

(19)



(11)

EP 3 647 665 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
06.05.2020 Bulletin 2020/19

(51) Int Cl.:
F24C 15/08 ^(2006.01) **C23D 1/00** ^(2006.01)
F24C 3/00 ^(2006.01) **F24C 7/04** ^(2006.01)

(21) Application number: **18203274.8**

(22) Date of filing: **30.10.2018**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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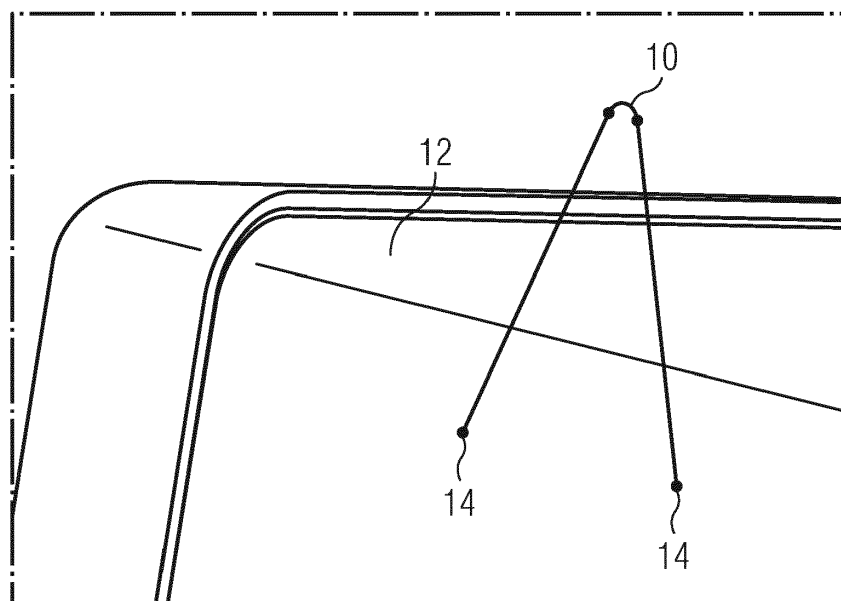
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(54) SUSPENSION DEVICE FOR AN OVEN CAVITY

(57) The present invention relates to a suspension device for an oven cavity (12), in particular for an oven cavity (12) of a cooking oven. The suspension device includes at least one wire (10). At least one open end of

the wire (10) is attachable or attached at the oven cavity (12), so that the wire (10) forms a hanger for said oven cavity (12).

FIG 1



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Description

[0001] The present invention relates to a suspension device for an oven cavity. In particular, the present invention relates to a suspension device for an oven cavity of a cooking oven. Further, the present invention relates to an oven cavity. Moreover, the present invention relates to a method for treating an oven cavity, in particular an oven cavity of a cooking oven, wherein the oven cavity is fastened at a conveyor.

[0002] Usually, an oven cavity is treated during the production process. In particular, the oven cavity is enamelled. During the enamelling process or another treatment the oven cavity is hung-up on a conveyor. Moreover, during a transport within the place of production the oven cavity must be hung-up.

[0003] For example, the oven cavity may have holes at an outer side thereof, wherein C-shaped wires penetrate said holes. In this case, a diameter of the wires between 3 mm and 5 mm is necessary. A thicker diameter would be mandatory in order to keep the shape of the wires during the heating process.

[0004] Further, sheet metal hangers are welded at the outer side of the oven cavity. In particular, said sheet metal hangers are suitable for an automatic production process. However, the sheet metal hangers increase the material costs of the oven cavity.

[0005] It is an object of the present invention to provide a suspension device for an oven cavity, which allows a stable hanging during the production process and the transport within the place of production by low complexity.

[0006] The object is achieved by the suspension device for an oven cavity according to claim 1.

[0007] According to the present invention a suspension device for an oven cavity, in particular for an oven cavity of a cooking oven, is provided, wherein:

- the suspension device includes at least one wire, and
- at least one open end of the wire is attachable or attached at the oven cavity, so that
- the wire forms a hanger for said oven cavity.

[0008] The wire with the open end or ends attachable or attached at the oven cavity allows a stable hanging during the production process and the transport within the place of production on the one hand and is realised by low complexity on the other hand.

[0009] Preferably, the wire is V-shaped. The V-shape is the most stable shape of the wire for the treatment in a furnace. The V-shaped wire remains stable during a firing process and allows temperatures up to 850°C.

[0010] For example, the diameter of the wire is between 0.5 mm and 1.5 mm, preferably 1.0 mm. This low diameter contributes to low material costs.

[0011] In particular, at least one open end of the wire is weldable or welded at the oven cavity.

[0012] Further, the suspension device may include at

least one metal plate attachable or attached at the oven cavity.

[0013] Preferably, the metal plate is weldable or welded at the oven cavity.

5 **[0014]** Moreover, at least one open end of the wire may be attachable or attached at the metal plate.

[0015] In particular, at least one open end of the wire is weldable or welded at the metal plate.

10 **[0016]** For example, the metal plate is formed as a stripe.

[0017] Further, at least one open end of the wire may be attachable or attached at a wall of the metal plate.

15 **[0018]** Preferably, at least one open end open ends of the wire is attachable or attached close to an edge between two adjacent walls of the oven cavity.

[0019] In particular, the longitudinal axis of the plate formed as stripe extends parallel to the edge between the two adjacent walls of the oven cavity.

20 **[0020]** Further, the present invention relates to an oven cavity, in particular for a cooking oven, wherein the oven cavity comprises at least one suspension device mentioned above.

25 **[0021]** Moreover, the present invention relates to a method for treating an oven cavity, in particular an oven cavity of a cooking oven, wherein the oven cavity is fastened at a conveyor, and wherein the oven cavity is fastened at the conveyor by the suspension device mentioned above, and wherein said suspension device is attached at the oven cavity.

30 **[0022]** For example, the oven cavity is treated in a furnace.

[0023] In particular, the oven cavity is enamelled in the furnace.

35 **[0024]** Novel and inventive features of the present invention are set forth in the appended claims.

[0025] The present invention will be described in further detail with reference to the drawings, in which

FIG 1 illustrates a schematic perspective view of a suspension device for an oven cavity according to a first embodiment of the present invention,

FIG 2 illustrates a schematic perspective view of the suspension device for the oven cavity according to the first embodiment of the present invention, and

FIG 3 illustrates a schematic perspective view of the suspension device for the oven cavity according to a second embodiment of the present invention.

50 **[0026]** FIG 1 illustrates a schematic perspective view of a suspension device for an oven cavity 12 according to a first embodiment of the present invention.

[0027] The suspension device includes a wire 10. Said wire 10 is bent to a V-shape. The V-shaped wire 10 is attached at the oven cavity 12. In this example, the both

open ends of the V-shaped wire 10 are attached at the oven cavity 12. Preferably, the open ends of the V-shaped wire 10 are welded at the oven cavity 12. Two welding joints 14 are formed between the open ends of the wire 10 and the oven cavity 12. In this embodiment, the open ends of the wire 10 are directly welded to the oven cavity 12. According to an alternative embodiment of the present invention the wire 10 is attached at the oven cavity 12 by only one welding joint. In this case, one open end of the wire is attached at the oven cavity.

[0028] According to a further embodiment of the present invention the wire 10 may be formed as a closed loop having an arbitrary suitable shape, wherein preferably the wire 10 may be attached at the oven cavity 12 by one welding joint.

[0029] In FIG 1 both open ends of the V-shaped wire 10 are welded at a wall of the oven cavity 12, wherein the welding joints 14 are arranged close to an edge between two adjacent walls of said oven cavity 12.

[0030] The V-shape is the most stable shape of the wire 10 for the treatment in a furnace. The V-shaped wire 10 requires only one bending. The V-shaped wire 10 remains stable during a firing process and allows temperatures up to 850°C.

[0031] Preferably, the diameter of the wire 10 is between 0.5 mm and 1.5 mm.

[0032] FIG 2 illustrates a schematic perspective view of the suspension device for the oven cavity 12 according to the first embodiment of the present invention.

[0033] The V-shaped wire 10 is attached at the oven cavity 12. The both open ends of the V-shaped wire 10 are directly welded at the oven cavity 12.

[0034] FIG 3 illustrates a schematic perspective view of the suspension device for the oven cavity 12 according to a second embodiment of the present invention.

[0035] The suspension device of the second embodiment includes the wire 10 and a metal plate 16. Said metal plate 16 is attached at the oven cavity 12. Preferably, the metal plate 16 is welded at the oven cavity 12. In turn, the open ends of the V-shaped wire 10 are welded at the metal plate 16. In this embodiment, the metal plate 16 is formed as a stripe. For example, the metal plate 16 may be made of sheet steel DC01.

[0036] Preferably, the metal plate 16 is welded at a wall of the oven cavity 12, wherein said metal plate 16 is arranged close to an edge between two adjacent walls of said oven cavity 12.

[0037] In this example, the longitudinal axis of the metal plate 16 formed as stripe extends parallel to the edge between the two adjacent walls of the oven cavity 12.

[0038] The suspension device including the wire 10 and the metal plate 16 may be preproduced. At first, the open ends of the V-shaped wire 10 are attached at the metal plate 16. Then, the metal plate 16 with the wire 10 is attached at the oven cavity 12.

[0039] The present invention allows a stable hanging of the oven cavity during the production process and the transport within the place of production on the one hand

and is realised by low complexity on the other hand.

[0040] In particular, the suspension device for the oven cavity 12 according to the present invention is used for the production process and the transport within the place of production. Further, the suspension device of the present invention may be used for the installation of the oven cavity 12 within an oven chassis. Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the present invention is not limited to those precise embodiments, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit of the invention. All such changes and modifications are intended to be included within the scope of the invention as defined by the appended claims.

List of reference numerals

[0041]

- | | |
|----|---------------|
| 10 | wire |
| 12 | oven cavity |
| 14 | welding joint |
| 16 | metal plate |

Claims

1. A suspension device for an oven cavity (12), in particular for an oven cavity (12) of a cooking oven, wherein:
 - the suspension device includes at least one wire (10), and
 - at least one open end of the wire (10) is attachable or attached at the oven cavity (12), so that
 - the wire (10) forms a hanger for said oven cavity (12).
2. The suspension device according to claim 1, **characterised in that** the wire (10) is V-shaped.
3. The suspension device according to claim 1 or 2, **characterised in that** the diameter of the wire (10) is between 0.5 mm and 1.5 mm, preferably 1.0 mm.
4. The suspension device according to any one of the preceding claims, **characterised in that** at least one open end of the wire (10) is weldable or welded at the oven cavity (12).
5. The suspension device according to any one of the preceding claims,

characterised in that

the suspension device includes at least one metal plate (16) attachable or attached at the oven cavity (12).

6. The suspension device according to claim 5,
characterised in that
the metal plate (16) is weldable or welded at the oven cavity (12). 5
7. The suspension device according to claim 5 or 6,
characterised in that
at least one open end of the wire (10) is attachable or attached at the metal plate (16), wherein preferably the at least one open end of the wire (10) is weldable or welded at the metal plate (16). 10
8. The suspension device according to any one of the claims 5 to 7,
characterised in that
the metal plate (16) is formed as a stripe. 15
9. The suspension device according to any one of the preceding claims,
characterised in that
at least one open end of the wire (10) is attachable or attached at a wall of the metal plate (16). 20
10. The suspension device according to any one of the preceding claims,
characterised in that
at least one open end of the wire (10) is attachable or attached close to an edge between two adjacent walls of the oven cavity (12). 25
11. The suspension device according to the claims 8 and 10,
characterised in that
the longitudinal axis of the plate (16) formed as stripe extends parallel to the edge between the two adjacent walls of the oven cavity (12). 30
12. An oven cavity (12), in particular for a cooking oven,
characterised in that
the oven cavity (12) comprises at least one suspension device according to any one of the preceding claims. 35
13. A method for treating an oven cavity (12), in particular an oven cavity (12) of a cooking oven, wherein the oven cavity (12) is fastened at a conveyor,
characterised in that
the oven cavity (12) is fastened at the conveyor by the suspension device according to any one of the claims 1 to 11, wherein said suspension device is attached at the oven cavity (12). 40
14. The method according to claim 13, 45

characterised in that

the oven cavity (12) is treated in a furnace.

15. The method according to claim 14,
characterised in that
the oven cavity (12) is enamelled in the furnace. 50

FIG 1

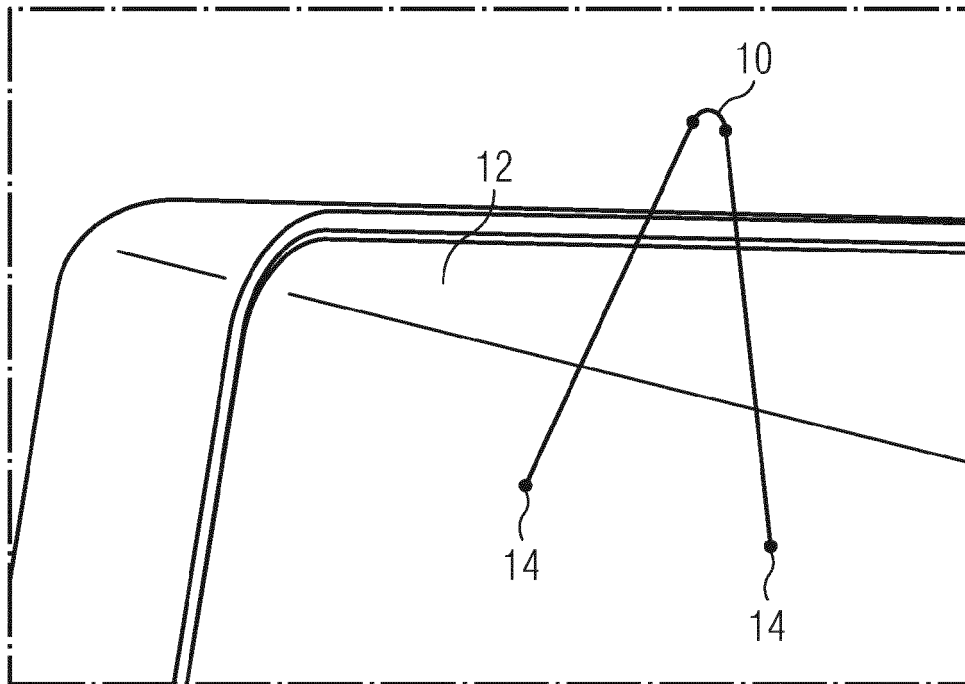


FIG 2

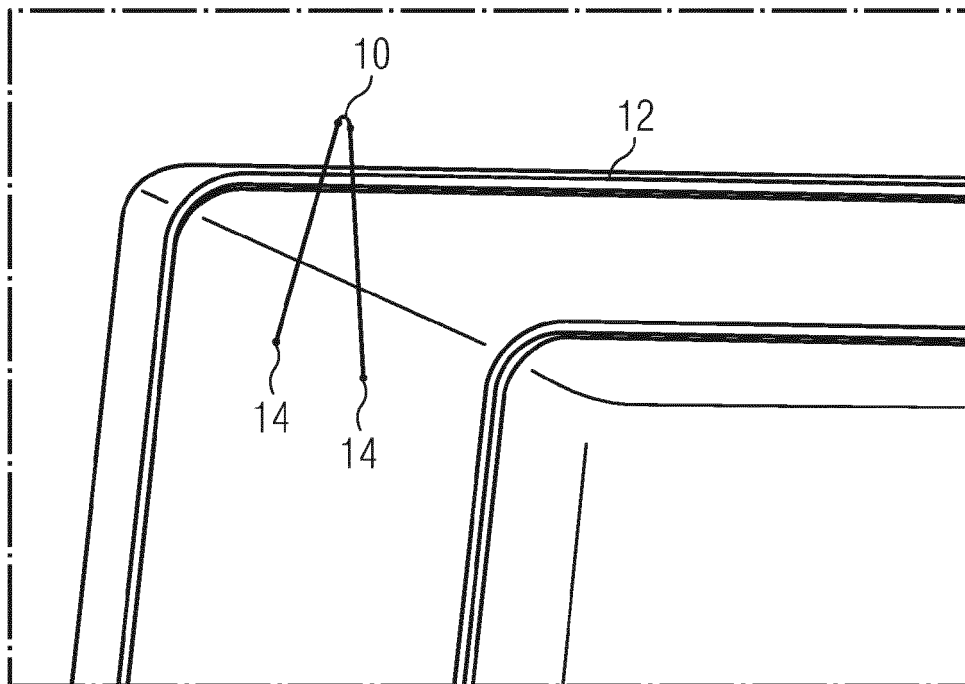
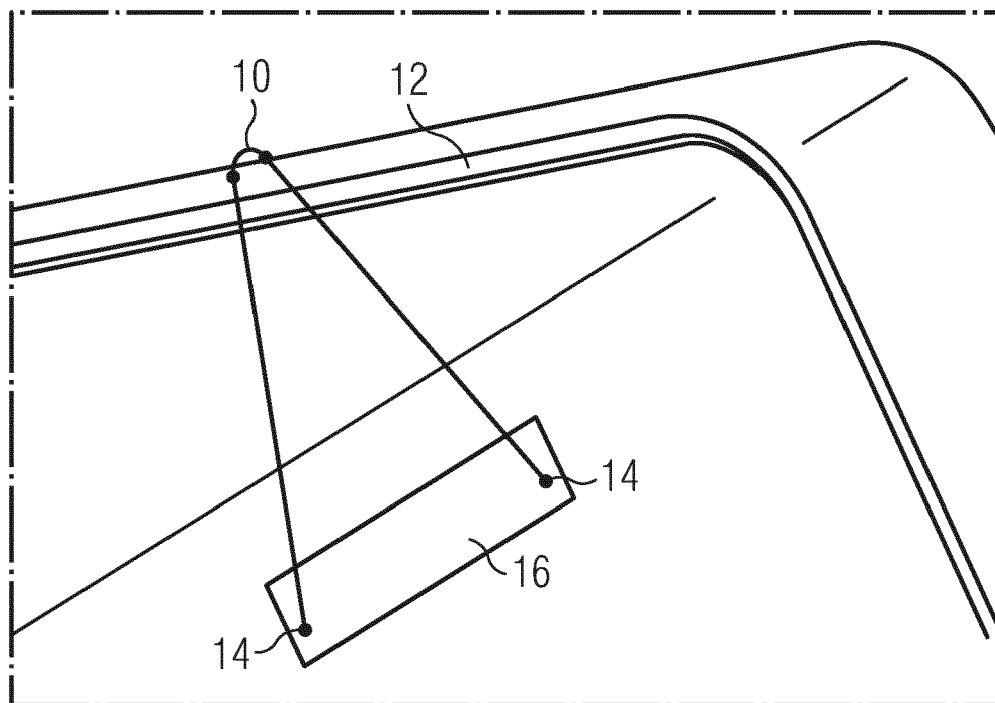


FIG 3





EUROPEAN SEARCH REPORT

 Application Number
 EP 18 20 3274

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 23 April 2019	Examiner Jalal, Rashwan
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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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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