(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 722 623 A1**

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
23.04.2014 Bulletin 2014/17

(51) Int Cl.:
F25D 23/02 *(2006.01)* ***F25D 23/10*** *(2006.01)*
A47B 96/20 *(2006.01)*

(21) Application number: **13187383.8**

(22) Date of filing: **04.10.2013**

(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

(30) Priority: **18.10.2012 IT VA20120038**

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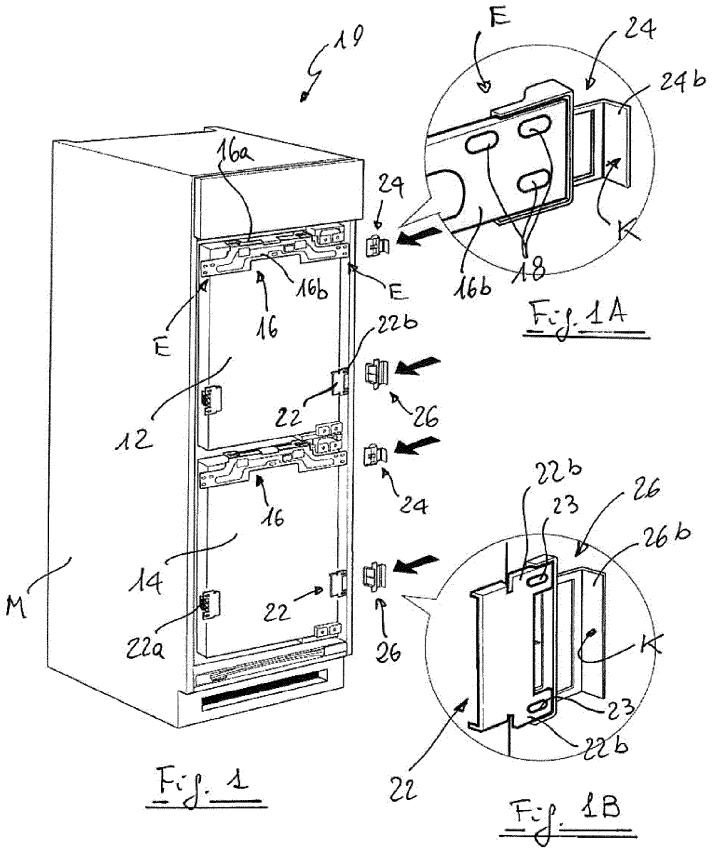
(54) System for mounting panels on doors of built-in refrigerators

(57) A system for mounting decorative panels on doors of built-in refrigerators, comprising a plurality of brackets adapted to be fastened to the doors and to the panels. The system comprises covering elements for the brackets with removable portions adapted to act as a lateral stop for the correct positioning of the panels.



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Description

[0001] The present invention relates to a system for mounting panels on doors of built-in refrigerators comprising a plurality of brackets which are adapted to be fastened to said doors and to said panels.

[0002] A system of this type is shown for example by GB 2050814 in which the fixing brackets have systems for adjusting the position of the decorative panel of the door, which panel extends laterally beyond said door. In such known mounting systems, the panel is fastened with the assistance of a template to the demounted panel, an operation which extends the time taken to install the built-in household electrical appliance. Furthermore, said metal brackets, which may be made in various configurations, are visible on the internal side of the decorative panel of the door, giving rise to a final result which is less than ideal in appearance. The object of the present invention is to provide a system for mounting decorative panels on refrigerator doors which does not exhibit the above-stated disadvantages, which is simple and economic to carry out and effectively assists the installer with aligning the panel on the door. A further object is that of providing a simple and quick method for installing panels for doors of built-in refrigerators.

[0003] Such objects are achieved thanks to the features set out in the appended claims.

[0004] According to the invention, use is made of covers of polymeric material with appropriate detachable lateral attachments which are fastened, preferably form-fittingly, to the brackets on the hinge side prior to installation of the panel, allowing the operator to align the decorative panel (usually made of wood or similar material) by pushing said panel laterally to said cover attachments in such a manner as to centre it relative to the door. Using the solution according to the invention, the panels can be fastened to the installed product, so accelerating the operation while simultaneously providing an attractive cover for the screws and fastening brackets of the panel.

[0005] Further advantages and features of a system according to the present invention will emerge from the following detailed description, which is provided purely by way of non-limiting example, with reference to the attached drawings, in which:

- Figure 1 is a perspective view of a built-in refrigerator provided with a system for mounting panels according to the present invention;
- Figures 1A and 1B are details on a larger scale of Figure 1;
- Figure 2 is a perspective view of a first covering element used in the refrigerator of Figure 1;
- Figure 3 is a perspective view of a second covering element used in the refrigerator of Figure 1;
- Figure 4 is a perspective view of the upper portion of the refrigerator of Figure 1 illustrating the method of mounting the panel;
- Figures 4A and 4B are details on a larger scale of Figure 4; and
- Figure 5 shows the step of detaching the portion of the covering element once the latter has been used for the correct positioning of the panel.

[0006] With reference to the drawings, 10 denotes a built-in refrigerator of the double door type (fridge + freezer) inserted in a cabinet M and provided with an upper door 12 and a lower door 14, both hinged on the right. At the top of each door is fastened, by means of screws or similar fastening elements, an elongate, L-shaped bracket 16 having a first portion 16a (horizontal in the installed configuration) fastened to an upper edge of the door 12 or 14 and a second portion 16b (vertical in the installed configuration) with two ends E extending laterally from the door and provided with elongate holes 18 for fastening to a panel 20 (Figure 4).

[0007] Similarly, on the vertical edges of each door 12, 14 are fastened shaped brackets 22 having an angled portion 22a adapted to be fastened to the edge of the door and portions 22b which extend from the edge of the door and are provided with elongate holes 23 for fastening by means of screws to the panel 20.

[0008] On the ends E of the elongate brackets 16 and on the extending portions 22b of the shaped brackets 22, on the hinge side (on the right in the solution described in Figure 1), are form-fittingly mounted covering elements respectively denoted 24 and 26 of polymeric material preferably of a colour which is compatible with or similar to the colour of the panel 20. Form fitting may for example be achieved by using undercut portions (portion Q in Figure 3) adapted to couple resiliently with corresponding portions of the metal brackets. Each covering element 24 has a first portion 24a adapted to couple with the end E of the respective elongate bracket 16 and an L-shaped portion 24b joined to the first portion by arms 25 of reduced section. Similarly, each covering element 26 has a first portion 26a adapted to couple with a portion of the respective shaped bracket 22, in line with the edge of the door and an L-shaped portion 26b joined to the first portion by arms 27 of reduced section. Both the portions 24b and the portions 26b of the covering elements 24 and 26 define planar stop surfaces K which, in the mounted configuration of the covering elements, are parallel to the edge of the door of the refrigerator 10.

[0009] Subsequent mounting of the panel 20 (Figure 4) provides that a lower edge 20a thereof is brought into line with an adjustable stop 28, of known type and shown for example by EP 718459 or EP 873704 (movement in accordance with the arrow 1 of Figure 4), and subsequently (arrow 3) rested on the brackets 16 and 22. During this operation, the installer aligns the panel 20 (arrow 2), resting it on the right on the stop surfaces K of the covering elements 24 and 26 (detail of Figure 4B where the panel 20 is indicated with a dashed line). Planar double-sided adhesive elements 30 adhesively bonded to the brackets are provided for temporarily retaining the panel 20 on the door 12 or 14 (Figure 4A). Subsequent

to said temporary mounting, the installer removes the covering elements 24 and 26 and securely fastens the panel 20 to the door by means of screws inserted in the openings 18 and 23 of the brackets. The final operation provides detachment of the removable portions 24b and 26b from the covering elements 24 and 26 (Figure 5), said detachment being facilitated by the reduced section of the joining arms 25 and 17 (detachment further facilitated by notches (not shown) in the vicinity of said arms adjacent the covering portion), and subsequent remounting on the brackets to ensure attractive covering of the latter and of the respective fastening screws (not shown).

[0010] The same covering elements may, of course, also be used for the opposite side of the door to the hinge side by firstly removing the attachments 24b and 26b prior to installation thereof on the bracket which is already fastened to the panel 20. Alternatively, it is also possible to provide specific covering elements without the lateral attachment which are provided for mounting on the brackets opposite the hinged side of the door.

Claims

1. System for mounting panels on doors (12, 14) of built-in refrigerators (10), comprising a plurality of brackets (16, 22) adapted to be fastened to said doors (12, 14) and to said panels (20), **characterized in that** it comprises covering elements (24, 26) of said brackets (16, 22) having removable portions (24b, 26b) adapted to act as a stop (K) for the correct positioning of the panels (20).

2. System according to claim 1, in which each covering element (24, 26) has a first shaped portion (24a, 26a) adapted to be mounted form-fittingly on a corresponding portion (16b, E, 22b) of the bracket (16, 22) extending laterally from the door (12, 14) of the refrigerator (10), and a second removable portion (24b, 26b) which is substantially L-shaped.

3. System according to claim 1 or 2, in which said covering elements (24, 26) are mounted on the brackets (16, 22) in line with a hinged edge of the door (12, 14).

4. System according to any of the preceding claims, in which each covering element (24, 26) is made of polymeric material.

5. Built-in refrigerator (10) with a system for mounting panels (20) according to any of the preceding claims.

6. Method for mounting panels (20) on doors (12, 14) of built-in refrigerators (10) in which brackets (16, 22) are used which are adapted to be fastened to the doors (12, 14) and to the panels (20), **characterized in that** it comprises the following steps:

   - fastening the brackets (16, 22) to the door (12, 14) of the refrigerator (10);
   - positioning on the brackets (16, 22), placed adjacent the hinged side of the door (12, 14), covering elements (24, 26) each having a first portion (24a, 26a) form-fitted with at least a portion (E, 22a) of the brackets (16, 22) and a second removable lateral stop portion (24b, 26b), and
   - positioning the panel (20) by abutting one vertical side thereof against said removable stop portions (24b, 26b) of the covering elements (24, 26).

7. Method according to claim 6, in which on said brackets (16, 22) planar double-sided adhesive elements (30) are positioned which are adapted to retain temporarily the panel (20) on the door (12, 14) during positioning thereof.

8. Method according to claim 7, in which the brackets (16, 22) are fastened to the panel (20) after temporary removal of the covering elements (24, 26).

9. Method according to claim 8, in which the removable portions (24b, 26b) of the covering elements (24, 26) are removed before final mounting of said elements on the brackets (16, 22).

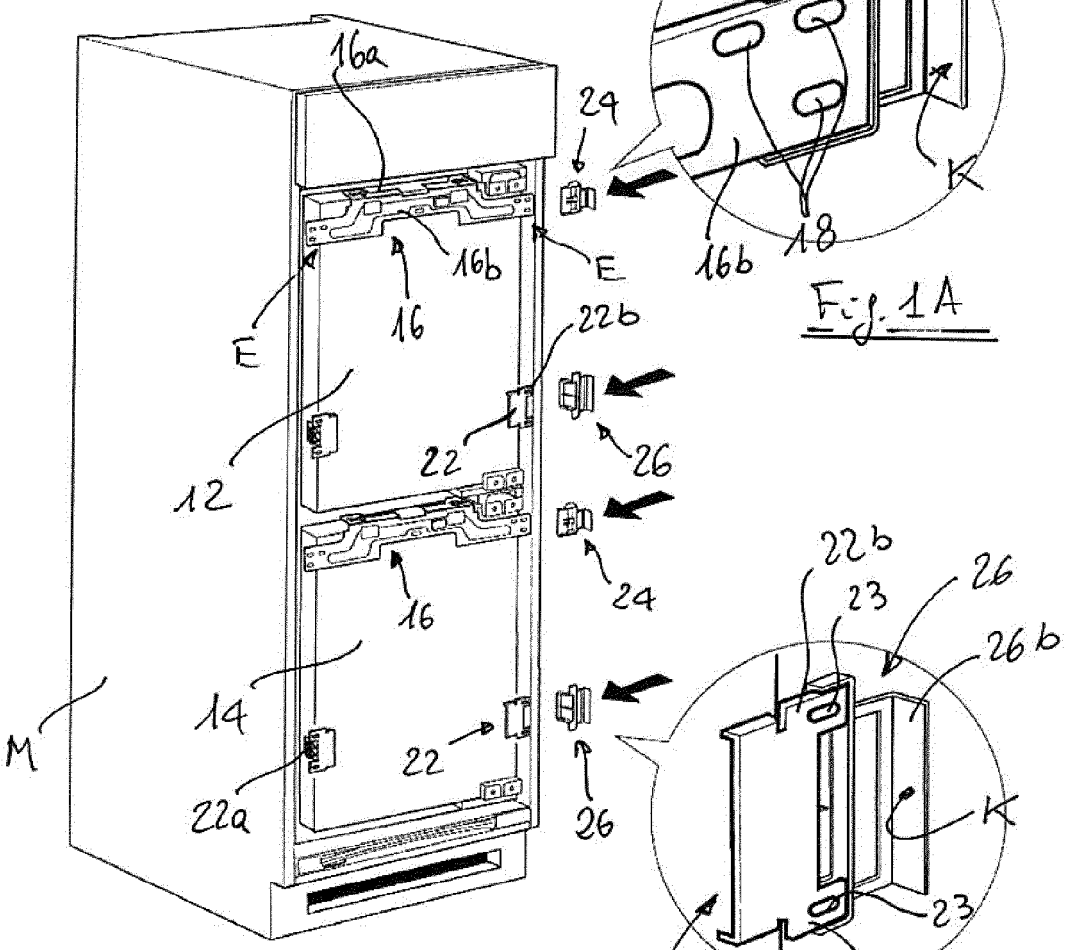

Fig. 1

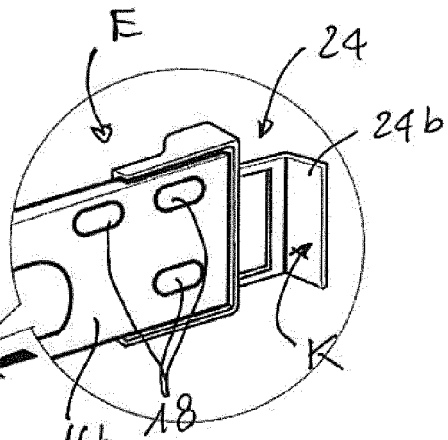

Fig. 1A

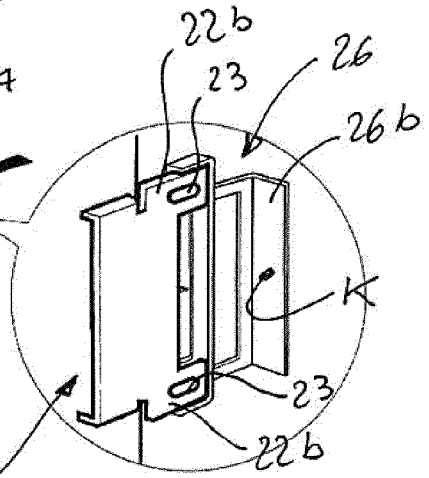

Fig. 1B

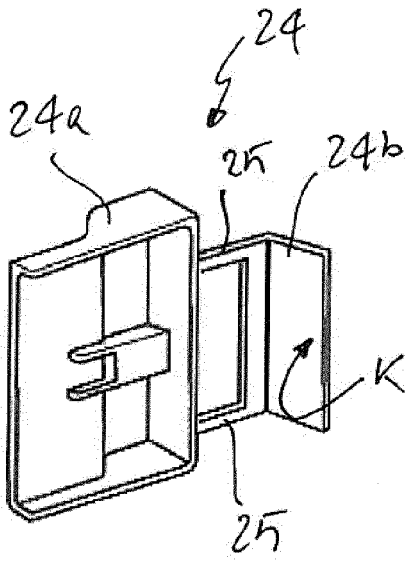

Fig. 2

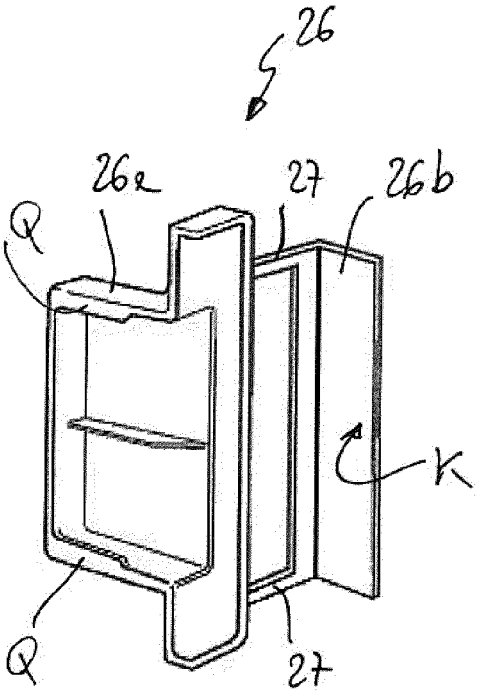

Fig. 3

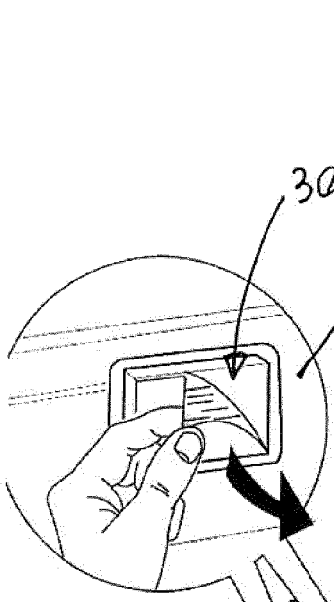

Fig. 4A

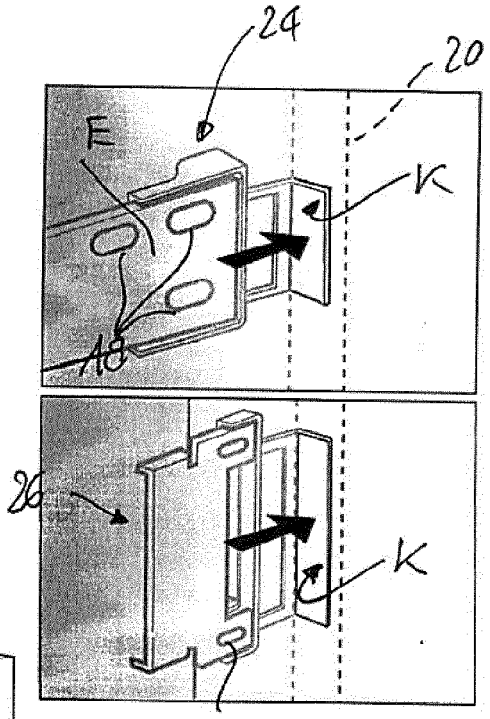

Fig. 4B

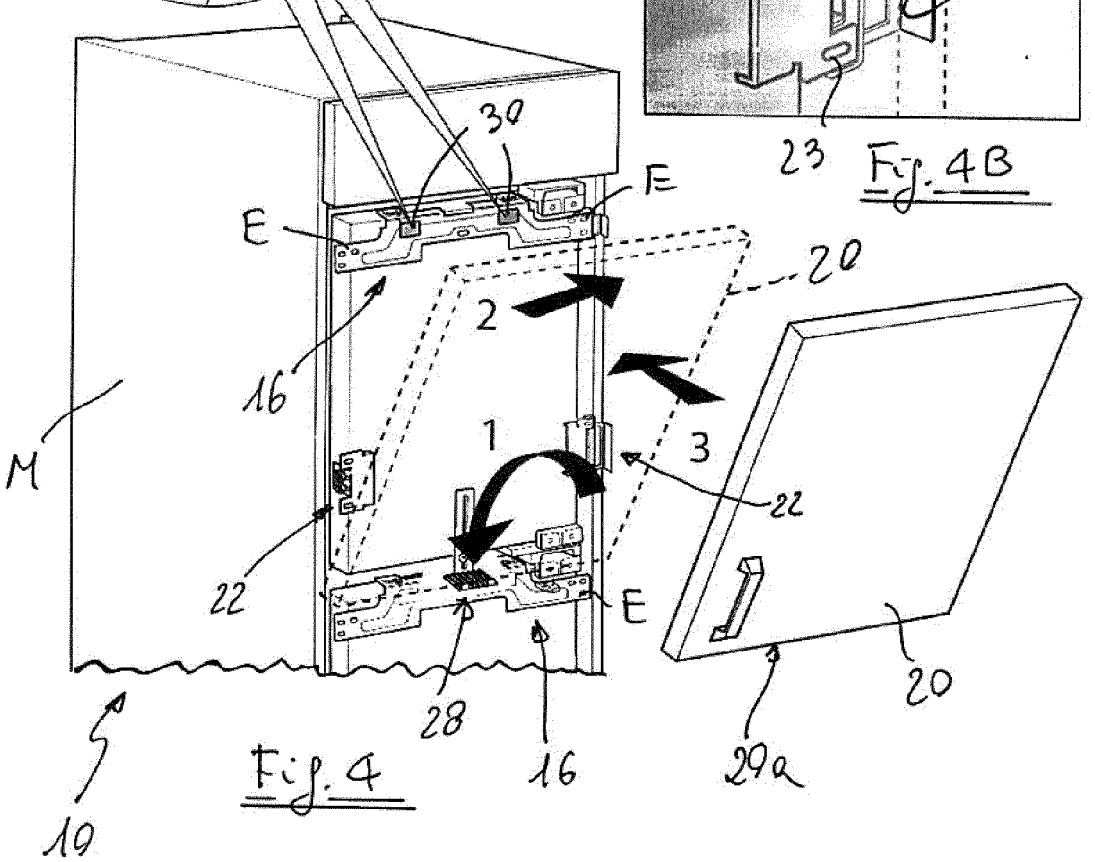

Fig. 4

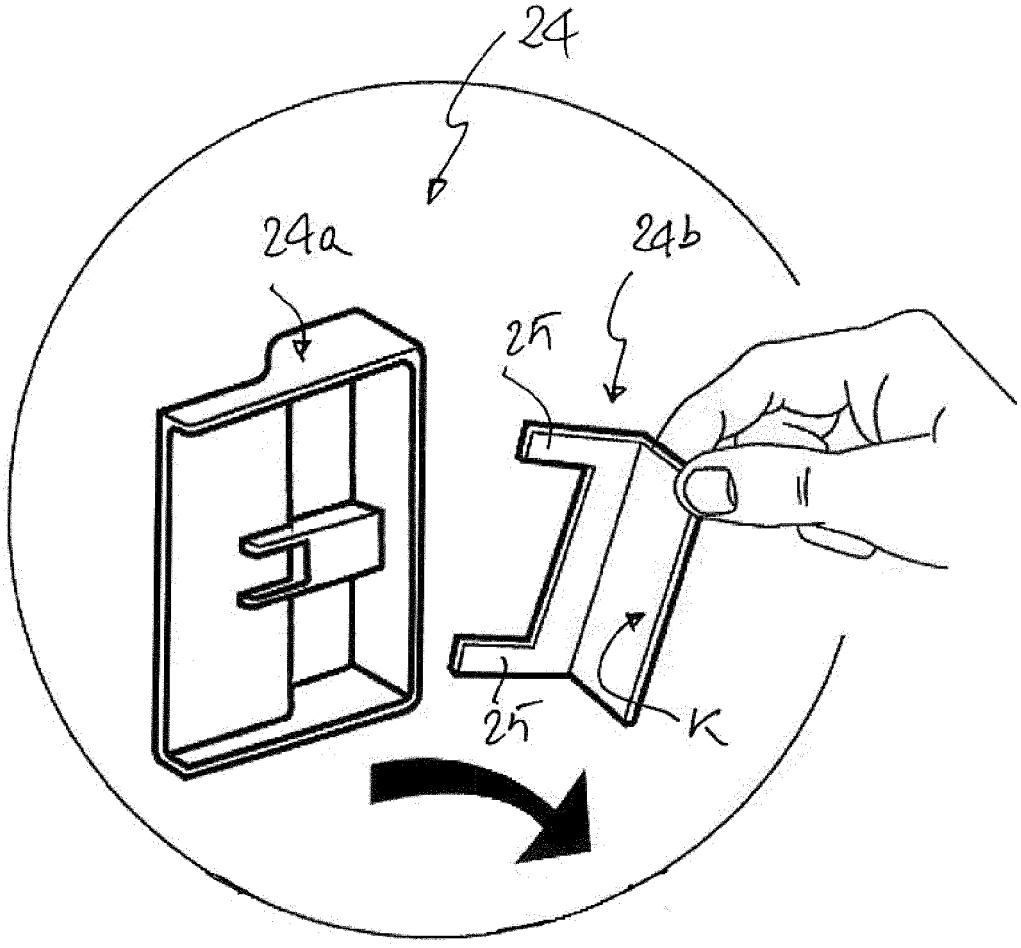

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 13 18 7383

DOCUMENTS CONSIDERED TO BE RELEVANT

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)

F25D
A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	17 October 2013	Salaün, Eric

CATEGORY OF CITED DOCUMENTS

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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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