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(54) Implement for manual washing of floors or flat surfaces in general

Einrichtung zum manuellen Waschen von Böden oder von flachen Oberflächen allgemein

Outil pour nettoyer manuellement les sols ou les surfaces planes en général

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Description

[0001] The present invention relates to an implement for manual washing of floors or flat surfaces in general.

[0002] Implements for manually washing floors or surfaces in general are known. Usually, in their simplest embodiment, such implements are constituted generally by a frame composed of a plate-like element, which usually has a substantially rectangular plan shape and is adapted to support, on one of its faces designed to be directed toward the surface to be washed, a cleaning fringe, generally made of natural or synthetic textile material, and which is articulated, by means of its opposite face, to a connecting element which can be associated with a handle to be used in order to drag the plate-like element, and therefore the cleaning fringe, along the surface to be washed.

[0003] In normal washing operations, the cleaning fringe is wet with water or with a detergent solution and is wrung adequately before it is applied to the implement and used, so as to avoid the use of excessive quantities of liquid and reduce the waiting time before the surface being washed dries. During these washing operations, the cleaning fringe is wet, wrung and reused several times.

[0004] In particular washing operations, which require minimizing the risk of transport and migration of polluting or pathogen elements in the various regions of the environment being cleaned, appropriate operating procedures are provided. This case occurs for example in the cleaning of hospital environments or of particular industries in the food sector and in the pharmaceutical sector.

[0005] In these cases, the cleaning procedure entails that the cleaning fringe must be neither wrung nor reused; i.e., the cleaning fringe, once the washing liquid with which it is impregnated initially has been used up, must be removed from the implement and set aside to be washed and sterilized.

[0006] In practice, in these particular washing operations, the assigned operators are provided with a number of cleaning fringes, which are impregnated beforehand with the washing liquid, and in each instance a cleaning fringe is applied to the implement to be passed over the surface to be washed. Once the washing liquid has been used up, the cleaning fringe is removed from the implement and replaced with another cleaning fringe impregnated beforehand. The cleaning fringes that have already been used are stored in an appropriately provided container to be then washed at high temperature before they can be reused.

[0007] The lack of the possibility to wring the cleaning fringes in these washing operations inevitably increases the time required to achieve drying of the washed surface.

[0008] For this reason, when the environment being washed must be accessible shortly, it is necessary to pass the wet surface with one or more dry cleaning fringes, wasting time and using personnel.

[0009] In order to solve this problem, particular implements have been proposed which are provided with frames capable of mounting cleaning fringes which are wet on one side and dry on the opposite side, so as to avoid the need to replace the wet cleaning fringe with a dry cleaning fringe, This refinement, however, does not solve the problem of having to pass twice over the surface being washed, with the corresponding time requirements.

[0010] A cleaning implement that has the features set forth in the preamble of claim 1 is known from DE 296 05 019 U1.

[0011] The aim of the present invention is to solve the problems described above by providing an implement for manual washing of floors or flat surfaces in general which, when required, allows to reduce drying times significantly without forcing to pass over the washed surface again.

[0012] Within this aim, an object of the invention is to provide an implement which is simple and easy to use.

[0013] Another object of the invention is to provide an implement which is structurally simple and can be manufactured at competitive costs.

[0014] This aim and these and other objects, which will become better apparent hereinafter, are achieved by an implement for manual washing of floors or flat surfaces in general, according to the present invention, that floors or or flat surfaces in general, has the features defined claim 1.

[0015] Further characteristics and advantages of the invention will become better apparent from the description of two preferred but not exclusive embodiments of the implement according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figures 1 to 5 are views of the implement according to the invention in the first embodiment, and more particularly:

Figure 1 is a perspective view of the implement, in an operating condition in which the second plate-like element is in the active position;

Figure 2 is an enlarged-scale perspective view of a detail of Figure 1;

Figure 3 is a side elevation view of the implement according to the invention, in the operating condition shown in the preceding figures;

Figure 4 is a top plan view of the implement according to the invention, in the operating condition shown in the preceding figures;

Figure 5 is a side elevation view of the implement according to the invention in another operating condition in which the second plate-like element is in the inactive position;

Figures 6 to 8 are views of the implement according to a second embodiment, that is not part of the present invention, as claimed, and more particularly:

Figure 6 is a perspective view of the implement in an intermediate operating condition;

Figure 7 is an enlarged-scale perspective view of a detail of the implement in an operating condition, in which the second plate-like element is in the active position;

Figure 8 is a perspective view of the implement in another operating condition, in which the second plate-like element is in the inactive position.

[0016] With reference to the figures, the implement according to the invention, generally designated by the reference numerals 1, 1a in the two embodiments, comprises a frame 2, 2a, which is connected to a connecting element 9, 9a which can be associated with a handle 3, 3a and is composed of at least one first plate-like element 6, 6a which forms, with one of its faces designed to be directed toward the surface to be washed, a first application region for a first cleaning fringe 4, 4a.

[0017] According to the invention, the frame 2, 2a comprises a second plate-like element 7, 7a, which is laterally adjacent to the first plate-like element 6, 6a and forms, with its face designed to be directed toward the surface to be washed, a second application region for a second cleaning fringe 5, 5a. The second plate-like element 7, 7a can move with respect to the first plate-like element 6, 6a in order to pass from an active position, in which it is substantially coplanar and laterally adjacent to the first plate-like element 6, 6a, to an inactive position, in which it is spaced from the plane of arrangement of the first plate-like element 6, 6a on the opposite side with respect to the face of the first plate-like element 6, 6a that is designed to be directed toward the surface to be washed, and vice versa.

[0018] In this manner it is possible to use simultaneously two cleaning fringes 4, 4a, 5, 5a to perform two different operations, or just one cleaning fringe 4, 4a, according to the requirements. Thus, for example, it is possible to apply a first wet cleaning fringe 4, 4a to the first plate-like element 6, 6a and a second dry cleaning fringe 5, 5a to the second plate-like element 7, 7a, so as to perform simultaneously, when the second plate-like element 7, 7a is in the active position, both washing and at least partial drying of the surface to be washed, or just washing when the second plate-like element 7, 7a is in the inactive position, as will become better apparent hereinafter.

[0019] More particularly, in both of the illustrated embodiments, the two plate-like elements 6, 6a, 7, 7a have a substantially rectangular plan shape. When the second plate-like element 7, 7a is in the active position, the two plate-like elements 6, 6a, 7, 7a are arranged side by side at one of their longer sides, and each one forms, with its face designed to be directed toward the surface to be washed, a substantially flat application region for the corresponding cleaning fringe 4, 4a, 5, 5a.

[0020] The first plate-like element 6, 6a is hinged to the connecting element 9, 9a about a first pivoting axis 10, 10a which is parallel to the plane of arrangement of the first plate-like element 6, 6a.

[0021] The second plate-like element 7, 7a is hinged to the first plate-like element 6, 6a about a second pivoting axis 20, 20a, which is substantially parallel to the plane of arrangement of the second plate-like element 7, 7a and is substantially perpendicular to the direction along which the two plate-like elements 6, 6a, 7, 7a are arranged side by side. The second pivoting axis 20, 20a is substantially parallel and spaced with respect to the first pivoting axis 10, 10a. It should be noted that the direction along which the two plate-like elements 6, 6a, 7, 7a are arranged side by side is preferably parallel to the direction in which the frame 2, 2a is dragged during use, which is indicated by the arrows 11 applied to the face of the plate-like elements 6, 6a, 7, 7a that lies opposite with respect to the one to be directed toward the surface to be washed in the first embodiment and by the arrow 11a, shown in Figure 6, in the second embodiment.

[0022] The second plate-like element 7, 7a can rotate about the second pivoting axis 20, 20a with respect to the first plate-like element 6, 6a in order to pass from the active position to the inactive position and vice versa.

[0023] More particularly, the first plate-like element 6, 6a is connected to the second plate-like element 7, 7a by means of a central element 8, 8a, which is bridge-shaped and is fixed, with of its ends, to the second plate-like element 7, 7a and is hinged, at its opposite end, to the first plate-like element 6, 6a about the second pivoting axis 20, 20a.

[0024] The connecting element 9, 9a is hinged to the central element 8, 8a about the first pivoting axis 10, 10a and can be fixed, in a per se known manner, to the handle 3, 3a.

[0025] Advantageously, the implement according to the invention, in the two illustrated embodiments, is provided with means for retaining the second plate-like element 7, 7a in the inactive position.

[0026] In the first embodiment, the retention means comprise friction means which are interposed between the central element 8 and the first plate-like element 6 so as to contrast by friction the rotation of the central element 8, together with the second plate-like element 7, with respect to the first plate-like element 6 about the second pivoting axis 20.

[0027] More particularly, the central element 8 is inserted, with one of its portions, between a pair of mutually parallel wings 30, 31, which are arranged on planes which are perpendicular to the second pivoting axis 20 and are fixed to the face of the first plate-like element 6 that lies opposite the face of the first plate-like element 6 that is designed to be directed toward the surface to be washed. The wings 30, 31 are elastically flexible toward and away from each other. The central element 8 is hinged to the pair of wings 30, 31 about the second pivoting axis 20 and the friction means comprise means for fastening the pair of wings 30, 31 against the portion of the central element 8 that is inserted between them.

[0028] The fastening means comprise a bolt, which is composed of a screw 32 and a nut 33, which passes through the wings 30 and 31 and the portion of the central element 8 that is inserted between them, providing the pivoting between these elements about the second pivoting axis 20, which is formed by the axis of the screw 32. The fastening means comprise a pair of springs 34, 35, which are arranged around the screw 32 and are interposed respectively between the outer side of the wing 30 and the head 32a of the screw 32 and between the outer side of the wing 31 and the nut 33. By tightening or loosening the nut 33 along the screw 32, the loading of the springs 34, 35 is changed and therefore the force that the springs 34, 35 apply to the wings 30, 31 is changed, thus changing the degree of fastening thereof on the portion of the central element 8 that is inserted between them and therefore changing the friction force that contrasts the rotation of the central element 8 with respect to the wings 30, 31 about the second pivoting axis 20.

[0029] If, as in the first embodiment shown, the portion of the central element 8 that is inserted between the pair of wings 30, 31 also is constituted by a pair of wings 36, 37 which are parallel to the wings 30, 31, around the screw 32, between the springs 34, 35, it is possible to provide a spacer 38, which is positioned between the wings 36, 37 of the central element 8, so as to contrast the mutual approach of the wings 36, 37 of the central element 8 as a consequence of the thrust applied by the springs 34, 35 to the wings 30, 31.

[0030] In the second embodiment, and not comprised in the present invention, as claimed, the retention means are interposed between the central element 8a and the connecting element 9a.

[0031] The retention means comprise engagement means which are associated with the central element 8a and can engage detachably the connecting element 9a.

[0032] More particularly, the engagement means comprise an elastically flexible wing 21a, which is connected to the central element 8a and is provided with a tooth 22a which can engage by snap action, by utilizing the elastic flexibility of the wing 21a and the rotation of the connecting element 9a about the first pivoting axis 10a with respect to the second plate-like element 7a, an abutment 23a provided on the connecting element 9a.

[0033] The wing 21 a is further provided, proximate to the tooth 22a, with a pressing region 24a, on which it is possible to act manually in order to produce the elastic flexing of the wing 21 a so as to disengage the tooth 22a from the abutment 23a.

[0034] In both of the illustrated embodiments, the plate-like elements 6, 6a, 7, 7a are provided with means for gripping the cleaning fringes 4, 4a, 5, 5a on their face designed to be directed toward the surface to be washed. The grip means comprise hook-and-loop strips 40, visible only in Figure 1, which can engage complementary hook-and-loop strips or a face which is entirely provided as a complementary hook-and-loop strip of the cleaning fringes 4, 4a, 5, 5a.

[0035] The hook-and-loop strips 40 are supported by slats 18, 18a which are associated detachably with the plate-like elements 6, 6a, 7, 7a so as to allow their replacement in case of wear.

[0036] The connecting element 9, 9a, in both embodiments, is composed of two parts 12, 12a, 13, 13a, which are mutually pivoted about a third pivoting axis 15, 15a, which is substantially perpendicular to the first pivoting axis 10, 10a.

[0037] As mentioned above, the plate-like elements 6, 6a, 7, 7a are preferably arranged side by side with one of their longer sides and the central element 8, 8a connects the two plate-like elements 6, 6a, 7, 7a in a central region so as to obtain a good balancing of the implement. In this arrangement, the pivoting axes 10, 10a, 20, 20a are oriented parallel to the longer sides of the plate-like elements 6, 6a, 7, 7a and therefore at right angles to the dragging direction 11, 11 a of the frame 2, 2a during its use.

[0038] The implement according to the invention can be used both as a traditional implement for washing floors or surfaces in general and as an implement which performs simultaneously washing and at least partial drying of the treated surface.

[0039] When one wishes to simultaneously wash and at least partially dry a surface, the second plate-like element 7, 7a is moved to the active position, i.e., in a position in which it is coplanar to the first plate-like element 6, 6a, as shown in Figures 1, 2, 3, 4 and 7. A first wet fringe 4, 4a is applied to the first plate-like element 6, 6a and a second dry fringe 5, 5a is applied to the second plate-like element 7, 7a. Dragging the implement in the direction indicated by the arrows 11, 11a, the surface is simultaneously washed by means of the action of the first fringe 4, 4a and partially dried by means of the action of the second fringe 5, 5a.

[0040] When one wishes to use the implement as a traditional implement, the second plate-like element 7, 7a is moved, by utilizing its ability to rotate about the second pivoting axis 20, 20a with respect to the first plate-like element 6, 6a, to the inactive position and is retained in this position by the friction between the wings 30, 31 and the portion of the central element 8, 8a that is inserted between them or by the engagement of the abutment 23a by the tooth 22a. In this manner, the second plate-like element 7, 7a is raised with respect to the first plate-like element 6, 6a and can no longer act with the second cleaning fringe 5, 5a, optionally applied thereto, on the surface to be treated, as shown in Figures 5 and 8.

[0041] In this operating condition, a first fringe 4, 4a can be applied to the first plate-like element 6, 6a and can be wet or dry according to the requirements.

[0042] Use of the second plate-like element 7, 7a and of the corresponding cleaning fringe 5, 5a can be restored simply by turning the second plate-like element 7, 7a with respect to the first plate-like element 6, 6a about the second pivoting axis 20, 20a, overcoming the friction be-

tween the wings 30, 31 and the portion of the central element 8 that is inserted between them, in the first embodiment, or after manually disengaging the tooth 2a from the abutment 23a, by acting on the pressing region 24a of the wing 21a, in the second embodiment.

[0043] In practice it has been found that the implement according to the invention fully achieves the intended aim, since it allows to perform simply washing or simultaneously washing and partial drying of the surface being washed without requiring additional or subsequent operations to reduce drying times.

[0044] The implement thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims, according to Art. 69 (1) EPC, all the details may further be replaced with other technically equivalent elements.

[0045] In the exemplary embodiments described above, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other exemplary embodiments. Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

[0046] In practice, the materials used, as well as the dimensions, may be any according to requirements and to the state of the art.

[0047] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. An implement (1) for manual washing of floors or flat surfaces in general, comprising a frame (2) composed of at least one first plate-like element (6) which forms with one of its faces, designed to be directed toward the surface to be washed, a first application region for a first cleaning fringe (4), said first plate-like element (6) being pivoted to a connecting element (9) about a first pivoting axis (10), which is substantially parallel to the plane of arrangement of said first plate-like element (6), said connecting element (9) being associable with a handle (3), wherein said frame (2) further comprises a second plate-like element (7) which is laterally adjacent to said first plate-like element (6) and forms, with its face designed to be directed toward the surface to be washed, a second application region for a second cleaning fringe (5); said second plate-like element (7) being hinged to said first plate-like element (6) about a second pivoting axis (20), which is substantially parallel to the plane of arrangement of said second plate-like element (7) and is substantially perpendicular to the direction of side-by-side arrangement of said two plate-like elements; said second plate-like element (7) being able to rotate about said second pivoting axis (20) with respect to said first plate-like element (6) in order to pass from an active position, in which it is substantially coplanar and laterally adjacent to said first plate-like element (6), to an inactive position, in which it is spaced from the plane of arrangement of said first plate-like element (6) on the opposite side with respect to the face of said first plate-like element (6) that is designed to be directed toward the surface to be washed, and vice versa, said implement (1) further comprising means for retaining said second plate-like element (7) in said inactive position, **characterized in that** said first plate-like element (6) is connected to said second plate-like element (7) by means of a central element (8) which is fixed to said second plate-like element (7) and is hinged to said first plate-like element (6) about said second pivoting axis (20); said connecting element (9) being hinged to said central element (8) about said first pivoting axis (10) which is substantially parallel and spaced with respect to said second pivoting axis (20), said pivoting axes (10, 20) being oriented transversely to the direction (11) along which said two plate-like elements are dragged along the surface to be washed, and **in that** said retention means comprise friction means which are interposed between said central element (8) and said first plate-like element (6) in order to contrast by friction the rotation of said central element (8) together with said second plate-like element (7) with respect to said first plate-like element (6) about said second pivoting axis (20), wherein said central element (8) is inserted, with one of its portions (36, 37), between a pair of mutually parallel wings (30, 31) which are elastically flexible toward or away from each other and are fixed to the face of said first plate-like element (6) that lies opposite the face intended to be directed toward the surface to be washed, said central element (8) being hinged to said pair of wings (30, 31) about said second pivoting axis (20) and said friction means comprising means for fastening said pair of wings (30, 31) against the portion (36, 37) of said central element (8) that is inserted therebetween.

2. The implement (1) according to claim 1, **characterized in that** said fastening means comprise a bolt, which provides the pivoting of said central element (8) to said pair of wings (30, 31), and a pair of springs (34, 35), which are arranged around the screw (32) of said bolt and are interposed respectively between the outer side of one wing (30) and the head (32a) of the screw of said bolt and between the outer side of the other wing (31) and the nut (33) of said bolt; the nut (33) of said bolt being tightenable along said screw (32) in order to increase the elastic load of

said springs (34, 35).

3. The implement (1) according to one or more of the preceding claims, **characterized in that** said two plate-like elements (6, 7) are provided with means for gripping said cleaning fringes (4, 5) on the face of said two plate-like elements (6, 7) which is meant to be directed toward the surface to be washed.

4. The implement (1) according claim 3, **characterized in that** said gripping means comprise hook-and-loop strips (40) which can engage complementary hook-and-loop strips provided on said cleaning fringes (4, 5).

5. The implement (1) according to one or more of the preceding claims, **characterized in that** said connecting element (9) is composed of at least two parts (12, 13) which are mutually pivoted about a third pivoting axis (15) which is substantially perpendicular to said first pivoting axis (10).

6. The implement (1) according to one or more of the preceding claims, **characterized in that** said two plate-like elements (6. 7) are substantially rectangular and are mutually arranged side-by-side at one of their two longer sides.

7. The implement (1) according to one or more of the preceding claims, **characterized in that** said first pivoting axis (10) and said second pivoting axis (20) are substantially parallel to the longer sides of said two plate-like elements (6, 7).

Patentansprüche

1. Gerät (1) zum manuellen Waschen von Fußböden oder ebenen Flächen im allgemeinen, mit einem Rahmen (2) bestehend aus wenigstens einem ersten plattenartigen Element (6), welches mit einer seiner Flächen, die zu der zu waschenden Bodenfläche hin gerichtet wird, einen ersten Anbringbereich für einen ersten Wischbezug (4) bildet, wobei das erste plattenartige Element (6) an einem Verbindungselement (9) schwenkbar um eine Schwenkachse (10) angeordnet ist, welche im wesentlichen parallel zur Ebene der Anordnung des ersten plattenartigen Elements (6) verläuft, wobei das Verbindungselement (9) mit einem Handgriff (3) verbunden werden kann, wobei der Rahmen (2) weiterhin ein zweites plattenartiges Element (7) aufweist, welches seitlich benachbart zum ersten plattenartigen Element (6) ist und mit seiner zur zu waschenden Bodenfläche hin gerichteten Fläche einen zweiten Anbringbereich für einen zweiten Wischbezug (5) bildet; wobei das zweite plattenartige Element (7) am ersten plattenartigen Element (6) drehbar um eine zweite Schwenkachse (20) angelenkt ist, welche im wesentlichen parallel zur Ebene der Anordnung des zweiten plattenartigen Elements (7) und im wesentlichen senkrecht zur Ausrichtung der Nebeneinander-Anordnung der beiden plattenartigen Elemente ist; wobei das zweite plattenartige Element (7) um die zweite Schwenkachse (20) relativ zu dem ersten plattenartigen Element (6) rotieren kann, um aus einer aktiven Position, in welcher es im wesentlichen koplanar mit und seitlich benachbart zu dem ersten plattenartigen Element (6) ist, in eine inaktive Position zu gelangen, in welcher es von der Ebene der Anordnung des ersten plattenartigen Elements (6) auf der entgegengesetzten Seite relativ zur Fläche des ersten plattenartigen Elements (6) beabstandet ist, die zur zu waschenden Bodenfläche hin gerichtet wird, und umgekehrt, wobei das Gerät (1) weiterhin Mittel zum Halten des zweiten plattenartigen Elements (7) in der inaktiven Position aufweist, **dadurch gekennzeichnet, dass** das erste plattenartige Element (6) mit dem zweiten plattenartigen Element (7) mittels eines zentralen Elements (8) verbunden ist, welches am zweiten plattenartigen Element (7) befestigt ist und am ersten plattenartigen Element (6) schwenkbar um die zweite Schwenkachse (20) angelenkt ist; wobei das Verbindungselement (9) am zentralen Element (8) schwenkbar um die erste Schwenkachse (10) angelenkt ist, welche im wesentlichen parallel und beabstandet relativ zur zweiten Schwenkachse. (20) verläuft, wobei die Schwenkachsen (10, 20) quer zur Richtung (11) orientiert sind, entlang welcher die beiden plattenartigen Elemente entlang der zu waschenden Bodenfläche gezogen werden, und **dadurch**, dass die Mittel zum Halten Reibungsmittel aufweisen, welche zwischen dem zentralen Element (8) und dem ersten plattenartigen Element (6) angeordnet sind, um durch Reibung der Drehung des zentralen Elements (8) zusammen mit dem zweiten plattenartigen Element (7) relativ zum ersten plattenartigen Element (6) um die zweite Schwenkachse (20) entgegenzuwirken, wobei das zentrale Element (8) mit einem seiner Teile (36, 37) zwischen einem Paar von zueinander parallelen Flügeln (30, 31) eingefügt ist, welche zueinander hin oder voneinander weg elastisch flexibel ausgebildet sind und an der Fläche des ersten plattenartigen Elements (6) befestigt sind, die gegenüber der zur zu waschenden Bodenfläche hin gerichteten Fläche liegt; wobei das zentrale Element (8) an dem Paar von Flügeln (30, 31) drehbar um die zweite Schwenkachse (20) angelenkt ist, und die Reibungsmittel Mittel zum Befestigen des Paars von Flügeln (30, 31) am Teil (36, 37) des zentralen Elements (8) aufweisen, das dazwischen angeordnet ist.

2. Gerät (1) nach Anspruch 1, wobei die Befestigungsmittel eine Bolzenanordnung, welche das Schwen-

ken des zentralen Elements (8) zu dem Paar von Flügeln (30, 31) ermöglicht, und ein Paar von Federn (34, 35) aufweisen, welche um die Schraube (32) der Bolzenanordnung und jeweils zwischen der Außenseite eines Flügels (30) und dem Kopf (32a) der Schraube der Bolzenanordnung und zwischen der Außenseite des anderen Flügels (31) und der Mutter (33) der Bolzenanordnung angeordnet sind; wobei die Mutter (33) der Bolzenanordnung entlang der Schraube (32) angezogen werden kann, um die elastische Kraft der Federn (34, 35) zu erhöhen.

3. Gerät (1) nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die beiden plattenartigen Elemente (6, 7) mit Mitteln zum Erfassen der Wischbezüge (4, 5) auf der Fläche der beiden plattenartigen Elemente (6, 7) versehen sind, die zur zu waschenden Bodenfläche hin gerichtet wird.

4. Gerät (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** die Erfassungsmittel Klettverschluss-Streifen (40) aufweisen, welche mit komplementären Klettverschluss-Streifen auf den Wischbezügen (4, 5) zusammenwirken können.

5. Gerät (1) nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Verbindungselement (9) aus wenigstens zwei Teilen (12, 13) besteht, welche zueinander schwenkbar um eine dritte Schwenkachse (15) angeordnet sind, welche im wesentlichen senkrecht zur ersten Schwenkachse (10) verläuft.

6. Gerät (1) nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die beiden plattenartigen Elemente (6, 7) im wesentlichen rechteckig sind und nebeneinander an einer ihrer beiden längeren Seiten angeordnet sind.

7. Gerät (1) nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die erste Schwenkachse (10) und die zweite Schwenkachse (20) im wesentlichen parallel zu den längeren seiten der beiden plattenartige Elemente (6, 7) verlaufen.

Revendications

1. Outil (1) pour le lavage manuel des sols ou des surfaces planes en général, comprenant un châssis (2) composé d'au moins un premier élément en forme de plaque (6) qui forme avec l'une de ses faces conçue pour être dirigée sur la surface à laver, une première région d'application pour une première frange de nettoyage (4), ledit premier élément en forme de plaque (6) étant pivoté sur un élément de raccordement (9) autour d'un premier axe de pivotement (10) qui est sensiblement parallèle au plan d'agencement dudit premier élément en forme de plaque (6), ledit élément de raccordement (9) pouvant être associé à une poignée (3), dans lequel ledit châssis (2) comprend en outre un deuxième élément en forme de plaque (7) qui est latéralement adjacent audit premier élément en forme de plaque (6) et forme, avec sa face conçue pour être dirigée vers le surface à laver, une deuxième région d'application pour une deuxième frange de nettoyage (5) ; ledit deuxième élément en forme de plaque (7) étant relié par charnière audit premier élément en forme de plaque (6) autour d'un deuxième axe de pivotement (20) qui est sensiblement parallèle au plan d'agencement dudit deuxième élément en forme de plaque (7) et est sensiblement perpendiculaire à la direction de l'agencement côte à côte desdits deux éléments en forme de plaque ; ledit deuxième élément en forme de plaque (7) pouvant tourner autour dudit deuxième axe de pivotement (20) par rapport audit premier élément en forme de plaque (6) afin de passer d'une position active dans laquelle il est sensiblement coplanaire et latéralement adjacent audit premier élément en forme de plaque (6), à une position inactive dans laquelle il est espacé du plan d'agencement dudit premier élément en forme de plaque (6) sur le côté opposé par rapport à la face dudit premier élément en forme de plaque (6) qui est conçue pour être dirigée vers la surface à laver, et vice versa, ledit outil (1) comprenant en outre des moyens pour retenir ledit deuxième élément en forme de plaque (7) dans ladite position inactive, **caractérisé en ce que** ledit élément en forme de plaque (6) est raccordé audit deuxième élément en forme de plaque (7) au moyen d'un élément central (8) qui est fixé sur ledit deuxième élément en forme de plaque (7) et est relié par charnière audit premier élément en forme de plaque (6) autour dudit deuxième axe de pivotement (20) ; ledit élément de raccordement (9) étant relié par charnière audit élément central (8) autour dudit premier axe de pivotement (10) qui est sensiblement parallèle et espacé par rapport audit deuxième axe de pivotement (20), lesdits axes de pivotement (10, 20) étant orientés de manière transversale par rapport à la direction (11) le long de laquelle lesdits deux éléments en forme de plaque sont trainés le long de la surface à laver, et **en ce que** lesdits moyens de retenue comprennent des moyens de friction qui sont intercalés entre ledit élément central (8) et ledit premier élément en forme de plaque (6) afin de s'opposer par friction à la rotation dudit élément central (8) conjointement avec ledit deuxième élément en forme de plaque (7) par rapport audit premier élément en forme de plaque (6) autour dudit deuxième axe de pivotement (20), dans lequel ledit élément central (8) est inséré, avec l'une de ses parties (36, 37), entre une paire d'ailes (30, 31) mutuellement

parallèles qui sont élastiquement flexibles vers ou à distance l'une de l'autre et sont fixées sur la face dudit premier élément en forme de plaque (6) qui est opposé à la face prévue pour être dirigée vers la surface à laver ; ledit élément central (8) étant relié par charnière à ladite paire d'ailes (30, 31) autour dudit deuxième axe de pivotement (20) et lesdits moyens de friction comprenant des moyens pour fixer ladite paire d'ailes (30, 31) contre la partie (36, 37) dudit élément central (8) qui est inséré entre elles.

2. Outil (1) selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation comprennent un boulon qui fournit le pivotement dudit élément central (8) par rapport à ladite paire d'ailes (30, 31), et une paire de ressorts (34, 35) qui sont agencés autour de la vis (32) dudit boulon et sont intercalés respectivement entre le côté externe d'une aile (30) et la tête (32a) de la vis dudit boulon et entre le côté externe de l'autre aile (31) et l'écrou (33) dudit boulon : l'écrou (33) dudit boulon pouvant être serré le long de ladite vis (32) afin d'augmenter la charge élastique desdits ressorts (34, 35).

3. Outil (1) selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** lesdits deux éléments en forme de plaque (6, 7) sont prévus avec des moyens pour saisir lesdites franges de nettoyage (4, 5) sur la face desdits deux éléments en forme de plaque (6, 7) qui est sensée être dirigée vers la surface à laver.

4. Outil (1) selon la revendication 3, **caractérisé en ce que** lesdits moyens de préhension comprennent des bandes de Velcro (40) qui peuvent mettre en prise des bandes de Velcro complémentaires prévues sur lesdites franges de nettoyage (4, 5).

5. Outil (1) selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément de raccordement (9) est composé d'au moins deux parties (12, 13) qui sont mutuellement pivotées autour d'un troisième axe de pivotement (15) qui est sensiblement perpendiculaire audit premier axe de pivotement (10).

6. Outil (1) selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** lesdits deux éléments en forme de plaque (6, 7) sont sensiblement rectangulaires et sont mutuellement agencés côte à côte au niveau de l'un de leurs deux côtés longs.

7. Outil (1) selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit premier axe de pivotement (10) et ledit deuxième axe de pivotement (20) sont sensiblement parallèle aux côtés longs desdits deux éléments en forme de plaque (6, 7).

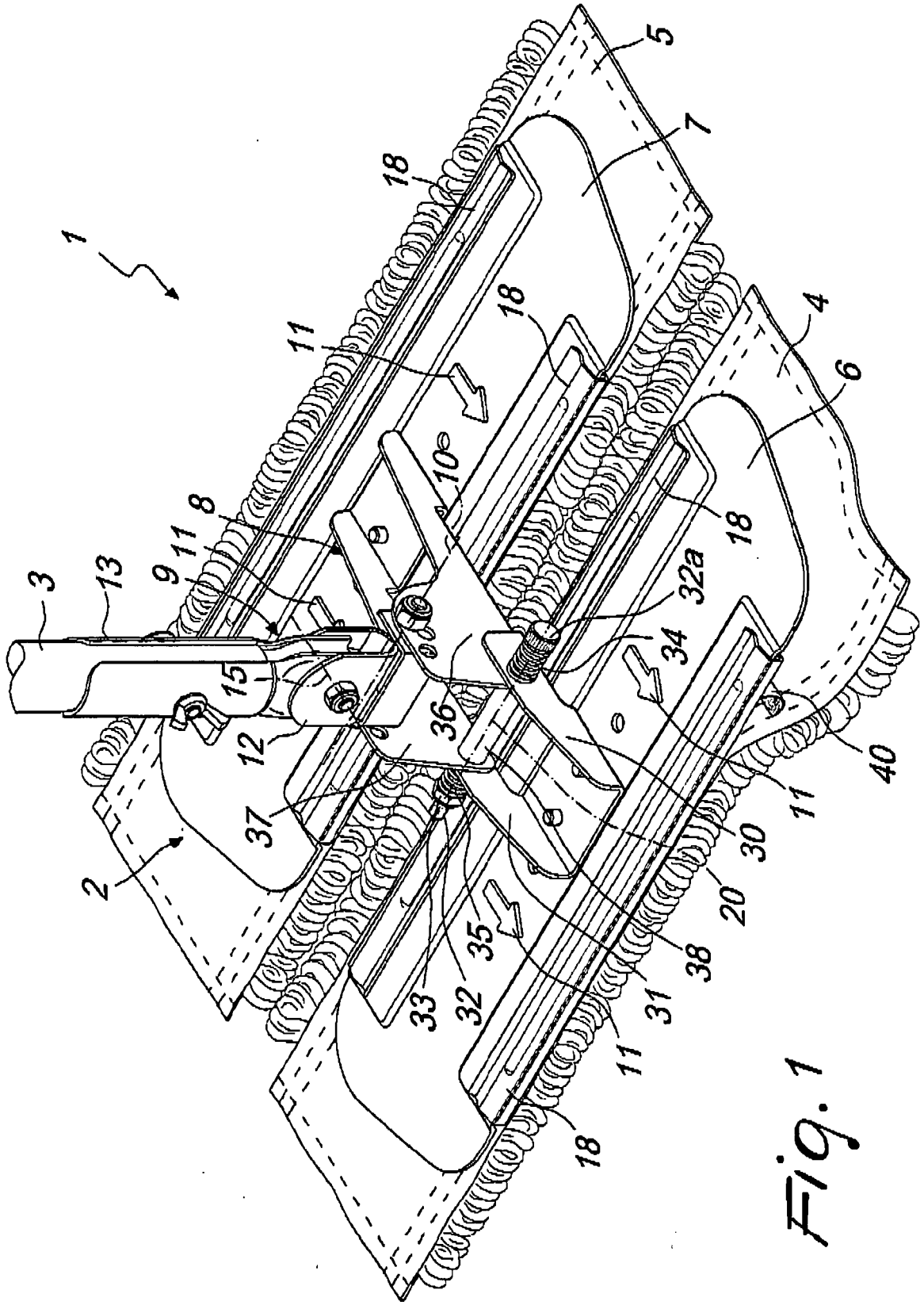

Fig. 1

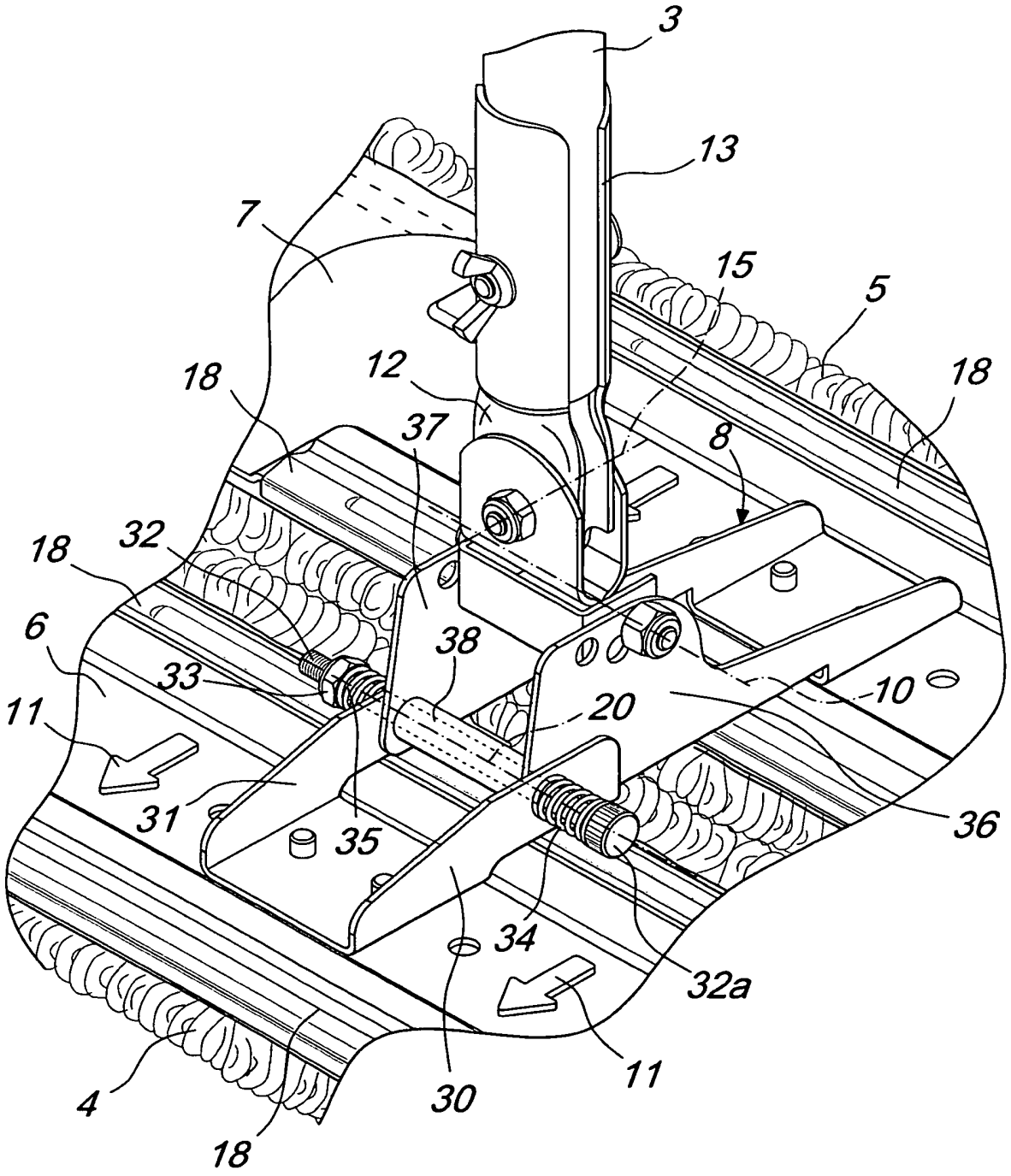

Fig. 2

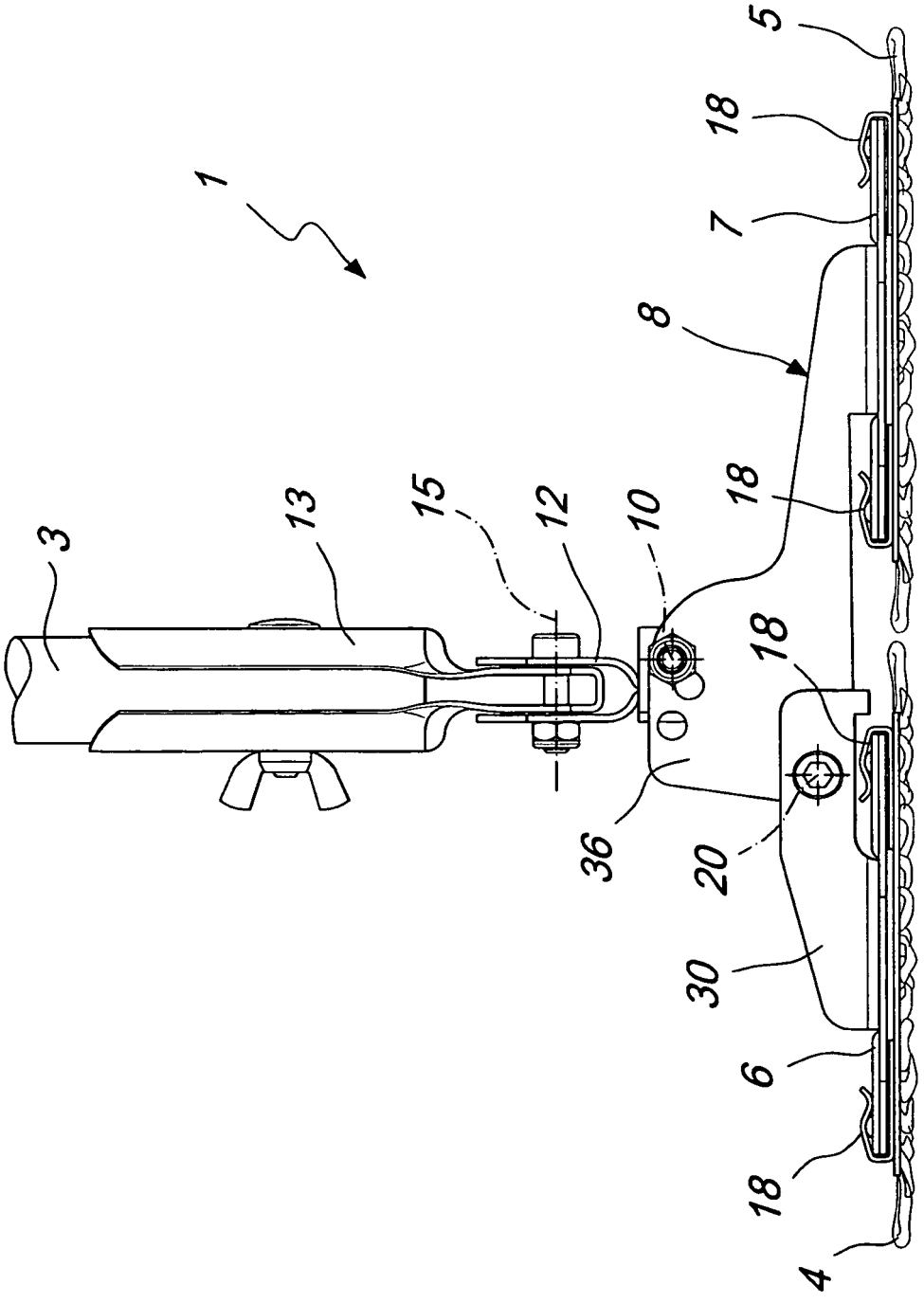

Fig. 3

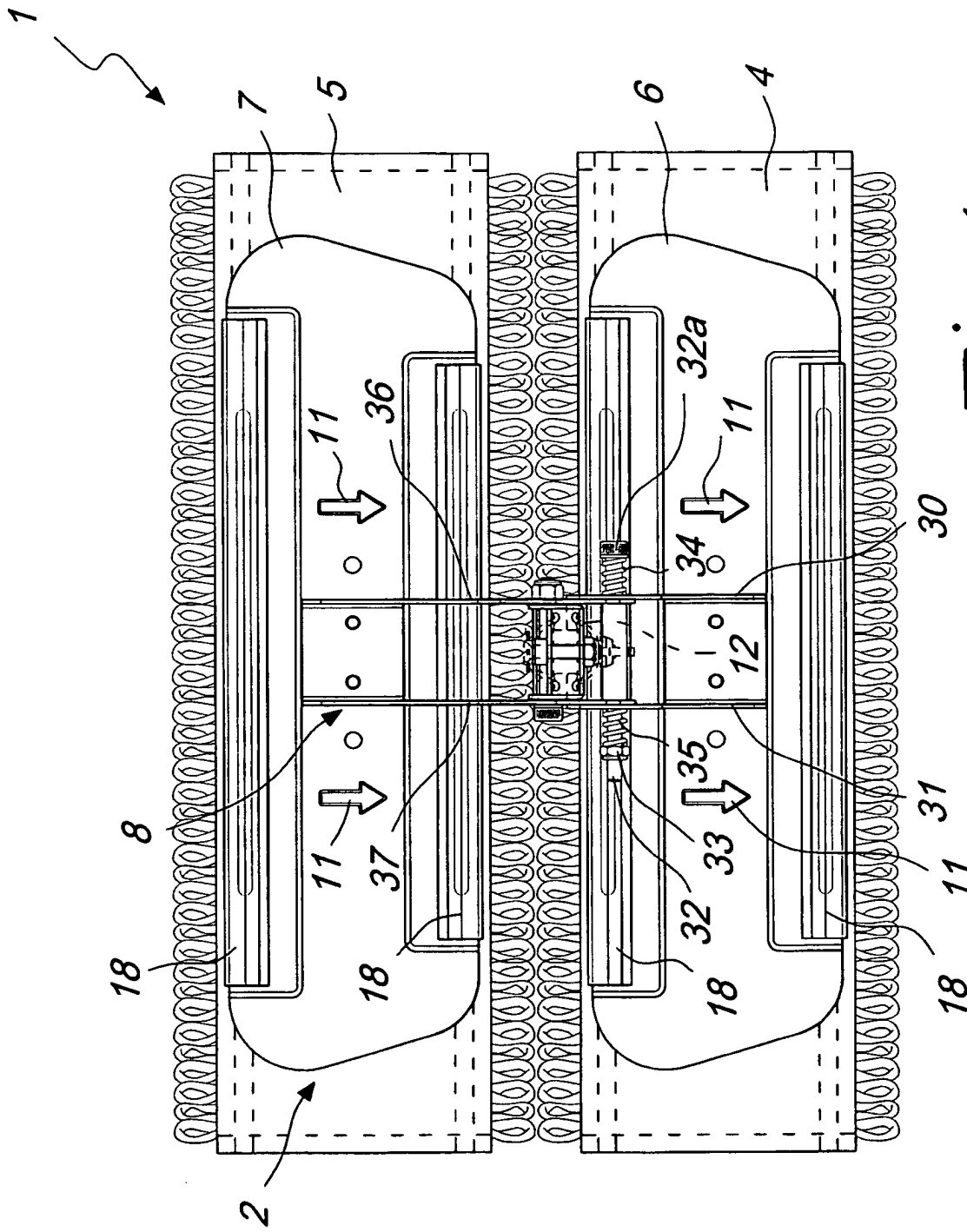

Fig. 4

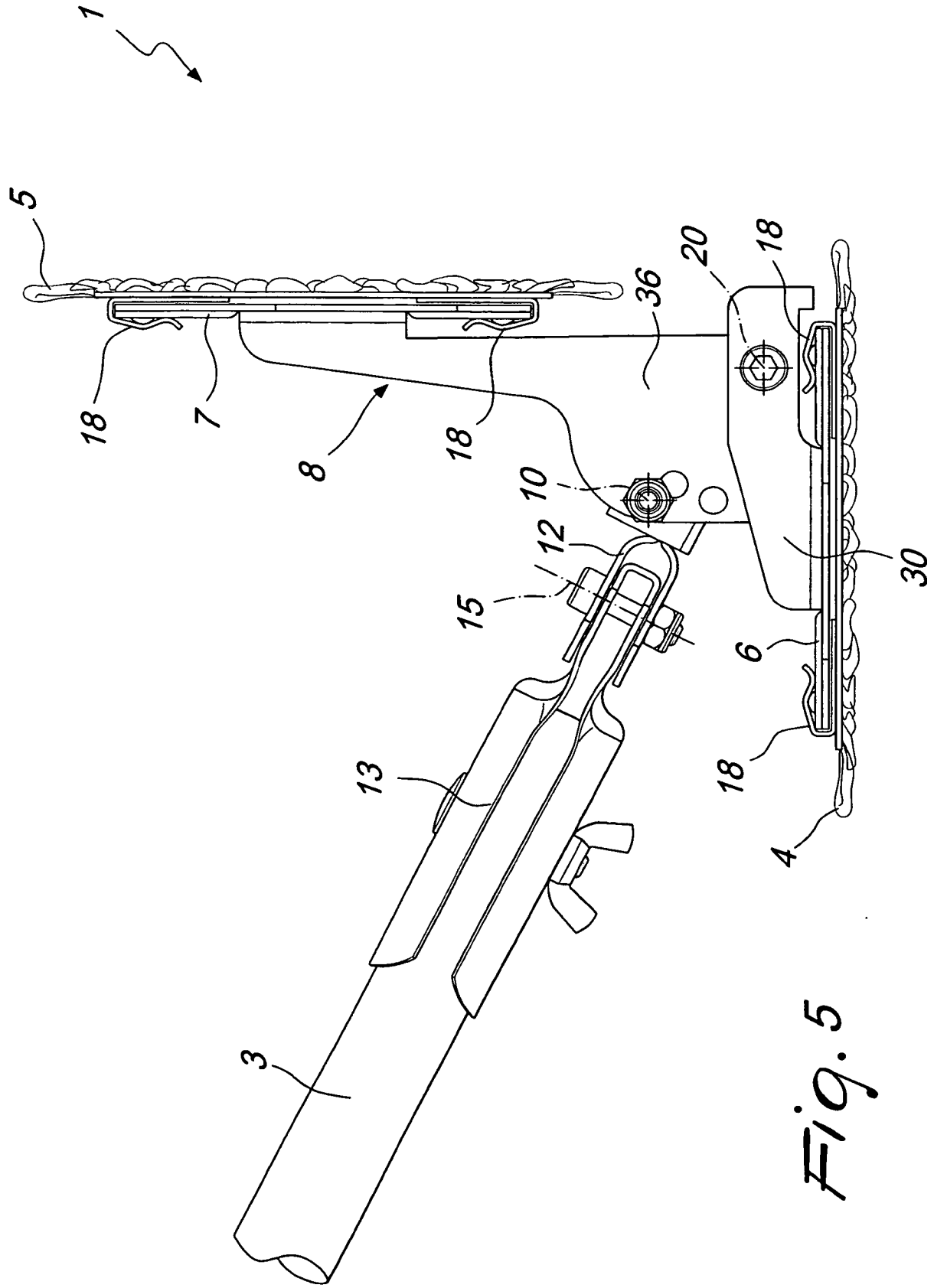

Fig. 5

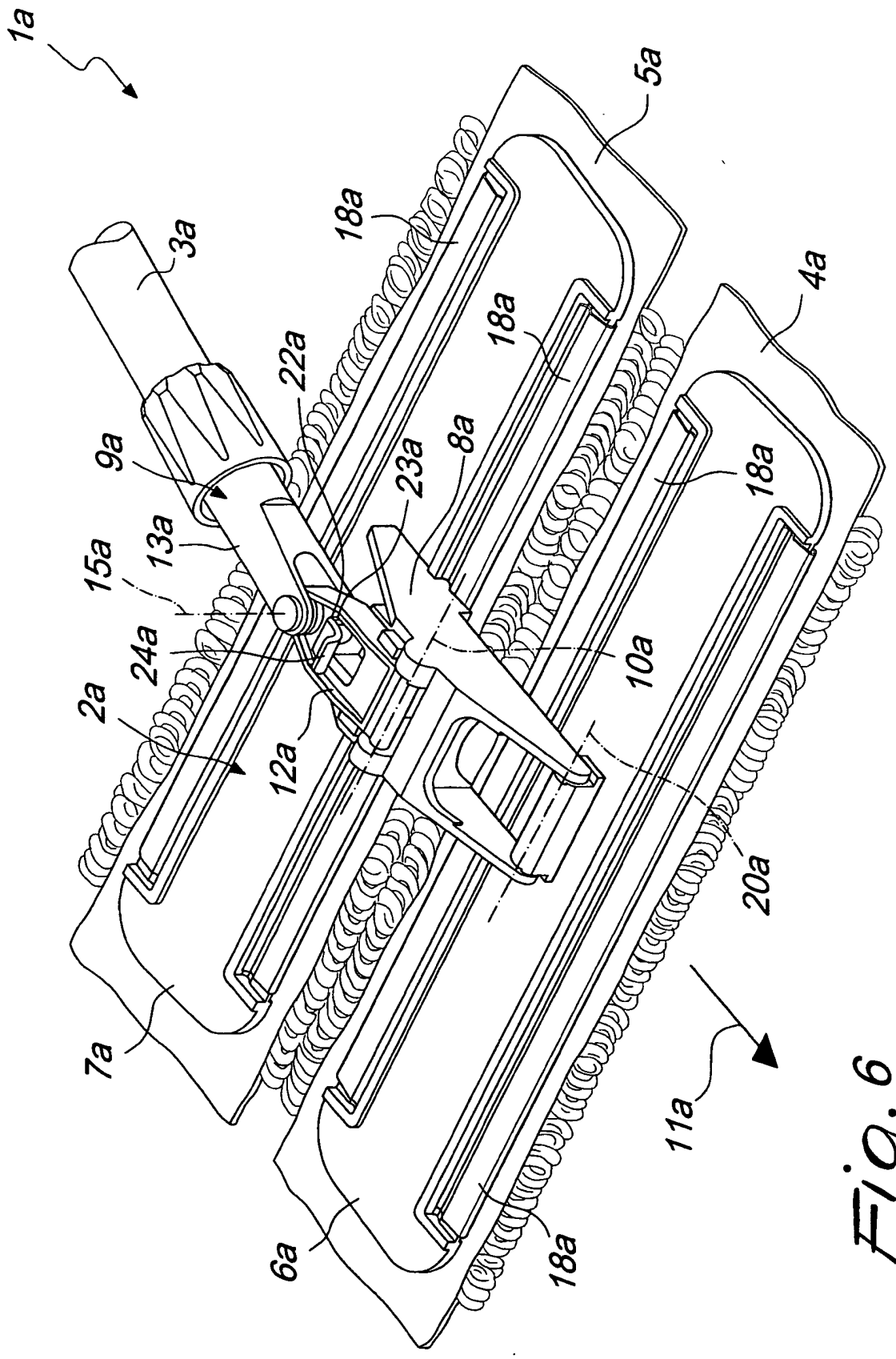
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Fig. 6

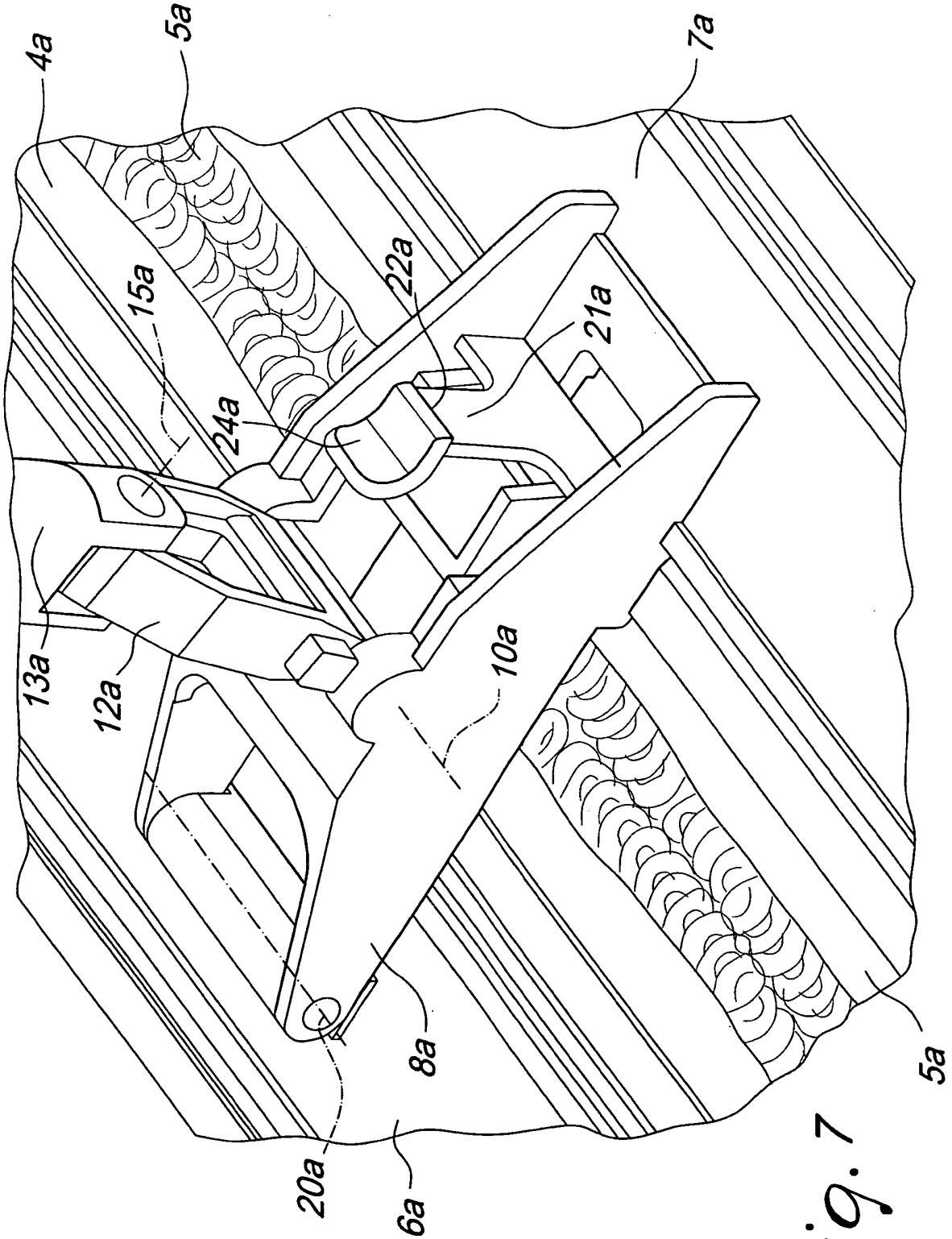

Fig. 7

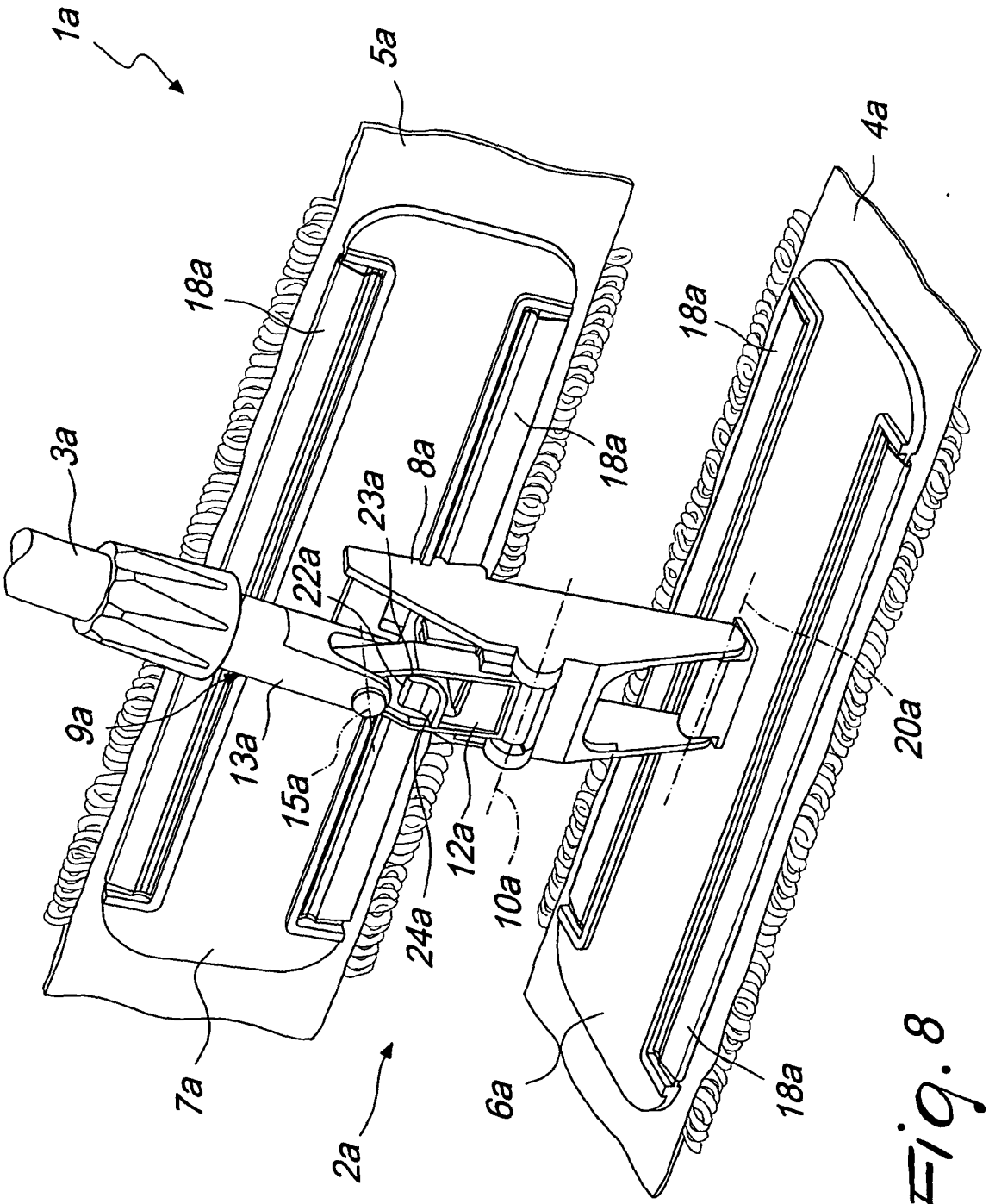
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Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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