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(54) **SOFA-BED OR ARMCHAIR-BED WITH ARTICULATED MECHANISM**

(57) Described is a sofa-bed or an armchair-bed.

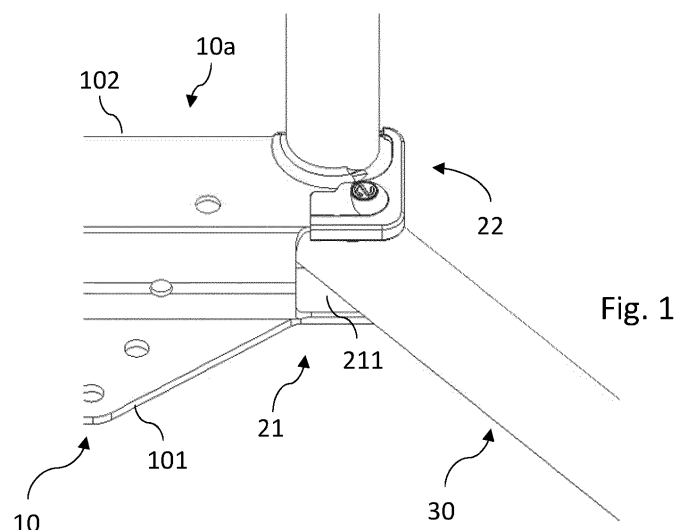
The sofa-bed or armchair-bed comprises an articulated mechanism (1), which in turn includes:

- a profiled element (10) having an end region (10a) with a "C" shaped or "U" shaped profile, said end region (10a) including a first wall and a second wall (101, 102) opposite each other forming two flaps of said "C" shaped or "U" shaped profile;
- an arm element (30) having an end (30a) rotatably associated with the first wall (101) and the second wall (102)

to define a hinge portion (40)

- a first and a second lining element (21, 22), associated respectively with the first and second walls (101, 102) in the end region (10a) of the profiled element (10).

In particular, the first and the second lining elements (21, 22) each comprise a protective wall (211, 221) interposed between the arm element (30) and respectively the first wall (101) and the second wall (102) in such a way as to prevent contact between them.



Description

[0001] The present disclosure relates to a sofa-bed or armchair-bed comprising an articulated mechanism. The present invention also relates to a frame of a sofa-bed or armchair-bed which comprises a first and a second articulated mechanism, a method of a method of manufacturing a sofa-bed or armchair-bed and a use of an articulated mechanism in a sofa-bed or armchair-bed or in a frame of a sofa-bed or armchair-bed.

[0002] For some time now so-called "multifunctional" furniture components have been known, that is to say, which are capable of adopting different configurations in order to perform different functions. Among these, sofa-beds or armchair-beds are particularly widespread, which are provided with a base, supported and associated by several frames associated with each other in a movable manner. For this purpose, these frames are provided with one or more articulated mechanisms so as to be able to be reciprocally moved so as to bring the bed base into a folded configuration or an extended configuration, which correspond, respectively, with a seat function and a bed function of the sofa-bed or of the armchair-bed.

[0003] Generally, the frames and in particular the articulated mechanisms of the sofa-beds or armchair-beds are made of metallic material in order to guarantee the solidity and durability of this piece of furniture. Typically, for reasons of cost and manufacturing simplicity, the articulated mechanisms for sofa-beds or armchair-beds comprise metal profiled elements which may have "sharp" corners or profiles.

[0004] During their movement the articulated mechanisms are subject to friction. In the long term, especially if the sofa-bed or armchair-bed is often subject to a change of configuration, the friction between the different components of an articulated mechanism causes wear.

[0005] In addition, the upholstered components of the sofa-beds or armchair-beds generally rest directly, not only on the bed base, but also on the articulated mechanisms. In particular, the ends of these, if they have "sharp" edges or corners, could damage the upholstered elements of the sofa-beds or armchair-beds and/or could cause injury to an operator during the assembly of the various components of the sofa-bed or similar piece of furniture.

[0006] Lastly, the articulated mechanisms tend, due to the reciprocal movement of the parts of which they are composed, to generate dust and/or metal filings which, if they come into contact with the upholstered elements of the sofa-bed or armchair-beds, can cause them to become soiled.

[0007] The present disclosure aims to provide an articulated mechanism which overcomes the drawbacks mentioned above with reference to the known art and/or to achieve further advantages.

[0008] This is achieved through a sofa-bed or an armchair-bed comprising an articulated mechanism, a frame

of a sofa-bed or an armchair-bed comprising a first and a second of the above-mentioned articulated mechanisms, a method of manufacturing a frame of a sofa-bed or an armchair-bed, a method of manufacturing a sofa-bed or an armchair-bed, a use of an articulated mechanism in a sofa-bed or an armchair-bed or a frame of a sofa-bed or armchair-bed as defined in the respective independent claims. Secondary features and particular embodiments of the object of the present disclosure are defined in the corresponding dependent claims.

[0009] In particular, the sofa-bed or armchair-bed comprises an articulated mechanism. The articulated mechanism in turn comprises:

- a profiled element having an end region with a "C" or "U" shaped profile, the end region including a first wall and a second wall opposite each other to form two flaps of the profile in the shape of a "C" or "U";
- an arm element having an end rotatably associated with the first wall and the second wall to define a hinge portion,

[0010] The articulated mechanism also comprises a first lining element and a second lining element, wherein the first lining element is associated with the first wall and the second lining element is associated with the second wall in the end region of the profiled element. The first lining element comprises a protective wall interposed between the arm element and the first wall in such a way as to prevent contact between them and, similarly, the second lining element comprises a protective wall interposed between the arm element and the second wall in such a way as to prevent contact between them.

[0011] According to the present disclosure, the first lining element and the second lining element are configured so as to prevent the arm element and the section from rubbing against each other. Thanks to the first lining element and the second lining element, the generation of friction between the arm element and the profiled element during the reciprocal movement of one with respect to the other. In addition, a further advantage is that the first lining element and the second lining element can act as finishing elements of the articulated mechanism. That is to say, the first lining element and the second lining element can help define a pleasing aesthetic appearance of the articulated mechanism.

[0012] In addition, according to a preferred aspect, the first and second lining elements of the articulated mechanism have bevelled or rounded edges. In this way it is possible to avoid that these, in contact with the padded parts of the sofa-bed or armchair-bed, can damage them.

[0013] In addition, according to a preferred aspect, the first and second lining elements of the articulated mechanism can comprise a protuberance configured to retain or collect any dust or filings. Thanks to the presence of the protuberance on the first and second lining elements, any dust or metal filings are retained inside the lining itself in order to counteract a soiling of the padded com-

ponents which, in use, are designed to rest on the articulated mechanism.

[0014] The present disclosure also relates to a frame of a sofa-bed or armchair-bed comprising a first articulated mechanism and a second articulated mechanism. Each of the first articulated mechanism and the second articulated mechanism comprises:

- a profiled element having an end region with a "C" or "U" shaped profile, the end region includes a first wall and a second wall opposite each other to form two flaps of the profile in the shape of a "C" or "U";
- an arm element having an end rotatably associated with the first wall and the second wall to define a hinge portion.

[0015] Each of these first and second articulated mechanisms also comprises a first lining element and a second lining element, respectively associated with the first wall and with the second wall in the end region of the profiled element. In particular, the first lining element comprises a protective wall interposed between the arm element and the first wall in such a way as to prevent contact between them and the second lining element comprises a protective wall interposed between the arm element and the second wall in such a way as to prevent contact between them.

[0016] The frame according to the present disclosure also comprises a transversal member, or longitudinal member, to which the first and second articulated mechanisms are associated.

[0017] The present disclosure also relates to a method of making a sofa-bed or an armchair-bed. The method comprises:

- providing at least one articulated mechanism which comprises:
- a profiled element having an end region with a "C" or "U" shaped profile, wherein the end region includes a first wall and a second wall opposite each other to form two flaps of the profile in the shape of a "C" or "U";
- an arm element having an end rotatably associated with the first wall and the second wall to define a hinge portion;
- a first lining element and a second lining element, respectively associated with the first wall and with the second wall in the end region of the profiled element, and wherein the first lining element comprises a protective wall interposed between the arm element and the first wall in such a way as to prevent contact between them and, similarly, the second lining element comprises a protective wall interposed between the arm element and the second wall in such a way as to prevent contact between them.

[0018] The above-mentioned method also provides for hiding the articulated mechanism from view. Preferably, the method provides at least one covering assembly and operatively associates the latter to the articulated mechanism in such a way that in use the articulated mechanism is hidden from view by the covering assembly. In other words, the covering mechanism, and in particular the first lining element and the second lining element, do not contribute to defining an appearance of the sofa-bed or armchair-bed.

[0019] Finally, the present disclosure relates to a use of at least one articulated mechanism, as described above, in a sofa-bed or armchair-bed or in a frame of a sofa-bed or armchair-bed.

[0020] Further advantages, characteristics and methods of use of the object of the present disclosure will become evident from the following detailed description of its embodiments, presented merely by way of non-limiting examples.

[0021] It is however evident that each embodiment of the object of this disclosure can have one or more of the advantages listed above; however, no embodiment is required to simultaneously have all the listed advantages.

[0022] Reference will be made to the accompanying drawings, wherein:

- Figure 1 is a bottom view of an articulated mechanism according to the present disclosure;
- Figure 2 is a perspective view of a frame portion comprising an articulated mechanism according to the present disclosure;
- Figure 3 shows a view of a frame portion comprising an articulated mechanism according to the present disclosure;
- Figure 4A and Figure 4B show a perspective view of the first lining element according to the present disclosure;
- Figure 5A and Figure 5B show a perspective view of the second lining element according to the present disclosure.

[0023] The present disclosure relates to a sofa-bed or armchair-bed comprising an articulated mechanism 1. With reference to the accompanying drawings, an embodiment of an articulated mechanism according to the present disclosure is denoted with reference number 1.

[0024] According to the present disclosure, the articulated mechanism comprises a profiled element 10 having an end region, or terminal, 10a at which there is profiled element in the shape of a "C", that is, a "U", or in the shape of an "H". In other words, the profiled element 10 in the end region 10a has a cross section in the shape of a "C", "U", or "H". The profiled element 10 includes, at this end region 10a, a first wall 101 and a second wall 102, opposite each other, that is, facing each other, to form the two flaps of the profiled element in the shape of a "C", "U" or "H".

[0025] The articulated mechanism 1 further comprises

an arm element 30. The expression "arm element" 30 means, in the context of the present disclosure, an element having a prevailing direction of extension; for example the arm element 30 is a rod or bar element.

[0026] The arm element 30 has an end 30a rotatably associated with the first wall 101 and with the second wall 102 of the profiled element 10 to define a hinge portion 40. In other words, the end 30a of the arm element 30 is coupled to the first wall 101 and to the second wall 102 of the profiled element 10 so as to be able to rotate with respect to these.

[0027] In the context of the present disclosure, the expression "end" or "end region" means a free "end" or "end region" of the profiled element 10 or of the arm element 30. The articulated mechanism 1 further comprises a first lining element 21 and a second lining element 22, associated respectively with the first wall 101 and the second wall 102 at the end region 10a of the profiled element 10.

[0028] In particular, the first lining element 21 comprises a protective wall 211 interposed between the arm element 30 and the first wall 101 in such a way as to prevent contact between them and the second lining element 22 comprises a protective wall 221 interposed between the arm element 30 and the second wall 102 in such a way as to prevent contact between them.

[0029] In other words, the protective wall 211 of the first lining element 21 and the protective wall 221 of the second lining element 21 are interposed between the arm element 30 and, respectively, the first wall 101 of the profiled element 10 and the second wall 102 of profiled element 10. In this way, contact between the arm element 30 and the profiled element 10 is prevented. It therefore follows that, in use, during the movement of the arm element 30 with respect to the profiled element 10, the surfaces of these elements, not being in direct contact with each other, cannot be subjected to friction.

[0030] According to a preferred aspect of the present disclosure, the profiled element 10 is also a substantially rod-shaped element, that is, having a prevailing direction of extension.

[0031] According to this preferred aspect, moreover, the profiled element has a section in the shape of a "C", that is "U", or in the shape of an "H" for its entire extension along the prevailing direction of extension. It follows that the first wall 201 and the second wall 202 extend for the entire extension of the profiled element 10 in the main direction of extension.

[0032] According to a preferred aspect of the present disclosure, the arm element 30 and the profiled element 10 are made of metallic material; such as steel.

[0033] More preferably, the profiled element 10 is made of a metal material that meets the requirements of UNI EN 10305-5: 2016. More preferably, the arm element 3 is made of a metal material that meets the requirements of UNI EN 10111: 2008.

[0034] According to a preferred aspect of the present disclosure, the space between the first wall 101 and the second wall 102 is an internal area, or recess, 10b of the

profiled element 10. The end 30a of the arm element 30 is received, at least partially, between the first wall 101 and the second wall 102 of the profiled element 10 at the end region 10a. In other words, the internal area 10b of the profiled element acts as a housing for the end 30a of the arm element 30.

[0035] According to a preferred aspect of the present disclosure, each of the first lining element 21 and the second lining element 22 comprises a covering wall 213, 223 opposite the respective protection wall 211, 221 and defining with the latter a seat 212, 222 configured to receive respectively the first wall 101 and the second wall 102 at said end region 10a. That is to say that, for the first lining element 21, the covering wall 213 and the protection wall 211 form a seat 212 configured to receive the first wall 101 of the profiled element at the end region 10a. Similarly, for the second lining element 22, the covering wall 223 and the protection wall 221 form a seat 222 configured to receive the second wall 102 of the profiled element at the end region 10a. In this way, therefore, the first lining element 21 and the second lining element 22 are mounted or inserted respectively on the first wall 101 and on the second wall 102, at the end region 10a of the profiled element 10, as a sort of hood, to enwrap or cover them at least partly. That is to say that the first lining element 21 and the second lining element 22 are configured, or each constitute, a hood element. Moreover, the first lining element 21 and the second lining element 22 are intended, in use, to be inserted, along an insertion direction D, until they occupy a position inserted on the wall 101, 102 to which they are respectively associated. This insertion direction D can be parallel to the prevailing direction of extension of the profiled element 10. In use, therefore, the first lining element 21 and the second lining element 22 are in a position inserted on the wall of the profiled element 10 to which they are respectively associated.

[0036] In other words, the first lining element 21 and the second lining element 22 and respectively the first wall 101 and the second wall of the profiled element, at the end region 10a, are configured in such a way as to create a shape coupling, wherein each between the first lining element 21 and the second lining element 22 acts as a female element and each between the first wall 101 and the second wall 102 of the profiled element 10 acts as a male element.

[0037] According to a preferred aspect of the present disclosure, the seat 211, 222 is configured as a slot, gap or cavity. In particular, the covering wall 213, 223 and the protection wall 211, 221 are in spaced relation to form between them a slot, gap or cavity which acts as a seat 212, 222 to receive respectively the first wall 101 and the second wall 102 the end region 10a of the profiled element.

[0038] According to a preferred aspect, the first wall 101 and the second wall 10 have, orthogonally to the prevailing direction of extension of the profiled element 10, a respective thickness and a respective height.

[0039] According to this preferred aspect, the distance between the covering wall 213, 223 and the respective protection wall 211, 221 is comparable to the thickness of the first wall 101 and of the second wall 102. In this way, the clearances between each lining 21, 22 and the wall 101, 102 to which it is associated are limited.

[0040] According to a preferred aspect of the present disclosure, the first lining element 21 and the second lining element 22 each comprise a connecting wall 217, 227 which connects the respective protective wall 211, 221 and the respective covering wall 213, 223. The connecting wall 217, 227 therefore defines, together with the latter, the seat 211, 212 of the respective lining. The connecting wall comprises a bottom portion 217a, 227a. In use, the first wall 101 and the second wall 102, at the end portion 10a of the profiled element 10 make contact with, that is abut, the bottom portion 217a, 227a.

[0041] According to a preferred aspect of the present disclosure, the edges and corners formed by the connecting wall 217, 227, by the protective wall 211, 221 and by the respective covering wall 213, 223 are bevelled or rounded. In other words, the profile of the first lining element 21 or of the second lining element 22 is rounded or bevelled, that is to say without sharp corners or edges.

[0042] In this way, during the use or the assembly of the sofa-bed, armchair-bed or the like, the contact between the articulated mechanism 10 and the padding or other delicate parts of the furniture component does not damage the padding and the delicate parts may be damaged by sharp edges or corners of, for example, the profiled element 10. In addition, in this way, during the use or the assembly of the sofa-bed, armchair-bed or the like, since contact with free and therefore sharp edges or corners is prevented, it is possible to avoid injury to the user or operator in charge of the assembly.

[0043] According to a preferred aspect of the present disclosure, the arm element 30 is rotatably associated with the first wall 101 and with the second wall 102 by means of a rotoidal coupling element. Such a rotoidal coupling element can be, for example, a pin or a peg. Preferably, moreover, the rotoidal coupling element has a circular cross section.

[0044] The first wall 101 and the second wall 102, as well as the arm element 30, are each provided with a respective housing for the coupling element. For example, such a housing can be a hole.

[0045] According to a preferred aspect of the present disclosure, each of the first lining element 21 and the second lining element 22 comprises a through opening 214, 224.

[0046] The through opening 214, 224 comprises a first portion 214', 224' and a second portion 214", 224". The first portion 214', 224' and the second portion 214", 224" are in space continuity with each other.

[0047] The first portion 214', 224' is configured to allow, along the direction of insertion D, an insertion, and possible disconnection, of the rotoidal coupling element. In other words, when the first lining element 21 or the sec-

ond lining element 22 is made to slide in the direction of insertion D, respectively on the first wall 101 or on the second wall 102, the first portion 214', 224" allows the rotoidal coupling element to be received and does not oppose resistance to the passage inside it of the rotoidal coupling element.

[0048] The second portion 214", 224" is configured to accommodate or receive said rotoidal coupling element. In particular, the second portion 214", 224" can be open towards, that is communicating or in continuity of space, with the first portion 214', 224'.

[0049] In addition, each of the first lining element 21 and the second lining element 22 comprises a retaining element 215, 225 interposed between the first portion 214', 224' and the second portion 214", 224". The retaining element 215, 225 projects into the through opening 214, 224 and is configured to cooperate with said rotoidal coupling element to oppose an extraction of said rotoidal coupling element from said second portion 214", 224" along a direction opposite to said insertion direction D. In other words, the retaining element 215, 225 is configured to counteract a removal of the first lining element 21 and of the second lining element 22, in engagement with the rotoidal coupling element, with respect to the first wall 101 and to the second wall 102.

[0050] In other words, the holding element 215, 225 protrudes into the through opening 214, 224 and is positioned between the first portion 214', 214' and the second portion 214", 214". The retaining element 215, 225 therefore defines a narrowing or necking-in of the through opening 214, 224 between the first portion 214', 224' and the second portion 214', 224". The retaining element 215, 225 is configured to cooperate with the rotoidal coupling element to counteract an extraction from the second portion 214", 224" along a direction opposite to insertion direction D. In use, therefore, the retaining element 215, 225 cooperates with the rotoidal coupling element to prevent an accidental disengagement, or extraction, of the latter rotoidal coupling with respect to the second portion 214", 224" of the through opening 214, 224.

[0051] In other words, the through opening 214, 224 and the retaining element are configured to prevent accidental removal or displacement of the first and second lining elements 21, 22 with respect to the rotoidal coupling element. The through opening 214, 224 therefore allows the maintenance of the first lining element 21 and of the second lining element 22 in an engaging position with respect to the rotoidal coupling element and therefore in an inserted position with respect to the relative wall of 101, 102 of the profiled element.

[0052] The retaining element 215, 225 can have the shape, for example, of a tooth or other element projecting between the first portion 214', 214' and the second portion 214", 224".

[0053] According to a preferred aspect of the present disclosure, the first portion 214' is configured as a slot open at the two opposite ends. Even more preferably, an end of the first portion 214' can be at the free edge of the

protective wall 211, 221, to allow the rotoidal coupling element to be easily accommodated.

[0054] According to a preferred aspect of the present disclosure, the first portion 214', 224' is tapered towards the second portion. In other words, the first portion 214', 224' narrows towards the second portion. In this way, the first portion 214', 224" acts as a guide for the sliding of the first and second lining elements 21, 22 around the rotoidal coupling element and therefore facilitates the insertion, respectively, of the first and second lining elements 21, 22. Preferably, also, the first portion 214', 224' preferably extends mainly along the direction of insertion D.

[0055] According to a preferred aspect of the present disclosure, the retaining element 215, 225 is elastically deformable to allow the sliding of the rotoidal coupling element into and out of the second portion 214", 224". In particular, the retaining element 23 is configured to deform elastically along the direction of insertion D to allow the entry of the rotoidal coupling element into the second portion 214", 224" and to interfere with the rotoidal coupling element if, in use, the latter is stressed in extraction, that is, in a direction opposite to the direction of insertion D. In this way, the reception of the rotoidal coupling element is allowed within the second portion 214", 224", while in use, the escape of the rotoidal coupling element from the second portion 214", 224" is prevented. In the context of the present disclosure, the expression "in use" means the usual use of the furniture component by a user. In order to extract or remove the first lining element 21 or the second lining element 22 from the respective wall 101, 102 of the profiled element, a force or a stress must be specially applied which induces a deformation of the retaining element 215, 225. According to a preferred aspect of the present disclosure, each of the first lining element 21 and the second lining element 22 comprises a protuberance, or convexity, 216, 226 configured to retain or collect any dust and/or filings. The dust or the filings can form due to rubbing or friction between the rotoidal coupling element and the arm element 30 or the profiled element 10. Since the dust or the filings are retained within the protuberance or convexity 216, 226, they are prevented from reaching and soiling other elements of the sofa-bed or armchair-bed, in particular of the covering assembly, which in use, can be associated operationally to the articulated mechanism. For example, the covers of the padded elements or other covering elements are prevented from being soiled.

[0056] Preferably, the protuberance 216, 226 forms a convexity facing and open towards the respective seat 212, 222.

[0057] Preferably, the protuberance, or convexity, 216, 226 is made at the covering wall 213, 223.

[0058] According to a preferred aspect of the present disclosure, the first lining element 21 and the second lining element 22 are made of polymeric material. For example, they can be made of Nylon, or Polytetrafluoroethylene.

[0059] Preferably, the sofa-bed or the armchair-bed further comprises at least one covering assembly, designed to hide the articulated mechanism 1 from view. In other words, in use, the covering assembly is operatively associated with the articulated mechanism 1 so as to cover it. The covering assembly preferably comprises at least one padded element, such as for example a cushion or mattress. More preferably, in use, the articulated mechanism 1 is hidden from view by a cushion. In other words, in order to be able to see the articulated mechanism 1 or to be able to access the articulated mechanism 1, and therefore the first lining element 11 and the second lining element 22, the lining assembly or one of its components must be disassociated with respect to the same articulated mechanism 1. The covering mechanism, and in particular the first lining element 21 and the second lining element 22 do not therefore contribute to defining the appearance of the sofa-bed or armchair-bed or in any case do not interfere with the appearance of the sofa-bed or armchair-bed.

[0060] The present disclosure also relates to a frame 100 or a frame portion of a sofa bed or an armchair-bed. This frame 100 comprises an articulated mechanism 1, as described above and acting as a first articulated mechanism, and a further articulated mechanism 2, or second articulated mechanism 2, connected to each other by a transversal member 3. In other words, the frame 100 comprises a first and a second articulated mechanism 1, 2, as described above, operatively connected to each other by a transversal member 3, or longitudinal member. The transversal member 3 can, for example, be part of a surround designed to support a base for supporting cushions or a mattress of a covering assembly. The surround and the base can also be parts of the frame 100. According to a preferred aspect of the present disclosure, the transversal member 3 is interposed between the profiled element of the first articulated mechanism 1 and that of the second articulated mechanism 2. More preferably, the transversal member 3 extends between a first end 31 and a second end 32. According to this preferred aspect, moreover, the first articulated mechanism 1 is associated with the first end 31 and the second articulated mechanism 2 is associated with the second end 32. Preferably, the second articulated mechanism 2 is made as a mirror image of the first articulated mechanism 1.

[0061] Preferably, the covering wall of the second lining element of the first articulated mechanism 1 and the covering wall of the second lining element of the second articulated mechanism 2 are interposed between the respective profiled element 10 and the transversal member 3.

[0062] Preferably, the transversal member 3 extends transversely to the profiled element 10 of the first articulated mechanism 1 and of the second articulated mechanism 2. In addition, the present disclosure relates to a sofa-bed or an armchair-bed or the like which comprises an articulated mechanism 1, or a frame 100, or a portion of frame, as described above.

[0063] Preferably, the sofa-bed or the armchair-bed comprises a frame 100 as described above. More preferably, the sofa-bed or the armchair-bed also comprise a covering assembly designed to be operatively associated with the frame 100 so that in use, the frame 100, or at least the first articulated mechanism 1 and the second articulated mechanism 2 is hidden from view. That is to say, the frame 100, or at least the first link mechanism 1 or the second link mechanism 2, is covered or hidden by the covering assembly. As mentioned above, the covering assembly preferably comprises at least one padded element, such as for example a cushion or mattress. Preferably, in use, at least one cushion or a pair of cushions hides from view the first articulated mechanism 1 and/or the second articulated mechanism 2. More preferably, each articulated mechanism 1, 2 is hidden from view by at least one cushion.

[0064] The present disclosure also relates to a method of manufacturing, or production, of a frame for a sofa-bed or an armchair bed. When describing the above-mentioned method, the elements of the frame 100 involved in the method and having the same function and the same structure as the elements previously described retain the same reference number and are not again described in detail. The above-mentioned method comprises the step of making a first mechanism 1 and a second mechanism 2. In particular, the manufacturing of the first mechanism 1 and the second mechanism 2 comprises the sub-steps of

- providing a profiled element 10 having an end region 10a with a profile in the shape of a "C" or "U", wherein the end region 10a includes a first wall 101 and a second wall 102 opposite each other to form two flaps of said profiled element a shape of "C" or "U";

providing an arm element 30 having one end 30a;

- associating the end 30a of the arm element 30 rotatably with the first wall 101 and with the second wall 102 to define a hinge portion 40;
- providing a first lining element 21 and a second lining element 22, each comprising a respective protective wall 211, 221;
- associating the first lining element 21 with the first wall 101 and the second lining element 22 with the second wall 102 in the end region 10a of said profiled element 10, so that the protective wall 211 of the first lining element 21 is interposed between the arm element 30 and the first wall 101 to prevent contact between them and the protective wall 221 of said second lining element 22 is interposed between the arm element 30 and the second wall 101 to prevent contact between them.

[0065] In addition, the above-mentioned method of manufacturing a frame 100 of a sofa-bed or armchair-bed comprises steps of:

- providing a transversal member 3;
- connecting the first articulated mechanism 1 and the second articulated mechanism 2 through the transversal member 3.

[0066] In other words, the step of connecting the first articulated mechanism 1 and the second articulated mechanism 2 through the transversal member 3 provides for reciprocally associating the first articulated mechanism 1 and the second articulated mechanism 2 through the transversal member 3. In yet other words, both the first articulated mechanism 1 and the second articulated mechanism 2 are associated or connected to the transversal member 3, and therefore are operationally associated with each other.

[0067] Preferably, the transversal member 3 extends between a first end 31 and a second end 32 and the above-mentioned connection step provides for connecting or associating the first mechanism 1 and the second mechanism 2 respectively to the first end 31 and to the second end 32 of the transversal member 3.

[0068] Lastly, the present disclosure also relates to a method of making a sofa-bed or an armchair-bed. As mentioned above, in the description of the method, the elements of the sofa-bed involved in the method and having the same function and the same structure as the elements previously described retain the same reference number and are not again described in detail.

[0069] The method of making a sofa-bed or an armchair-bed involves:

- providing at least one articulated mechanism 1,
- providing at least one covering assembly;
- operatively associating the at least one covering assembly to the articulated mechanism 1 in such a way that the latter is hidden from view by said covering assembly. In other words, the covering assembly is associated with the articulated mechanism 1 so as to cover or mask it.

[0070] In particular, the step of providing at least one articulated mechanism 1 can be carried out, preferably, as described with reference to the method of manufacturing a frame 100.

[0071] According to a preferred aspect, the method of manufacturing a sofa-bed or armchair-bed can comprise the step of providing or manufacturing a frame 100, as described above and which comprises the above-mentioned articulated mechanism 1. Preferably, the method also provides at least one covering assembly and associates the at least one covering assembly to the frame 100.

[0072] In particular, the covering assembly is associated with the frame 100 in such a way that the frame 100 is hidden from view by the covering assembly. For this reason, the first articulated mechanism 1 and the second articulated mechanism 2 are also hidden from view by the covering assembly. More preferably, each articulated

mechanism 1, 2 is hidden from view by at least one cushion. In other words, in order to be able to see the articulated mechanism 1 or to be able to access the articulated mechanism 1, and therefore the first lining element 11 and the second lining element 22, the lining assembly or one of its components must be disassociated with respect to the same articulated mechanism 1. The covering mechanism, and in particular the first lining element 21 and the second lining element 22 do not therefore contribute to defining the appearance of the sofa-bed or armchair-bed or in any case do not interfere with the appearance of the sofa-bed or armchair-bed. Lastly, the present disclosure relates to the use of an articulated mechanism 1 as previously described in a sofa-bed or an armchair-bed or in a frame of a sofa-bed or armchair-bed.

[0073] The present disclosure has thus far been described with reference to its embodiments. It is to be understood that there may be other embodiments pertaining to the same inventive core, all falling within the scope of protection of the claims set forth below.

Claims

1. Sofa-bed or armchair-bed comprising an articulated mechanism (1), wherein said articulated mechanism (1) comprises:

- a profiled element (10) having an end region (10a) with a "C" shaped or "U" shaped profile, said end region (10a) including a first wall (101) and a second wall (102) opposite each other forming two flaps of said "C" shaped or "U" shaped profile;
- an arm element (30) having an end (30a) rotatably associated with said first wall (101) and said second wall (102) to define a hinge portion (40);

wherein said articulated mechanism (1) further comprises a first lining element (21) and a second lining element (22),

wherein said first lining element (21) is associated with said first wall (101) and said second lining element (22) is associated with said second wall (102) at the end region (10a) of said profiled element (10), and wherein said first lining element (21) comprises a protective wall (211) interposed between said arm element (30) and said first wall (101) in such a way as to prevent contact between them and said second lining element (22) comprises a protective wall (221) interposed between said arm element (30) and said second wall (102) in such a way as to prevent contact between them.

2. Sofa-bed or armchair-bed according to claim 1, wherein each of said first lining element (21) and of said second lining element (22) comprises a covering wall (213, 223) opposite to said protective wall (211, 221), wherein said covering wall (213, 223) forms with the respective protection wall (211, 221) a seat (212, 222) configured to receive respectively said first wall (101) and said second wall (102) at said end region (10a).

3. Sofa-bed or armchair-bed according to claim 2, wherein said seat (211, 222) is configured as a slot.

4. Sofa-bed or armchair-bed according to any one of the preceding claims, wherein said arm element (30) is rotatably associated with said first wall (101) and said second wall (102) by means of a rotoidal coupling element.

5. Sofa-bed or armchair-bed according to claim 4, each of said first lining element (21) and said second lining element (22) comprises a through opening (214, 224) and a retaining element (215, 225) and wherein said through opening (214, 224) comprises:

- a first portion (214', 224'), configured to allow insertion and release of said rotoidal coupling element along an insertion direction (D); and
- a second portion (214'', 224'') configured to accommodate or receive said rotoidal coupling element;

and wherein said retaining element (215, 225) projects into said through opening (214, 224) and is placed between said first portion (214', 214'') and said second portion (214'', 214'') and configured to cooperate with said rotoidal coupling element to oppose an extraction of said rotoidal coupling element from said second portion (214'', 224'') along a direction opposite to said insertion direction (D).

6. Sofa-bed or armchair-bed according to claim 5, wherein said through opening (214, 224) is made on said protective wall (211, 221).

7. Sofa-bed or armchair-bed according to claim 5 or 6, wherein said first portion (214', 224') is tapered towards said second portion (214'', 224'').

8. Sofa-bed or armchair-bed according to any one of the preceding claims, wherein said retaining element (215, 225) is elastically deformable to allow the sliding of said rotoidal coupling element into and out of said second portion (214'', 224'').

9. Sofa-bed or armchair-bed according to any one of the preceding claims, wherein each of said first lining element (21) and said second lining element (22)

comprises a protuberance (216, 226) configured to retain dust and/or filings.

10. Sofa-bed or armchair-bed according to claim 9, wherein said protuberance (216, 226) is made on said covering wall (213, 223). 5
11. Sofa-bed or armchair-bed according to any one of the preceding claims, wherein said first lining element (21) and said second lining element (22) are made of polymeric material. 10
12. Sofa bed or armchair-bed according to any one of the preceding claims, comprising a covering assembly and wherein said covering assembly is designed to cover said articulated mechanism (1) in such a way that, in use, said articulated mechanism (1) is hidden from sight. 15
13. Sofa-bed or armchair-bed frame comprising a first articulated mechanism (1) and a second articulated mechanism (2), wherein each of said first articulated mechanism (1) and said second articulated mechanism (2) comprises: 20
 - a profiled element (10) having an end region (10a) with a "C" shaped or "U" shaped profile, said end region (10a) including a first wall (101) and a second wall (102) opposite each other forming two flaps of said "C" shaped or "U" shaped profile; 25
 - an arm element (30) having an end (30a) rotatably associated with said first wall (101) and said second wall (102) to define a hinge portion (40); 30

wherein each of said first and second articulated mechanisms (1, 2) further comprises a first lining element (21) and a second lining element (22), 35

wherein said first lining element (21) is associated with said first wall (101) and said second lining element (22) is associated with said second wall (102) at the end region (10a) of said profiled element (10), 40

and wherein said first lining element (21) comprises a protective wall (211) interposed between said arm element (30) and said first wall (101) in such a way as to prevent contact between them and said second lining element (22) comprises a protective wall (221) interposed between said arm element (30) and said second wall (102) in such a way as to prevent contact between them; 45

and wherein said frame (100) further comprises a transversal member (3), with which said first articulated mechanism (1) and said second articulated mechanism (2) are associated. 50

14. Method of making a sofa-bed or an armchair-bed which includes:
 - providing at least one articulated mechanism (1),

wherein said articulated mechanism (1) comprises:

- a profiled element (10) having an end region (10a) with a "C" shaped or "U" shaped profile, said end region (10a) including a first wall (101) and a second wall (102) opposite each other forming two flaps of said "C" shaped or "U" shaped profile;
- an arm element (30) having an end (30a) rotatably associated with said first wall (101) and said second wall (102) to define a hinge portion (40);
- a first lining element (21) and a second lining element (22),

wherein said first lining element (21) is associated with said first wall (101) and said second lining element (22) is associated with said second wall (102) at the end region (10a) of said profiled element (10), and wherein said first lining element (21) comprises a protective wall (211) interposed between said arm element (30) and said first wall (101) in such a way as to prevent contact between them and said second lining element (22) comprises a protective wall (221) interposed between said arm element (30) and said second wall (102) in such a way as to prevent contact between them;

- providing at least one covering assembly;
- operatively associating said at least one covering assembly to said articulated mechanism (1) in such a way that in use said articulated mechanism (1) is hidden from view by said covering assembly.

15. Use of at least one articulated mechanism (1) in a sofa-bed or armchair-bed or in a frame of a sofa-bed or armchair-bed, wherein said articulated mechanism (1) comprises: 45

- a profiled element (10) having an end region (10a) with a "C" shaped or "U" shaped profile, said end region (10a) including a first wall (101) and a second wall (102) opposite each other forming two flaps of said "C" shaped or "U" shaped profile;
- an arm element (30) having an end (30a) rotatably associated with said first wall (101) and said second wall (102) to define a hinge portion

(40);

wherein said articulated mechanism (1) further comprises a first lining element (21) and a second lining element (22),

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wherein said first lining element (21) is associated with said first wall (101) and said second lining element (22) is associated with said second wall (102) at the end region (10a) of said profiled element (10),

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and wherein said first lining element (21) comprises a protective wall (211) interposed between said arm element (30) and said first wall (101) in such a way as to prevent contact between them and said second lining element (22) comprises a protective wall (221) interposed between said arm element (30) and said second wall (102) in such a way as to prevent contact between them.

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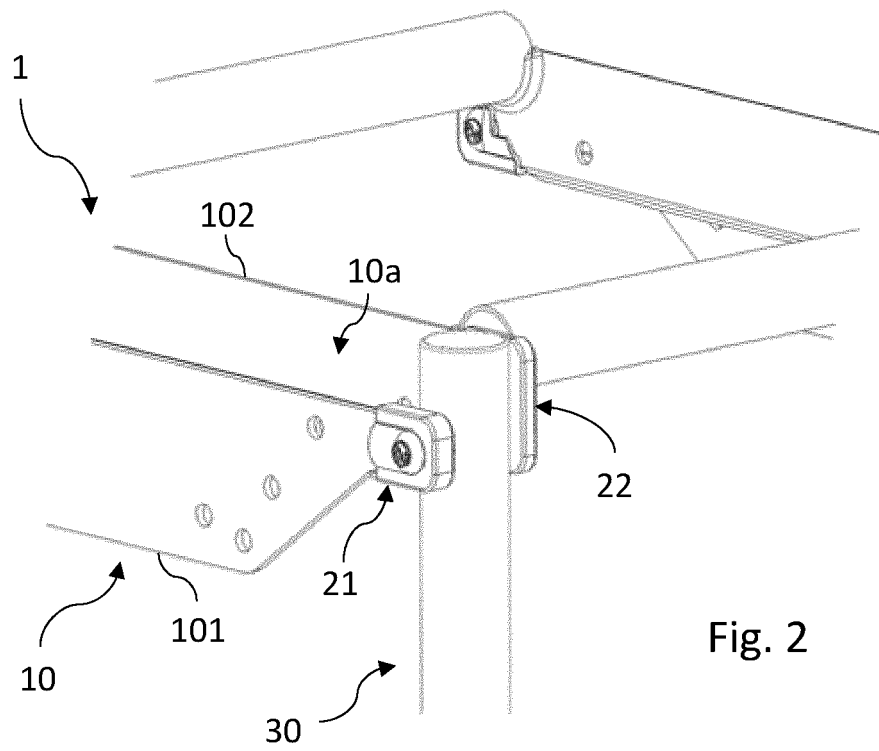
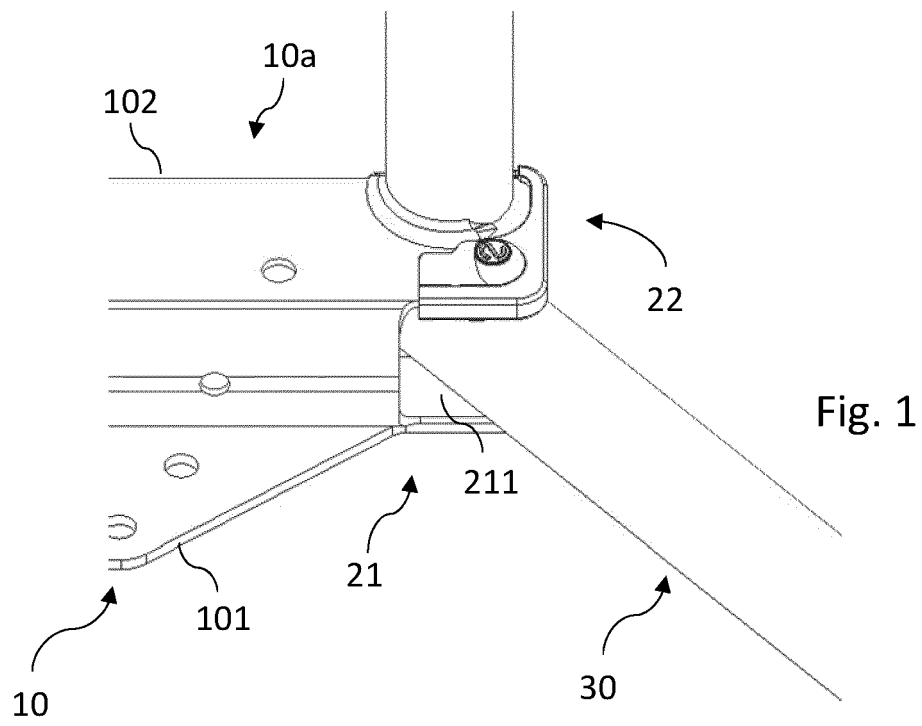
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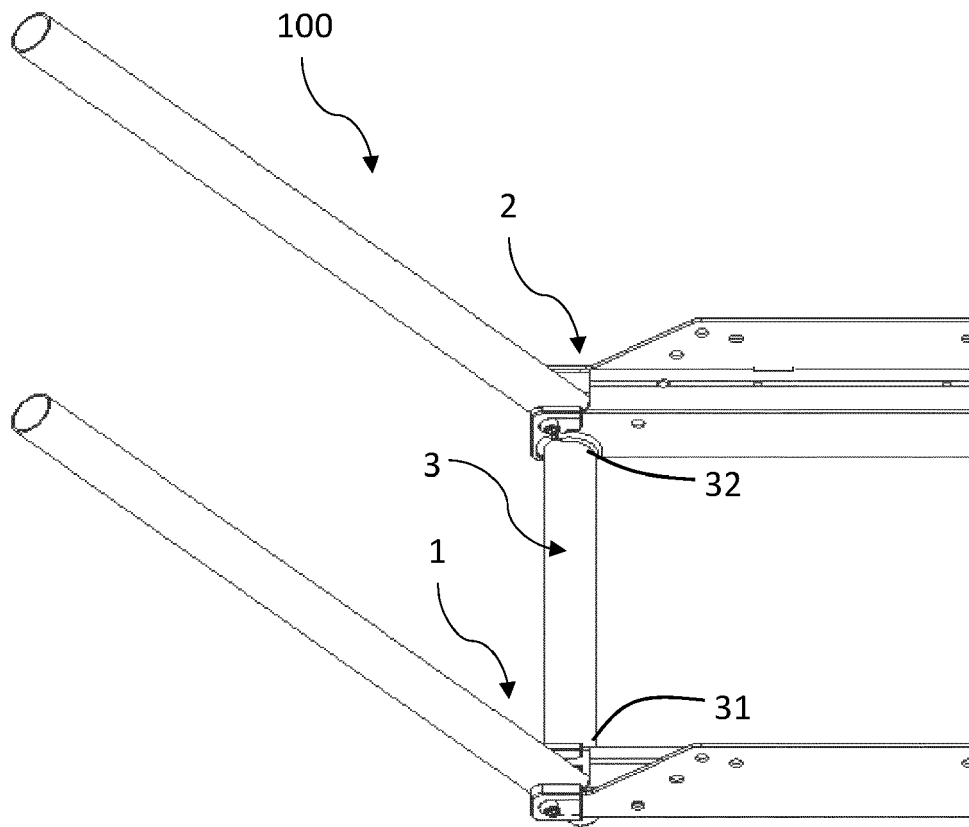


Fig. 3

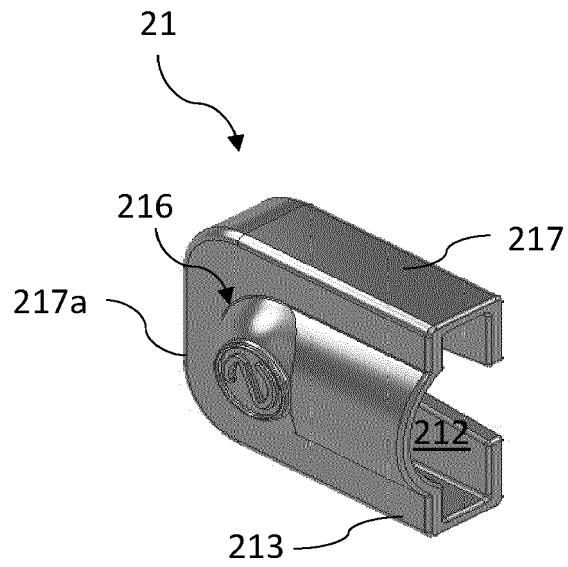


Fig. 4A

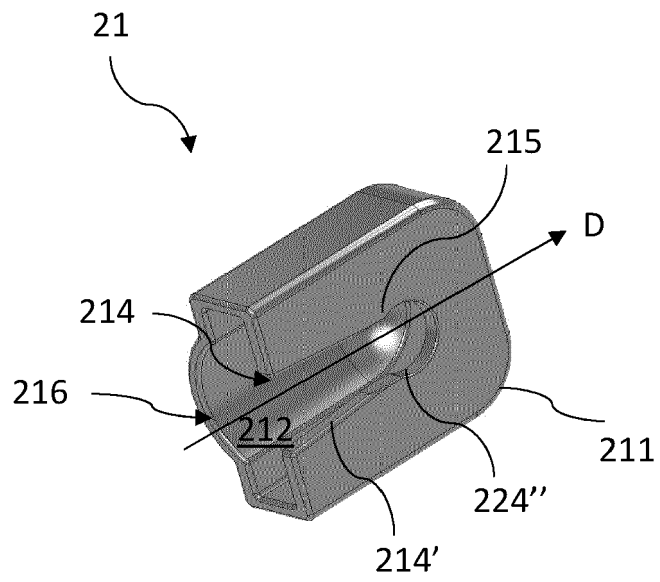
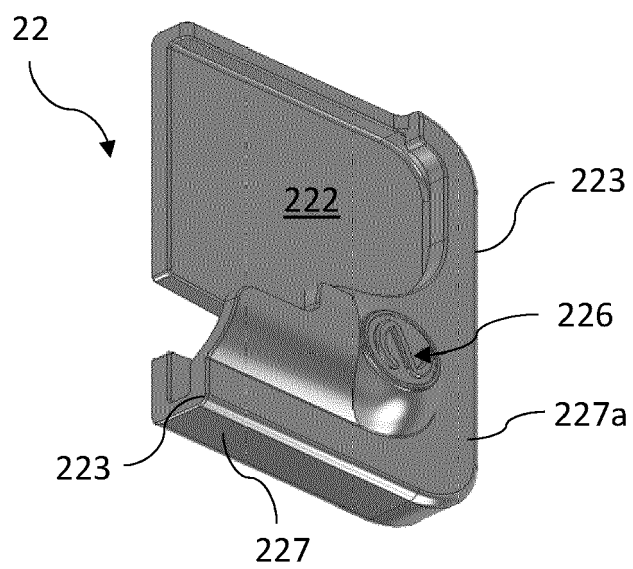
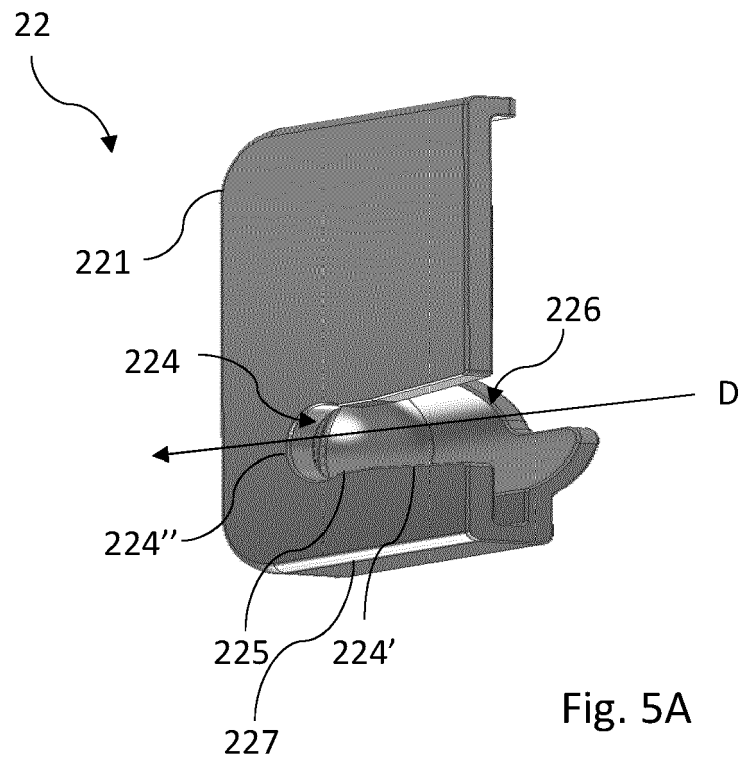


Fig. 4B





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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 October 2022	Examiner Kus, Slawomir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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