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(54) FRINGE FOR CLEANING SURFACES

(57) A fringe (1) for cleaning surfaces comprises a fabric portion (2) having a functional surface (3) configured to be rubbed on a surface to be cleaned and a connection surface (4) opposite the functional surface (3); at least one connection portion (5) fixed to the connection surface (4) of the fabric portion (2) and configured to be connected with a frame (20) of a tool for cleaning, the connection portion (5) having at least one pair of seats (6) positioned on opposite sides of the fabric portion (2) and configured to at least partially house the frame (20); the connection portion (5) is made of rigid material and is distinct from the fabric portion (2).

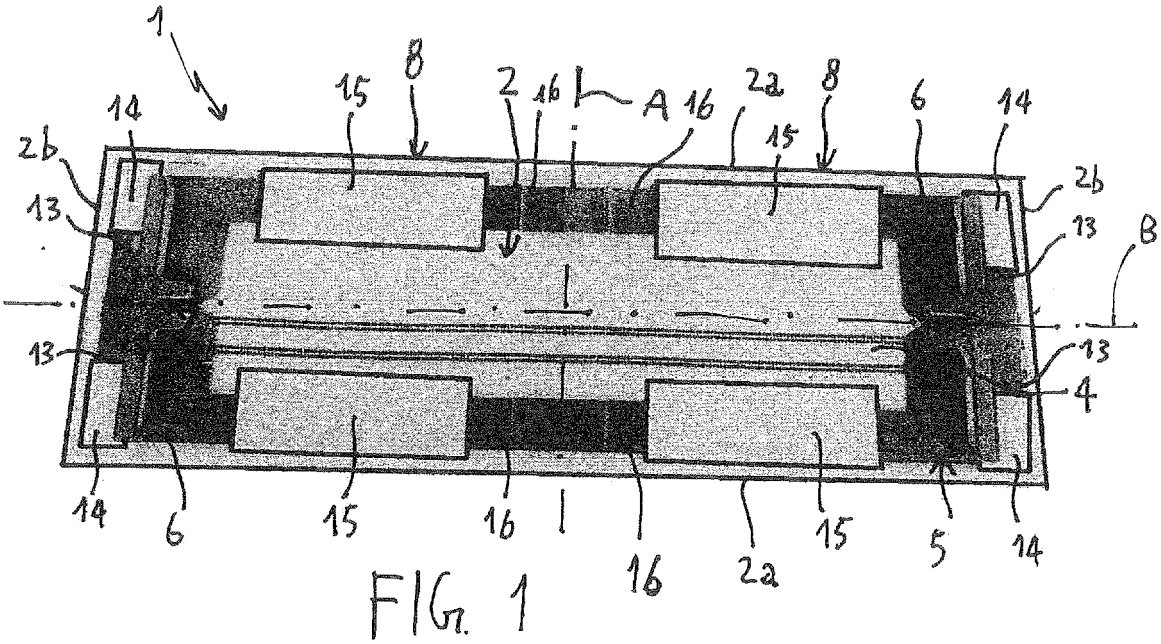

FIG. 1

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Description

[0001] The present invention relates to a fringe for cleaning surfaces, particularly but not exclusively for cleaning floors. A fringe in accordance with the present invention finds useful use in the technical field of equipment for cleaning environments, for example in the field of professional cleaning.

[0002] A tool for cleaning floors is known in the state of the art. Such a tool is provided with a handle which can be grasped by a user, at the end of which a frame is fixed. A fringe is removably fixed to the frame.

[0003] In particular, in the prior art the fringe is made comprising a cloth having a cleaning surface and, opposite thereto, an upper surface. The cloth is provided with a pair of pockets obtained on the upper surface which, in use, are arranged to each receive a respective half-part of the frame. When both half-parts of the frame have been inserted into the pockets, the frame is locked and the tool can be used for cleaning.

[0004] The Applicant has found that the fringe of known type has some important disadvantages. In particular, fitting the fringe on the tool is quite laborious, as the fringe tends to bend, so the operator must be equipped with a certain dexterity to position both half-parts in the respective pockets without this happening.

[0005] Further disadvantage: during use, if the fringe is not well taut by the frame, it will be more tiring for the operator to slide it on the floor to be cleaned, due to the fact that the fringe responds perfectly to the thrusts and variations in direction imposed by the operator's hand through the handle; the work as a whole will thus be more tiring for the operator

[0006] Moreover, during washing the fringe tends to crumple, which makes the application on the tool even more difficult.

SUMMARY OF THE INVENTION

[0007] In this context, the technical task underlying the present invention is to propose a fringe for cleaning surfaces which overcomes the drawbacks of the prior art mentioned above.

[0008] In particular, it is an object of the present invention to provide a fringe for cleaning surfaces which is capable of facilitating the application on the tool.

[0009] The mentioned technical task and the specified objects are substantially achieved by a fringe for cleaning surfaces comprising the technical features set out in one or more of the appended claims.

[0010] In particular, a fringe for cleaning surfaces comprises a portion of fabric having a functional surface configured to be rubbed on a surface to be cleaned, and a connection surface opposite the functional surface.

[0011] The fringe comprises at least one connection portion fixed to the connection surface of the fabric portion and configured to be connected with a frame of a tool for cleaning. Such a connection portion has at least one pair of seats positioned on opposite sides of the fabric portion and configured to at least partially house the frame. The connection portion is made of rigid material, and is distinct from the fabric portion.

[0012] Such a device solves the technical problem in that the rigid support given by the connection portion allows to stabilize the position of the fringe and, therefore, to facilitate the insertion and removal of the fringe from the tool.

[0013] Advantageously, moreover, the rigidity given by the connection portion stabilizes the fringe during and after the washing.

[0014] Still advantageously the coupling between fringe and frame, with the special shaped reliefs present in the rigid connection portion, will be much more reliable and stable; this will make it much easier to slide the cloth on the surface to be washed and thus the work less tiring overall.

LIST OF FIGURES

[0015] Further features and advantages of the present invention will become more apparent from the description of an exemplary, but not exclusive, and therefore non-limiting preferred embodiment of a fringe for cleaning surfaces, as illustrated in the appended figures, in which:

- Figure 1 shows a rear view of a fringe for cleaning surfaces in accordance with the present invention;
- Figure 2 is a front view of the fringe of Figure 1;
- Figure 3 is a perspective view of a detail of the fringe of Figures 1 and 2;
- Figure 3a is a perspective view of an alternative embodiment of the detail of Figure 3;
- Figure 4 is a perspective view of a frame of a tool for cleaning, applicable to the fringe of Figures 1 and 2;
- Figure 5 is a perspective view of the frame of Figure 4 applied to the fringe of Figures 1 and 2; and
- Figure 6 is a perspective view of the frame of Figure 4 disconnected from the fringe of Figures 1 and 2.

DETAILED DESCRIPTION

[0016] With reference to the appended figures, the number 1 generally indicates a fringe for cleaning surfaces in accordance with the present invention.

[0017] In more detail, the fringe 1 comprises a fabric portion 2. Such a fabric portion 2 has a substantially rectangular shape, and has a pair of major sides 2a, parallel to each other, and a pair of minor sides 2b also parallel to each other and arranged substantially orthogonally to the major sides 2a. A central axis "A" is identified parallel to the minor sides 2b, at the centreline of the major sides 2a.

[0018] The fabric portion 2 also has a functional surface 3. In use, the functional surface 3 is wiped on a surface to be cleaned. The fabric portion 2 also has a connection surface 4, which is opposite the functional

surface 3, and has the function of allowing the fixing to a rod (not illustrated) which can be grasped by an operator.

[0019] The fringe 1 further comprises at least one connection portion 5, which is fixed to the connection surface 4 of the fabric portion 2. Such a connection portion 5 is configured to be connected with a frame 20 of a tool for cleaning. More details on the frame 20 will be provided later in the present description.

[0020] It should be noted that, in accordance with the present invention, the connection portion 5 is made of rigid material. In the context of the present disclosure, a material is considered rigid if it is capable of maintaining the shape thereof substantially unchanged during the complete operating cycle of the fringe 1, including washing. Examples of rigid material usable for making the connection portion 5 are plastic, in particular polycarbonate, silicone. In contrast, textile materials are not considered rigid materials in the scope of the present disclosure.

[0021] It should be noted that, according to the present invention, the connection portion 5 is distinct from the fabric portion 2. In other words, the portions 2, 5 are made separately, and are thus mutually reversibly fixed to define the fringe 1. Consequently, while constituting a single assembly, the portions 2, 5 are immediately identifiable to the eye as separate elements.

[0022] In further detail, it should be noted that the fabric portion 2 comprises at least one pocket 14, which is placed on the connection surface 4. The connection portion 5 comprises at least a first hooking element 13 which, in use, is inserted into the pocket 14 so as to lock the connection portion 5 on the fabric portion 2.

[0023] As shown for example in figure 3, the connection portion 5 comprises two pairs of first hooking elements 13.

[0024] Going further into detail, the first hooking elements 13 of each pair are mutually aligned, and are also arranged parallel to the minor sides 2b of the fabric portion 2. Consequently, the respective pockets 14 are also placed in pairs each adjacent to a respective minor side 2b

[0025] It should also be noted that the fabric portion 2 comprises at least one loop 15, which is placed on the connection surface 4. The connection portion 5 comprises at least a second hooking element 16, which is inserted in the loop 15 to lock the connection portion 5 on the fabric portion 2.

[0026] More in detail, the connection portion 5 comprises two pairs of second hooking elements 16. In particular, the second hooking elements 16 of each pair are mutually aligned, and are also parallel and substantially adjacent to the major sides 2a of the fabric portion 2.

[0027] In further detail, in accordance with the present invention the connection portion 5 is defined by a pair of equal half-parts 8. Such half-parts 8 are configured to mutually rotate along the central axis "A", so as to allow the bending of the fabric portion 2 along the central axis "A". It should be noted that the half-parts 8 are not directly connected to each other, but maintain the mutual position by virtue of the complete adhesion with the fabric portion 2. In other words, the half-parts 8 are fixed to the fabric portion 2 so as to confer rigidity to the fringe 1, except at the central axis "A" in which the flexibility of the fabric portion 2 acts in a manner analogous to a hinge.

[0028] It should also be noted that each half-part 8 is flexible along a main extension axis "B" of the connection portion 5, which is perpendicular to the central axis "A". Thereby, it is possible to fold the half-parts 8 to insert the first hooking elements 13 in the pockets 14 and fix the connection portion 5 to the fabric portion 2 or, when necessary, to perform the reverse operation.

[0029] In a particularly advantageous embodiment of the invention, shown for example in figure 3a, each half-part 8 comprises a reinforcement element 18, which is arranged transversely with respect to the major sides 2a of the fabric portion 2. Such a reinforcement element 18 has in particular the function of stabilizing the half-part 8. In more detail, the reinforcement element 18 is embodied in a rod 19, which is placed near the central axis "A". As a result, the two rods 19 of the half-parts 8 are brought closer together.

[0030] In accordance with the present invention, the connection portion 5 has a pair of seats 6, which are positioned on opposite sides of the fabric portion 2, so as to be able to at least partially house the frame 20. In particular, each seat 6 is obtained on a respective half-part 8. It should be noted that, in the embodiment of Figure 3a, in each half-part 8 the seat 6 is positioned on the opposite side with respect to the reinforcement element 18.

[0031] Each pair of first hooking elements 13 is positioned near a respective seat 6 and, in use, is arranged between the seat 6 and the near minor side 2b of the fabric portion 2. Furthermore, each half-part 8 has two second hooking elements 16, one for each pair.

[0032] More in detail, each seat 6 is defined by a pair of bottom openings 17. In particular, each pair of bottom openings 17 is arranged transversely and in particular perpendicularly to the connection surface 4. A retention wall 11 is arranged substantially parallel to the connection surface 4. The retention wall is provided with a groove 12 which, in use, receives a projection 22 of the frame 20. In use, two opposite half-parts 21 of the frame 20 are each coupled with a respective half-part 8 of the fringe 1. To hook the frame 20 to the fringe 1, each half-part 21 of the frame 20 is inserted in the respective seat 6, in particular in the openings 17, so that each projection 22 inserts in the respective groove 12. The two half-parts 21 of the frame 20 are extended to be coplanar, and are fixed by a locking mechanism 23 installed on the frame 20 itself. Thereby the projections 22 inserted in the grooves 12 block the sliding of the frame 20 along the plane of the fringe 1, while the retention walls 11 block the transverse movement. Consequently, as shown in figure 5, the fringe 1 is firmly fixed to the frame 20 of the tool and can be used for cleaning.

[0033] To disconnect the fringe 1, the mechanism on the frame 20 is operated again. The two half-portions 21 of the frame 20 are unlocked and can thus rotate with respect to the other, making the exit from the seats 6 and the separate from the fringe 1 possible, as shown in particular in figure 6.

[0034] The following references are shown in the appended figures:

1 - fringe
2 - fabric portion
2a - major side
2b - minor side
3 - functional surface
4 - connection surface
5 - connection portion
6 - seat
8 - half-part (of the connection portion 5)
11 - retention wall
12 - groove
13 - first hooking element
14 - pocket
15 - loop
16 - second hooking element
17 - bottom openings
18 - reinforcement element
19 - rod
20 - frame
21 - half-part (of the frame 20)
22 - projection
23 - locking mechanism
A - central axis
B - main extension axis

Claims

1. Fringe (1) for cleaning surfaces, comprising:

- a fabric portion (2) having a functional surface (3) configured to be rubbed on a surface to be cleaned and a connection surface (4) opposite the functional surface (3);
- at least one connection portion (5) fixed to the connection surface (4) of the fabric portion (2) and configured to be connected with a frame (20) of a tool for cleaning, the connection portion (5) having at least one pair of seats (6) positioned on opposite sides of the fabric portion (2) and configured to at least partially house the frame (20);

characterized in that the connection portion (5) is made of rigid material and distinct from the fabric portion (2), the seats (6) being reversibly fixed to the fabric portion (2).

2. Fringe (1) according to the preceding claim, wherein the fabric portion (2) comprises at least one pocket (14) placed on the connection surface (4), the connection portion (5) comprising at least a first hooking element (13) inserted in the pocket (14) to lock the connection portion (5) on the fabric portion (2).

3. Fringe (1) according to the preceding claim, wherein the connection portion (5) comprises two pairs of first hooking elements (13) each pair being positioned near a respective seat (6).

4. Fringe (1) according to the preceding claim, wherein the first hooking elements (13) of each pair are aligned with each other and parallel to the minor sides (2b) of the fabric portion (2).

5. Fringe (1) according to any one of the preceding claims, wherein the fabric portion (2) comprises at least one loop (15) placed on the connection surface (4), the connection portion (5) comprising at least a second hooking element (16) inserted in the loop (15) to lock the connection portion (5) on the fabric portion (2).

6. Fringe (1) according to the preceding claim, wherein the connection portion (5) comprises two pairs of second hooking elements (16), the second hooking elements (16) of each pair being mutually aligned and parallel to the major sides (2a) of the fabric portion (2).

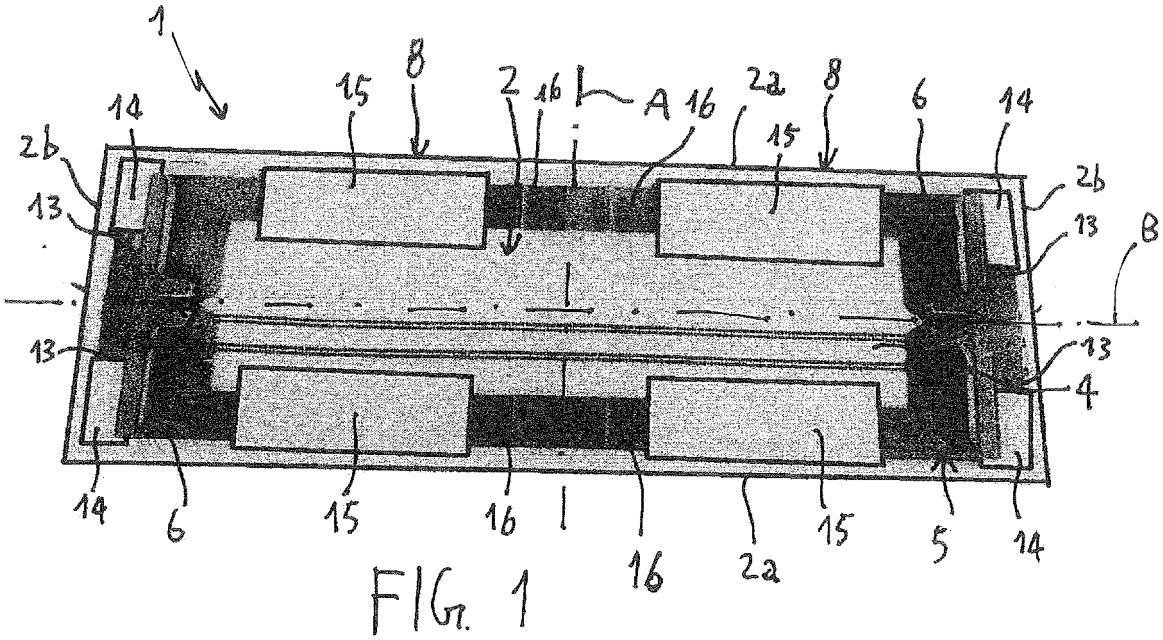
7. Fringe (1) according to any one of the preceding claims, wherein the connection portion (5) is defined by a pair of half-parts (8) configured to rotate along a central axis (A) to allow the fabric portion (2) to flex along the central axis (A).

8. Fringe (1) according to the preceding claim, wherein the central axis (A) is substantially perpendicular to a pair of major sides (2a) of the fabric portion (2).

9. Fringe (1) according to claim 7 or 8, wherein each half-part (8) is flexible along a main extension axis (B) perpendicular to the central axis (A) to fix/remove the connection portion (5) to/from the fabric portion (2).

10. Fringe (1) according to any one of claims 7 to 9, wherein each half-part (8) comprises a reinforcement element (18) arranged transversely with respect to the major sides (2a) of the fabric portion (2) to stabilize the half-part (8).

11. Kit for cleaning comprising a fringe (1) according to any one of the preceding claims; a frame (20) for cleaning tools having a pair of ends each adapted to be inserted in a respective seat (6) of the fringe (1).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14
15
8
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16
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FIG. 1

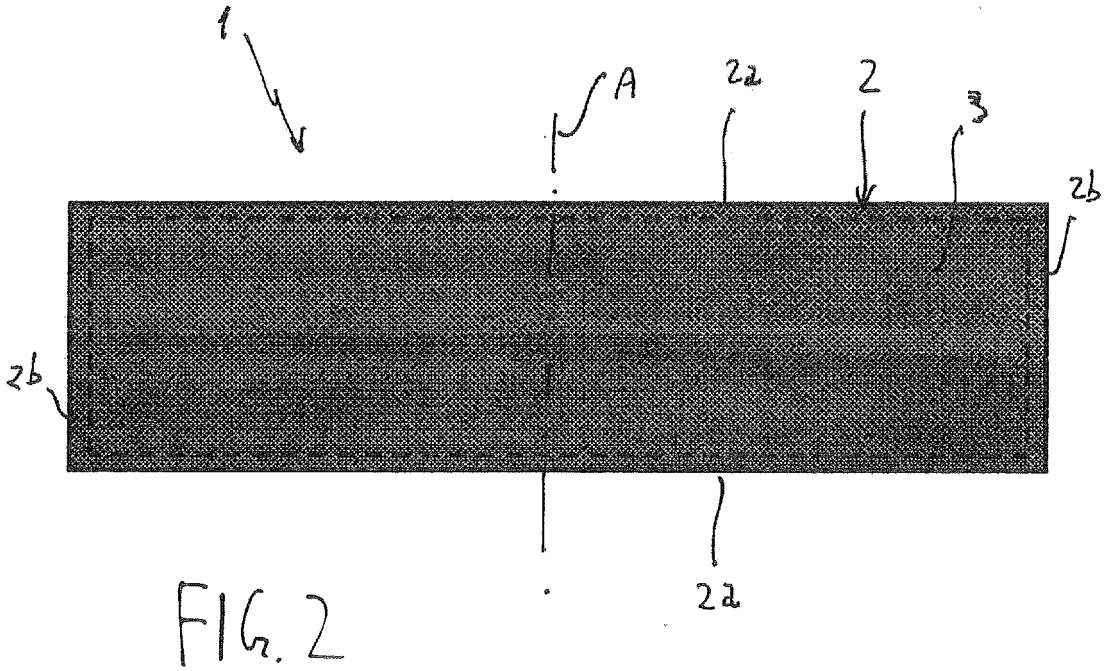
1
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FIG. 2

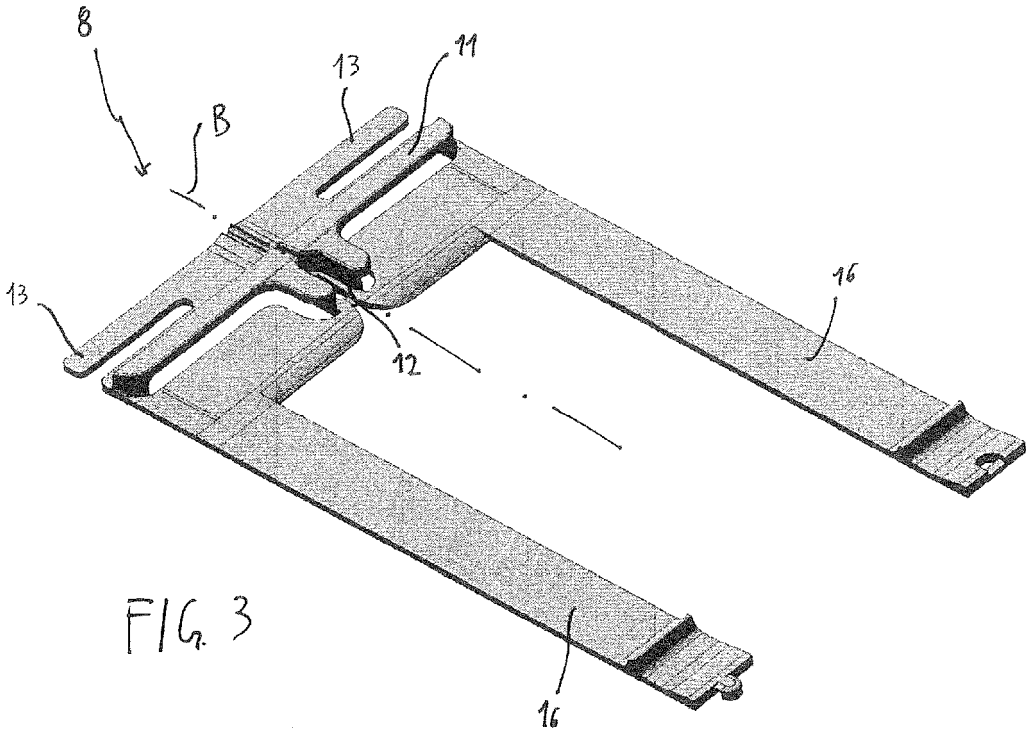

FIG. 3

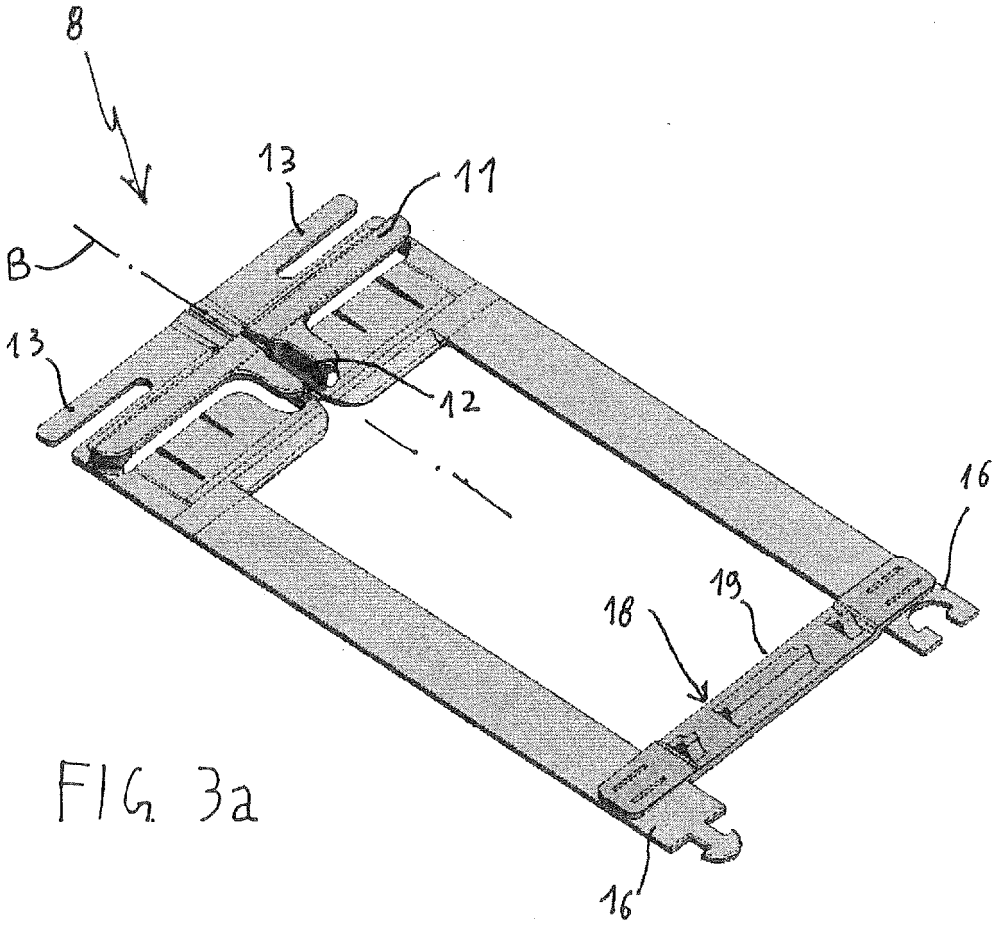

FIG. 3a

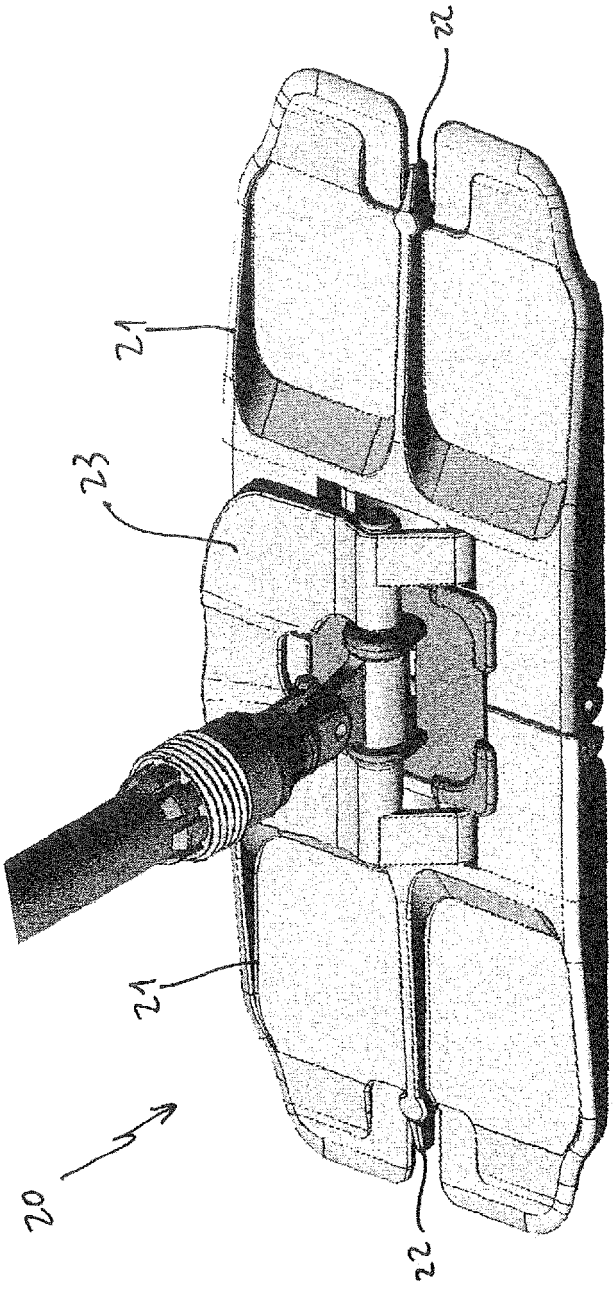

FIG. 4

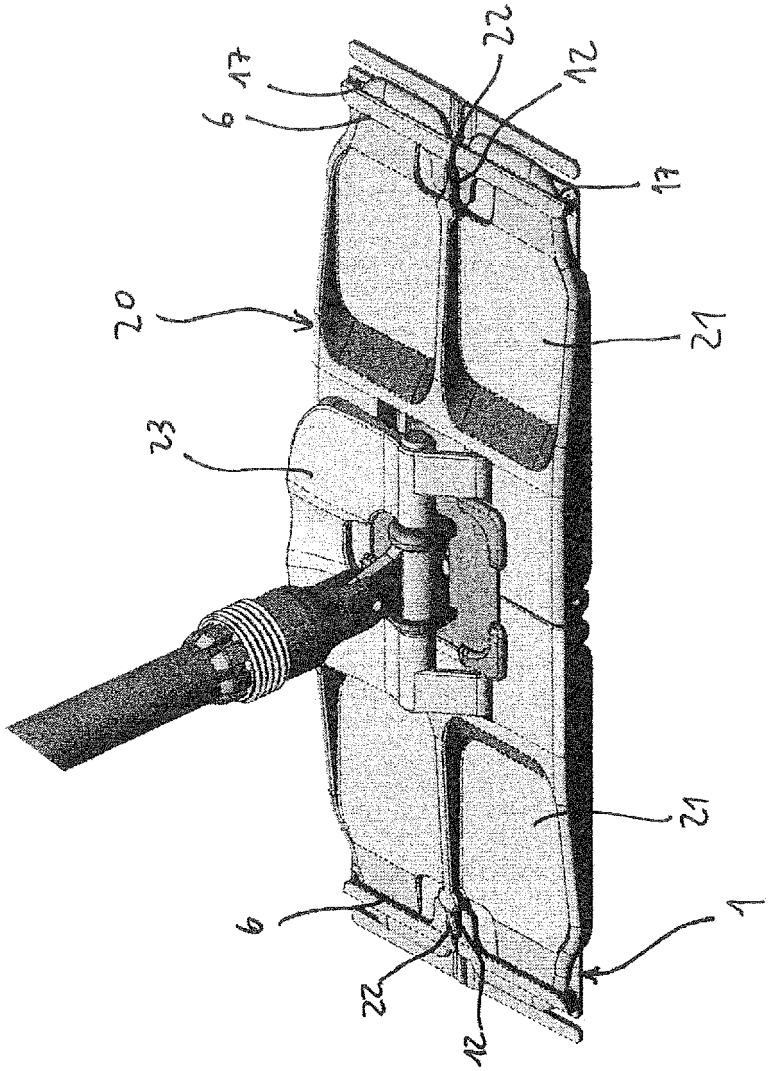

FIG. 5

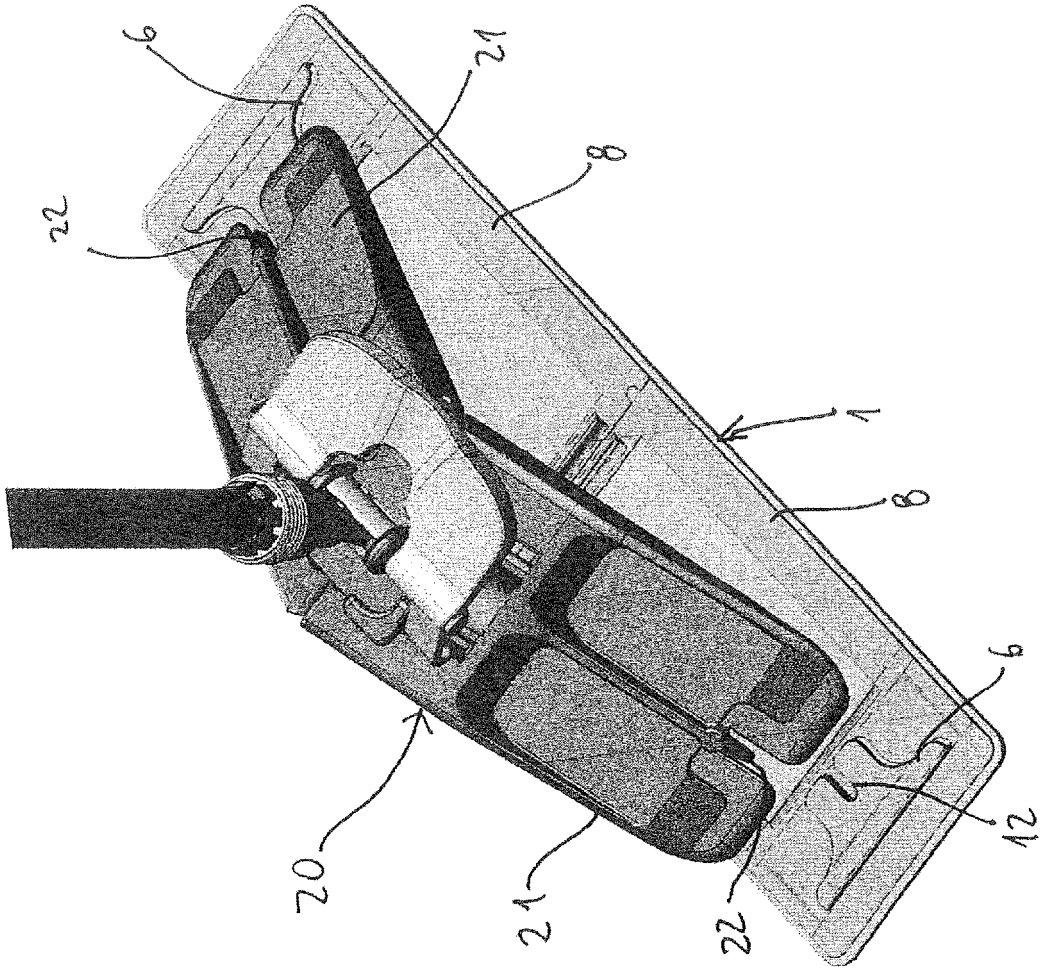

FIG. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 24 17 4197

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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A	* paragraphs [0018] - [0020] *	2-10	
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A	* page 4, paragraph 5 - page 5, line 2 *	2-10	

TECHNICAL FIELDS SEARCHED (IPC)

A47L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	4 September 2024	Hubrich, Klaus

CATEGORY OF CITED DOCUMENTS

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