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(54) **KIT OF PARTS AND METHOD FOR VERTICALLY ATTACHING GARDEN SLATS TO A GARDEN WIRE PANEL**

(57) The present invention provides a kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening. The present invention furthermore provides the use of a connecting element for vertically attaching a slat to a horizontal wire of a garden wire panel and a method for vertically attaching a slat to a horizontal wire of a garden wire panel.

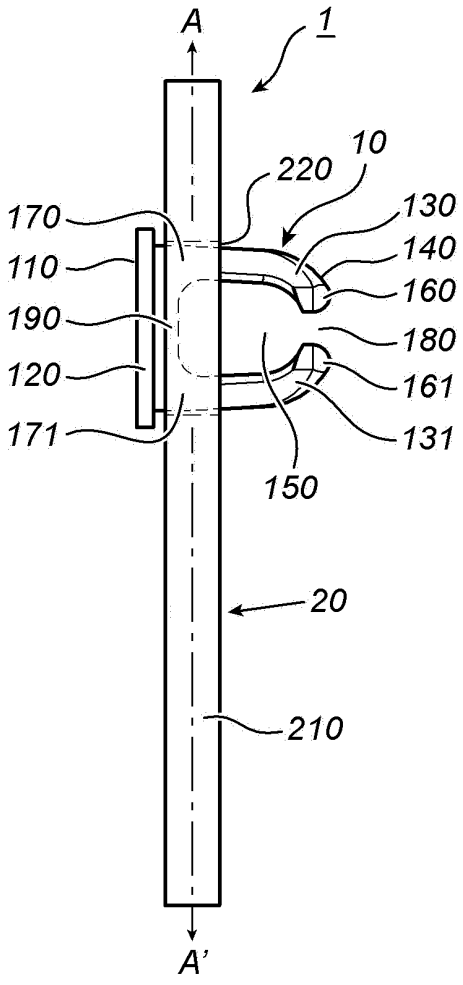

Fig. 1A

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Description

TECHNICAL FIELD

[0001] The invention is in the field of privacy garden slats for garden wire panels. The invention relates to a kit of parts comprising a garden slat and a connecting element. The invention furthermore relates to the use of a connecting element and a method for vertically attaching garden slats to a garden wire panel.

TECHNOLOGICAL BACKGROUND OF THE INVENTION

[0002] Since the birth of the concept of private property, various types of fencing have been constructed, for example in order to separate one part of a piece of land from another and/or in order to ensure privacy.

[0003] Different materials may be used to produce fences for privacy purposes, such as wood, stone, metal, plastic, etc. A plastic which is popular in the construction of fences is polyvinyl chloride (PVC). PVC garden slats or garden panels may be used, for example, in combination with a garden wire system which is already present. Such garden wire systems consist of a metal grid of horizontal and vertical metal wires into which garden slats can be pushed vertically. In order to secure the slats, horizontal transverse profiled sections are fitted which prevent the slats from being able to move forward. However, between these transverse profiled sections, the slats are able to move forward.

[0004] PVC slats have the advantage that they are attractive and do not absorb moisture. However, PVC garden slats have the drawback that they can expand due to fluctuations in temperatures and can discolour, for example, due to exposure to the sun. These discolorations result in a reduced attractiveness of the fence.

[0005] As an alternative to PVC garden slats, garden slats made of wood composite could be used. These have the advantage that discolouration is only slight. However, wood composite partly consists of wood fibre which absorbs moisture and garden slats made of wood composite are prone to expansion due to absorption of moisture. As a result thereof, the garden slats will warp between the horizontal clamping profiled sections due to the pressure of its own mass and due to obstructions in the garden wire panel.

[0006] Current systems for attaching garden slats to an existing garden wire panel comprise a horizontal U-shaped profiled section to secure the slats at the bottom on the bottom horizontal wire of a garden wire panel. This means that a possible expansion, for example due to variations in temperature or absorption of moisture, has to be compensated for in an upward direction, which may result in deformation.

[0007] With PVC privacy slats, a suspension system is sometimes also used in which the slats are, by means of a punched lip, suspended from the top horizontal wire of a garden wire panel or from the finishing profiled section which may be fitted on top of the garden wire panel. If this system is used on garden slats made of wood composite, these may slide upwards if the garden slats expand. Due to the wood composite garden slats being obstructed in the garden wire or clamping profiled sections, these may tend to become warped between the horizontal clamping profiled sections.

[0008] There is thus a need for connecting systems in order to vertically attach garden slats to a garden wire panel, wherein these systems can be used universally, irrespective of the material from which the garden slats are made.

[0009] There is furthermore a need for connecting systems which are easy to use and which can be used irrespective of the dimensions of the garden slats.

SUMMARY OF THE INVENTION

[0010] The invention and its preferred embodiments offer a solution for one or several of the above needs. The inventors have thus provided a connecting element and method which make it possible to connect slats to an existing garden wire panel and which can be used irrespective of the material from which the slats are made and irrespective of the dimensions of the slats. In addition, the present inventors have realised that by fastening slats at the top of a horizontal wire of a garden wire panel by means of a connecting element, the expansion of the slats in the vertical direction has to be in a downward direction, as a result of which the slats, under the influence of their own mass and the force of gravity, will remain more rigid and will be less prone to warping between the transverse profiled sections. The inventors have thus provided a connecting element and method which make it possible to connect slats to an existing garden wire panel in which deformation of the slats, for example due to absorption of moisture or differences in temperature, are reduced or prevented.

[0011] In a first aspect, the invention provides a kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening.

[0012] A further aspect provides a fence comprising a kit of parts such as defined herein and a garden wire panel, wherein the slat is fitted vertically in the garden wire panel, wherein the head is situated on one side of the slat and wherein the clamp is inserted in the opening of the slat and attached to a horizontal wire of the garden wire panel on the other side of the slat.

[0013] The kits of parts as provided herein can be used universally and make it possible to attach garden slats vertically to a garden wire panel, irrespective of the ma-

terial from which the garden slats are made. Furthermore, the kits of parts as provided herein are easy to use, irrespective of the dimensions of the garden slats. In addition, the kits of parts, uses and methods as provided herein ensure that when the opening of the slat is situated at the top, the expansion of the slats will have to take place in a downward vertical direction. As a result thereof and under the influence of their own mass and the force of gravity, the slats will remain more rigid and be less prone, if at all, to warping between the horizontal clamping profiled sections. This is advantageous with garden slats which are made of PVC, since such garden slats are prone to expansion due to differences in temperature, and highly advantageous with garden slats which are made of wood composite, since such garden slats are prone to expansion as a result of absorption of moisture and/or differences in temperature.

[0014] A further aspect provides the use of a connecting element as defined herein for vertically attaching a slat as defined herein to a horizontal wire of a garden wire panel.

[0015] A further aspect provides a method for vertically attaching a slat to a horizontal wire of a garden wire panel, the method comprising: (a) providing a kit of parts as defined herein; (b) vertically fitting a slat in a garden wire panel; (c) inserting the clamp in the opening of the slat, wherein the head is situated on one side of the slat and the clamp is situated on the other side of the slat; and (d) fastening the clamp to a horizontal wire of a garden wire panel; thereby vertically attaching the slat to the horizontal wire of the garden wire panel.

[0016] Those skilled in the art will understand the many other effects and advantages of the present products, methods or uses, and the countelss possibilities for end use of the present invention from the detailed description and the examples provided below.

DESCRIPTION OF THE FIGURES

[0017] The following description of the figures comprises a discussion of certain embodiments of the invention. This is only given by way of example and does not limit the subject matter of the present explanation. In the figures, identical reference numerals refer to identical or similar components or concepts.

Fig. 1A shows a side view of a kit of parts (1) according to an embodiment of the present invention comprising a slat (20) and a connecting element (10). **Fig. 1B** shows a front view of a kit of parts (1) according to an embodiment of the present invention comprising a slat (20) and a connecting element (10).

Fig. 2A shows a 3D detail drawing of the rear side of a fence (101) according to an embodiment of the present invention comprising a slat (20), a connecting element (10), and a horizontal wire (310) of a garden wire panel. **Fig. 2B** shows a 3D detail drawing of the front side of a fence (101) according to an embodiment of the present invention comprising a slat (20), a connecting element (10), and a horizontal wire (310) of a garden wire panel (30).

Fig. 3A shows a side view of a kit of parts (2) according to an embodiment of the present invention comprising a slat (20) and a connecting element (11). **Fig. 3B** shows a front view of a kit of parts (2) according to an embodiment of the present invention comprising a slat (20) and a connecting element (11).

Fig. 4A shows a 3D detail drawing of the rear side of a fence (102) according to an embodiment of the present invention comprising a slat (20), a connecting element (11), and a horizontal wire (310) of a garden wire panel. **Fig. 4B** shows a 3D detail drawing of the front side of a fence (102) according to an embodiment of the present invention comprising a slat (20), a connecting element (11), and a horizontal wire (310) of a garden wire panel (30).

Fig. 5A shows a side view of a kit of parts (3) according to an embodiment of the present invention comprising a slat (20) and a connecting element (12). **Fig. 5B** shows a front view of a kit of parts (3) according to an embodiment of the present invention comprising a slat (20) and a connecting element (12).

Fig. 6A shows a 3D detail drawing of the rear side of a fence (103) according to an embodiment of the present invention comprising a slat (20), a connecting element (12), and a horizontal wire (310) of a garden wire panel. **Fig. 6B** shows a 3D detail drawing of the front side of a fence (103) according to an embodiment of the present invention comprising a slat (20), a connecting element (12), and a horizontal wire (310) of a garden wire panel (30).

Fig. 7 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention, furthermore comprising two transverse profiled sections (40, 41).

Fig. 8 shows a 3D drawing of the rear side of a fence (100) according to an embodiment of the present invention, furthermore comprising two transverse profiled sections (40, 41).

Fig. 9 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention, furthermore comprising two transverse profiled sections (40, 41) and an end profiled section (50).

Fig. 10 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention, furthermore comprising two trans-

verse profiled sections (40, 41), an end profiled section (50) and atop profiled section (60).

[0018] The following reference numerals are used in the description and the figures:

1, 2, 3 - kit of parts;

10, 11, 12 - connecting element; 100, 101, 102, 103 - fence; 110 - head; 120 - flat component; 130, 131, 132, 133, 134 -limbs; 140, 141, 142 - clamp; 150, 151, 152 - hole; 160, 161, 162, 163, 164 - ends of the limbs; 170, 171, 172, 173, 174 - bottom side of the limbs; 180, 181, 182 - slot; 190, 191, 192 - reinforcement part; 193 - projection of the reinforcement part;

20 - slat; 21 - top side of a slat; 22 - bottom side of a slat; 23 - rear side of a slat; 24 - front side of a slat; 210 - body; 220 - opening;

30 - garden wire panel; 310, 311, 312, 313, 314 - horizontal wire; 320, 321 - horizontal passage;

40, 41 - transverse profiled section;

50 - end profiled section;

60 - top profiled section;

A-A' - longitudinal axis of the slat.

DETAILED DESCRIPTION

[0019] Before describing the present kits of parts, fences, uses and methods according to the invention, it should be understood that this invention is not limited to specific kits of parts, fences, uses and methods which are described, since such kits of parts, fences, uses and methods can obviously vary. It will also be clear that the terminology used here is not intended to be limiting, as the scope of the present invention will only be limited by the respective claims.

[0020] As used herein, the singular forms "a", "an", and "the" include both singular and plural referents unless the context clearly dictates otherwise.

[0021] The terms "comprising", "comprises" and "comprise" as used herein are synonymous with "including", "includes" or "containing", "contains", and are inclusive or open-ended and do not exclude additional, non-recited members, elements or method steps. The terms also encompass "consisting of' and "consisting essentially of'.

[0022] The recitation of numerical ranges by endpoints includes all numbers and fractions subsumed within the respective ranges, as well as the recited endpoints.

[0023] The term "about" as used herein when referring to a measurable value such as a parameter, an amount, a temporal duration, and the like, is meant to encompass variations of the specified value, in particular variations of +/-10% or less, preferably +/-5% or less, more preferably +/-1% or less, and still more preferably +/-0.1% or less of the specified value, insofar as such variations are appropriate to perform in the disclosed invention. It is to be understood that the value to which the modifier "about" refers is itself also specifically, and preferably, disclosed.

[0024] Although the expressions "one or more" or "one or several", such as one or more members of a group of members, are clear as such, they comprise, by way of further clarification, inter alia a reference to one of these members, or to two or more of these members, such as for example three or more, four or more, five or more, six or more, seven or more, or eight or more of the members, and at most to all members.

[0025] Unless otherwise defined, all terms used in disclosing the invention, including technical and scientific terms, have the meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. By means of further guidance, definitions for the terms are included to better appreciate the teaching of the present invention.

[0026] The present inventors have provided a connecting element which makes it possible to connect slats to an existing garden wire panel, wherein deformation of the slats, for example by means of absorption of moisture or differences in temperature, is reduced or prevented and which can be used irrespective of the material from which the slats are made.

Kit of parts

[0027] Thus, in a first aspect of the invention, there is provided a kit of parts for garden wire panels, the kit of parts comprising:

- a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and
- a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening.

[0028] The terms "kit of parts", "kit" or "kit of components" may be used interchangeably herein.

[0029] The kits of parts as described herein may comprise one or several slats, such as two or more slats, for example five or more slats, ten or more slats, fifteen or more slats, twenty or more slats, thirty or more slats, forty or more slats, or fifty or more slats. The kits of parts as described herein may comprise one or several connecting elements, such as two or more connecting elements, for example five or more, ten or more, fifteen or more, twenty or more, thirty or more, forty or more, or fifty or

more, such as one hundred or more, two hundred or more, three hundred or more, four hundred or more, or five hundred or more connecting elements.

[0030] In certain embodiments, the kits of parts as described herein comprise a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body.

[0031] The terms "slat", "garden slat", "privacy slat" may be used interchangeably herein.

[0032] In certain embodiments, the slat may be made from wood composite, polyvinyl chloride or polyolefins. Examples of polyolefins are polypropylene (PP) or polyethylene (PE). In certain embodiments, the slat may be made of wood composite or polyvinyl chloride. In certain embodiments of the kits of parts, uses or methods as described herein, the slat may be made of wood composite. The present kits of parts allow slats made of wood composite or polyvinyl chloride to be vertically attached to a horizontal wire of a garden wire panel, the slats not warping, or to a lesser degree, between the horizontal clamping profiled sections upon expansion as a result of absorption of moisture and/or differences in temperature.

[0033] The terms "wood composite" or "wood/plastic composite (WPC)" refer to a pressed material made of wood and a thermoplastic.

[0034] The terms "polyvinyl chloride (PVC)" or "polychlorothene (PCE)" refer to a thermoplastic which is created after polymerisation of the monomer vinylchloride.

[0035] In certain embodiments, the wood composite may comprise 50% to 70% plastic. In certain embodiments, the wood composite may comprise 30% to 50% wood. In certain embodiments, the wood composite may comprise 50% to 70% plastic and 30% to 50% wood.

[0036] In certain embodiments the slat has:

- a width from approximately 20 mm to approximately 110 mm, for example a width from approximately 30 mm to approximately 100 mm or a width from approximately 35 mm to approximately 50 mm;
- a length from approximately 0.60 m to approximately 2.50 m, for example a length from approximately 1.00 m to approximately 2.00 m; and/or
- a thickness from approximately 1 mm to approximately 10 mm, for example a thickness from approximately 2 mm to approximately 5 mm.

[0037] In certain embodiments, the slat preferably has:

- a width of 35 mm, 43 mm or 47 mm;
- a length of 103 mm, 123 mm, 153 mm, 173 mm, 193 mm or 203 mm; and/or
- a thickness of approximately 3 mm.

[0038] In certain embodiments, the slat comprises an opening which is provided at the location of an end of the longitudinal axis of the slat.

[0039] The term "an opening" refers to one or several openings, such as two or more, three or more, or four or more, such as five or more, six or more, seven or more, or eight or more openings.

[0040] The opening is preferably an opening in the slat. The opening may have any possible shape, such as a round shape, rectangular shape, oval shape, a polygonal shape (for example a hexagonal shape or an octagonal shape), or combinations thereof. In certain embodiments, the opening comprises or is a round opening. In certain embodiments, the diameter of the round opening is 5 mm to 50 mm. For example, the diameter of the round opening may be 8 mm to 40 mm, 10 mm to 30 mm, 12 mm to 20 mm, or 15 mm to 25 mm.

[0041] In certain embodiments, the body comprises one or several openings which are provided at the location of an end of the longitudinal axis of the body, in which case one or several connecting elements may be provided in the one or several openings.

[0042] For example, in certain embodiments, the body comprises one opening which is provided at the location of an end of the longitudinal axis of the body, in which case two or several connecting elements may be provided in the one opening. In other words, in certain embodiments, the opening is designed so that two or several clamps can be fitted through the opening (simultaneously).

[0043] In certain embodiments, the body of the slat comprises several openings, for example two or three openings, which are provided at the location of an end of the longitudinal axis of the body, in which case a connecting element may be provided in each opening. In certain embodiments, the heads of each of the connecting elements may be connected to each other, so that one connecting element may be provided in the several, for example two or three, openings.

[0044] In certain embodiments, the kits of parts as described herein comprise a connecting element made in one piece and comprising a head and one or several limbs, wherein the head is designed to not fit through the opening and with the one or several limbs forming a clamp which is designed to fit through the opening. Thus, the connecting element may also be referred to as a "button".

[0045] In certain embodiments, the connecting element as described herein is suitable for attaching a slat to a garden wire panel. In certain embodiments, the connecting element as described herein is suitable for vertically attaching a slat to a horizontal wire of a garden wire panel.

[0046] The term "connecting element" refers to an object, usually made of a stiff material, for reinforcing or supporting objects and/or for fastening objects to each other.

[0047] In certain embodiments , the connecting ele-

ment is made of plastic, glass fibre-reinforced plastic (GRP), steel, stainless steel, metal, or a combination thereof. In certain embodiments, the connecting element is made of plastic, glass fibre-reinforced plastic, steel, stainless steel or metal. Examples of plastic comprise nylon, PP and PE. Examples of metals comprise aluminium, copper and brass. In certain embodiments, the connecting element is made of nylon, PP, PE, glass fibre-reinforced plastic, steel, stainless steel, aluminium, copper or brass.

[0048] Preferably, the connecting element is made of nylon.

[0049] The terms "glass fibre-reinforced plastic" or "GRP" refer to a material which consists of a thermosetting material and glassfibre. Thermosetting materials are, for example, polyester and epoxy and polyurethane resins.

[0050] The terms "nylon", "polyhexamethylene adipamide" or "polyamide (PA)" can be used interchangeably and refer to polymers with CAS number 25038-54-4. Most types of nylon are synthesized by condensation polymerization (polycondensation) of a dicarboxylic acid and a diamine.

[0051] The terms "steel" or "carbon steel" refer to an alloy consisting of iron and carbon. Typically, the term steel is used for iron alloys with a carbon content which is so low (typically less than 1.9 %) or a percentage of addivites such as chromium which is so low, that they can be hot-formed.

[0052] The terms "stainless steel" or "rustproof steel" refer to an alloy of substantially iron, chromium, nickel and carbon. Typically, stainless steel contains at least 11 % chromium and at most 1.2 % carbon.

[0053] In certain embodiments, the connecting element comprises a head, wherein the head is designed not to fit through the opening of the slat.

[0054] In certain embodiments, the head either is or comprises a flat component with a surface which is greater than the surface of the opening. The flat component may have any desired shape, such as a round shape, rectangular shape, oval shape, a polygonal shape (for example a hexagonal shape or an octagonal shape) or combinations thereof. In certain embodiments, the flat element either is or comprises a round flat element. In certain embodiments, the diameter of the round flat element is 6 mm to 55 mm. For example, the diameter of the round flat element may be 10 mm to 50 mm, 10 mm to 45 mm, 12 mm to 35 mm, 14 mm to 25 mm, or 20 mm to 30 mm.

[0055] In certain embodiments, the opening may comprise a round opening and the flat component may comprise a round flat component with a diameter which is greater than the diameter of the opening.

[0056] In certain embodiments, the head comprises or is a flat component with a shape which differs from the shape of the opening. In certain embodiments, the head comprises or is a flat component with a shape which does not fit through the opening. For example, the opening may comprise a round opening and the head may comprise a flat rectangular component which does not fit through the opening. In certain embodiments, the head comprises or is a flat component with a surface which is smaller than the surface of the opening. In certain embodiments, the head comprises or is a flat component with a surface which is smaller than the surface of the opening and with a shape which does not fit through the opening. For example, the opening may comprise a round opening and the head may comprise a flat rectangular component with a surface which is smaller than the surface of the opening.

[0057] In certain embodiments, the head comprises or is a component with a shape which does not fit through the opening.

[0058] The head may furthermore comprise a grippable component. In certain embodiments, the grippable component may be a projection, preferably a flat projection. In certain embodiments, the grippable component may be a flat projection with a surface which is smaller than the surface of the flat component. In certain embodiments, the grippable component may be a flat projection with a surface which is greater than the surface of the flat component. The grippable component may have any possible shape, such as a round shape, rectangular shape, oval shape, a polygonal shape (for example a hexagonal shape or an octagonal shape), or combinations of one or several thereof. In certain embodiments, the grippable component may consist of a flat projection, wherein the shape of the projection consists of two hexagons which are connected to each other by one corner. A head comprising a grippable component makes it possible to readily fit the connecting element to a horizontal wire of a garden wire panel or remove it therefrom.

[0059] In certain embodiments, the connecting element comprises one or several limbs, wherein the one or several limbs form a clamp which is designed to fit through the opening.

[0060] In certain embodiments, the connecting element comprises one limb, wherein the limb forms a clamp which is designed to fit through the opening.

[0061] In certain embodiments, the connecting element comprises at least two limbs, wherein the at least two limbs together form a clamp which is designed to fit through the opening.

[0062] In certain embodiments, the connecting element comprises at least two limbs, such as two or more limbs, for example three or more limbs, four or more limbs, five or more limbs, six or more limbs, seven or more limbs, or eight or more limbs. Preferably, the connecting element comprises one or two limbs. If the connecting element comprises more than two limbs, these limbs may be divided into, for example, two groups, so that the two groups of limbs together form a clamp.

[0063] In certain embodiments, the clamp is designed to secure itself on a horizontal wire of a garden wire panel.

[0064] In certain embodiments, the connecting element comprises one limb.

[0065] In certain embodiments, the connecting element comprises one limb, wherein the limb is elongated and hook-shaped. In certain embodiments, the bottom side of the limb is connected to a reinforcement part. The reinforcement part may comprise a projection. In certain embodiments, the limb and the reinforcement part form a hole. The hole or the part of the hole which, in use, extends beyond the surface of the slat makes it possible to receive and secure a horizontal wire of a garden wire panel in a fitted manner. In certain embodiments, the height of the limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the width of the limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the thickness of the limb may be 1 mm to 4 mm, for example 1 mm to 2 mm. In certain embodiments, the height of the reinforcement part may be 0.8 mm to 4 mm (at the narrowest section). In certain embodiments, the height of the projection may be 3.2 mm to 6 mm.

[0066] In certain embodiments, the end of the limb and the projection are turned towards each other. In certain embodiments, the end of the limb and the reinforcement part, in particular the projection, are separated by a slot. The slot makes it possible to receive the horizontal wire of a garden wire panel in a slidable manner.

[0067] In certain embodiments, the limb forms a hook-shaped clamp. In certain embodiments, the limb and the reinforcement part form a clamp. In certain embodiments, the end of the limb is rounded. These characterizing features make it possible for the clamp which is formed by the limb, and optionally the reinforcement part, to be pushed over a horizontal wire of a garden wire panel in an easy manner.

[0068] The connecting element is preferably made in one piece. The head and the one limb are preferably secured to each other via the flat component of the head on one side and the bottom side of the limb and the reinforcement part on the other side.

[0069] The invention preferably provides a kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening; wherein the connecting element comprises one limb, and wherein the limb is elongated and hook-shaped. Such a connecting element, in particular such a kit of parts, makes a simplified connection between a slat and a wire panel possible. In addition, the present kit of parts makes it possible for a slat to be vertically attached to a horizontal wire of a wire panel in a simple manner.

[0070] In certain embodiments, the connecting element comprises at least two limbs.

[0071] In certain embodiments, the at least two limbs, preferably the two limbs, are separated from each other by a hole. The hole or the part of the hole which, in use, projects beyond the surface of the slat, makes it possible to receive and secure a horizontal wire of a garden wire panel in a fitted manner.

[0072] In certain embodiments, the connecting element comprises at least two limbs, wherein the ends of the at least two limbs, preferably of the two limbs, are turned towards each other. In certain embodiments, the ends of the at least two limbs, preferably of the two limbs, are separated by a slot. In certain embodiments, the ends of the at least two limbs, preferably of the two limbs, are turned towards each other and are separated by a slot. The slot makes it possible to receive the horizontal wire of a garden wire panel in a slidable manner.

[0073] Accordingly, the invention preferably provides a kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening; wherein the connecting element comprises at least two limbs, and wherein the ends of the at least two limbs are turned towards each other, wherein the ends of the at least two limbs are separated by a slot. Such a connecting element, in particular such a kit of parts, makes it possible to attach a slat to a wire panel in a simple manner.

[0074] Preferably, an aspect provides a kit of parts for wire panels, the kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening; wherein the connecting element comprises one limb, and wherein the limb is elongated and hook-shaped or wherein the connecting element comprises at least two limbs, and wherein the ends of the at least two limbs are turned towards each other, wherein the ends of the at least two limbs are separated by a slot. Such a kit of parts provides a simplified connection between a slat and a wire panel.

[0075] Certain embodiments provide a kit of parts for wire panels, the kit of parts comprising: a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and a connecting element for vertically attaching the slat to a horizontal wire of a wire panel, the connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening;

wherein the connecting element comprises one limb, and wherein the limb is elongated and hook-shaped, or wherein the connecting element comprises at least two limbs, and wherein the ends of the at least two limbs are turned towards each other, wherein the ends of the at least two limbs are separated by a slot. Such a construction provides a simplified connection between a slat and a horizontal wire of a wire panel.

[0076] In certain embodiments, the at least two limbs, preferably the two limbs, are identical. In certain embodiments, the shape of the at least two limbs, preferably the two limbs, is identical. In certain embodiments, the length of the at least two limbs, preferably the two limbs, is identical. In certain embodiments, the shape and the length of the at least two limbs, preferably the two limbs, is identical. In certain embodiments, the at least two limbs, preferably the two limbs, are elongated. In certain embodiments, the at least two limbs, preferably the two limbs, are arranged symmetrically with respect to each other. In use, the one limb is situated on the top of the horizontal wire and the other limb is preferably situated on the bottom side of the horizontal wire. In certain embodiments, the at least two limbs, preferably the two limbs, form a U-shaped clamp which is provided with a slot in the U, the slot being provided at the location of the centre of the bottom of the U. In certain embodiments, the ends of the at least two limbs, preferably of the two limbs, are rounded. These characterizing features make it possible for the clamp formed by the at least two limbs, preferably the two limbs, to be pushed over a horizontal wire of a garden wire panel in an easy manner. In certain embodiments, the height of each limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the width of each limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the thickness of each limb may be 1 mm to 4 mm, for example 1 mm to 2 mm. In certain embodiments, the height of the reinforcement part may be 0.8 mm to 4 mm (at the narrowest section).

[0077] In certain embodiments, the at least two limbs, preferably the two limbs, are different. In certain embodiments, the shape of the at least two limbs, preferably the two limbs, is different. In certain embodiments, the length of the at least two limbs, preferably the two limbs, is different. In certain embodiments, the shape and the length of the at least two limbs, preferably the two limbs, is different. In certain embodiments, the connecting element comprises two limbs, with the first limb being longer than the second limb. Preferably, the first limb is elongated and hook-shaped and the second limb is elongated, but shorter than the first limb. In use, the first limb is preferably situated on the top of the horizontal wire and the second limb is preferably situated on the bottom side of the horizontal wire. In certain embodiments, the at least two limbs, preferably the two limbs, form a U-shaped clamp which is provided with a slot in the U, the slot being provided at the location of the transition between the bottom and the limbs of the U. In certain embodiments, the end of the first limb is rounded and the end of the second limb is flattened. These characterizing features make it possible for the clamp formed by the at least two limbs, preferably the two limbs, to be pushed over a horizontal wire of a garden wire panel in an easy manner. In certain embodiments, the height of the first limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the height of the second limb may be 2.5 mm to 8 mm, for example 4 mm to 5 mm. In certain embodiments, the width of each limb may be 5 mm to 14 mm, for example 8 mm to 10 mm. In certain embodiments, the thickness of each limb may be 1 mm to 4 mm, for example 1 mm to 2 mm. In certain embodiments, the height of the reinforcement part may be 0.8 mm to 4 mm (at the narrowest section).

[0078] In certain embodiments, the at least two limbs, preferably the two limbs, form a U-shaped clamp which is provided with a slot in the U. In certain embodiments, the slot is provided at the location of the centre of the bottom of the U. In certain embodiments, the slot is provided at the location of the transition between the bottom and the limbs of the U. In certain embodiments, the slot is provided between the centre of the bottom of the U and the transition between the bottom and the limbs of the U.

[0079] In certain embodiments, the bottom sides of the at least two limbs, preferably the two limbs, are connected by a reinforcement part. The reinforcement part helps the connecting element in carrying the weight of a vertically suspended slat.

[0080] The connecting element is preferably made in one piece. Preferably, the head and the at least two limbs, preferably the two limbs, are secured to each other via the flat component on one side and the bottom sides of the at least two limbs, preferably the two limbs, are connected by the reinforcement part on the other side.

[0081] In certain embodiments, the kit of parts as described herein furthermore comprises a transverse profiled section.

[0082] The terms "transverse profiled section", "clamping profile" can be used interchangeably herein.

[0083] The term "a transverse profiled section" refers to one or several transverse profiled sections, such as two or more, three or more, or four or more, such as five or more, six or more, seven or more, or eight or more transverse profiled sections.

[0084] In certain embodiments, the transverse profiled section may be made of polyvinyl chloride (PVC) or chlorinated polyvinyl chloride (CPVC).

[0085] In certain embodiments, chlorinated polyvinyl chloride comprises or consists of chlorinated resin PVC, chalk, stabilizers, lubricants, TiO_2 and colour pigment.

[0086] In certain embodiments, the kit of parts as described herein comprises a top profiled section and/or end profiled section.

[0087] In certain embodiments, the top profiled section and/or end profiled section may be made of PVC.

Fence

[0088] A further aspect provides a fence comprising a kit of parts as defined herein and a garden wire panel, wherein the slat is fitted vertically in the garden wire panel, wherein the head is situated on one side of the slat and wherein the clamp is inserted in the opening of the slat and attached to a horizontal wire of the garden wire panel on the other side of the slat. In certain embodiments, the opening is situated on the bottom side of the slat. In certain embodiments, the slat may be fitted vertically in the garden wire panel with the opening on the bottom side of the slat. Preferably, the opening is situated on the top side of the slat. Preferably, the slat is fitted vertically in the garden wire panel with the opening on the top side of the slat.

[0089] A further aspect thus provides a fence comprising a kit of parts as defined herein and a garden wire panel, wherein the slat is fitted vertically in the garden wire panel with the opening on the top side of the slat, wherein the head is situated on one side of the slat and wherein the clamp is inserted in the opening of the slat and attached to a horizontal wire of the garden wire panel on the other side of the slat. The fence as described herein makes it possible for slats to be attached vertically to a horizontal wire of a garden wire panel without having to use a top profiled section or end profiled section, as a result of which the fence is visually attractive. In addition, the fence will remain more rigid and be less prone to warping between the transverse profiled sections when the slats expand, for example as a result of absorption of moisture or differences in temperature.

[0090] In use, the head of the connecting element is thus situated on one side of the slat, the clamp is inserted in the opening, preferably on the top side of the slat, and the clamp is situated on the other side of the slat. The side of the slat on which the head is located, is referred to as the front side of the slat; generally this is the side facing the user. The side of the slat on which the clamp is located, is referred to as the rear side of the slat; generally this is the side facing away from the user.

[0091] The terms "garden wire panel" and "wire panel" may be used interchangeably herein and refer to a steel grid of horizontal and vertical wires. Optionally, one or several horizontal passages may be provided. Such horizontal passages make it possible to slide in a transverse profiled section in order to thus prevent the slats from moving forward.

[0092] In certain embodiments, the garden wire panel is made of carbon steel or stainless steel. In certain embodiments, the garden wire panel has undergone a surface treatment. Suitable surface treatments comprise, for example, galvanisation, coating, plastification, or a combination thereof.

[0093] Garden wire panels have typical dimensions. In certain embodiments, the garden wire panel has a width of 200 cm, 250 cm or 300 cm. In certain embodiments, the garden wire panel has a height of 63 cm, 83 cm, 103 cm, 123 cm, 143 cm, 153 cm, 173 cm, 193 cm, 203 cm or 243 cm. In certain embodiments, the garden wire panel has a depth of 2 cm to 8 cm, preferably of 3 cm to 6 cm, for example of 4 cm or 5 cm. In certain embodiments, the garden wire panel has a wire diameter of 1.00 mm to 10.00 mm, for example of 2.00 mm to 8.00 mm or of 3.00 to 8.00 mm, such as 4 mm, 5 mm or 6 mm. In certain embodiments, the horizontal wires and the vertical wires have the same wire diameter. In certain embodiments, the horizontal wires and the vertical wires have a different wire diameter.

[0094] In certain embodiments, the mesh size of the horizontal and vertical wires is 5.0 cm by 10 cm or 5.0 cm by 20 cm. In certain embodiments, the mesh size of the horizontal passage is 5.0 cm by 10 cm or 5.0 cm by 20 cm. In certain embodiments, the mesh size of the horizontal and vertical wires and the mesh size of the horizontal passage is the same. In certain embodiments, the mesh size of the horizontal and vertical wires and the mesh size of the horizontal passage is different.

[0095] In certain embodiments, the horizontal wire of the garden wire panel is the top horizontal wire of the garden wire panel. In certain embodiments, the horizontal wire of the garden wire panel is a horizontal wire which is situated in a lower position than the top horizontal wire. For example, if slats are fitted which are shorter than the height of the garden wire panel (as is the case with 126 cm slats in a 203 cm garden wire panel), the horizontal wire to which the slats are attached will be situated in a lower position than the top horizontal wire.

[0096] In certain embodiments of the fences as described herein, a transverse profiled section may be fitted horizontally in a horizontal passage of the garden wire panel.

[0097] In certain embodiments of the fences as described herein, an end profiled section may be fitted horizontally on the bottom side of the slats.

[0098] In certain embodiments of the fences as described herein, a top profiled section may be fitted horizontally on the top side of the slats.

[0099] In certain embodiments of the fences as described herein, an end profiled section may be fitted horizontally on the bottom side of the slats and a top profiled section may be fitted horizontally on the top side of the slats.

Method

[0100] A further aspect provides a method for vertically attaching a slat to a horizontal wire of a garden wire panel, the method comprising vertically fitting a slat in a garden wire panel, and fastening the top side of the slat to a horizontal wire of the garden wire panel using a connecting element. In certain embodiments, the connecting element is a connecting element as defined herein. In certain embodiments, the slat is a slat as defined herein.

[0101] A further aspect provides a method for vertically attaching a slat to a horizontal wire of a garden wire panel,

the method comprising:

(a) providing a kit of parts as defined herein;

(b) vertically fitting a slat in a garden wire panel;

(c) inserting the clamp in the opening of the slat, wherein the head is situated on one side of the slat and the clamp is situated on the other side of the slat; and

(d) fastening the clamp to a horizontal wire of a garden wire panel; thereby vertically attaching the slat to the horizontal wire of the garden wire panel.

[0102] In certain embodiments, the opening is situated on the bottom side of the slat. In certain embodiments, the method thus comprises vertically fitting the slat in the garden wire panel with the opening on the bottom side of the slat. Preferably, the opening is situated on the top side of the slat. Preferably, the method thus comprises vertically fitting the slat in the garden wire panel with the opening on the top side of the slat.

[0103] Accordingly, an aspect provides a method for vertically attaching a slat to a horizontal wire of a garden wire panel, the method comprising:

(a) providing a kit of parts as defined herein;

(b) vertically fitting a slat in a garden wire panel with the opening on the top side of the slat;

(c) inserting the clamp in the opening of the slat, wherein the head is situated on one side of the slat and the clamp is situated on the other side of the slat; and

(d) fastening the clamp to a horizontal wire of a garden wire panel; thereby vertically attaching the slat to the horizontal wire of the garden wire panel.

[0104] The methods as described herein make it possible to attach garden slats vertically to a garden wire panel, irrespective of the material from which the garden slats are made and irrespective of the dimensions of the garden slats. In addition, the methods as described herein are simple to carry out and do not require the use of additional tools. The methods as described herein make it possible to attach slats vertically to a horizontal wire of a garden wire panel, wherein the expansion of the slats in the vertical direction will have to be downwards. As a result thereof and under the influence of their own mass and the force of gravity, the slats will remain more rigid and will be less prone, if at all, to warping between the horizontal clamping profiled sections.

[0105] In certain embodiments, the methods as described herein comprise providing a kit of parts as defined herein. Certain embodiments of the methods as described herein consequently comprise providing a kit of parts comprising:

- a slat comprising a body with an elongated shape which defines a longitudinal axis, wherein the body comprises an opening which is provided at the location of an end of the longitudinal axis of the body; and
- a connecting element comprising: a head and one or several limbs, wherein the head is designed not to fit through the opening and wherein the one or several limbs form a clamp which is designed to fit through the opening.

[0106] In certain embodiments, the methods as described herein comprise providing one or several slats as defined herein and one or several connecting elements as defined herein.

[0107] In certain embodiments, the methods as described herein comprise providing a garden wire panel as defined herein. The garden wire panel is preferably an assembled garden wire panel.

[0108] In certain embodiments, the methods as described herein comprise vertically fitting (placing, inserting) a slat in a garden wire panel after step (a), for example in an assembled garden wire panel, having the opening on the top side of the slat.

[0109] In certain embodiments, the methods as described herein comprise step (c); inserting the clamp in the opening of the slat, wherein the head is situated on one side of the slat and the clamp is situated on the other side of the slat. This may be achieved in a simple manner by hand.

[0110] In certain embodiments, the methods as described herein comprise step (d); fastening the clamp to a horizontal wire of a garden wire panel. Step (d) can be performed in a simple manner by hand. By fastening the clamp to a horizontal wire of a garden wire panel in step (d), the slat (which has been pushed onto the connecting element in step (c)) is attached vertically to the horizontal wire of the garden wire panel.

[0111] The terms "fastening" "attaching" or "fixing" can be used interchangeably herein.

[0112] In certain embodiments, step (d) comprises pushing the clamp on a horizontal wire of a garden wire panel. The horizontal wire can slide into the hole of the clamp by means of the slot of the clamp.

[0113] Preferably, the operation of attaching the slat to a horizontal wire of the garden wire panel is reversible, that is to say, the slat can be detached again from the garden wire panel. This may be effected by removing the clamp from the horizontal wire of the garden wire panel.

[0114] In a certain embodiment, steps (c) and (d) are carried out in one motion. In a certain embodiment, steps (c) and (d) are carried out successively.

[0115] In certain embodiments, the methods as described herein comprise repeating steps (b), (c) and (d) until the entire garden wire panel has been filled. Prefer-

ably, steps (b), (c) and (d) are in each case repeated in succession.

[0116] In certain embodiments, the methods as described herein comprise horizontally fitting a transverse profiled section in a horizontal passage of the garden wire panel. Preferably, the transverse profiled section is fitted before the slats are fitted. In other words, the transverse profiled section is preferably fitted before step (b). If the garden wires have not been placed yet, the transverse profiled section may also be fitted afterwards.

[0117] In certain embodiments, the methods as described herein comprise horizontally fitting an end profiled section to the bottom side of the slats. Preferably, the end profiled section is fitted before the slats are fitted (that is to say before the garden wire panel has been filled). In other words, the end profiled section is preferably fitted before step (b).

[0118] In certain embodiments, the methods as described herein comprise horizontally fitting a top profiled section to the top side of the slats. Preferably, the top profiled section is fitted after the entire garden wire panel has been filled.

[0119] In certain embodiments, the methods as described herein comprise horizontally fitting an end profiled section to the bottom side of the slats and a top profiled section to the top side of the slats. Preferably, the end profiled section is fitted before the slats have been placed and the top profiled section is fitted after the entire garden wire panel has been filled.

Use

[0120] A related aspect involves the use of a connecting element as defined herein for vertically attaching a slat as defined herein to a horizontal wire of a garden wire panel. In certain embodiments, the opening is situated on the bottom side of the slat. Preferably, the opening is situated on the top side of the slat.

[0121] In this way, an aspect provides the use of a connecting element as defined herein for vertically attaching a slat as defined herein to a horizontal wire of a garden wire panel, with the opening being situated on the top side of the slat.

[0122] The connecting element makes it possible to vertically attach a slat to a garden wire panel in a quick and simple manner, irrespective of the material from which the slat is made. In addition, the connecting element makes it possible to vertically attach a slat to a garden wire panel in which deformation of the slat, for example by absorption of moisture or differences in temperature, is reduced or even prevented.

[0123] The present invention will be explained in more detail below by means of the following specific embodiments.

Specific embodiment 1. A kit of parts (1, 2, 3) comprising:

- a slat (20) comprising a body (210) with an elongated shape which defines a longitudinal axis (A-A'), wherein the body (210) comprises an opening (220) which is provided at the location of an end of the longitudinal axis (A-A') of the body (210); and

- a connecting element (10, 11, 12) comprising: a head (110) and one or several limbs (130, 131, 132, 133, 134), wherein the head (110) is designed not to fit through the opening (220) and wherein the one or several limbs (130, 131, 132, 133, 134) form a clamp (140, 141, 142) which is designed to fit through the opening (220).

Specific embodiment 2. The kit of parts according to specific embodiment 1, wherein the connecting element (10, 11, 12) is made of plastic, glass fibre-reinforced plastic, steel, stainless steel, metal, or a combination thereof; preferably wherein the connecting element (10, 11, 12) is made of nylon.

Specific embodiment 3. The kit of parts according to specific embodiment 1 or 2, wherein the slat (20) is made of a wood composite or polyvinyl chloride, preferably wherein the slat (20) is made of a wood composite.

Specific embodiment 4. The kit of parts according to any of specific embodiments 1 to 3, wherein the slat (20):

- has a width from approximately 20 mm to approximately 110 mm;

- has a length from approximately 0.60 m to approximately 2.50 m; and/or

- has a thickness from approximately 1 mm to approximately 10 mm.

Specific embodiment 5. The kit of parts according to any of specific embodiments 1 to 4, wherein the head (110) comprises a flat component (120) with a surface which is greater than the surface of the opening (220).

Specific embodiment 6. The kit of parts according to specific embodiment 5, wherein the opening (220) comprises a round opening and wherein the flat component (120) comprises a round flat component with a diameter which is greater than the diameter of the opening (220).

Specific embodiment 7. The kit of parts according to any of specific embodiments 1 to 6, wherein the connecting element comprises one limb (134), and wherein the limb (134) is elongated and hook-

shaped.

Specific embodiment 8. The kit of parts according to any of specific embodiments 1 to 6, wherein the connecting element comprises at least two limbs (130, 131, 132, 133), and wherein the ends (160, 161, 162, 163) of the at least two limbs (130, 131, 132, 133) are turned towards each other, preferably wherein the ends (160, 161, 162, 163) of the at least two limbs (130, 131, 132, 133) are separated by a slot (180, 181).

Specific embodiment 9. The kit of parts according to any of specific embodiments 1 to 8, furthermore comprising a transverse profiled section (40, 41).

Specific embodiment 10. The kit of parts according to specific embodiment 9, wherein the transverse profiled section (40, 41) is made of polyvinyl chloride (PVC) or chlorinated polyvinyl chloride (CPVC).

Specific embodiment 11. The kit of parts according to any of specific embodiments 1 to 10, furthermore comprising a top profiled section (60) and/or end profiled section (50).

Specific embodiment 12. The kit of parts according to specific embodiment 11, wherein the top profiled section (60) and/or end profiled section (50) is made of PVC.

Specific embodiment 13. A fence (100, 101, 102, 103) comprising a kit of parts (1, 2, 3) as defined in any of specific embodiments 1 to 12 and a garden wire panel (30), wherein the slat (20) is fitted vertically in the garden wire panel (30), wherein the head (110) is situated on one side (24) of the slat (20) and wherein the clamp (140, 141, 142) is inserted in the opening (220) of the slat (20) and attached to a horizontal wire (310, 311, 312, 313, 314) of the garden wire panel (30) on the other side (23) of the slat (20).

Specific embodiment 14. The fence according to specific embodiment 13, wherein the opening (220) is situated on the top side (21) of the slat (20).

Specific embodiment 15. The fence according to specific embodiment 13 or 14, wherein a transverse profiled section (40, 41) is fitted horizontally in a horizontal passage (320, 321) of the garden wire panel (30).

Specific embodiment 16. The fence according to any of specific embodiments 13 to 15, wherein an end profiled section (50) is fitted horizontally on the bottom side (22) of the slats and/or wherein a top profiled section (60) is fitted horizontally on the top side (21) of the slats.

Specific embodiment 17. Use of a connecting element (10, 11, 12) such as defined in any of specific embodiments 1 to 12 for vertically attaching a slat (20) as defined in any of specific embodiments 1 to 12 to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30).

Specific embodiment 18. The use according to specific embodiment 17, wherein the opening (220) is situated on the top side (21) of the slat (20).

Specific embodiment 19. A method for vertically attaching a slat (20) to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30), the method comprising:

(a) providing a kit of parts (1, 2, 3) as defined in any of specific embodiments 1 to 12;

(b) vertically fitting of a slat (20) in a garden wire panel (30);

(c) inserting the clamp (140, 141, 142) in the opening (220) of the slat (20), wherein the head (110) is situated on one side (24) of the slat (20) and the clamp (140, 141, 142) is situated on the other side (23) of the slat (20); and

(d) fastening the clamp (140, 141, 142) to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30); thereby vertically attaching the slat (20) to the horizontal wire (310, 311, 312, 313, 314) of the garden wire panel (30).

Specific embodiment 20. The method according to specific embodiment 19, wherein the opening (220) is situated on the top side (21) of the slat (20).

Specific embodiment 21. The method according to specific embodiment 19 or 20, furthermore comprising repeating steps (b), (c) and (d) until the entire garden wire panel (30) has been filled.

Specific embodiment 22. The method according to any of specific embodiments 19 to 21, furthermore comprising:

- horizontally fitting a transverse profiled section (40, 41) in a horizontal passage (320, 321) of the garden wire panel (30);
- horizontally fitting an end profiled section (50) to the bottom side (22) of the slats; and/or
- horizontally fitting a top profiled section (60) to the top side (21) of the slats.

[0124] The aspects and embodiments of the invention

described in this application are furthermore supported by the following non-limiting examples.

EXAMPLES

Example 1: Kit of parts according to a first embodiment of the invention

[0125] In a first example, reference is made to Fig. 1. Fig. 1A shows a side view of a kit of parts (1) according to a first embodiment of the invention. Fig. 1B shows a front view of a kit of parts (1) according to a first embodiment of the invention. The kit of parts (1) comprises a slat (20) and a connecting element (10). The slat (20) comprises a body (210) with an elongated shape which defines a longitudinal axis (A-A'). The body (210) comprises an opening (220) which is provided at the location of an end of the longitudinal axis (A-A') of the body (210). The opening is provided in the body (210) of the slat (20). As is illustrated in Fig. 1B, the opening (220) may be a round opening.

[0126] The connecting element (10) comprises: a head (110) and two limbs (130, 131). The head (110) is designed not to fit through the opening (220) (Fig. 1A). The two limbs (130, 131) together form a clamp (140) which is designed to fit through the opening (220) (Fig. 1A). The head (110) comprises a round flat component (120) with a diameter which is greater than the diameter of the opening (220), as is illustrated in Fig. 1B. For example, the diameter of the round flat component is 12 mm and the diameter of the opening is 10 mm. The surface of the round flat component (113.10 mm^2) is thus greater than the surface of the opening (78.54 mm^2). The head (110) may furthermore comprise a grippable component (not shown) which is designed to fit the connecting element to a garden wire panel or remove it therefrom in a simple manner. The grippable element may consist, for example, of two hexagons which are connected to each other by a corner.

[0127] In the first embodiment as illustrated in Fig. 1A, the two limbs (130, 131) are identical. The two limbs (130, 131) are of equal length and have an identical shape. The two limbs (130, 131) each have an elongated shape. For example, the height of each limb (as measured in a straight line) is 9 mm, the width of each limb as measured at the widest section is 9 mm and as measured at the narrowest section is 8 mm, and the thickness of each limb as measured at the thickest section is 2 mm. The two limbs (130, 131) are separated from each other by a hole (150). The two limbs (130, 131) are arranged symmetrically with respect to each other. The ends (160, 161) of the two limbs (130, 131) are turned towards each other. The ends (160, 161) of the two limbs (130, 131) are separated by a slot (180). Thus, the two limbs (130, 131) form a U-shaped clamp which is provided with a slot (180) in the U. In the first embodiment, the slot (180) is provided at the location of the centre of the bottom of the U. The ends (160, 161) of the two limbs are rounded. All these characterizing features make it possible for the clamp (140) which is formed by the two limbs (130, 131) to be pushed over a horizontal wire of a garden wire panel in an easy manner. The bottom sides (170, 171) of the two limbs (130, 131) are connected by a reinforcement part (190). The height of the reinforcement part is 1 mm, for example.

[0128] As is illustrated in Fig. 1A, the connecting element (10) is made in one piece. The head (110) and the two limbs (130, 131) are attached to each other by means of the flat component (120) and the bottom sides (170, 171) of the two limbs are connected by the reinforcement part (190).

[0129] Even though the connecting element (10) has already been inserted in the opening (220) of the slat (20) in Fig. 1A and Fig. 1B, the person skilled in the art will understand that the slat (20) and the connecting element (10) may be supplied as separate, unassembled elements.

Example 2: Fence according to a first embodiment of the invention

[0130] Fig. 2A shows a 3D detail drawing of the rear side (23) of a fence (101) according to a first embodiment. Fig. 2B shows a 3D detail drawing of the front side (24) of a fence (101) according to a first embodiment. The fence comprises a connecting element (10), a slat (20) and a horizontal wire (310) of a garden wire panel. The slat (20) comprises a body (210) with an elongated shape. Fig. 2A shows that the slat (20) is fitted vertically to a horizontal wire (310) of a garden wire panel. Thus, the vertical slat has a top side (21) and a bottom side (22). The connecting element (10) is situated on the top side (21) of the slat (20). The body (210) comprises an opening (220) which is provided at the location of the end on the top side (21) of the slat (20). As is illustrated in Fig. 2A and Fig. 2B, the opening (220) may be a round opening.

[0131] As is illustrated in Fig. 2B, the head (110) is situated on one side, the front side (24), of the slat (20). The clamp (140) is inserted in the opening (220) of the slat (20) and attached to a horizontal wire (310) of the garden wire panel (30) (Fig. 2A) on the other side, the rear side (23), of the slat (20). The horizontal wire (310) is situated in the hole (150, as is illustrated in Fig. 1A) formed between the two limbs of the clamp (140). The first limb (130) is situated on the top side of the horizontal wire (310) and the second limb (131) is situated on the bottom side of the horizontal wire (310).

Example 3: Kit of parts according to a second embodiment of the invention

[0132] In a subsequent example, reference is made to Fig. 3. Fig. 3A shows a side view of a kit of parts (2) according to a second embodiment of the invention. Fig. 3B shows a front view of a kit of parts (2) according to a

second embodiment. The kit of parts (2) comprises a slat (20) and a connecting element (11). The slat (20) comprises a body (210) with an elongated shape which defines a longitudinal axis (A-A'). As is illustrated in Fig. 3B, the body (210) comprises a round opening (220) which is provided at the location of an end of the longitudinal axis (A-A') of the body (210). The opening is provided in the body (210) of the slat (20).

[0133] The connecting element (11) comprises: a head (110) and two limbs (132, 133). The head (110) is designed not to fit through the opening (220). The two limbs (132, 133) together form a clamp (141) which is designed to fit through the opening (220). The head (110) comprises a round flat component (120) with a diameter which is greater than the diameter of the opening (220) (Fig. 3A). For example, the diameter of the round flat component is 12 mm and the diameter of the opening is 10 mm. The surface of the round flat component (113.10 mm^2) is thus greater than the surface of the opening (78.54 mm^2). The head (110) may furthermore comprise a grippable component (not shown) which is designed to fit the connecting element to a garden wire panel or remove it therefrom in a simple manner.

[0134] In the second embodiment, the two limbs (132, 133) are different, as is illustrated in Fig. 3A. The two limbs (132, 133) are of a different length and have a different shape. The first limb (132) is longer than the second limb (133). The first limb (132) is elongated and hook-shaped. The second limb (133) is elongated, but shorter than the first limb (132). The two limbs (132, 133) are separated from each other by a hole (151). For example, the height of the first limb (as measured in a straight line) is 9 mm, the height of the second limb is 4 mm, the width of each limb, as measured at the widest section is 10 mm and as measured at the narrowest section is 8 mm, and the thickness of each limb as measured at the thickest section is 2 mm.

[0135] The ends (162, 163) of the two limbs (132, 133) are turned towards each other. The ends (162, 163) of the two limbs (132, 133) are separated by a slot (181). The two limbs (132, 133) thus form a U-shaped clamp which is provided with a slot (181) in the U. In the second embodiment, the slot (181) is provided at the location of the transition between the bottom and the limbs of the U. The end (162) of the first limb (132) is rounded. The end (163) of the second limb (133) is flattened. All these characterizing features make it possible for the clamp (141) formed by the two limbs (132, 133) to easily be pushed over a horizontal wire of a garden wire panel. The bottom sides (172, 173) of the two limbs (132, 133) are connected by a reinforcement part (191). The height of the reinforcement part is 1 mm, for example.

[0136] The connecting element (11) is made in one piece. The head (110) and the two limbs (132, 133) are attached to each other by means of the flat component (120) of the head (110) and the bottom sides (172, 173) of the two limbs are connected by the reinforcement part (191).

[0137] Even though the connecting element (11) has already been inserted in the opening (220) of the slat (20) in Fig. 3A and Fig. 3B, the person skilled in the art will understand that the slat (20) and the connecting element (11) may be supplied as separate, unassembled elements.

Example 4: Fence according to a second embodiment of the invention

[0138] Fig. 4A shows a 3D detail drawing of the rear side (23) of a fence (102) according to an embodiment of the present invention, comprising a slat (20), a connecting element (11), and a horizontal wire (310) of a garden wire panel. Fig. 4B shows a 3D detail drawing of the front side (24) of a fence (102) according to an embodiment of the present invention. The slat (20) comprises a body (210) with an elongated shape. Fig. 4A shows that the slat (20) is fitted vertically to a horizontal wire (310) of a garden wire panel. The vertical slat thus has a top side (21) and a bottom side (22). The connecting element (11) is situated on the top side (21) of the slat (20). The body (210) comprises an opening (220) which is provided at the location of the end on the top side (21) of the slat (20). As is illustrated in Fig. 4, the opening (220) may be a round opening.

[0139] As is illustrated in Fig. 4B, the head (110) is situated on one side, the front side (24) of the slat (20). The clamp (141) is inserted in the opening (220) of the slat (20) and attached to a horizontal wire (310) of the garden wire panel (30) on the other side, the rear side (23), of the slat (20) (Fig. 4A). The horizontal wire (310) is situated in the hole (151, as is illustrated in Fig. 3A) which is formed between the limbs of the clamp (141). The first limb (132) is situated on the top side of the horizontal wire (310) and the second limb (133) is situated on the bottom side of the horizontal wire (310).

Example 5: Kit of parts according to a third embodiment of the invention

[0140] In a subsequent example, reference is made to Fig. 5. Fig. 5A shows a side view of a kit of parts (3) according to a third embodiment of the invention. Fig. 5B shows a front view of a kit of parts (3) according to a third embodiment. The kit of parts (3) comprises a slat (20) and a connecting element (12). The slat (20) comprises a body (210) with an elongated shape which defines a longitudinal axis (A-A'). As is illustrated in Fig. 5B, the body (210) comprises a round opening (220) which is provided at the location of an end of the longitudinal axis (A-A') of the body (210). The opening is provided in the body (210) of the slat (20).

[0141] The connecting element (12) comprises: a head (110) and one limb (134). The head (110) is designed not to fit through the opening (220). The limb (134) forms a clamp (142) which is designed to fit through the opening (220). The head (110) comprises a round flat component

(120) with a diameter which is greater than the diameter of the opening (220). For example, the diameter of the round flat component is 12 mm and the diameter of the opening is 10 mm. The surface of the round flat component (113.10 mm^2) is thus greater than the surface of the opening (78.54 mm^2). The head (110) may furthermore comprise a grippable component (not shown) which is designed to fit the connecting element to a garden wire panel or to remove it therefrom in a simple manner.

[0142] In the third embodiment the limb (134) is elongated and hook-shaped. The one limb (134) is similar to the first limb as illustrated in Fig. 3A. In Fig. 5A, the second limb as is illustrated in Fig. 3A has been replaced by a short projection (193) which forms part of the reinforcement part (192). The limb (134) and the reinforcement part (192) form a hole (152). For example, the height of the limb is 9 mm (as measured in a straight line), the width of the limb as measured at the widest section is 10 mm and is 8 mm as measured at the narrowest section, and the thickness of the limb as measured at the thickest section is 2 mm. For example, the height of the reinforcement part is 1 mm (at the narrowest section) and the height of the projection is 4 mm.

[0143] The end (164) of the limb (134) and the projection (193) are turned towards each other. The end (164) of the limb (134) and the projection (193) are separated by a slot (182). All these characterizing features make it possible for the clamp (142) formed by the limb (134) to be pushed over a horizontal wire of a garden wire panel in an easy manner.

[0144] The connecting element (12) is made in one piece. The head (110) and the limb (134) are attached to each other by means of the flat component (120) of the head (110) on one side and the bottom side (174) of the limb (134) and the reinforcement part (192) on the other side.

[0145] Even though the connecting element (12) has already been inserted in the opening (220) of the slat (20) in Fig. 5A and Fig. 5B, the person skilled in the art will understand that the slat (20) and the connecting element (12) may be supplied as separate, non-assembled elements.

Example 6: Fence according to a third embodiment of the invention

[0146] Fig. 6A shows a 3D detail drawing of the rear side (23) of a fence (103) according to an embodiment of the present invention comprising a slat (20), a connecting element (12), and a horizontal wire (310) of a garden wire panel. Fig. 6B shows a 3D detail drawing of the front side (24) of a fence (103) according to an embodiment of the present invention. The slat (20) comprises a body (210) with an elongated shape. Fig. 6A shows that the slat (20) is fitted vertically to a horizontal wire (310) of a garden wire panel. The vertical slat thus has a top side (21) and a bottom side (22). The body (210) comprises an opening (220) which is provided at the location of the end on the top side (21) of the slat (20). The connecting element (12) is situated on the top side (21) of the slat (20).

[0147] As is illustrated in Fig. 6B, the head (110) is situated on one side, the front side (24) of the slat (20). The clamp (142) is inserted in the opening (220) of the slat (20) and attached to a horizontal wire (310) of the garden wire panel (30), on the other side, the rear side (23), of the slat (20) (Fig. 6A). The horizontal wire (310) is situated in the hole (152, as is illustrated in Fig. 5A) formed between the limb (134) and the reinforcement part (192). The limb (134) is situated on the top side of the horizontal wire (310).

Example 7: Fence according to an embodiment of the invention

[0148] Fig. 7 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention. The fence (100) comprises several slats (20) which are each vertically attached to a horizontal wire (310) of a garden wire panel (30) by a connecting element (10). Each vertical slat thus has a top side (21) and a bottom side (22).

[0149] The garden wire panel comprises horizontal wires (310, 311, 312, 313, 314) and vertical wires (330, 331, 332) between which the slats (20) can be pushed. At the top side and the bottom side of the garden wire panel (30), the vertical wires (330, 331, 332) form horizontal passages (320, 321) in which transverse profiled sections (40, 41) are provided. The transverse profiled sections (40, 41) prevent the slats (20) from moving forward.

[0150] As is illustrated in Fig. 7, a kit of parts as described herein ensures that the front side of the fence (100) is visually attractive. Only the head of the connecting element (10) is visible.

[0151] Fig. 8 shows a 3D drawing of the rear side of a fence (100) according to an embodiment of the present invention. The fence (100) comprises several slats (20) which are each vertically attached to a horizontal wire (310) of a garden wire panel (30) by means of a connecting element (10). The garden wire panel comprises horizontal wires (310, 311, 312, 313, 314) and vertical wires (330, 331, 332) inbetween which the slats (20) can be pushed. The vertical wires (330, 331, 332) form horizontal passages in which transverse profiled sections (40, 41) are fitted horizontally. As is illustrated in Fig. 8, a kit of parts as described herein ensures that the rear side of the fence (100) is visually attractive. Only the clamp of the connecting element (10) is visible. It is not necessary, but possible, to fit a top profiled section and/or an end profiled section.

[0152] Fig. 9 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention as illustrated in Fig. 7, furthermore comprising an end profiled section (50). The end profiled section (50) is fitted horizontally to the bottom side (22) of the slats

(20).

[0153] Fig. 10 shows a 3D drawing of the front side of a fence (100) according to an embodiment of the present invention as illustrated in Fig. 9, furthermore comprising a top profiled section (60). The top profiled section (60) is fitted horizontally to the top side (21) of the slats (20).

Example 8: Methode for vertically attaching a slat to a horizontal wire of a garden wire panel according to an embodiment of the invention

[0154] As is illustrated in Fig. 1, 3 and 5, the connecting elements (10, 11, 12) may be used for vertically attaching a slat (20) as described herein to a horizontal wire (310) of a garden wire panel (30). Example 8 describes a method according to an embodiment of the invention for vertically attaching a slat (20) with a connecting element (10, 11, 12) to a horizontal wire (310) of a garden wire panel (30).

[0155] A method for vertically attaching a slat (20) to a horizontal wire (310) of a garden wire panel (30) comprises providing a kit of parts (1, 2, 3) as defined herein. The kit of parts comprises a slat (20) as described herein and a connecting element (10, 11, 12) as described herein. The method furthermore comprises vertically fitting a slat (20) in a garden wire panel (30). The opening (220) is preferably situated on the top side (21) of the slat (20). Attaching the slat (20) to the garden wire panel (30) comprises inserting the clamp (140, 141, 142) in the opening (220) of the slat (20). As a result thereof, the head (110) of the connecting element (10, 11, 12) is situated on one side (24) of the slat (20) and the clamp (140, 141, 142) is situated on the other side (23) of the slat (20). The method furthermore comprises fastening the clamp (140, 141, 142) to a horizontal wire (310) of a garden wire panel (30). As a result thereof, the slat is suspended vertically from the horizontal wire (310) of the garden wire panel (30). These steps may be repeated until the entire garden wire panel (30) has been filled. The method as described herein makes it possible to attach slats, each with a connecting element, to a wire panel in an easy manner. In case of variations in temperature and/or absorption of moisture, the slats will remain more rigid and be less prone to warping, if at all, between the horizontal clamping profiled sections.

[0156] Furthermore, one or several transverse profiled sections (40, 41) may be fitted horizontally in a horizontal passage (320) of the garden wire panel (30). It is also possible to fit an end profiled section (50) horizontally to the bottom side (22) of the slats and/or to fit a top profiled section (60) horizontally to the top side (21) of the slats.

Claims

1. Kit of parts (1, 2, 3) comprising:

   - a slat (20) comprising a body (210) with an elongated shape which defines a longitudinal axis (A-A'), wherein the body (210) comprises an opening (220) which is provided at the location of an end of the longitudinal axis (A-A') of the body (210); and
   - a connecting element (10, 11, 12) comprising: a head (110) and one or several limbs (130, 131, 132, 133, 134), wherein the head (110) is designed not to fit through the opening (220) and wherein the one or several limbs (130, 131, 132, 133, 134) form a clamp (140, 141, 142) which is designed to fit through the opening (220).

2. Kit of parts according to Claim 1, wherein the connecting element (10, 11, 12) is made of plastic, glass fibre-reinforced plastic, steel, stainless steel, metal, or a combination thereof, preferably wherein the connecting element (10, 11, 12) is made of nylon; and/or wherein the slat (20) is made of a wood composite or polyvinyl chloride, preferably wherein the slat (20) is made of a wood composite.

3. Kit of parts according to Claim 1 or 2, wherein the slat (20):

   - has a width from approximately 20 mm to approximately 110 mm;
   - has a length from approximately 0.60 m to approximately 2.50 m; and/or
   - has a thickness from approximately 1 mm to approximately 10 mm.

4. Kit of parts according to any of Claims 1 to 3, wherein the head (110) comprises a flat component (120) with a surface which is greater than the surface of the opening (220), preferably wherein the opening (220) comprises a round opening and wherein the flat component (120) comprises a round flat component with a diameter which is greater than the diameter of the opening (220).

5. Kit of parts according to any of Claims 1 to 4, wherein the connecting element comprises one limb (134), and wherein the limb (134) is elongated and hook-shaped.

6. Kit of parts according to any of Claims 1 to 4, wherein the connecting element comprises at least two limbs (130, 131, 132, 133) and wherein the ends (160, 161, 162, 163) of the at least two limbs (130, 131, 132, 133) are turned towards each other, preferably wherein the ends (160, 161, 162, 163) of the at least two limbs (130, 131, 132, 133) are separated by a slot (180, 181).

7. Kit of parts according to any of Claims 1 to 6, furthermore comprising a transverse profiled section (40, 41), preferably wherein the transverse profiled sec-

tion (40, 41) is made of polyvinyl chloride (PVC) or chlorinated polyvinyl chloride (CPVC); and/or furthermore comprising a top profiled section (60) and/or an end profiled section (50), preferably wherein the top profiled section (60) and/or end profiled section (50) is made of PVC.

8. Fence (100, 101, 102, 103) comprising a kit of parts (1, 2, 3) as defined in any of Claims 1 to 7 and a garden wire panel (30), wherein the slat (20) is fitted vertically in the garden wire panel (30), wherein the head (110) is situated on one side (24) of the slat (20) and wherein the clamp (140, 141, 142) is inserted in the opening (220) of the slat (20) and attached to a horizontal wire (310, 311, 312, 313, 314) of the garden wire panel (30) on the other side (23) of the slat (20).

9. Fence according to Claim 8, wherein the opening (220) is situated on the top side (21) of the slat (20).

10. Fence according to Claim 8 or 9, wherein a transverse profiled section (40, 41) is fitted horizontally in a horizontal passage (320, 321) of the garden wire panel (30); wherein an end profiled section (50) is fitted horizontally on the bottom side (22) of the slats; and/or wherein a top profiled section (60) is fitted horizontally on the top side (21) of the slats.

11. Use of a connecting element (10, 11, 12) as defined in any of Claims 1 to 7 for vertically attaching a slat (20) as defined in any of Claims 1 to 7 to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30).

12. Use according to Claim 11, wherein the opening (220) is situated on the top side (21) of the slat (20).

13. Method for vertically attaching a slat (20) to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30), the method comprising:

(a) providing a kit of parts (1, 2, 3) as defined in any of Claims 1 to 7;
(b) vertically fitting a slat (20) in a garden wire panel (30);
(c) inserting the clamp (140, 141, 142) in the opening (220) of the slat (20), wherein the head (110) is situated on one side (24) of the slat (20) and the clamp (140, 141, 142) is situated on the other side (23) of the slat (20); and
(d) fastening the clamp (140, 141, 142) to a horizontal wire (310, 311, 312, 313, 314) of a garden wire panel (30); thereby vertically attaching the slat (20) to the horizontal wire (310, 311, 312, 313, 314) of the garden wire panel (30).

14. Method according to Claim 13, wherein the opening (220) is situated on the top side (21) of the slat (20).

15. Method according to Claim 13 or 14, furthermore comprising repeating steps (b), (c) and (d) until the entire garden wire panel (30) has been filled; and/or furthermore comprising:

- horizontally fitting a transverse profiled section (40, 41) in a horizontal passage (320, 321) of the garden wire panel (30);
- horizontally fitting an end profiled section (50) to the bottom side (22) of the slats; and/or
- horizontally fitting a top profiled section (60) to the top side (21) of the slats.

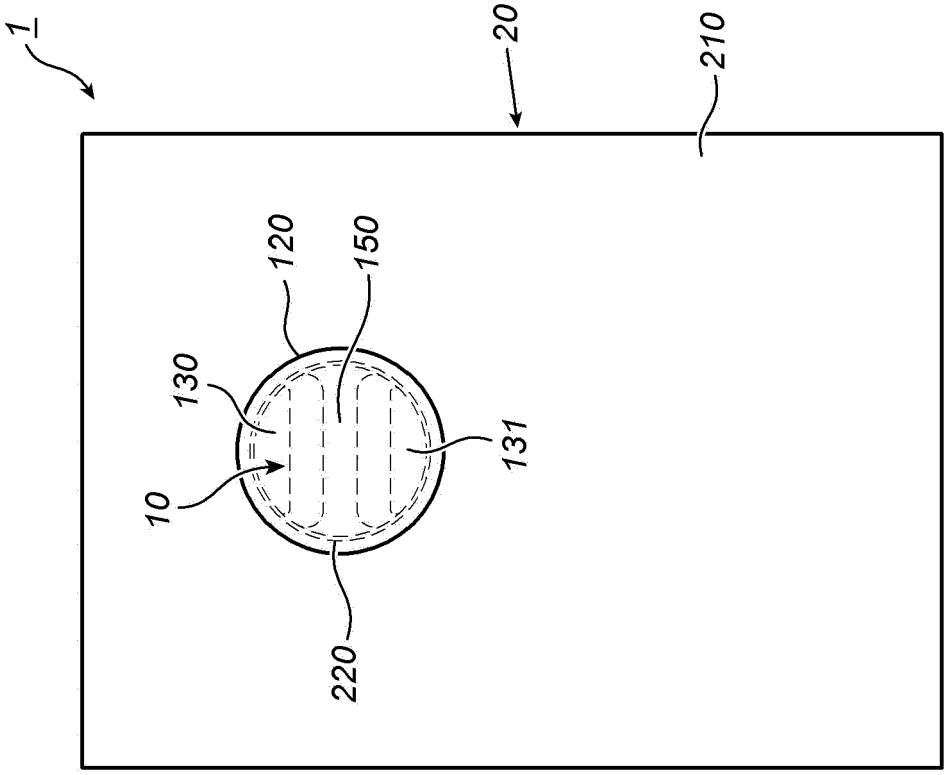
1
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Fig. 1B

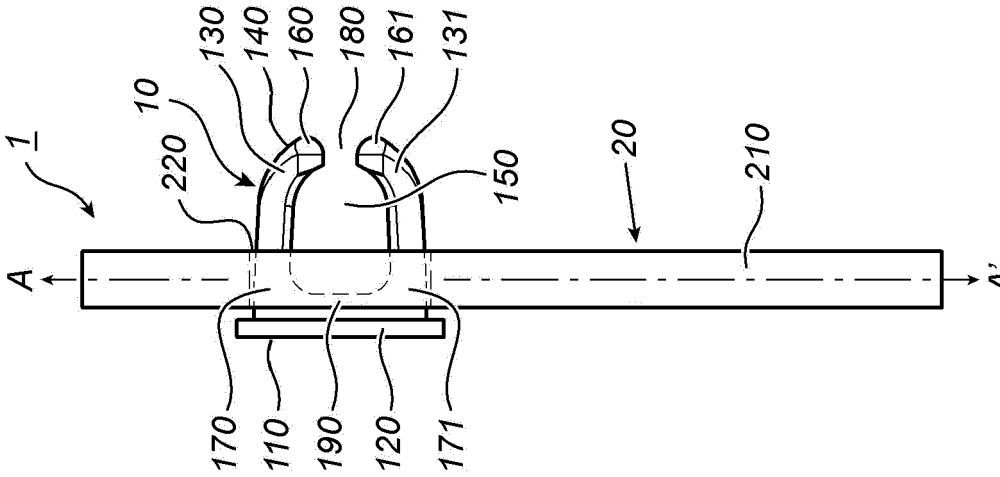
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Fig. 1A

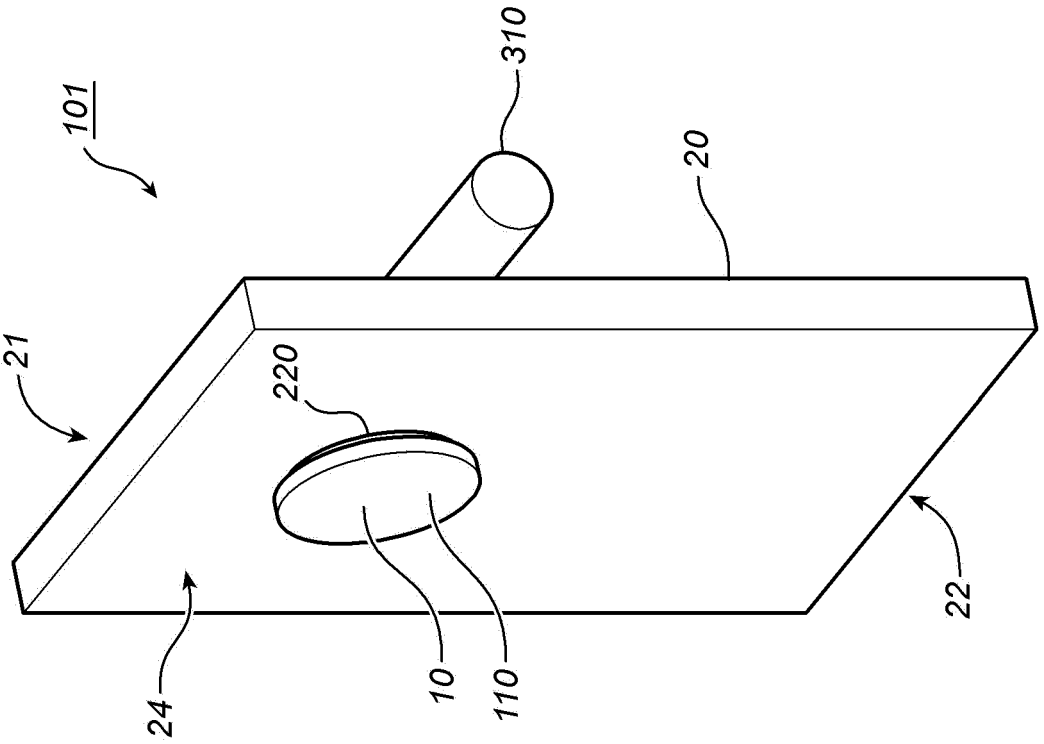

Fig. 2B

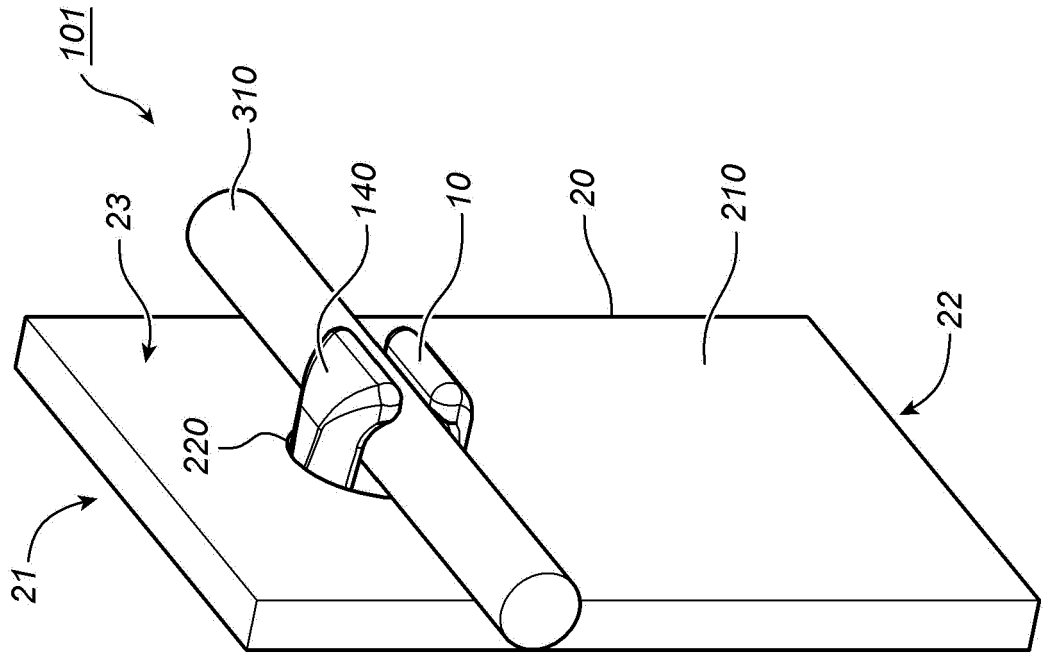

Fig. 2A

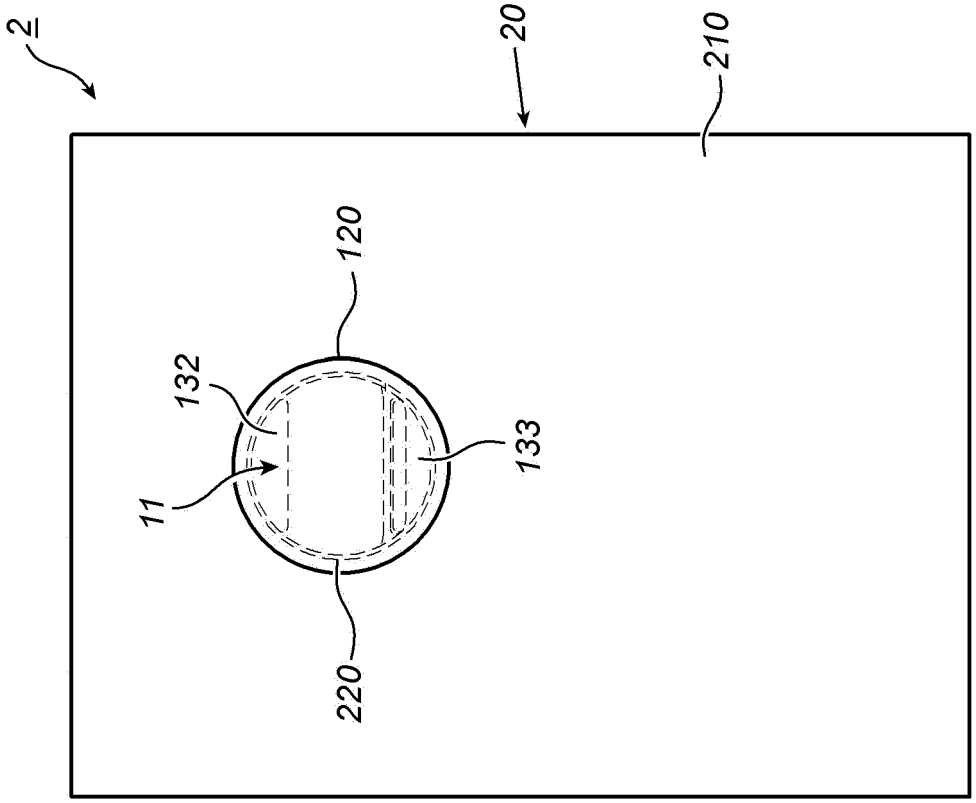
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Fig. 3B

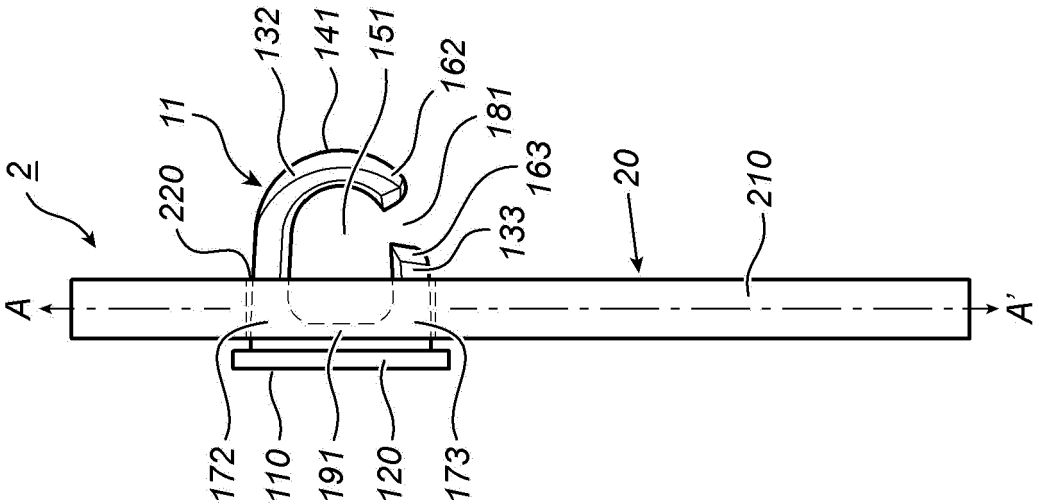
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Fig. 3A

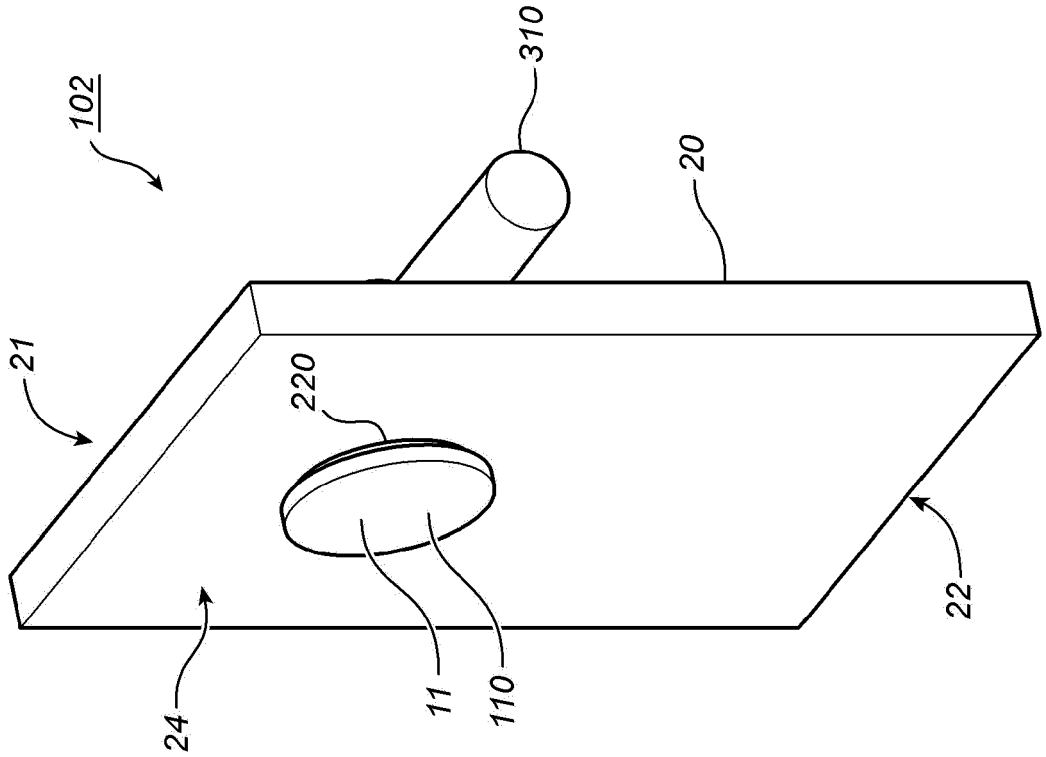


Fig. 4B

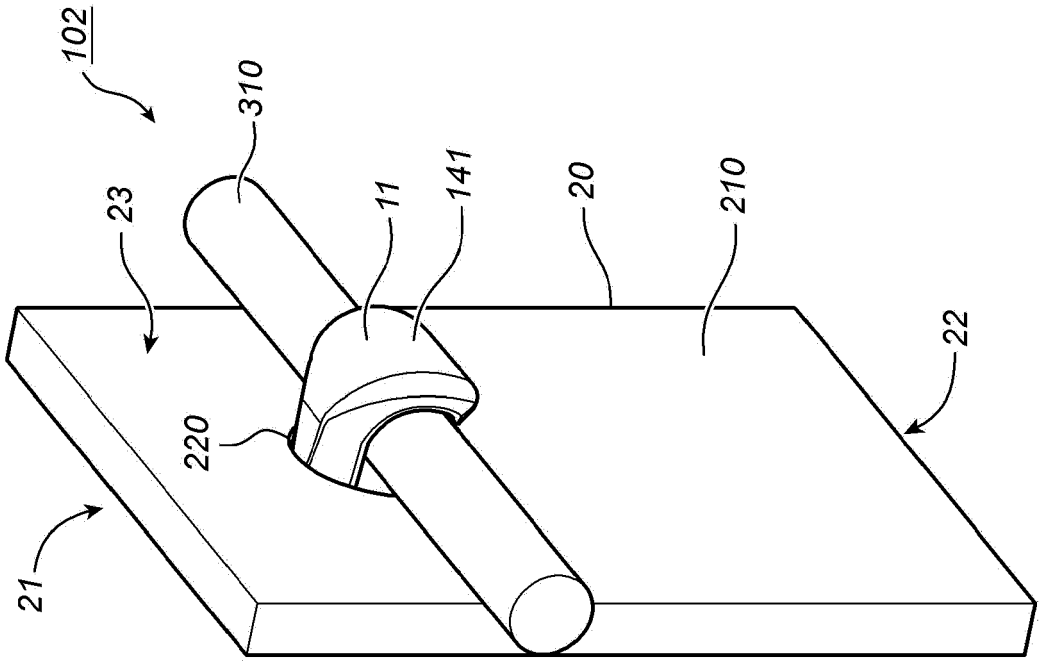
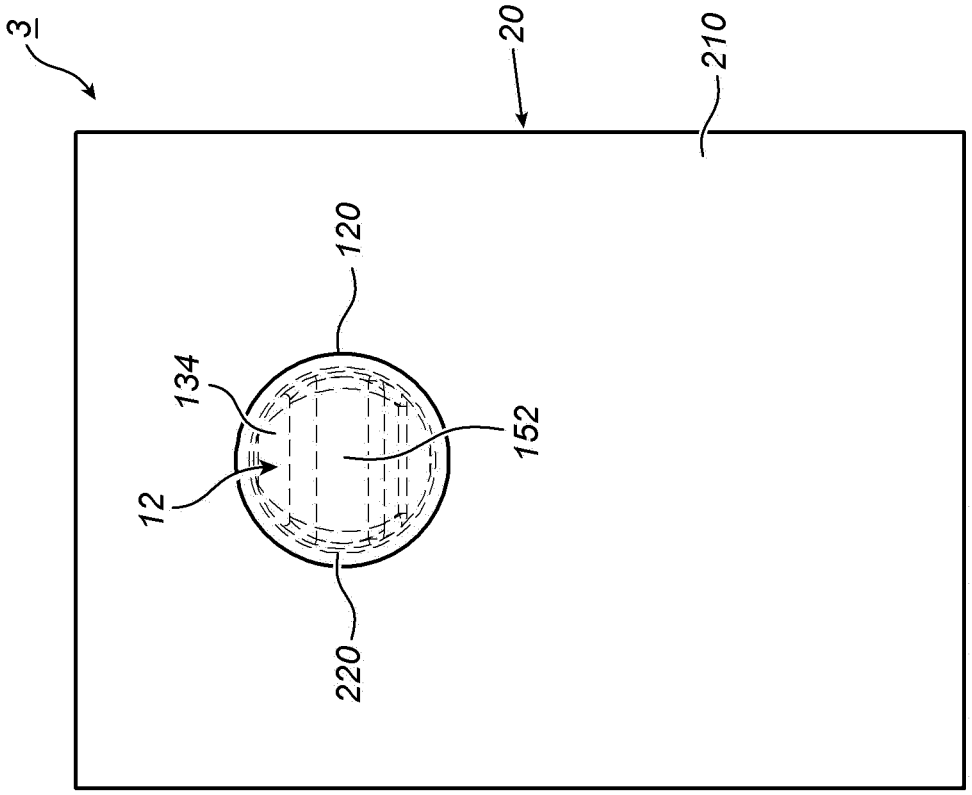


Fig. 4A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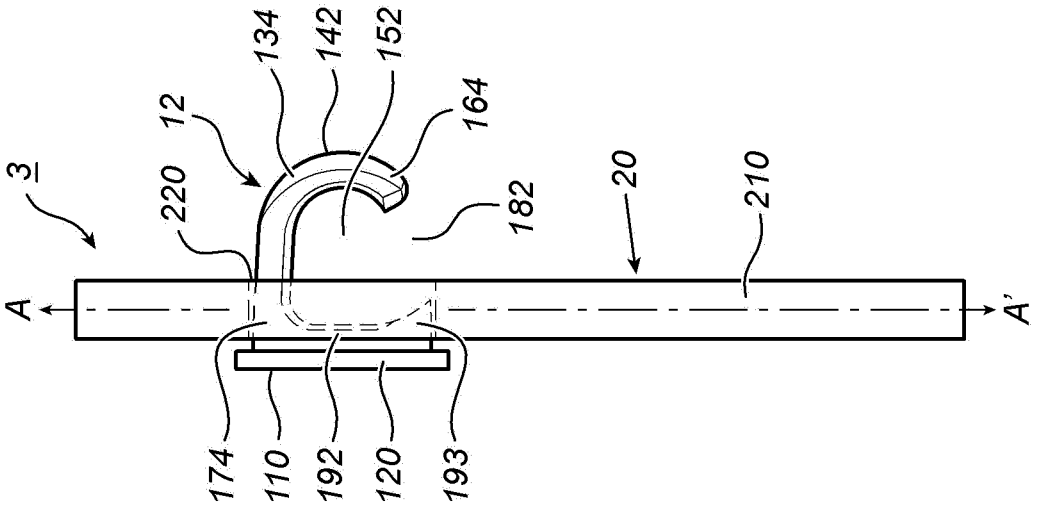
152
12
220

Fig. 5B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164
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182
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A
A'
174
110
192
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Fig. 5A

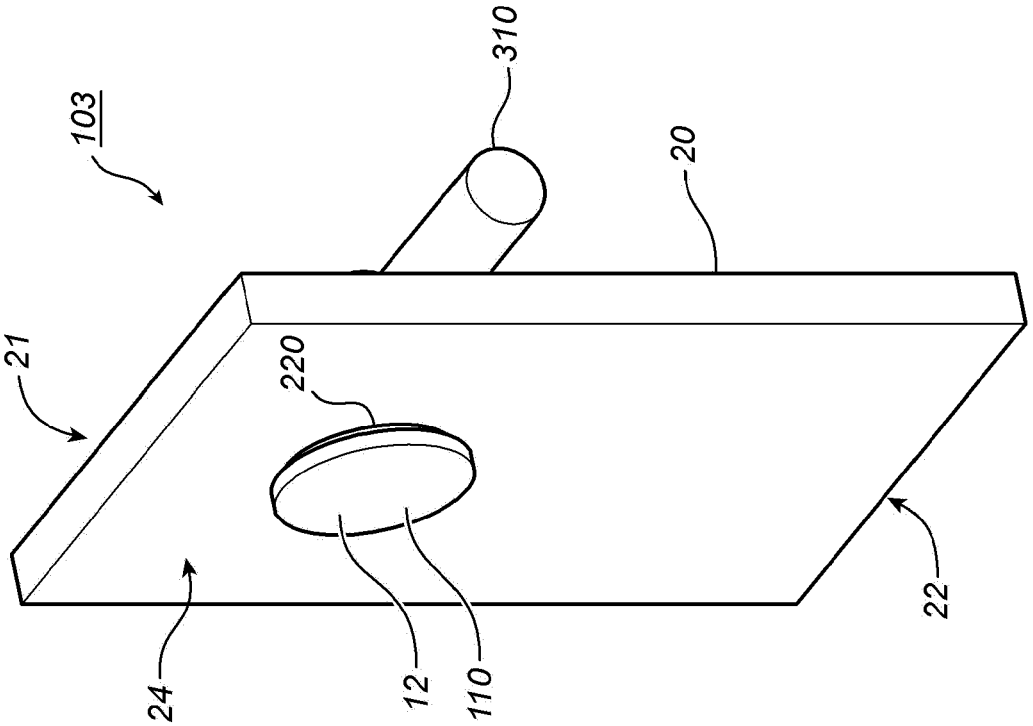

Fig. 6B

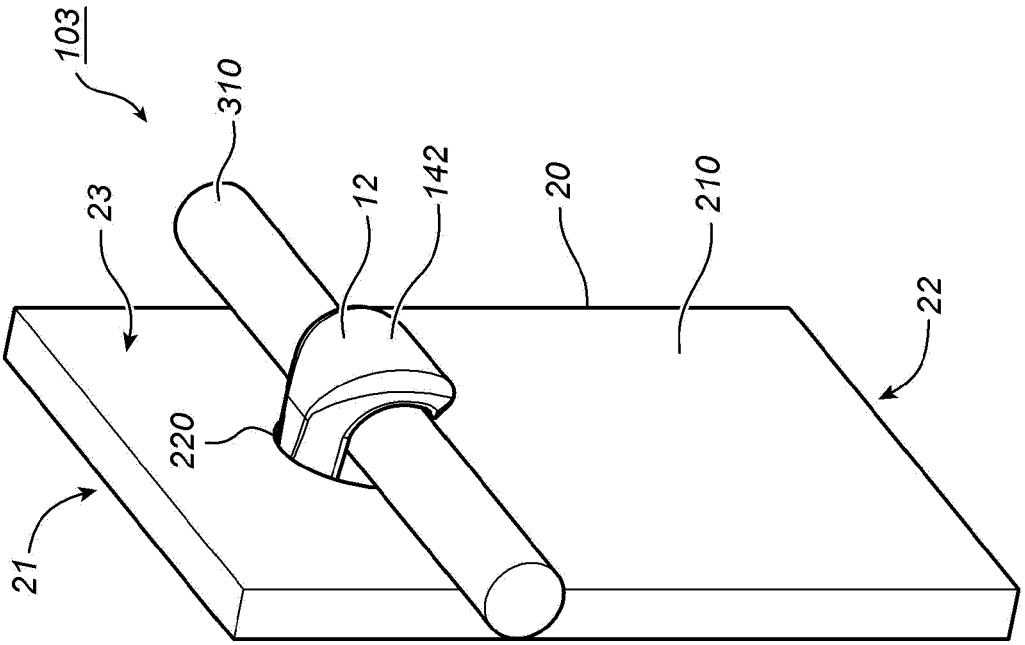

Fig. 6A

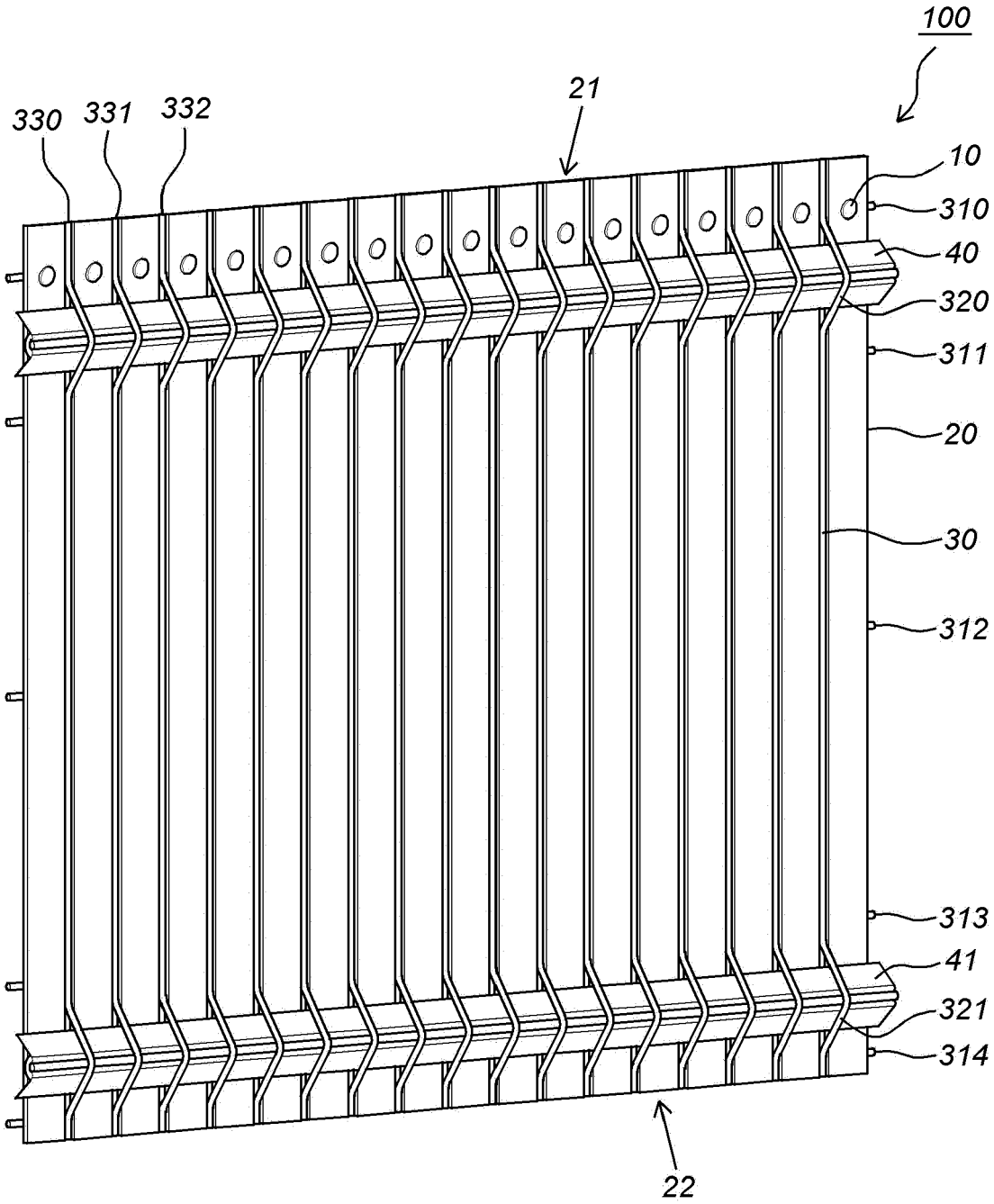

Fig. 7

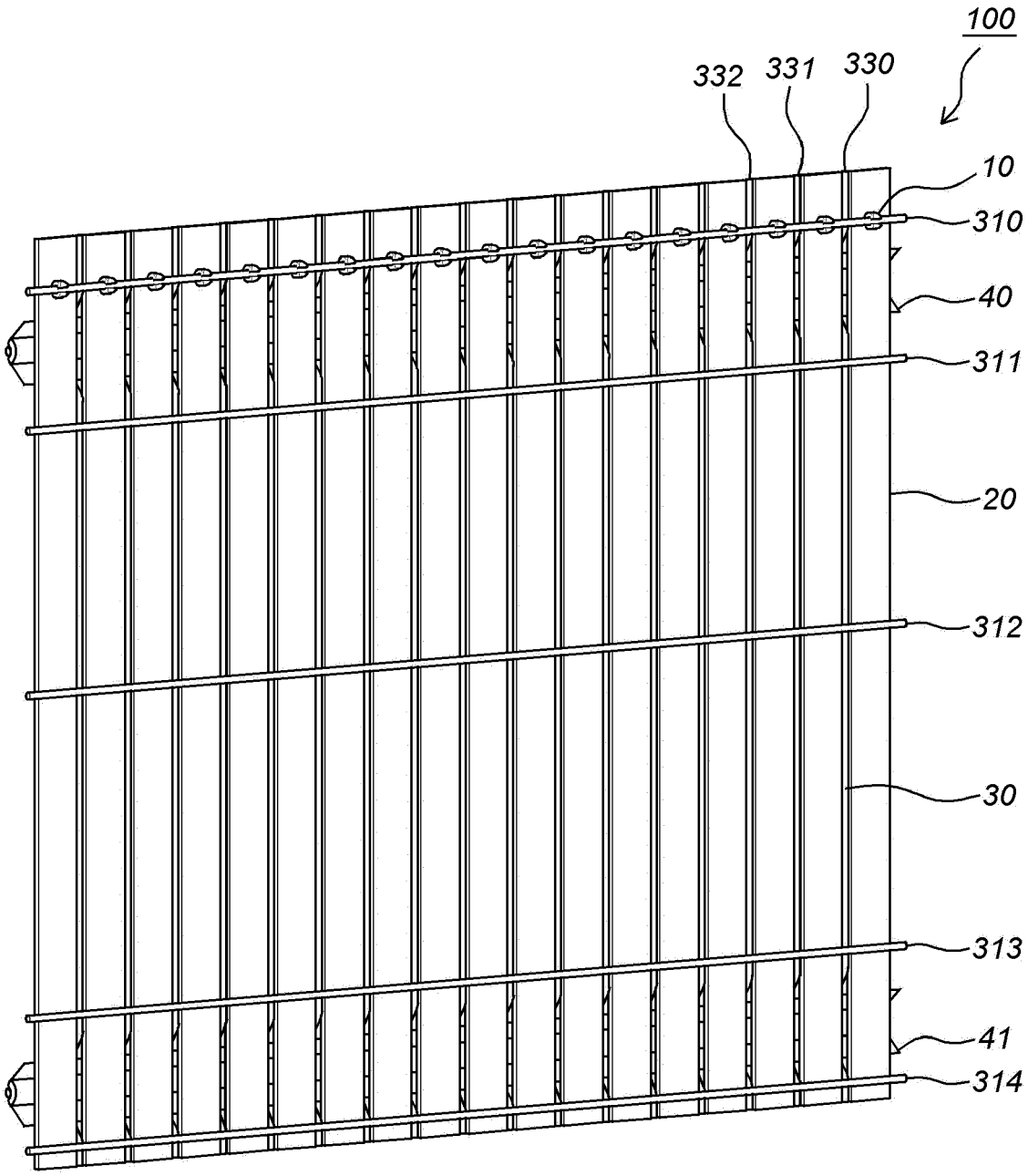

Fig. 8

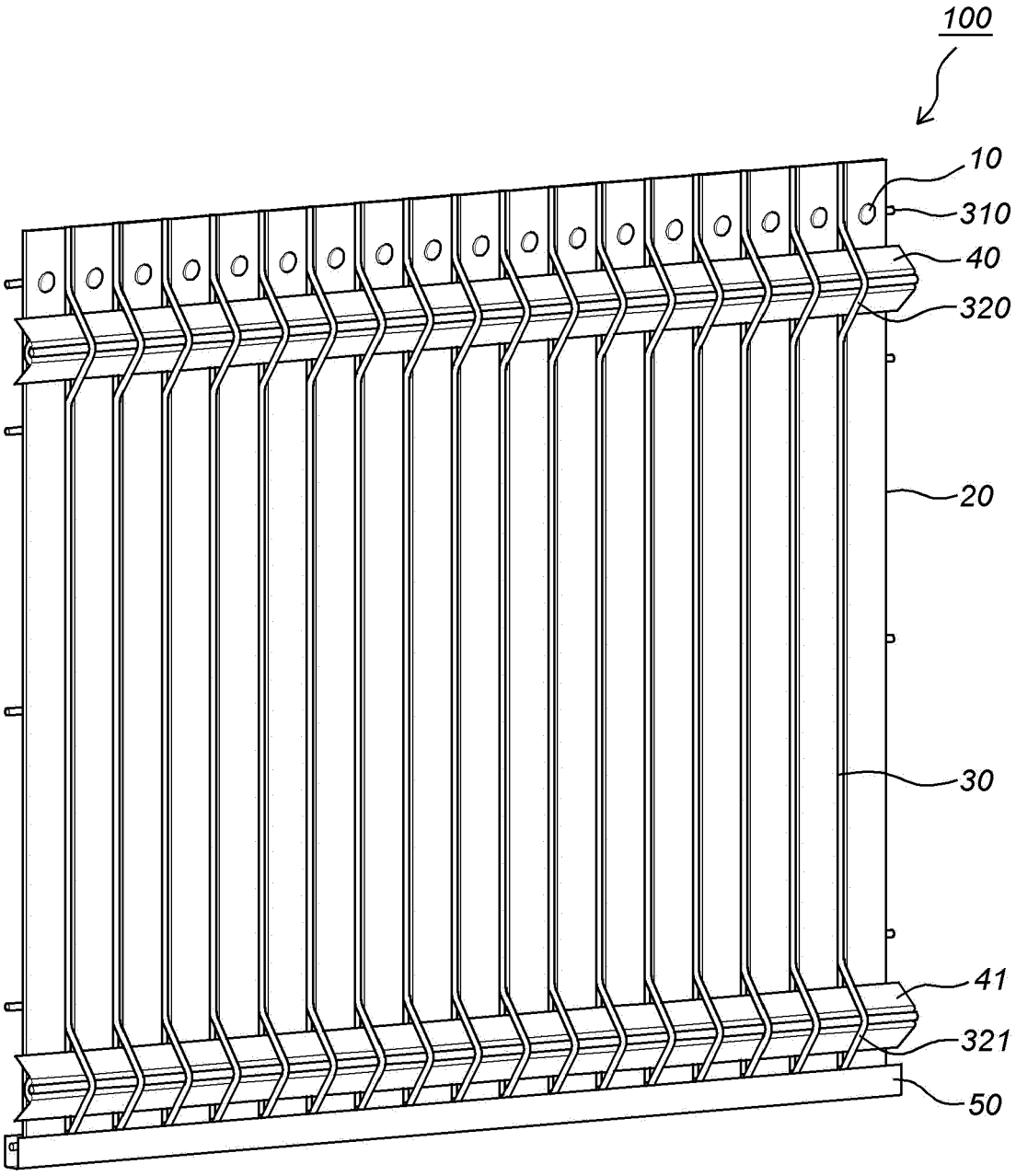

Fig. 9

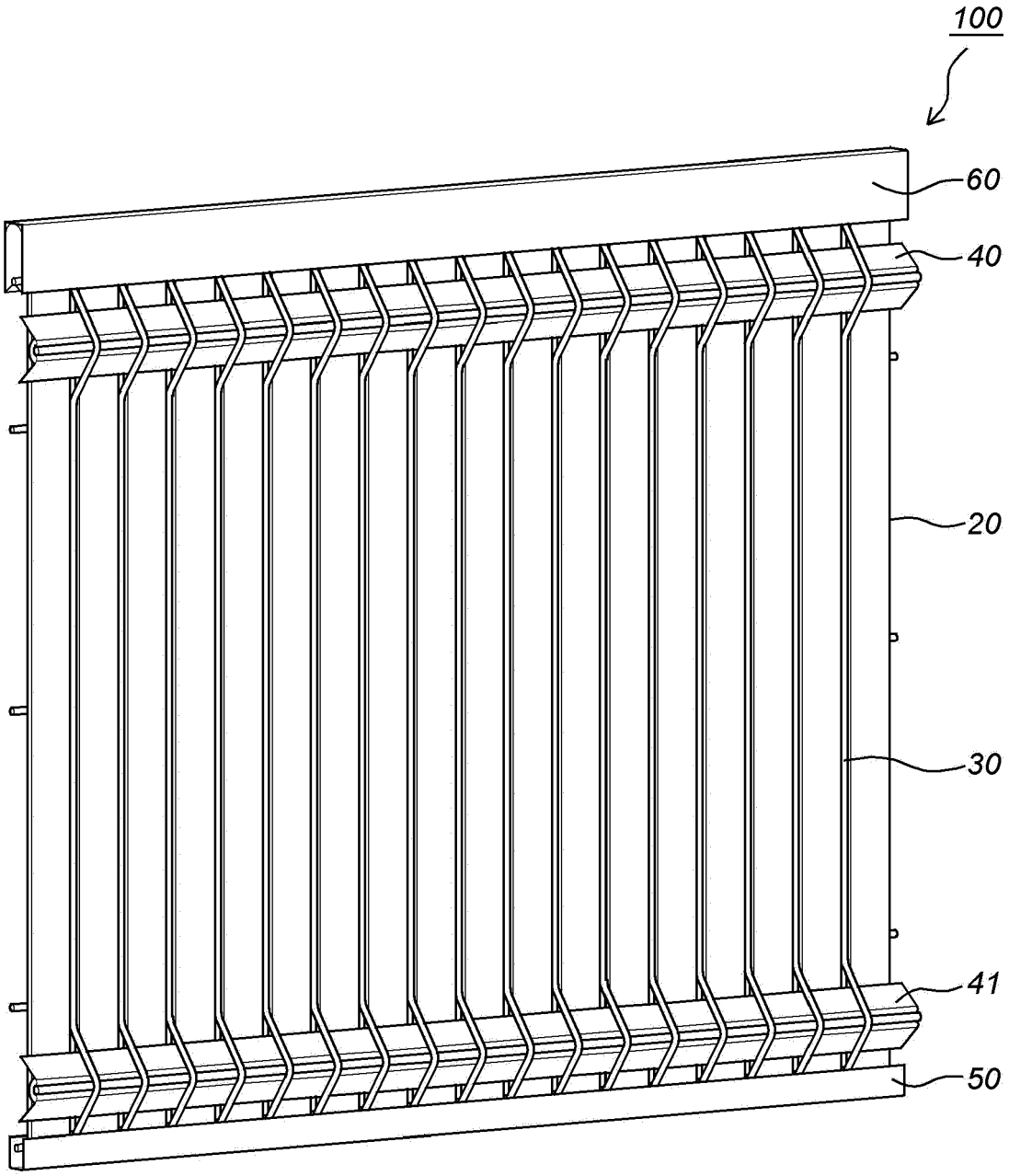

Fig. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 19 21 8398

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 329 913 A (HAYNES ANDREW PHILIP [GB]; HAYNES GRAHAM RICHARD [GB]) 7 April 1999 (1999-04-07)	1-6	INV. E04H17/16 E04H17/06
Y	* figures 1-4 *	7	
A	* page 2, lines 24-26 *	8-15	
X	US 4 725 044 A (CLUFF ROBERT G [US]) 16 February 1988 (1988-02-16)	1-6	
Y	* figures 1-5 *	7	
A	* column 3, line 56 - column 4, line 12 * * column 4, line 56 - column 5, line 62 *	8-15	
A	EP 1 698 748 A1 (SORBELLO RENE [DE]) 6 September 2006 (2006-09-06) * the whole document *	1-15	
A	EP 2 151 534 A1 (DIRICKX GROUPE [FR]) 10 February 2010 (2010-02-10) * figures 5,6 *	1-15	
Y	FR 3 018 843 A1 (GEN MIJ VOOR PLASTIEK INTERNATIONAAL NV [BE]) 25 September 2015 (2015-09-25) * the whole document *	7	TECHNICAL FIELDS SEARCHED (IPC) E04H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 May 2020	Schnedler, Marlon

CATEGORY OF CITED DOCUMENTS

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