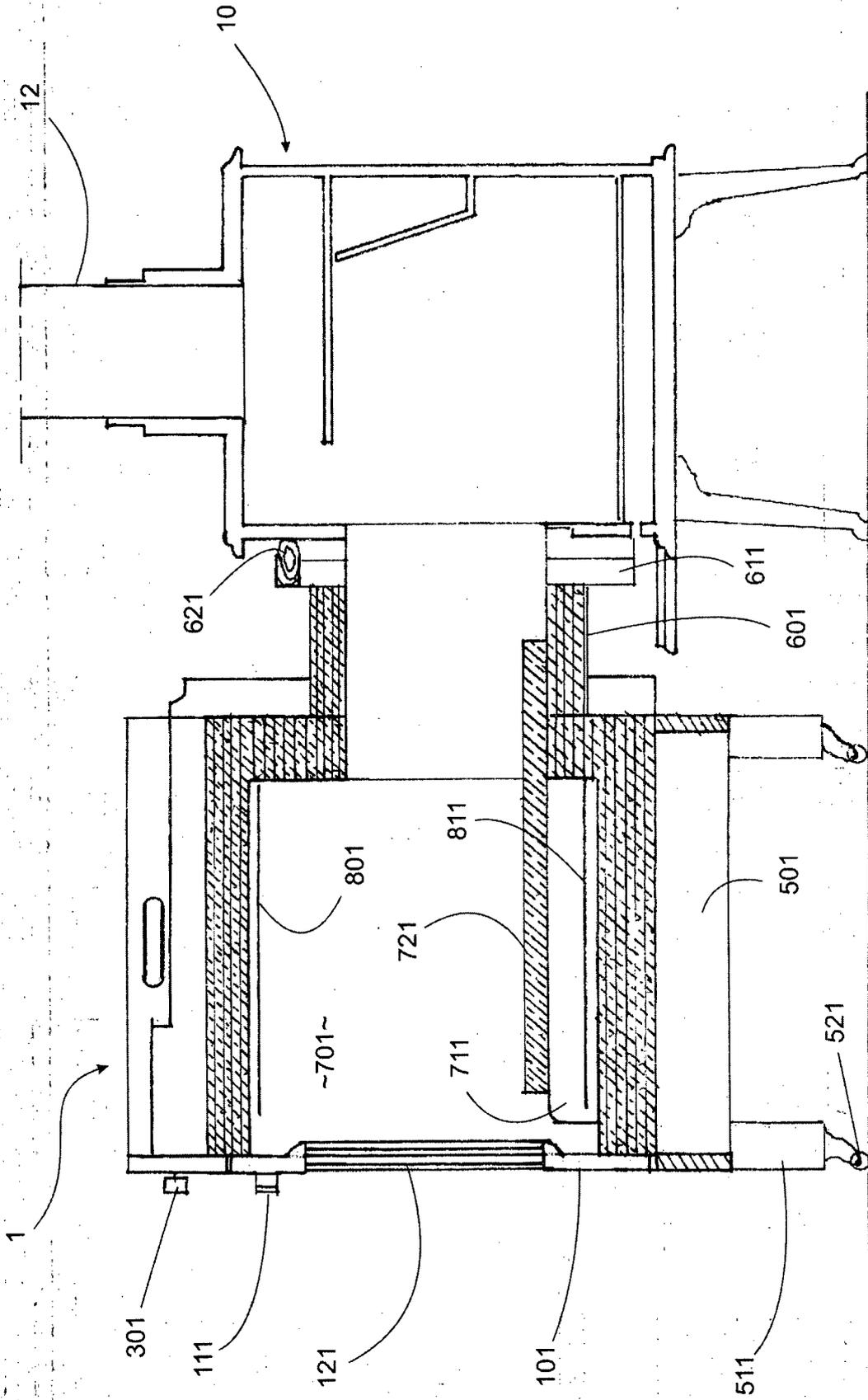


Fig. 2

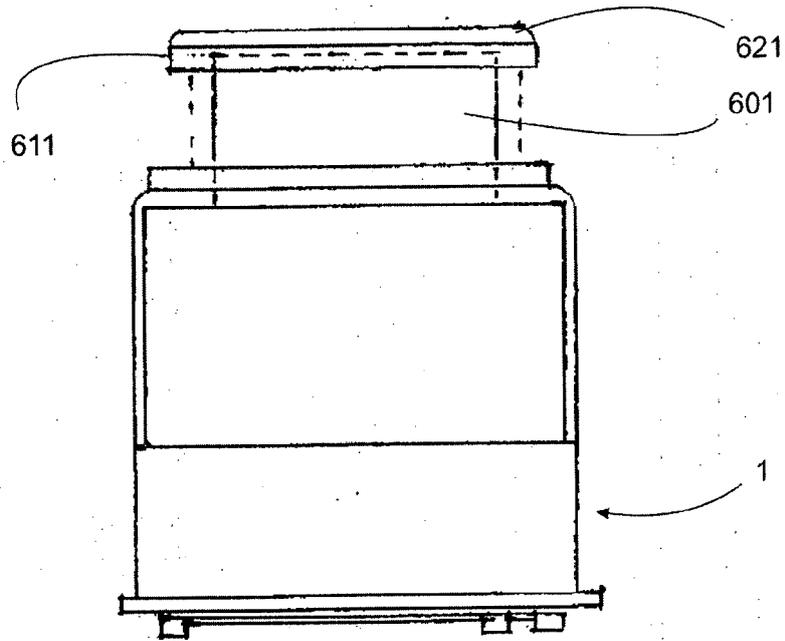


Fig. 3

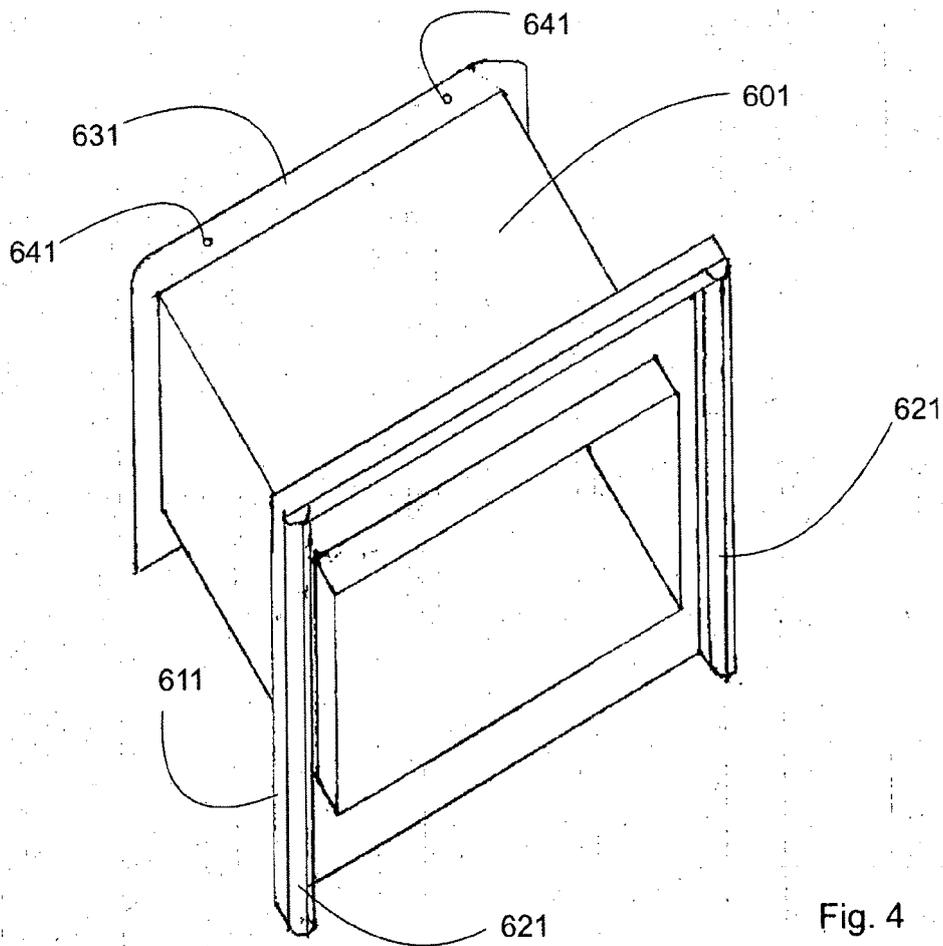


Fig. 4



EUROPEAN SEARCH REPORT

Application Number  
EP 17 00 1690

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The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>13 February 2018</b>	Examiner <b>Fest, Gilles</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ANNEX TO THE EUROPEAN SEARCH REPORT  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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