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- (73) Patenthaver: **Novomatic AG, Wiener Strasse 158, 2352 Gumpoldskirchen, Østrig**
- (72) Opfinder: **Winkler, Heinz, Wiener Strasse 158, 2352 Gumpoldskirchen, Østrig**
- (74) Fuldmægtig i Danmark: **NORDIC PATENT SERVICE A/S, Højbro Plads 10, 1200 København K, Danmark**
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Description

[0001] The present invention pertains to a cable holding element according to the general terms of independent patent claim 1.

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[0002] Cable holding elements according to the present invention are used to receive cables and to form a cable channel or duct. In particular, cable holding elements according to the present invention can be used inside electronic devices, preferably gaming machines.

10 [0003] Cable guides for gaming devices in which cable bundles are held together by cable ties and/or spiral housing are known from the prior art. The cable bundles are connected by holding straps or holding clamps to the housing of each device.

[0004] This has the substantial disadvantage that a subsequent loosening and reconnecting of the cable
15 bundles to the housing is possible only with difficulty or great effort. Thus the task exists to create a cable holding element in which cable bundles can be easily introduced and removed again.

[0005] A flexible cable holder for holding electrical cable or similar objects is known from European patent application EP 0 893 865 A2, comprising a base part with a number of holding elements
20 extending along their longitudinal edges, so that they form parts of the wall of a cable channel or duct, in which the holding elements are each rigidly connected to one edge of the base member. The holding elements have a free end, wherein the individual free ends of the cable holders extend from different edges, facing each other, with the individual ends of the holders situated in a common plane.

25 [0006] A cable channel or wiring duct with a base wall and side walls and holding finger elements which protrude from the side walls is known from U.S. Patent 2,896,009. These holding fingers are spaced apart with uniform distance.

[0007] Furthermore the disadvantage or in other words a problem with the prior art, particularly with
30 gaming machines, is the fact that with identical fixed cable harness assemblies in a device housing, individual cables end up lying in the same place. Through accurate knowledge of the position of a particular cable or wire, manipulation in such devices is possible from outside the housing. This can be accomplished for example by drilling the housing at an appropriate position. If the person manipulating the device knows the respective position where a cable or cable bundle is located, there is also the risk
35 that this person can perform the same manipulation on a variety of other devices.

[0008] Thus there exists the additional inventive task of reducing the manipulability of the device.

[0009] The present invention solves this problem with a cable holding element of the type mentioned with the characteristic features of independent claim 1.

5 [0010] According to the present invention, a cable holding element for receiving one or more wires or cables comprises a base body and a number of retaining fingers extending from the main body from opposite-facing portions of the main body, whereby the retaining fingers as well as the main body enclose, delimit, or establish a channel area for guiding of the cable or wire, provided in order to guide the cable or wire so that the retaining fingers preferably interlock with each other without touching, so that the end of at least one of the retaining fingers which extend from a particular area is arranged so
10 that it extends between two of the retaining fingers extending from opposite side.

[0011] With such a cable holding element, it is possible to easily lay cable bundles, easily remove the cable bundles from the cable holding element, as well as change the location of the individual cable bundles through removal of the cable bundle from a cable holding element as well as place the cable
15 bundle into another cable holding element quickly and with little effort.

[0012] In this manner, reconfiguration or modification of the routing of one or more cables or wires can be accomplished quickly and with little effort, whereby the cable bundles are removed from the cable holding elements within the housing of the device and placed in another cable holding element
20 contained within the same housing. Thereby a simple remedy against manipulation is possible, since the cable holding elements allow multiple possible configurations and thereby cable bundles can be placed in more or less random positions within a device. Thus intentional manipulation of the device is made more difficult.

25 [0013] Moreover the present invention offers the advantage that simple and flexible mounting of several cables and cable bundles within the housing of a single electronic device is possible. A particular advantage is provided through replacement of cable during replacement of wired device components, whereby individual wires or cables are very easily removed from the cable holding element through the retaining fingers.

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[0014] The cable holding element and/or the cable channel require no separate locking or interlocking elements, such as closure clips, providing very simple operation and shortened assembly time.

[0015] A particular aspect of the present invention is that the retaining fingers bounding the channel
35 region have an L-shape, and are spaced apart facing each other such that the channel region has a closed or U-shaped cross section. This advantageous embodiment of the retaining fingers and the channel cross section makes easy introduction and removal of the cable bundle or cable to and from the channel

region possible.

[0016] A further embodiment can be that along the channel region the retaining fingers are so arranged that they can interlock, preferably without contact so that the end of at least one retaining finger extends
5 in between two oppositely-oriented retaining fingers. Thereby, the cables/wires or cable/wire bundles can be prevented from falling out of the cable channel, such as by shaking or by accident.

[0017] A further embodiment can be that the retaining fingers are flexible and spring-like, so that they can be bent with respect to the main body of the cable holding element and so that they return to their
10 original position after bending. Thereby the introduction of cables into the cable channel is simplified, such that a cable can be pressed into the region between the retaining fingers.

[0018] A particularly advantageous embodiment of the retaining fingers is a design in which the cable bundles are prevented from slipping or sliding out of the wiring duct such that the retaining fingers have
15 an angled or hook-shaped design and that there each retaining finger has two sections, whereby one section of the retaining finger extends at an angle of 70° - 90° , preferably 85° - 90° , most preferably exactly perpendicular and/or normal to its respective base area and whereby the second section of the retaining finger is a continuation from the end of the first section of the retaining finger most distal from its respective base area, extending at an angle of between 70° and 110° , preferably 90° from the first
20 section of the retaining finger and extending towards the retaining fingers located on the respective opposing region.

[0019] A particularly simple structural embodiment of the retaining fingers provides that both sections of the retaining fingers are each formed from a flat body or profile bar, and have a curve or bend
25 between the first and second sections of the retaining finger.

[0020] In order to facilitate pushing the cable bundles into the cable channel or cable holding element, it can be provided that the two sections of the retaining fingers enclose an angle of less than or equal to
30 90° .

[0021] In order to enable particularly simple guidance of the wiring and to create longer cable holding elements extending in the direction of the wiring, both regions, from which the retaining fingers extend, themselves extend parallel to each other and/or are situated in the same plane.

[0022] In order to achieve uniform load on the main body of the cable channel when inserting the cable or cable bundle or when removing the cable or cable channel, as well as to achieve a simple
35 construction of the cable channel, the respective number of retaining fingers which extend from the two

sides can differ from each other by not more than one.

[0023] In order to facilitate the insertion of cable bundles into the cable channel/cable holding element, the ends of the retaining fingers or the ends of the second section of the retaining fingers can be inclined
5 back towards the main body.

[0024] In order to prevent inadvertent slipping or sliding out of the cable bundles or wires/cables, particularly through vibrations, a further embodiment can be that for each retaining finger whose end is situated between two retaining fingers which extend from the opposing region, the retaining finger
10 which extends from the opposite region is placed so that its end is opposite to that of the first retaining finger, whereby in particular the front sides of the ends of the opposing retaining fingers and the respective first retaining finger face in opposite directions.

[0025] In order to achieve a structurally simple design of such a cable channel or wiring duct, a further
15 embodiment can be that each retaining finger has a first section which extends from the main body at an angle of 70° to 110° , preferably 90° , and has a second section which continues and extends from the first section of the retaining finger.

[0026] A simplification of the structural design provides that the shape and/or orientation of the first
20 and/or second section of the retaining finger corresponds to the form and orientation of the first and/or second section of the retaining finger.

[0027] An additional or alternative further simplification of the design provides that the length of the
25 first section of each retaining finger corresponds to the length of the first section of the retaining finger.

[0028] A further simplification of the design of the wire cable holding element provides that the retaining fingers extending from the first and/or respective second region are structured and/or oriented identically and/or that all retaining fingers are formed similarly.

[0029] For the same purpose, additionally or alternatively it can be provided that the additional
30 retaining fingers extending from the first region and/or the second region are identically structured and/or oriented, and/or that all additional retaining are identically structured.

[0030] In order to form longer cable holding elements which have a greater longitudinal extent than the
35 wire or cable, it can be provided that the retaining fingers extend from two regions, whereby a number of first retaining fingers extend from the first of the two regions, and a number of the second retaining fingers extend from the second of the two regions.

[0031] In order to prevent the cables/wires or cable bundles from slipping or sliding out of the cable channel, it can be provided that the first retaining fingers extend from parts of the first region which lie on a first straight line and/or that the second retaining fingers extend from parts of the second region which lie on a second straight line, whereby the first straight line and the second straight line are preferably oriented parallel to one another.

[0032] Additionally or alternatively, for the same purpose, it can be provided that a number of the additional retaining fingers extend from parts of the second region which lie on the first straight line, and the remaining additional retaining fingers extend from parts of the second region which lie along the second straight line.

[0033] In order to maintain a space-saving design which prevents entanglement or snagging of wires/cables which are routed outside of the cable holding element, it can be provided that between each pair of retaining fingers, an additional retaining finger is situated.

[0034] It can also be provided in particular that the second sections of the retaining fingers, and also as applicable the second sections of the additional retaining fingers, can lie in the same plane.

[0035] In order to reduce the material requirements for the main body, it can be provided that the main body has at least one recess in the regions lying opposite to the retaining fingers.

[0036] For stabilisation of the retaining fingers as well as to prevent breakage of the retaining fingers upon insertion and removal of the cable/wire or cable bundles, it can be provided that the main body has at least one, and in particular two, retaining fingers extending perpendicularly and/or normally from it, and which protrude from the individual retaining fingers and as applicable from the additional retaining fingers.

[0037] To simplify the routing of the wires/cables, it can be provided that the cross-section of the cable channel region, at least in one part, tapers and/or broadens along the length of the duct region.

[0038] In order to simplify insertion or removal of the cable/wire into or from the cable holding element, it can be provided that the retaining fingers have a flexible or spring-like construction.

[0039] In order to prevent breakage of the retaining fingers upon insertion or removal of the cable bundles or cables, it can be provided that the ratio of the width across the cable holding element to the thickness of the retaining fingers in the region lies between 4:1 and 4:1.5, particularly 4:1.3.

[0040] In order to ensure sufficient elastic flexibility, in particular it can be provided that the retaining fingers, and as applicable the additional retaining fingers and/or the entire cable holding element, is manufactured from plastic, in particular polyethylene PE and/or polypropylene PP.

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[0041] Furthermore the present invention pertains to a number of cable holding elements.

[0042] In order to achieve a wiring configuration which is not recognisable to a person outside of the device, and which is also not predictable, it can be provided that the individual cable holding elements are arranged in the same orientation on a common main body.

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[0043] In order to achieve easy and simple attachment of the cable/wire mounts to a device, it can be provided that the main body has fixing means, in particular tool-free releasable mounting of the wire mounting to a device, in particular with the frame of a device.

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[0044] In order to reduce the use of materials, it can be provided that the common main body has at least one recess in the regions opposite to the retaining fingers.

[0045] For attachment of a wire mount in corner regions of a device, it can be provided that the common main body has a W-shaped angular feature, whereby the retaining fingers of both cable holding elements protrude from the central ridge of the W-shaped angular feature and moreover that retaining fingers of one of the cable holding elements protrude from the terminal edges of the W-shaped angular feature.

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[0046] By way of connection, a particularly large cable cross-section can be achieved when projections extend from the central ridge or terminating edge, from which in turn the retaining fingers extend.

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[0047] A particularly advantageous adaptation to the corner region of a rectangular device is achieved when the W-shaped angular feature in the region of the central ridge, and preferably also the two terminal edges, contain(s) a right angle.

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[0048] For attachment of the cable holder to flat surfaces of the device, it can be provided that the common main body is formed in a flat or planar fashion and that the individual retaining fingers extend from the same side of the main body.

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[0049] In order to achieve a large number of different possible wiring patterns, and thereby counteract intentional manipulation by third parties, it can be provided that the individual cable holding elements

are oriented identically from the main body and as applicable are arranged next to each other or behind each other.

5 [0050] For the same purpose, additionally or alternatively it can be provided that the first and second straight lines are arranged parallel to each other.

[0051] Finally the present invention pertains to an electronic device, in particular a betting or gambling machine or device, which comprises at least one or many wire/cable holders according to the invention. Such an electronic device has multiple different possible wiring configurations, enabling the
10 manufacturer of the device to equip its devices with different wiring configurations in order to hinder uniform methods of manipulation of its betting or gambling devices.

[0052] In the following, four embodiments of the invention will be illustrated in more detail with reference to the following illustrations.
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[0053] **Fig. 1** shows a cable holder with a W-shaped cross section in perspective view. **Fig. 2** shows the cable holder shown in Fig. 1 in perspective view from a different perspective. **Fig. 3** shows the cable holder shown in Fig. 1 in side view. **Fig. 4** shows the cable holder shown in Fig. 1 in side view from the other side. **Fig. 5** shows the cable holder shown in Fig. 1 from above. **Fig. 6** shows the cable holder
20 shown in Fig. 1 from below. **Fig. 7** shows the cable holder shown in Fig. 1 with a view of the channel region. **Fig. 8** shows the interior of an electronic device, in whose corner a wire mount as shown in Fig. 1 is installed.

[0054] **Fig. 9** shows a second embodiment of the invention in perspective view. **Fig. 10** shows the embodiment of the invention shown in Fig. 9 in perspective view from a different perspective. **Fig. 11** shows the embodiment of the invention shown in Fig. 9 from the side. **Fig. 12** shows the embodiment of the invention shown in Fig. 9 from the opposite side. **Fig. 13** shows the embodiment of the invention shown in Fig. 9 with a view of the channel region. **Fig. 14** shows the embodiment of the invention shown in Fig. 9 from above. **Fig. 15** shows the embodiment of the invention shown in Fig. 9 from
25 below. **Fig. 16** shows the interior region of a device with a number of cable/wire holders installed, as shown in Fig. 9.

[0055] **Fig. 17** shows a third embodiment of the invention in perspective view.

35 [0056] **Fig. 18** shows a fourth embodiment of the invention in an oblique view.

[0057] A first embodiment of a cable holder 50 according to the present invention with two cable

holding elements 1, 1' is shown in **Fig. 1**. The cable holding elements, 1, 1' have a common main body 100 having two separate regions 13, 13'. The main body 100 has a W-shaped angular profile 101, which in turn has a central ridge 102 as well as two side edges 103. The central ridge 102 lies parallel to the side edges 103 and lies in the same plane as these.

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[0058] Both channel regions 13, 13' are bounded by a half of the W-shaped profile 101 as well as by the projections 17, 18, whereby the projections 17, 18 protrude from the central ridge 102 and the side edges 103. A central projection 17, 18 protrudes from the central ridge 102, while a side projection 17, 18 protrudes respectively from one of the two side edges 103.

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[0059] These projections 17, 18 are arranged normally to the plane established by the central ridge 102 and the two side edges 103, and attach to the central ridge 102 or to the side edges 103, and extend from the same. The projections 17, 18 extend longitudinally along the W-shaped profile 101 over the entire length of the profile and extend normally to the plane established by the central ridge 102 and the two side edges 103.

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[0060] A surface is formed on the end of each projection 17, 18 which is distal to the central ridge 102 and the each side edge 103, with a region 111, 121 from which the individual retaining fingers 11, 12 extend.

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[0061] With respect to the first cable holding element 1, which bounds the first channel region 13, the region at the end of the projection 17, 18 distal to the side edge 103 and the region on the central projection 17, 18 are referred to as the opposing regions 111, 121. Analogously, with respect to the second cable holding element 1', which bounds the second channel region 13', the end of the projection 17, 18 distal to the side edge 103 and the region on the central projection 17, 18 are referred to as the opposing regions 111, 121.

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[0062] As shown in Fig. 7, the fingers 11, 12 each consist of a first section 113, 123 as well as a second section 114, 124. The fingers 11, 12 are L- or hook-shaped, and each have two sections 113, 114, 123, 124. Each finger 11, 12 has a first section 113, 123 and a second section 114, 124. The first sections 113, 123 stand perpendicular and/or normal to the regions 111, 121 from which they extend. The second section 114, 124 continues the first section 113, 123 on the end distal to the respective region 111, 121.

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[0063] The retaining finger sections 113, 114, 123, 124 are individually formed and formed from a flat body. In the present case, curved profile bars are used as retaining fingers 11, 12. These profile bars or flat bodies have a curve 115, 125 between the first and second sections 113, 114, 123, 124. This curve 115, 125 is formed such that sections 113, 114, 123, 124 enclose an angle of less than 90°, in this case

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about 75°.

[0064] The second retaining finger sections 114, 124 extend from the end of the first section toward the opposing region 11, 121. The individual retaining fingers 11, 12 are arranged in an interlocking manner, i.e. they are uniformly spaced and identically oriented, whereby all retaining fingers 11, 12 extending from the same region 111, 121 of the first cable holding element 1, 1' each have the same spacing from their neighbouring fingers 11, 12.

[0065] The fingers 11, 12 extend from points and/or subregions on the regions 111, 121, which are respectively arranged on a common straight line 116, 117. The opposing fingers 11, 12 interlock with each other without touching, whereby the ends 110, 120 of the fingers 11, 12 and the ends 110, 120 (Fig. 2, 5) of the second sections 114, 124 approach each other without touching. Each end 110, 120 of the respective fingers 11, 12 is arranged between two fingers 11, 12 extending from the opposing region 111, 121 and extends into the space between the fingers 11, 12 extending from the opposing region 11, 12. The individual ends 110, 120 of the fingers 11, 12 and the second sections 114, 124 are so arranged such that they do not touch the fingers 11, 12 extending from the opposing region 111, 121. In the present embodiment all fingers 11, 12 are identically formed and oriented and do not touch their opposites.

[0066] On the projection 17, 18 extending from the central ridge 102, retaining fingers are formed which bound the first channel region 13 as well as the other channel region 13'. The side of the central projection 17, 18 distal to the central ridge 102 thus forms a region 111, 121 from which retaining fingers 11, 12 extend and which bound the first channel region 13 and second channel region 13'.

[0067] The retaining fingers 11, 12 are formed such that the channel region 13, 13' has a closed and/or U-shaped channel cross-section.

[0068] In the present embodiment, each of the two cable holding elements 1, 1' of the cable holder 50 comprises four first retaining fingers 11 and four additional retaining fingers 12. The ends of the second sections 123, 124 are inclined towards the main body 100 and to the plane established by the side edges 103 and the central ridge 102.

[0069] For ease of assembly, four fastening elements 107 are arranged in the region of the W-shaped profile 101, which enable tool-free and removable attachment of the cable holder 50 with a device 60 and with its frame 61. A preferred arrangement of the cable holder 50 shown in **Figs. 1 through 7** is shown in **Fig. 8**. In this case, the device 60 comprises a frame 61 and several wall elements, which form a device housing and which enclose a device interior space.

[0070] The individual edges of the W-shaped profile 101 of the cable holder 50 are at right angles to each other. Fig. 8 shows the cable holder 50 mounted on an angled corner profile of the frame 61 of a device 60, whereby the individual attachment means 107 attached to recesses in the corner profile of the frame 61 and thus enable removable attachment of the cable holder 50 to the frame 61. Moreover Fig. 8 shows a cable 2 which is guided through one of the two channel regions 13 of the cable holder 50.

[0071] The main body 10, 100 of the cable holder 50 has a recess 105 in the region opposite to the retaining fingers 11, 12. Moreover, additional recesses can be provided in which the attachment means 107 for attachment to the frame 61 of the device 60 are situated. The cross-section of both channel regions 13, 13' of the embodiment of the invention shown in Figs. 1 through 7 remains identical over the entire length of the respective channel regions 13, 13'.

[0072] In the present embodiment, the retaining fingers 11, 12 are flexible and spring-like and are made of plastic, specifically polyethylene. The spring action of the retaining fingers 11, 12 is configured such that the retaining fingers 11, 12 return to their original positions after their bending and flexing during insertion of the cable 2 into the channel region 13, 13'. The consistency of the polyethylene is chosen such that the retaining fingers have a flexural rigidity and elasticity which enables bending of the individual retaining fingers 11, 12 in such a manner that a cable/wire can be inserted into the channel region 13, 13' through pressure upon the retaining fingers 11, 12.

[0073] Alternatively, the cable holding element 1 can also be manufactured from polypropylene or other flexible and spring-like plastics. In this case, not only the retaining fingers 11, 12 but also the entire cable holder 50 are all formed from plastic.

[0074] In Figs. 9 through 16, a **second embodiment** of a cable holder 50 according to the present invention is shown. The second embodiment of the invention corresponds to the first embodiment of the invention, with the exception of the deviations described below..

[0075] The common main body 100 of this cable holder 50 is, in contrast with the first embodiment, flat and planar, the individual retaining fingers 11, 12 are located on regions 111, 121 of projections 17, 18 which extend parallel to the plane established by the main body 100. The common main body 100 has a number of attachment means 107 by which means the cable holder 50 can be removably attached to the frame 61 of a device 60 without tools. As in the first embodiment, the cable holder 50 shown here comprises two channel regions 13, 13' situated next to each other and separated from each other by a centrally situated projection 17, 18. As in the first embodiment, the three projections 17, 18 of the main body 100 extend from the main body 100 and bear the individual retaining fingers 11, 12 on the ends

distal to the main body 100. The form, design, and structure of the individual retaining fingers 11, 12 is identical to that of the first embodiment.

[0076] The main difference between the first and the second embodiment of the invention is that the main body 100 of the second embodiment has a flat planar shape. The projections lie directly on the plane of the main body 100. Due to the shape of the main body 100, the cable holder 50 can advantageously be used for mounting on planar surfaces, as shown in the second embodiment of the invention.

[0077] In Fig. 16, an internal wiring of a device 60 is shown in greater detail, wherein a plurality of cable holders are used, as shown in the second embodiment of the invention in Figs. 9 - 15. In contrast with the embodiments of cable holders 50 shown in Figs. 9 - 15, in Fig. 16, cable holders 50 having four separate channel regions 13 are used which are arranged on one main body 10.

[0078] The cable holders 50 in this case are screwed to the base plate 10 using fastening elements 107 or to parts of the housing of the device 60. Alternatively a tool-free attachment can be provided for; for example the fastening elements 107 can be formed with a drilled hole, in which hole flexible fin sections can be arranged such that a rod or bar-shaped body inserted into the drilled hole can be fixed using the fin sections in a hook-like manner. The flexible fin sections can be made of the same material as the base plate 10.

[0079] As shown in the region marked with the letter A in Fig. 16, guidance of cables 2, 2', 2'', 2''' or wire harnesses in the device 60 can be done in a variety of different ways. The cable holder 50 has four different channel regions 13, whereby all of the cables 2, 2', 2'', 2''' extend through only two of the four channel regions 13, while the remaining channel regions 13 of the cable holder 50 are free of cables 2. Intentional manipulation of a device 60 is however only possible and effective if the person who is attempting to perform the manipulation knows the exact position of the individual cables 2, 2', 2'', 2''' and can thereby perform an effective internal breakage from outside the device. If the cables 2, 2', 2'', 2''' are always routed in a different configuration, an effective manipulation of the device is made more difficult. Through simple removal and reinsertion of cables 2, 2', 2'', 2''' into and out of the channel region 13, it is possible to easily reconfigure the wiring and make manipulation of the individual cables 2, 2', 2'', 2''' from the outside more difficult.

[0080] Both the first and the second embodiments are formed symmetrically about a plane passing through the central projection 17, 18 and normal to the plane established by the side edges.

[0081] A third embodiment of the invention of a cable holder 50 is shown in Fig. 17 and has a planar

and flat common main body 100 having four attachment means 107 for attachment of the common main body 100 and/or the cable holder 50 on the frame 61 of a device 60. Four cable holding elements 1 are provided for on the common main body 10 which are identically oriented and arranged next to each other.

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[0082] Each cable holding element 1 has two projections 17, 18 which extend quasi-perpendicularly and/or normally from the common main body 100. On the end of the projections 17, 18 most distal from the main body 100, retaining fingers 11, 12 as well as additional retaining fingers 15, 16 extend from the projections 17, 18. As shown in the previous embodiments, the retaining fingers 11, 12 each
10 comprise a first section 113, 114 which extends nearly or completely perpendicularly with an angle of 70-90°, preferably 85-90° from the main body 10. The retaining finger is bent into a curve 115, 125, and a second retaining finger section 114, 124 extends nearly parallel to the main body 10. The retaining fingers 11, 12 extend in a comb-like manner from the projections 17, 18, whereby the ends 110, 120 of the respective retaining fingers 11, 12 are arranged so as to extend in between two opposing
15 regions 111, 121 or extend in between two retaining fingers 11, 12 extending from opposing projections 17, 18.

[0083] The regions 111, 121 of the cable holder 50 on the end of the projections 17, 18 distal to the main body 10 extend parallel to one another and lie in the same plan as each other. As in both previous
20 embodiments, the number of retaining fingers 11, 12 which extend from the two regions 111, 121 is the equal.

[0084] Alternatively, of course, for all embodiments of the invention there can exist a difference in the number of retaining fingers 11 which extend from the first region 111 and the number of retaining
25 fingers 12 which extend from the second region 121. It is particularly advantageous if the respective numbers of retaining fingers 11, 12 extending from the two regions 111, 121 differ by one. In particular a difference of no more than one is in any case possible without affecting the functionality of the cable holder 50.

30 [0085] In the embodiment shown in **Fig. 17**, all second retaining finger sections 114, 124 lie in the same plane, whereby this plane extends parallel to the plane of the main body 10.

[0086] For each retaining finger 11, 12 whose end is arranged between two of the retaining fingers 11, 12 extending from the opposite region 111, 121, an additional retaining finger 15, 16 extending from
35 the opposite region is provided whose end 151, 161 approaches the end of the first retaining finger 11, 12 and which lies opposite to the first. In the present embodiment, the other retaining fingers 15, 16 also extend in the same plane parallel to the main body 10, in which the second retaining finger sections 123,

124 also lie. The front sides of the ends 110, 120, 151, 161 of the retaining fingers 11, 12 and the additional retaining fingers 15, 16 in turn lie opposite to each other.

5 [0087] The other retaining fingers 15, 16 have a first section 151, 161 which extends from the main body 10 or from the projection 17, 18 of the main body 10 generally with an angle of 70° - 90° , preferably 85° - 90° . The second section 152, 162 of the additional retaining finger 15, 16 continues from the end of the first section 151, 161 of the retaining finger which is distal to the main body 10. The additional retaining fingers 15, 16 have a turn, hereinafter referred to as a curve 153, 163, which connects the first and second sections 151, 152, 161, 162 of the retaining fingers to each other, whereby
10 the first and second sections 151, 152, 161, 162 of the retaining fingers are arranged in a nearly right angle to each other. The shape and orientation of the first and/or second sections 151, 152, 161, 162 of the additional retaining fingers 15, 16 correspond to the shape and orientation of the first and second sections 114, 114, 123, 124 of the first retaining fingers 11, 12.

15 [0088] The length of the first sections 151, 161 of the additional retaining fingers 15, 16 corresponds to the length of the first sections 113, 123 of the first retaining fingers 11, 12. The shape and orientation of the first and second sections 151, 152, 161, 162 of the additional retaining fingers 15, 16 correspond to the shape and orientation of the first and/or second sections 113, 114, 123, 124 of the first retaining fingers 11, 12. The additional retaining fingers 15, 16 are, like the first retaining fingers 11, 12, identical
20 in shape and orientation.

[0089] As also with the two previous embodiments, each cable holder 50 belonging to the cable holding element 1 has two regions 111, 121 on the two projections 17, 18, from which the retaining fingers 11, 12 extend. Those portions of the regions 111, 121 from which the retaining fingers extend, each lie on a
25 straight line 116, 117. Each cable holding element 1 in the cable holder 50 shown in **Fig. 17** has two projections 17, 18.

[0090] A first region 111 is provided for on the first of the two projections 17, from which a number of first retaining fingers 11 extend in the direction of the opposing second projection 18. Analogously, a
30 second region 121 is provided for on the second projection 18, from which a number of second retaining fingers 12 extend in the direction of the first projection 17. All of the first retaining fingers 11 extend from portions of the first area 111 which lie along the first straight line 116. All of the second retaining fingers 12 extend from portions of the second area 121 which lie along a second straight line 126.

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[0091] All first straight lines 116 and second straight lines 126 of the cable holding elements 1 of the cable holder 50 in **Fig. 17** are parallel to one another.

[0092] The additional retaining fingers 15, 16 each extend from portions of the first or second regions 111, 121 which lie along the first or second straight lines 116, 126. A number of the additional retaining fingers 15, 16, hereinafter referred to as first additional retaining fingers 15, extend from portions of the first area 111 which lie on the first straight line 116. The remaining, additional retaining fingers, hereinafter referred to as second additional retaining fingers 16, extend from portions of the second region 121, which lie along the second straight line 126. Between two retaining fingers 11, 12, which lie next to each other in a region 111, 121, an additional retaining finger 15, 16 is arranged. The second sections 114, 124 of the retaining fingers 11, 12 and the second sections 152, 162 of the additional retaining fingers 15, 16 lie in the same plane.

[0093] The individual retaining finger sections 113, 114, 123, 124 are formed individually from a flat body or a profile bar which has a curve 115, 125 between the first and the second sections 113, 114, 123, 124 of the retaining fingers. The retaining fingers 11, 12 are flexible and spring-like, such that the ratio of the width of the channel and/or of the cable holding element 1 to the thickness of the retaining fingers 11, 12 in the region lies between 4:1 to 4:1.5, and in the present embodiment has an advantageous value of 4:1.3.

[0094] The entire cable holder 50 is made of polyethylene in the present embodiment. The properties of polyethylene are such that the retaining fingers 11, 12 have a flexural rigidity and elasticity which allows for flexing of the individual retaining fingers 11, 12 such that a cable can be inserted into the channel region through pressure on the retaining fingers 11, 12. **Moreover, in this particular embodiment of the invention, the entire cable holder 50 is formed from a single piece.**

[0095] Alternatively, the cable holder 50 shown in Fig. 17 can also be manufactured from polypropylene or another plastic which has similar material properties, in particular elasticity and flexural rigidity.

[0096] An additional, **fourth embodiment** of the invention, shown in **Fig. 18**, pertains to a freestanding cable holding element 1 with a main body 10. The cable holding element 1, 1' forms a divided channel region 13. The main body 100 is plate-like with a base plate from which projections 17 extend from its side edges 103.

[0097] In the present embodiment, these projections 17, 18 are oriented perpendicularly to the plane established by the base plate and connect to the side edges 103 and serve to continue these. The projections 17, 18 extend in the length direction over the entire length of the cable housing element 1 and are normally on the plane attached by the side edges 103.

[0098] On the end of the projection 17, 18 distal to the respective side edge 103, a surface with a region 111, 121 is formed from which the individual retaining fingers 11, 12 extend.

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[0099] With respect to the first cable holding element 1, which bounds the first channel region 13, the regions 111, 121 of the end of the projection 17, 18 distal to the side edge 103 shall hereinafter be referred to as the opposing regions 111, 121.

10 [0100] In the present embodiment, the retaining fingers 11, 12 - as in the other embodiments - comprises a first retaining finger section 113, 123 as well as a second retaining finger section 114, 124. The retaining fingers 11, 12 are L-shaped or hook-like in shape and have two sections 113, 114, 123, 124. Each projection 11, 12 has a first section 113, 123 and a second section 114, 124. The first retaining finger section 113, 123 stands perpendicularly and/or normal to the regions 111, 121 from
15 which it extends. The second retaining finger section 114, 124 continues from the end of the first retaining finger section 113, 123 distal its respective area 111, 121.

[0101] The retaining finger sections 113, 114, 123, 124 are formed individually and from a flat body. In the present case, curved profile bars are used for retaining fingers 11, 12. These profile bars and/or flat
20 bodies have an angle or curve 115, 125 between the first and second retaining finger sections 113, 114, 123, 124. This curve 115, 125 can be formed such that both retaining finger sections 113, 114, 123, 124 enclose an angle of less than 90°, and in the present case around 75°.

[0102] The second retaining finger sections 123, 124 extend from the end of the first retaining finger section towards the opposing region 111, 121. The individual retaining fingers 11, 12 are arranged in a comb-like manner, i.e., they are spaced from each other and oriented identically, such that all of the retaining fingers 11, 12 extending from the same region 111, 121 of the first cable holding element 1, 1'
25 have the same spacing to their neighbouring retaining finger sections 11, 12. The retaining fingers 11, 12 extend from points in the regions 111, 121 which are aligned along the same straight line 116, 117.
30 The retaining fingers 11, 12 on the opposite side extend without touching into each other such that the ends 110, 120 of the retaining fingers 11, 12 and the ends 110, 120 of the second retaining finger sections 114, 124 approach each other without touching.

[0103] Each end 110, 120 of the respective retaining fingers 11, 12 is arranged between two of the
35 retaining fingers 11, 12 which extend from the region 111, 121 on the opposite side and protrudes into the region between two retaining fingers 11, 12 which extend from the region 111, 112 on the opposite side. The individual ends 110, 120 of the retaining fingers 11, 12 and the second sections 114, 124 of

the retaining fingers are arranged such that they do not touch the retaining fingers 11, 12 extending from the region 111, 112 on the opposite side. In the present embodiment, all retaining fingers 11, 12 are identically formed and oriented and do not touch each other.

5 [0104] The arrangement of retaining fingers 11, 12 is such that the channel region 13 has a closed or U-shaped cross section.

[0105] In the present embodiment, the cable holding element 1 comprises four first retaining fingers 111 and four second retaining fingers 12. The ends of the second sections 123, 124 of the retaining
10 fingers are sloped towards the common main body 100 and to the plane established by the side edges 103.

[0106] For ease of assembly, two attachment means 107 are arranged in the region of the base plate which enable tool-free and removable attachment of the cable holder 50 to and/or with a device 60
15 and/or with its frame 61.

[0107] In the present embodiment of the invention, the retaining fingers 11, 12 are elastically flexible and spring-like, and are made of plastic, specifically polypropylene. The properties of polypropylene are such that the retaining fingers 11, 12 have a flexibility and elasticity that enables bending of the
20 individual retaining fingers 11, 12 such that a cable 2 can be inserted into the channel region 13 through pressure on the retaining fingers 11, 12. After this bending, the retaining fingers 11, 12 return to their original position. Alternatively, the cable holding element 1 can be made from polyethylene or another elastically flexible or spring-like plastic.

25 [0108] When inserting a cable 2, the retaining fingers 11, 12 are bent in the direction of the main body 10 or the common main body 100 by the pressure of the cable 2, allowing the cable 2 to enter the channel cross section. If the cable is located in the channel cross section, the retaining fingers 11 move back to their original position due to their elasticity. The retaining fingers 11, 12 are thus elastically bendable and spring-like in a plane normal to the longitudinal axis of the cable holding element 1.

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[0109] The flat-shaped retaining fingers 11, 12 shown extend from the regions 111, 121 and bound the channel region 13. The retaining fingers 11, 12 are formed in a curved or bent manner as a profile and have a flat profile on their long axis with a constant cross-section. The long axis of the retaining finger 11, 12 extends in a plane normal to the longitudinal axis of the cable holding element 1. The flat profile
35 extends substantially farther along the longitudinal axis of the cable holding element 1 than in a direction normal to the longitudinal axis of the cable holding element 1. As previously explained, a ratio of 4:1 to 4:1.5, preferably 4:1.3 between the extent of the maximum measurement of the flat

profile of the retaining finger 11, 12 and the measure of the profile of the retaining finger 11, 12 in a direction normal thereto is advantageous.

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Patentkrav

1. Kabelholder, som omfatter et antal kabelholderelementer (1) til modtagelse af et eller flere kabler (2) og som omfatter et grundlegeme (10) så vel som et antal låsefremspring (11, 12), der rager ud fra grundlegemet (10) og rager ud fra over for hinanden liggende områder (111, 121) af grundlegemet (10), hvorved låsefremspringene (11, 12), og, i givet fald, grundlegemet (10), omslutter, afgrænser og/eller definerer et kanalområde (13) til føring af kablerne (2), hvorved låsefremspringene (11, 12), griber ind i hinanden, fortrinsvist uden at berøre hinanden, og/eller på en kamagtig måde, således at enden (110, 120) af mindst en af låsefremspringene (11, 12), der rager ud fra et område (111, 121), er anbragt og/eller rager ud mellem to låsefremspring (11, 12), der rager ud fra de pågældende over for hinanden liggende områder (111, 121), **kendetegnet ved, at** de enkelte kabelholderelementer (1) er arrangeret og stillet på linje på et fælles grundlegeme (10), og **at** det fælles grundlegeme (10) er formet fladt og /eller plant og de enkelte låsefremspring (11, 12) rager ud fra grundlegemet (10) til den samme side, **og at** de enkelte kabelholderelementer (1) på grundlegemet (10) er arrangeret ligeligt og, i givet fald, side om side og/eller bag ved hinanden.
2. Kabelholder, som omfatter et antal kabelholderelementer (1) til modtagelse af et eller flere kabler (2) og som omfatter et grundlegeme (10) så vel som et antal låsefremspring (11, 12), der rager ud fra grundlegemet (10) og rager ud fra over for hinanden liggende områder (111, 121) af grundlegemet (10), hvorved låsefremspringene (11, 12), og, i givet fald, grundlegemet (10), omslutter, afgrænser og/eller definerer et kanalområde (13) til føring af kablerne (2), hvorved låsefremspringene (11, 12), griber ind i hinanden, fortrinsvist uden at berøre hinanden, og/eller på en kamagtig måde, således at enden (110, 120) af mindst en af låsefremspringene (11, 12), der rager ud fra et område (111, 121), er anbragt og/eller rager ud mellem to låsefremspring (11, 12), der rager ud fra de pågældende over for hinanden liggende områder (111, 121), **kendetegnet ved, at** det fælles grundlegeme (10) danner en W-formet vinkelprofil (101), hvorved kabelholderen omfatter to kabelholderelementer, og hvorved låsefremspringene (11, 12) af begge kabelholderelementer (1) rager ud fra den centrale krumkant (102) af den W-formede vinkelprofil (101) og låsefremspring (11, 12) af hver enkelt af kabelholderelementerne (1) desuden rager ud fra endekanterne (103) af den W-formede vinkelprofil, og hvor, **i givet fald**, fremspring (17, 18) rager ud fra krumkanten (102) og/eller endekanten (103), hvorfra låsefremspringene (11, 12) rager ud, **og/eller** hvor, **i givet fald**, den W-formede vinkelprofil (101), i området af den centrale krumkant (102), og også fortrinsvist i begge endekanter (103, 104), fremviser en ret vinkel.

3. Kabelholder, ifølge krav 1 eller 2, **kendetegnet ved, at** låsefremmspringene (11, 12), der afgrænser kanalområdet (13), er L-formede og anbragt med mellemrum over for hinanden, således at kanalområdet (13) fremviser et lukket og/eller U-formet kanaltværsnit, **og/eller,**
- 5 at låsefremmspringene (11, 12), i den langsgående strækning af kanalområdet (13) er arrangeret således, at de griber ind i hinanden, fortrinsvist uden at berøre hinanden, kamagtigt, således at enden (110, 120) af mindst ét låsefremmspring (11, 12) er arrangeret og/eller rager ud mellem to over for hinanden liggende låsefremmspring (11, 12) og/eller, at låsefremmspringene (11, 12) er formet elastisk bøjelige og fjedret, således at de er drejelige i forhold til grundlegemet (10) af
- 10 kabelholderelementet (1) og efter drejningen vender tilbage til udgangspositionen.
4. Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** låsefremmspringene (11, 12) er bøjet, i særdeleshed i form af en vinkelhage, og fremviser to låsefremmspringsafsnit (113, 114, 123, 124), hvorved det første låsefremmspringsafsnit (113, 123)
- 15 rager ud i en vinkel på 70° - 90° , fortrinsvist 85° - 90° , i særdeleshed nøjagtigt vinkelret og/eller ortogonalt, fra det pågældende område (111, 121) og hvorved det andet låsefremmspringsafsnit (114, 124) fortsætter det første låsefremmspringsafsnit (113, 123) ved den fjerntliggende ende af det pågældende område (111, 121) og i en vinkel på mellem 70° og 110° , fortrinsvist 90° i forhold til det første låsefremmspringsafsnit (113, 123) rager ud i retning af låsefremmspringene (11,
- 20 12), som rager ud fra det pågældende over for liggende område (111, 121), **og/eller** at begge låsefremmspringsafsnit (113, 114, 123, 124) er formet i ét stykke, i særdeleshed, i hvert enkelt tilfælde, af et fladt legeme og/eller en profilstang, som fremviser en bue (115, 125) mellem det første og det andet låsefremmspringsafsnit.
- 25 5. Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** begge låsefremmspringsafsnit (113, 114, 123, 124) indeslutter en vinkel på mindre end, eller lig med 90° **og/eller,** at begge områder (111, 121), hvorfra låsefremmspringene (11, 12) rager ud, løber parallelt med hinanden og/eller ligger på ét plan og/eller,
- 30 at det pågældende antal låsefremmspring (11, 12), der rager ud fra begge områder (111, 121), afviger fra hinanden med højst ét **og/eller,** at enderne af låsefremmspringene (11, 12), eller enderne af det andet låsefremmspringsafsnit (123, 124) er bøjet hen imod grundlegemet (10).
6. Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved at** der, for hvert enkelt låsefremmspring (11, 12), hvis ende er arrangeret mellem to låsefremmspring, der rager ud fra de over for hinanden liggende områder (111, 121), er et yderligere låsefremmspring (15, 16), ragende ud fra det over for liggende område (111, 121), hvis ende (150, 160) nærmer sig og

ligger over for enden af det pågældende låsefremspring (11, 12), hvorved specielt forsiderne af enderne (110, 120, 150, 160) af det yderligere låsefremspring (15, 16) og enderne af låsefremspringet (11, 12) ligger over for hinanden.

- 5 7. Kabelholder, ifølge krav 5, **kendetegnet ved at** de yderligere låsefremspring (15, 16) hver især fremviser et første låsefremspringsafsnit (151, 161), der rager ud fra grundlegemet (10) i en vinkel, i sædeleshed en vinkel på mellem 70° og 110°, fortrinsvist 90°, og fremviser et andet låsefremspringsafsnit (152, 162), der fortsætter det første låsefremspringsafsnit (151, 152) og rager ud fra det første låsefremspringsafsnit (151, 152),
- 10 **at, i særdeleshed**, formen og/eller orienteringen af det første og/eller det andet låsefremspringsafsnit (151, 152, 161, 162) af de yderligere låsefremspring (15, 16) svarer til formen og orienteringen af det første og/eller det andet låsefremspringsafsnit (113, 114, 123, 124) af låsefremspringene (11, 12), og
- 15 **at, i særdeleshed**, længden på det første låsefremspringsafsnit (151, 161) af de yderligere låsefremspring (15, 16) svarer til længden på det første låsefremspringsafsnit (113, 123) af låsefremspringene (11, 12).
8. Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** de låsefremspring (11, 12), der rager ud fra det første område (111) og/eller de låsefremspring (11, 12), der rager ud fra det andet område (121) er formet og/eller orienteret ens, og/eller at alle låsefremspring (11, 12) er formet ens **og/eller**,
- 20 **at** de yderligere låsefremspring (15, 16), der rager ud fra det første område (111) og/eller fra det andet område (121) er formet og/eller orienteret ens, og/eller, at alle yderligere låsefremspring (15, 16) er formet ens.
- 25
9. Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** låsefremspringene (11, 12) rager ud fra to områder (111, 121), hvorved et antal af første låsefremspring (11) rager ud fra det første af de to områder(111) og et antal af det andet sæt låsefremspring (12) rager ud fra det andet af de to områder(121), **og/eller** at de første
- 30 låsefremspring (11) rager ud fra delområder af det første område (111), og ligger på en første lige linje (116) og/eller, at det andet sæt låsefremspring (12) rager ud fra delområder af det andet område (121), og ligger på en anden lige linje (126), hvorved den første lige linje (116) og den anden lige linje (126) fortrinsvist er arrangeret parallelt med hinanden **og/eller**,
- 35 **at** et antal af de yderligere låsefremspring (15, 16) rager ud fra delområder af det andet område (121), og ligger på den første lige linje (116), og de øvrige af de yderligere låsefremspring (16) rager ud fra delområder af det andet område (121), og ligger på den anden lige linje (126) **og/eller**,

at der mellem hvert af de to låsefremspring (11, 12), i hvert enkelt tilfælde, er arrangeret et yderligere låsefremspring (15, 16) **og/eller**,

at det andet sæt låsefremspringsafsnit (114, 124) af låsefremspringene (11, 12), og, i givet fald, også det andet sæt låsefremspringsafsnit (152, 162) af de yderligere låsefremspring (15, 16),

5 ligger på det samme plan og/eller, at grundlegemet (10) fremviser mindst ét indhak (105) i områderne, der ligger over for låsefremspringene (11, 12) .

10 **10.** Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** grundlegemet (10) fremviser mindst ét, i særdeleshed to fremspring (17, 18), der, i særdeleshed, rager vinkelret og/eller ortogonalt ud derfra, hvorfra de enkelte låsefremspring (11, 12) og, i givet fald, de yderligere låsefremspring (15, 16) rager ud og/eller,

at kanalværsnittet af kanalområdet (13) tilspidses og/eller udvides i mindst et delområde langs med kanalområdets længdeudstrækning (13) **og/eller**,

15 at låsefremspringene (11, 12) er formet elastisk bøjelige og/eller fjedret, **og/eller**, at forholdet af bredden i længderetningen af kabelholderelementet (1) til tykkelsen af låsefremspringene (11, 12) ligger imellem 4:1 til 4:1,5, i særdeleshed 4:1,3,

20 **11.** Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** låsefremspringene (11, 12), og, i givet fald, de yderligere låsefremspring (15, 16) og/eller det samlede kabelholderelement (1), er fremstillet af et kunststof, i særdeleshed Polyethylen PE og/eller Polypropylen PP.

25 **12.** Kabelholder, ifølge et hvilket som helst af kravene fra 2 til 11, **kendetegnet ved, at** grundlegemet (10) fremviser et lukketøj (107) til, i **særdeleshed** uden værktøj og løseligt, at fastgøre kabelholderen (50) til en anordning, i **særdeleshed** til et stativ (61) af en anordning (60), **og/eller**, at det fælles grundlegeme (100), i de områder, der ligger over for låsefremspringene(11, 12), i hvert enkelt tilfælde, fremviser mindst ét indhak (105).

30 **13.** Kabelholder, ifølge et hvilket som helst af ovenstående krav, **kendetegnet ved, at** den første og anden lige linje (116, 117) er arrangeret parallelt med hinanden.

14. Elektronisk anordning, i særdeleshed en væddemåls- og/eller spilleanordning, med en kabelholder (50), ifølge et hvilket som helst af ovenstående krav.

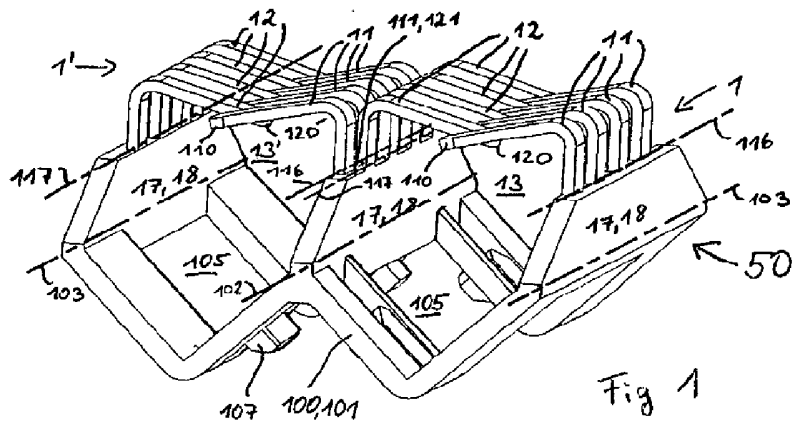


Fig. 1

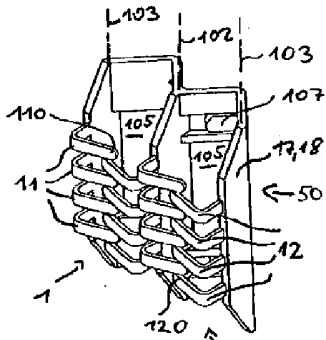


Fig. 2

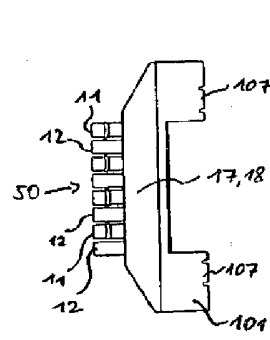


Fig. 3

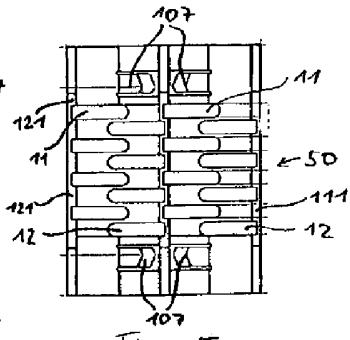


Fig. 5

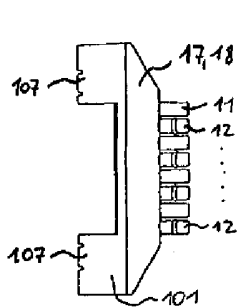


Fig. 4

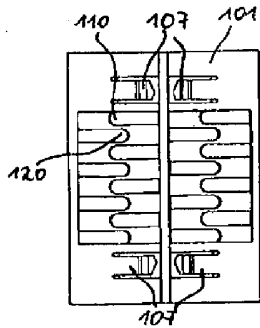


Fig. 6

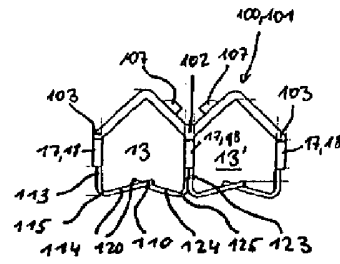
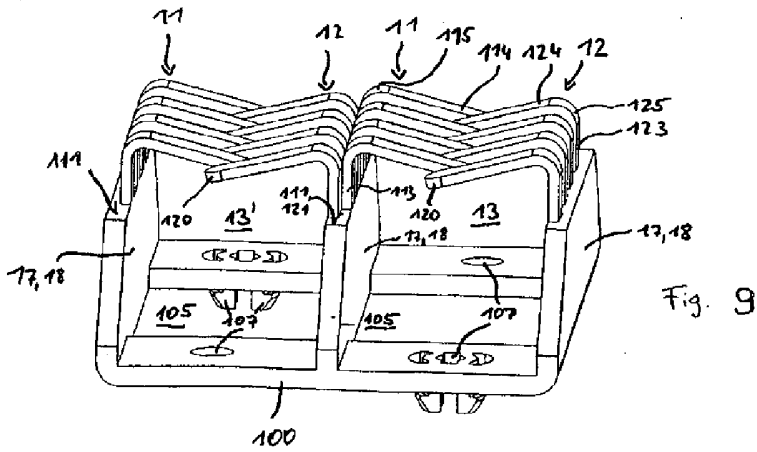
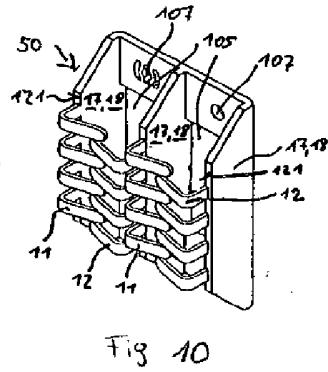
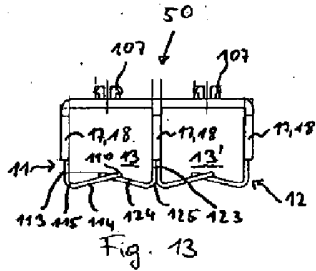
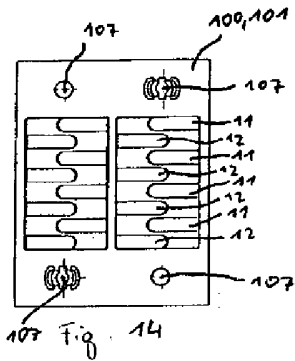
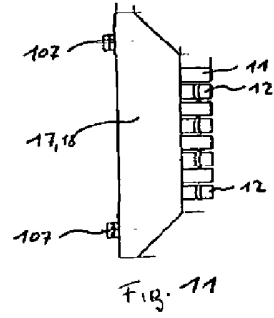
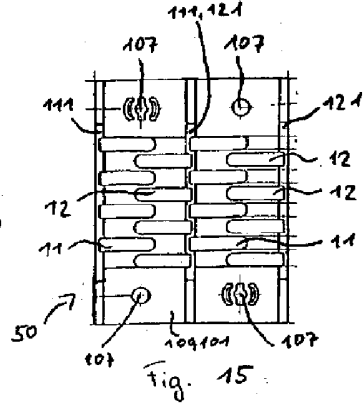
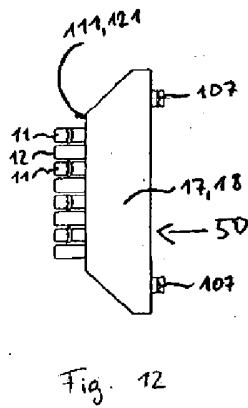


Fig. 7



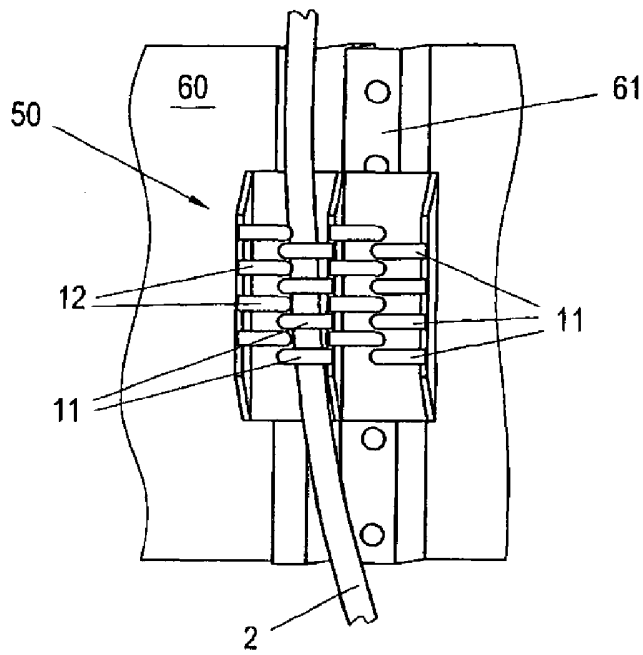


Fig. 8

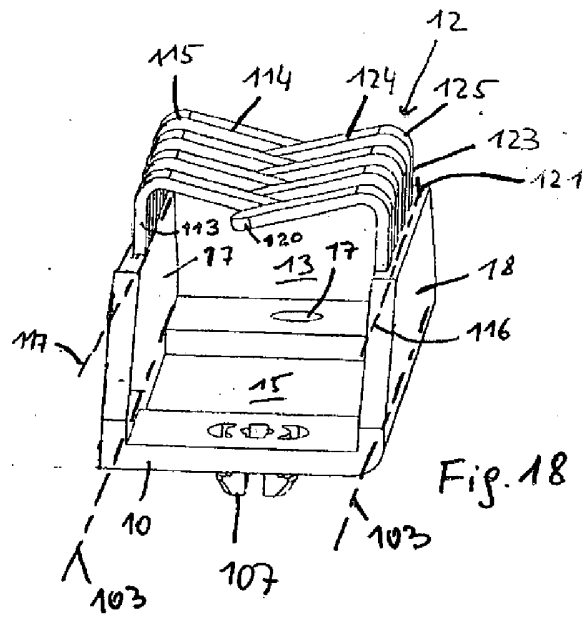


Fig. 18

