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(54) A device having drying function

(57) The device having drying function (B) developed by present invention comprises one condenser (A) comprising one inner wall (1), one partition wall (4) and one cover (7). One gap (8), serving for thermal isolation and a condensation gap (9) are created in the condenser (A) provided in developed device (B). The condenser (A) is preferably placed in the recession (11) provided on the rear panel (10) of the device (B). Thus, since the condenser (A) is in outside of the device (B), it is prevented from creating a distinct projection on the device (B). The condenser (A) is not affected by temperature of the device (B) thanks to isolation gap (8). Moreover, since the cover (7) is in detachable form, the condenser (A) can be cleaned by the user.

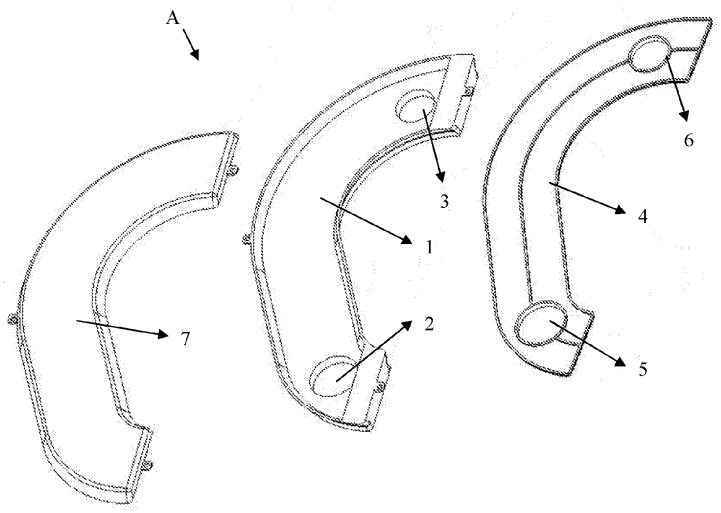

Figure 1

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Description

Technical Field

[0001] Present invention relates to devices having drying function comprising one drying condenser which is efficient and can be cleaned by users.

Prior Art

[0002] In devices having drying function known from state of art, one condenser is used for drying process. Said condenser generally comprises only one condensation chamber. In said devices, humid air taken from the tub passes through the condenser. Humidity in air passing through the condenser is condensed and air, humidity rate of which is decreased, is transmitted back to the tub.

[0003] In said devices, the condenser is provided within the device body. However, condenser provided in the device body is affected by high internal temperature of the device and condensing process cannot be carried out in adequately efficient way. In addition, lint and /or fibers are also taken in the condenser together with air taken from the tub to the condenser and they are accumulated in the condenser. Said accumulation prevents the air flow in the condenser and decreases efficiency of the condenser.

[0004] In the patent document No.JP11347282A, in which one of the embodiments developed for solution to said problems is disclosed, condenser and fan are mounted outside of the device body in the drying device. Thus, condenser is kept off internal temperature of the device. However, in the device developed by the invention, since the condenser and fan are placed outside of the device, size of the device becomes greater and also security problem emerges. In addition, said embodiment does not offer a solution to the problem of lint and/or fiber accumulation.

[0005] In patent document No.KR20050012100, air guides in the condenser are extended and water is sprayed into the air guide by means of a water spraying device. One water adsorbing element is placed in the condenser for the aim of adsorbing water and preventing it from leaking out from the condenser. Said embodiment increases efficiency of condenser but causes water consumption to be high and to accumulate lint and/or fiber in the condenser.

Brief Disclosure of the Invention

[0006] Device having drying function developed by present invention comprises one condenser comprising at least one rear panel; at least one inner wall; at least one partition wall, on which there is provided at least one inlet and which is fixed on the inner wall in a fluid-tight manner; at least one detachable cover fixed on the inner wall and/or partition wall; one gap formed after the partition wall is fixed on the inner wall; second gap, which is formed between the cover and the partition wall after the cover is fixed.

[0007] The condenser used in developed device is placed in the recession, which is preferably created on the rear panel, from outside of the device. There are formed two gaps thermally insulated from each other in the condenser. One of gaps is provided between the inner wall and the partition wall and also makes thermal isolation between the device and the other gap, which is provided between the partition wall and the cover and also used as condensation gap. Said cover can be detached by the user and thus, the condenser can be cleaned when required. This application offers a solution to the problem of lint and/or fiber accumulation in the condenser. Since the condenser is provided outside of the device and thermal isolation is made between the device and the condenser, efficiency of the condenser is increased.

Objective of the Invention

[0008] The aim of the invention is to develop a device having drying function comprising an efficient condenser.

[0009] Another aim of the invention is to develop a drying device comprising a condenser, which is mounted to outside of the device.

[0010] A further aim of the invention is to develop a device having drying function comprising a condenser, which is thermally isolated from the device.

[0011] Still a further aim of the invention is to develop a device having drying function comprising a condenser, which can be cleaned by the user.

Description of the Figures

[0012] Device having drying function developed by the invention and exemplary embodiments of the condenser provided in said device are illustrated in annexed figures, wherein;

Figure 1 is perspective view of the components of developed condenser before montage.

Figure 2 is sectional view of developed condenser after montage.

Figure 3 is a back view of developed device having drying function.

Figure 4 is a side view of developed device having drying function.

Figure 5 is another side view of developed device having drying function.

Figure 6 is view of C detail of the device given in Figure 5.

[0013] All the parts illustrated in figures are individually assigned a reference number and the corresponding terms of these numbers are listed as below;

Condenser	(A)
Device having drying function	(B)
Innerwall	(1)
Passage	(2, 3)
Partition wall	(4)
Inlet	(5,6)
Cover	(7)
Gap	(8,9)
Rear panel	(10)
Accession	(11)
Duct	(12, 13)
Tub	(14)

Disclosure of the Invention

[0014] Components disposed in the condenser (A) in the device having drying function (B) developed by present invention are illustrated in Figure 1. Said condenser (A) comprises at least one inner wall (1), at least one partition wall (4) and at least one cover (7). The inner wall (1) is preferably in concave form. There is preferably provided at least one passage (2) on the inner wall (1). One duct (shown in figures) passes through said passage (2). There is provided at least one inlet (5) on the partition wall (4). Said duct is placed in the passage (5). Said cover (7) is preferably in convex form and fixed detachably (for example by screwing) to the inner wall (1) and/or partition wall (4).

[0015] In Figure 2, a cross-section view of the inner wall (1), partition wall (4) and the cover (7) disposed in the condenser (A) after montage is illustrated. The partition wall (4) is fixed in preferably fluid-tight manner to the inner wall (1). A vibration source is used for said fixation in an embodiment of invention. One air gap (8) is formed in the condenser (A) by means of said fixation process. Formed gap (8) is used for thermal insulation between the device (B) and condenser (A). The second gap (9), which is formed between the cover (7) and the partition wall (4) after the cover (7) is fixed, is used for condensation.

[0016] In exemplary embodiment of the invention illustrated in figures, two inlets (4, 5) are provided on the partition wall (4) and two passages (2, 3) on the inner wall (1). One duct (12), which transmits hot air taken from the tub (14) of the device having drying function (B) (shown in figure 3) to the condenser (A), corresponds with the inlet (4) after passing through the passage (2). Another duct (13), which preferably transmits dehumidified air in the condenser (A) back to the tub (14), passes through another passage (3) and corresponds with another inlet (5). The ducts (12, 13) are passed through the passages (2) in a fluid-tight manner and correspond with the inlets (4, 5) in a fluid-tight manner. Thus, the gap (8) used for insulation is closed in a fluid-tight manner and tightness is ensured between the gap (8) used for insulation and the gap (9) for the condensation.

[0017] The device having drying function (B) developed by the present invention comprises one rear panel (10) comprising one recession (11), in which the condenser (A) can be placed. Said condenser (A) is placed into the recession (11) in such a manner that the inner wall (1) is kept within the recession (11). Thus, the passages (2, 3) correspond with inside of the device (B). When the condenser (A) is placed in the recession (11), the condenser (A) is kept outside of the device (B) as understood from side view of the device illustrated in Figure 5 and view of C detail of the device, which is illustrated in Figure 5, illustrated in Figure 6, and thus, the condenser (A) is prevented from projecting out of the panel (10) line on the device (B). And thus, thermal insulation is ensured between the gap (8) formed, the gap (9) serving for condensation and the device (B). Therefore, condensation performance of the condenser (A) is increased.

[0018] Since the cover (7) is in detachable form and the condenser (A) is placed outside of the device (B), the user can clean lint/fiber accumulating in the condensation gap (9) by detaching the cover (7).

[0019] Cooling can be done by means of water in order to perform condensation process within the condenser (A) developed by present invention. For this aim, water cooling elements (not shown in figures) (water-jet, spraying elements can be given as example for these water cooling elements) known from state of art, can be attached to the condenser (A).

Claims

1. A device having drying function (B) comprising at least one rear panel (10) **characterized in that** it comprises one condenser (A) comprising at least one inner wall (1); at least one partition wall (4), on which there is provided at least one inlet (5) and which is fixed on the inner wall (1) in a fluid-tight manner; at least one detachable cover (7) fixed on the inner wall (1) and/or partition wall (4); one gap formed after the partition wall (4) is fixed on the inner wall (1); a second gap, which is formed between the cover (7) and the partition wall (4) after the cover (7) is fixed.

2. A device having drying function (B) according to Claim 1, **characterized in that** said rear panel (10) comprises at least one recession (11) in which the condenser (A) is placed.

3. A device having drying function (B) according to Claim 1, **characterized in that** said partition wall (4) comprises at least one inlet (5).

4. A device having drying function (B) according to Claim 1, **characterized in that** said inner wall (1) comprises at least one passage (2).

5. A device having drying function (B) according to Claim 1, **characterized in that** said inner wall (1) is in concave form.

6. A device having drying function (B) according to Claim 1, **characterized in that** said cover (7) is in convex form.

7. A device having drying function (B) according to Claim 1, **characterized in that** the partition wall (4) is fixed to the inner wall (1) by vibration source.

8. A device having drying function (B) according to Claim 1, **characterized in that** at least one water cooling element is fixed to the condenser (A).

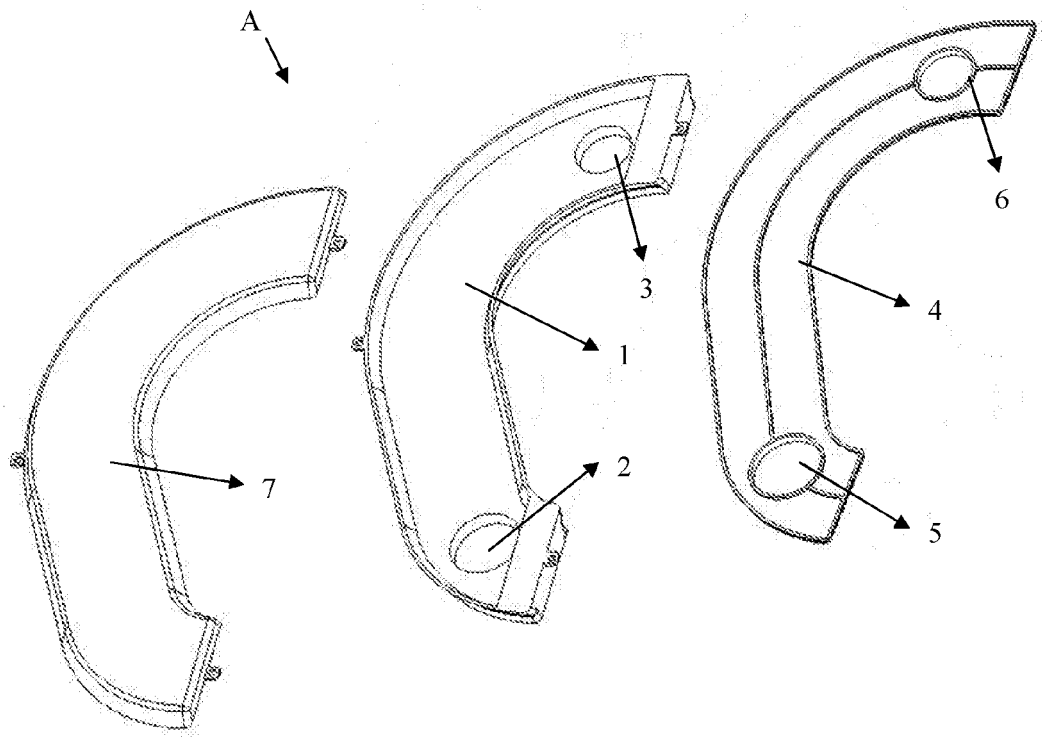

Figure 1

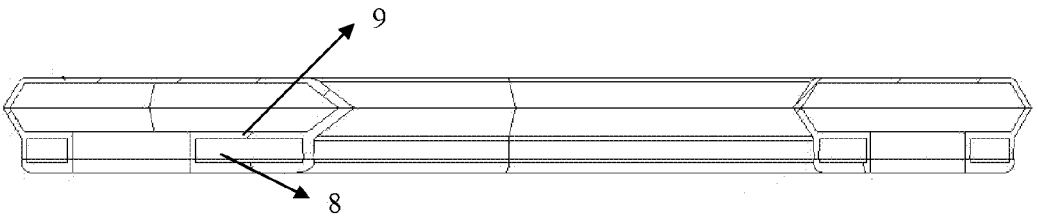

Figure 2

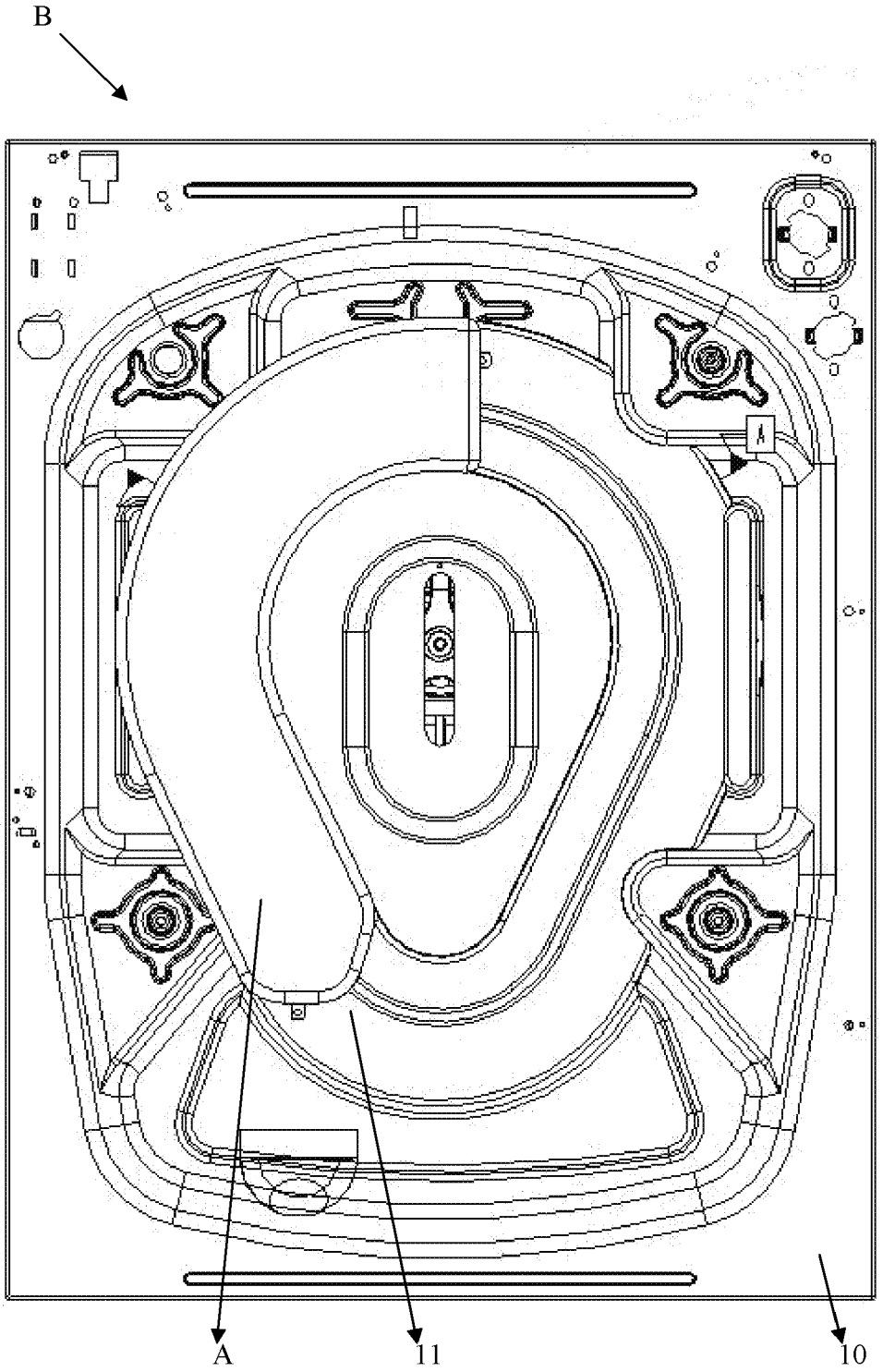

Figure 3

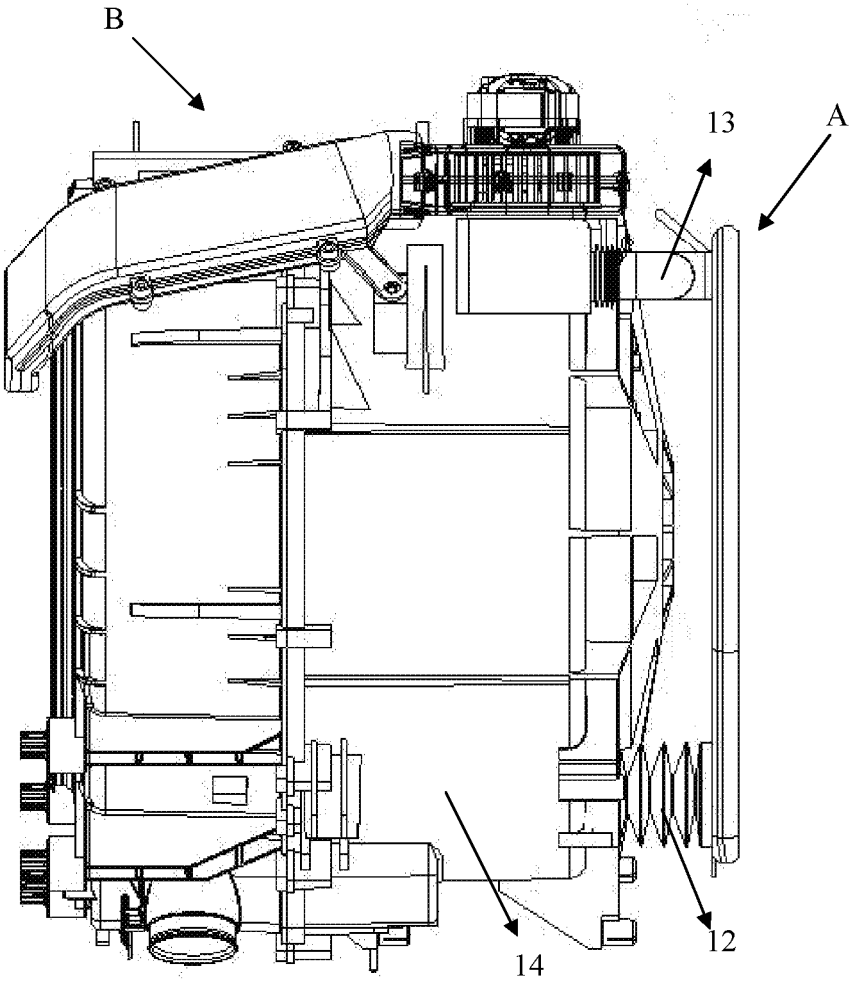

Figure 4

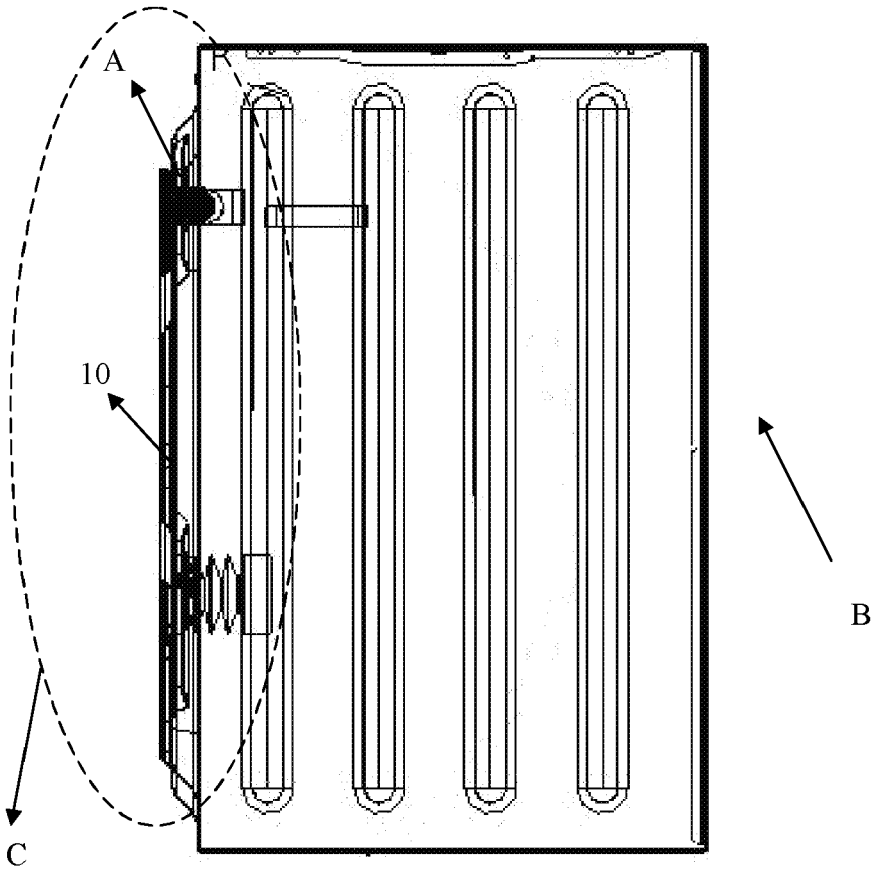

Figure 5

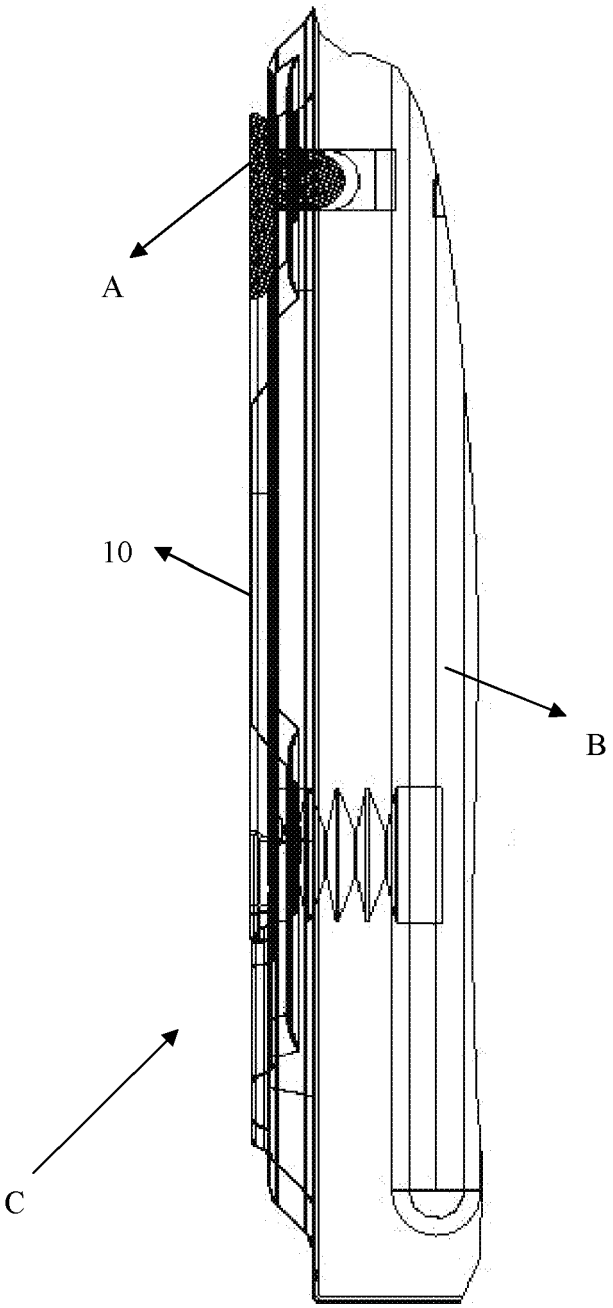

Figure 6

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EUROPEAN SEARCH REPORT

Application Number
EP 11 17 4001

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 142 128 A (BOSCH SIEMENS HAUSGERAETE) 9 January 1985 (1985-01-09)	1	INV. D06F58/24
A	* the whole document *	2-8	F28D9/00 F28F3/12
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TECHNICAL FIELDS SEARCHED (IPC)

D06F
F28D
F28F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	18 January 2012	Diaz y Diaz-Caneja

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18-01-2012

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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- KR 20050012100 **[0005]**