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(54) **INDUCTION HOB**

(57) The present invention refers to an induction hob comprising a body with at least one induction module arranged therein, and a flat glass or ceramic cover element provided for receiving a container to be heated and covering said body. A bottom (1') of the body (1) is formed with a plurality of receptacles (6) configured for cooperation with supports (4) of each induction module (2).

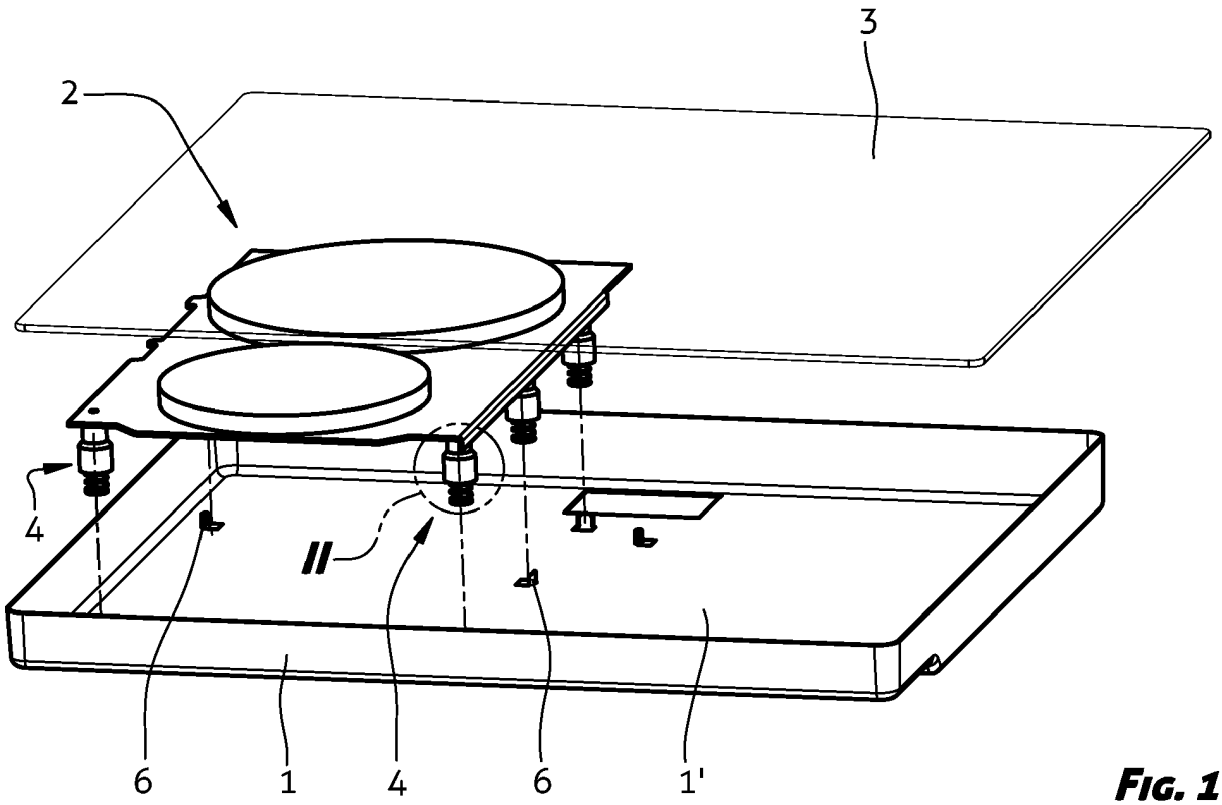

FIG. 1

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Description

[0001] The present invention refers to an induction hob comprising a body with at least one induction module arranged therein, and a flat glass or ceramic cover element provided for receiving a container to be heated and covering said body.

[0002] Usually, an induction module is fixed in a body of an induction hob by means of force fitted pins, screws, or similar connection, said induction module attached thereon. Such a connection of the induction module and the body is rather complex and high-priced. In addition, disassembling the induction module and the body also represents considerable complexity. A weakening of the connection between said module and said body often takes place, in particular with multiple assembling and/or disassembling of the induction module and the body.

[0003] Moreover, folds are used with known induction hobs provided for attaching the induction module thereon. The stiffness of the fold represents a considerable problem, since the fold may become loosen due to the forces during transportation resulting in dislocation of the induction module from desired position.

[0004] It is the object of the present invention to create an induction hob of the aforementioned kind, where an induction module is reliably and in a proper position fixed to a body of the induction hob, wherein said fixing provides for a low-cost and simple assembling of the induction module with the body of the induction hob.

[0005] It is provided according to the present invention that a bottom of a body of a induction hob is formed with a plurality of receptacles provided for cooperation with supports of each induction module. Each support is either formed as a deformable support or is comprised of a deformable element. Said deformability of the plurality of the supports provides for the induction module is reliably and firmly pressed against a cover element.

[0006] In case when said support comprises a deformable element, said support is formed at the free end thereof facing said bottom of the body with a cavity for accommodation of the deformable element.

[0007] It is further provided according to the present invention that said receptacles are formed as fittings attached to the bottom of the body, such as glued, welded or screwed fittings for example. Yet further is provided that the receptacles are formed as convexities or concavities in the bottom of the body, said receptacles created by a deep-drawing process. Yet further is provided that said receptacles are formed as integral parts of the bottom of the body and, respectively, as folds in the bottom of the body created by a punching and bending process for example. Obviously, an arbitrary combination of said embodiments is possible.

[0008] Said receptacle comprises at least one tongue folded approximately perpendicularly with regard to the bottom of the body. Alternatively, said receptacle can comprise a plurality of tongues arranged in circle on the bottom of the body so that they either envelope the outer perimeter of the support and/or are enveloped by the inner perimeter of said cavity of the support.

[0009] Moreover, it is provided according to the present invention that at least one said receptacle comprises a tongue or a plurality of tongues which is/are punched and/or bent in various directions, thus lowering the load of the tongues during assembly, transport and use of the hob.

[0010] The invention is further described in detail by way of non-limiting embodiment, and with a reference to the accompanying drawings, where

Fig. 1 shows a three-dimensional exploded view of a hob,
Fig. 2 shows a detail **II** of Fig. 1 in a vertical section and with assembled hob,
Fig. 3 shows a detail of Fig. 2 in a section according to the line **III-III,**
Fig. 4 shows a first embodiment of a fixing element of Fig. 3,
Fig. 5 shows further embodiment of the fixing element of Fig. 3,
Fig. 6 shows yet another embodiment of the fixing element of Fig. 3,
Fig. 7 shows yet another embodiment of the fixing element of Fig. 3.

[0011] An induction hob according to the invention comprises a body 1 with at least one induction module 2 arranged therein 2, said body 1 being closed, for instance, by a glass or a ceramic flat cover element 3 provided for receiving a container to be heated. On the one hand, the induction module 2 arranged in the body 1 is tightly pressed against said cover element 3, and cooperates, on the other hand, by means of a plurality of supports 4 with a bottom 1' of the body 1, said bottom 1' averted from the cover element 3. Each support 4 is either formed as a deformable support, or it comprises a deformable element 5. Said deformabiliy of the plurality of supports 4 provides for a reliable and firm pressing of the induction module 2 against the cover element 3. With the present embodiment, said deformable element 5 is selected as a helical compression spring. In the case when the support 4 comprises a deformable element 5, the support 4 is formed at the free end thereof facing the bottom 1' of the body 1 with a cavity 4' to accommodate the deformable element 5. Obviously, the depth of the cavity 4', that is the extension of the cavity 4' in direction from said free end of the support 4 towards the end of the support 4 fixed to the induction module 2, is shorter than the length of said deformable element 5, thus providing continuous action of the elastic force pressing the induction module 2 against the cover element 3.

[0012] In order to each induction module 2 is kept fixed in required place, said bottom 1' is formed with a plurality of receptacles 6 configured to accommodate supports 4 and to cooperate therewith. Said receptacles 6 are formed as fittings attached to the bottom 1', such as

glued, welded or screwed fittings for instance. It is provided for, according to another embodiment, that the receptacles 6 are formed as convexities or concavities in the bottom 1' created by a deep-draw process. It is possible, according to yet another embodiment, that said receptacles 6 are formed as integral parts of the bottom 1' and, respectively, as folds in the bottom 1', created by punching and bending process, for example. Obviously, an arbitrary combination of said embodiments of the receptacle2 6 is possible.

[0013] Moreover, Fig. 2, 3, 4 and 5 show an embodiment of the receptacle 6 which is created in the bottom 1' of the body 1 by punching and bending process. In this instance, the receptacle 6 comprises at least one tongue 7 bent approximately perpendicularly with regard to the bottom 1' of the body 1, said tongue 7 being formed in its cross-section, where the sectional plane extends in parallel with the bottom 1' of the body 1, in a manner that it resembles an approximate shape of the letter U or V or similar, and in a manner that it is adapted either to the outside diameter and, respectively, the inner diameter of said cavity 4' of the support 4 or to the inner diameter of the helical compression spring 5. Such a structure of the tongue 7 also enables additional stiffness of the tongue 7. With assembled hob, each support 4 cooperates with at least one of the tongues 7, wherein the tongue 7 serves both for guiding the compression spring and, respectively, the deformable element 5, and for positioning of the induction module 2. The edges of the free end of the tongue 7 are formed with a fillet or a chamfer in order to facilitate the accommodation of the support 4.

[0014] In order to provide additional stiffness of the tongues 7 and, thus, of the entire assembly induction module 2 - receptacle 6, at least part of the tongues 7 is punched and/or bent in different direction. In this manner, the forces of the induction module 2, which load each receptacle 6 and, respectively, the tongue 7 during assembling, transportation and usage of the hob, are distributed uniformly regardless of the direction in which the forces act on the receptacle 6 and, respectively, the tongue 7.

[0015] Moreover, Fig. 6 and 7 shows an embodiment of the receptacle 6 formed with a plurality of tongues 7, which are formed in the bottom 1' of the body 1 by punching and bending process. Said tongues 7 of the receptacle 6 are arranged in circle so that they either envelope the outer perimeter of the support 4 and/or are enveloped by the inner perimeter of said cavity 4' of the support 4, when the support 4 is inserted into the receptacle 6 and, respectively, is placed onto the tongues 7. It is provided for according to the preferred embodiment that the connection between each support 4 and each receptacle 6 is formed as a tight elastic connection.

Claims

1. An induction hob comprising a body with at least one induction module arranged therein, and a flat glass or ceramic cover element provided for receiving a container to be heated and covering said body, ***characterized in that*** a bottom (1') of the body (1) is formed with a plurality of receptacles (6) configured for cooperation with supports (4) of each induction module (2).

2. An induction hob according to claim 1, ***characterized in that*** each support (4) is formed as a deformable support.

3. An induction hob according to claim 1, ***characterized in that*** each support (4) comprises a deformable element (5).

4. An induction hob according to claim 3, ***characterized in that*** said deformable element (5) is selected as a helical compression spring.

5. An induction hob according to claims 3 and 4, ***characterized in that*** the support (4) is formed at the free end thereof facing the bottom (1') of the body (1) with a cavity (4') to accommodate a deformable element (5).

6. An induction hob according to any of the preceding claims, ***characterized in that*** said receptacles (6) are formed as fittings attached to the bottom (1') of the body (1).

7. An induction hob according to any of the preceding claims, ***characterized in that*** said receptacles (6) are formed as convexities or concavities in the bottom (1') of the body (1) created by a deep-draw process.

8. An induction hob according to any of the preceding claims, ***characterized in that*** said receptacles (6) are formed as integral parts of the bottom (1') of the body (1) created by a punching and bending process.

9. An induction hob according to any of the preceding claims, ***characterized in that*** the receptacle (6) comprises at least one tongue (7) folded approximately perpendicularly with regard to the bottom (1') of the body (1).

10. An induction hob according to any of the preceding claims, ***characterized in that*** the receptacle (6) comprises a plurality of tongues (7) arranged in a circle on the bottom (1') of the body so that they either envelope the outer perimeter of the support (4) and/or are enveloped by the inner perimeter of said cavity (4') of the support (4).

11. An induction hob according to claims 9 or 10, ***characterized in that*** at least one receptacle (6) com-

prises the tongue (7) or plurality of tongues (7) which is/are punched and/or bent in various directions.

12. An induction hob according to any of the preceding claims, ***characterized in that*** the tongue (7) is formed in its cross-section in the sense of a letter (U) or (V), and in a manner that it is adapted either to the outside diameter of said support (4) and, respectively, to the inner diameter of said cavity (4') of the support (4), or to the inner diameter of the helical compression spring (5).

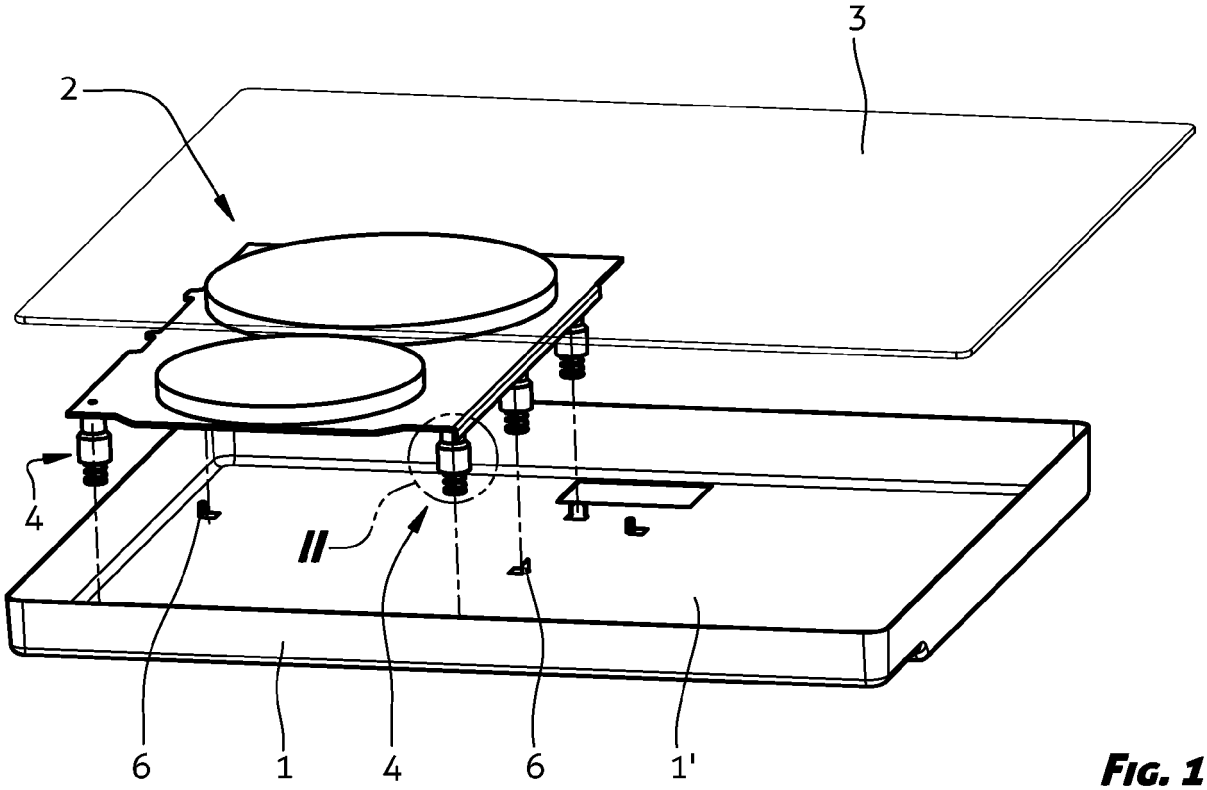

FIG. 1

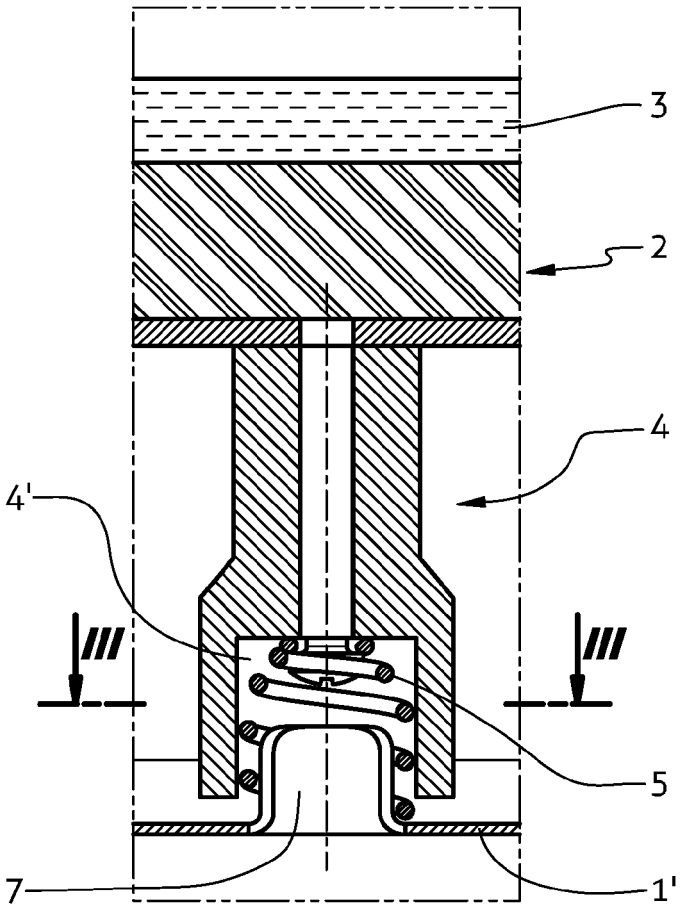

FIG. 2

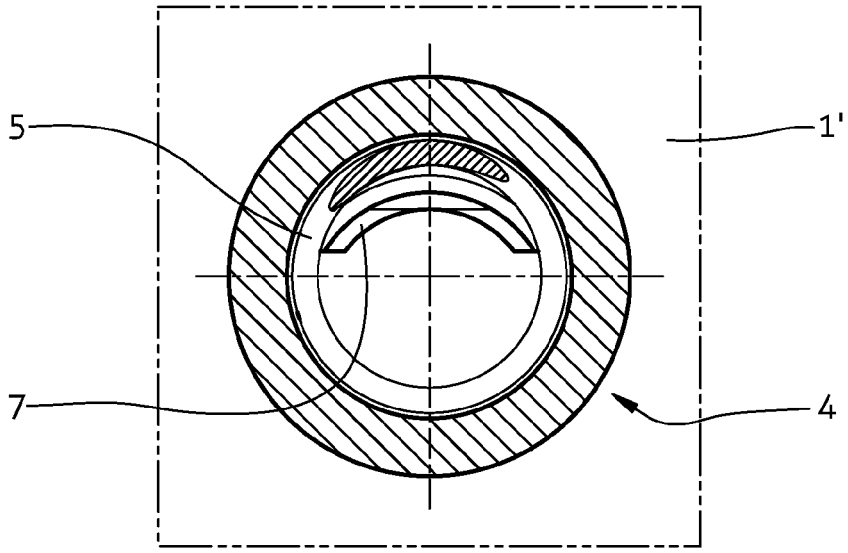

FIG. 3

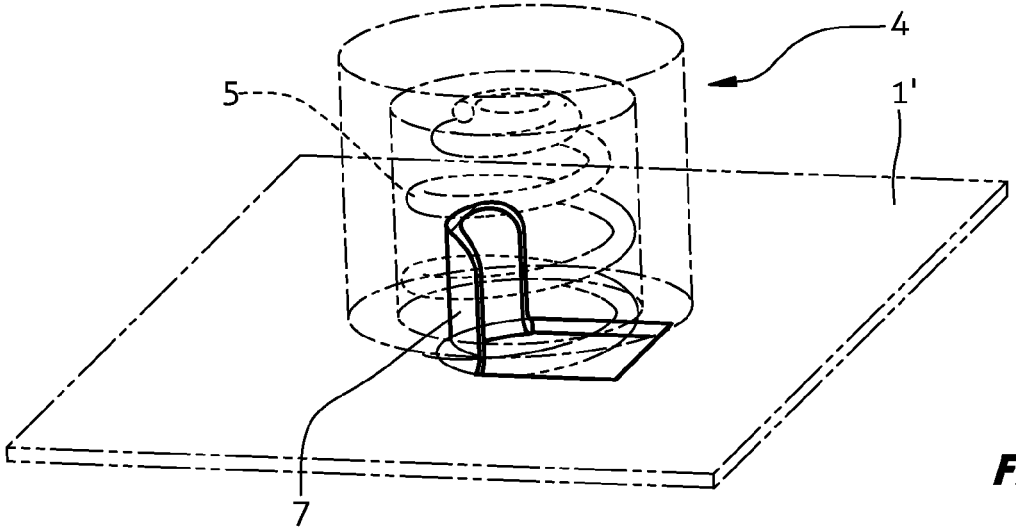

FIG. 4

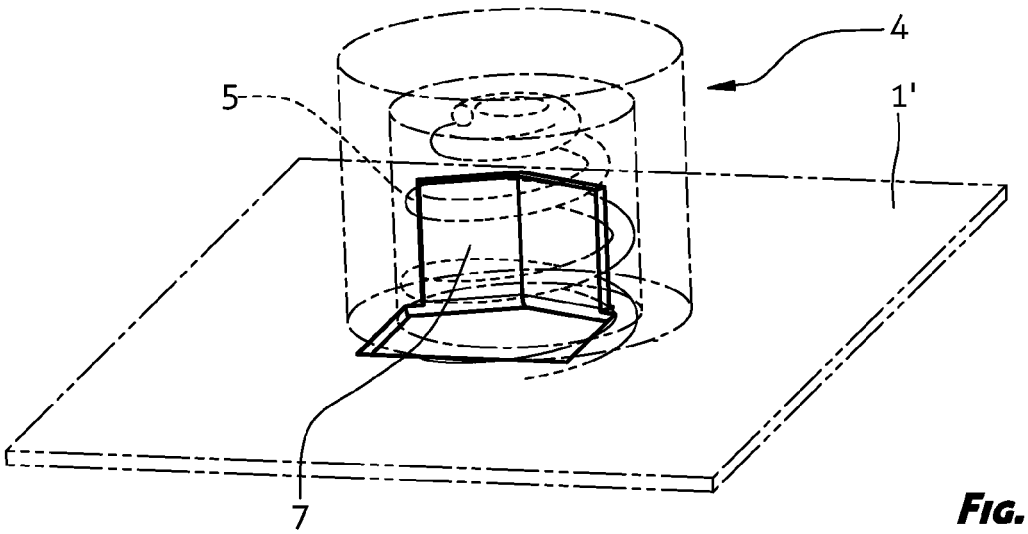

FIG. 5

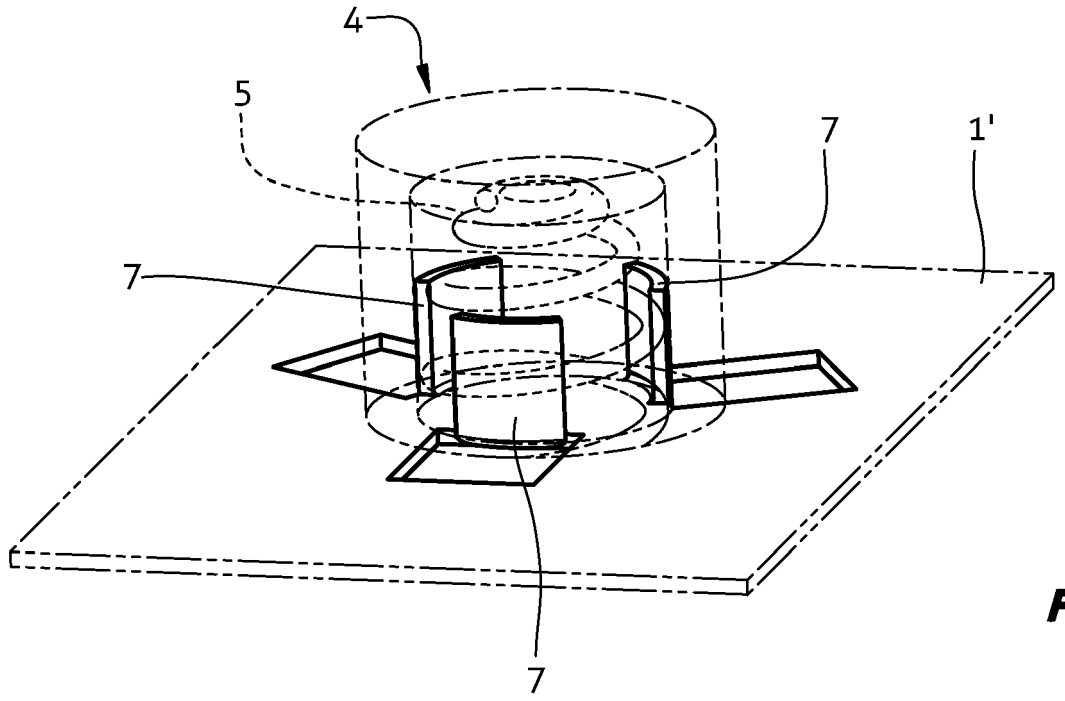

FIG. 6

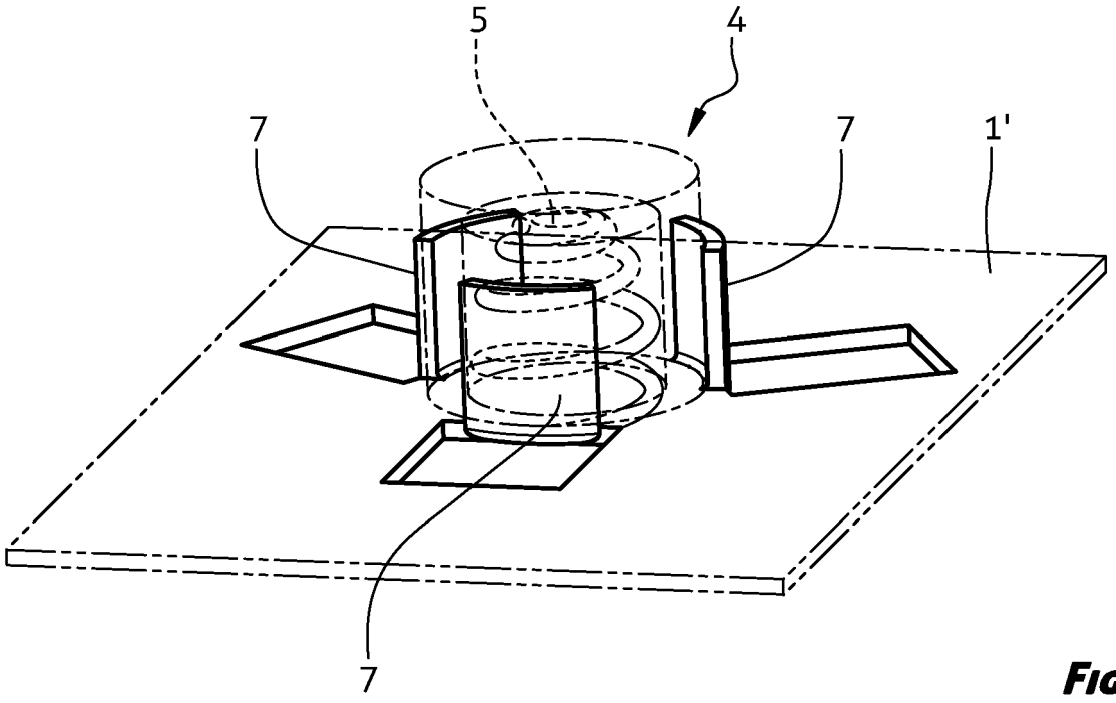

FIG. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 18 15 0123

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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TECHNICAL FIELDS SEARCHED (IPC)

H05B
F24C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 May 2018	Pierron, Christophe

CATEGORY OF CITED DOCUMENTS

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16-05-2018

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