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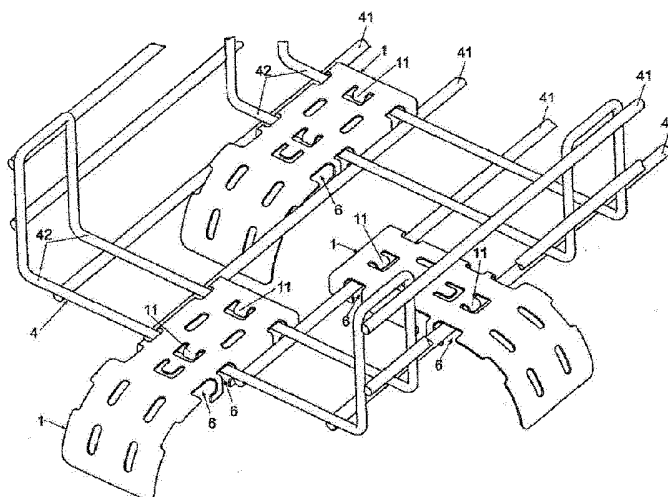


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ir. C.M. Jansen c.s. te Den Haag.(54) **Cable drop out device in cable trays.**

(57) The invention relates to a cable drop out device in cable trays, which allows a quick fixing on the base of cable trays (4) formed by longitudinal wires (41) and transverse wires (42), and comprising a body (1) having a flat portion (2) extending at its front end in a downward curved portion (3), and means for the fixing thereof to the wires (41, 42) of the tray (4), in which the curved portion (3) is wider than the flat portion (2) and has on the opposite sides (31) respective partial open works (7), arranged under the plane defined by the flat portion (2) of the device, forming a channel for supporting the cables of an electric installation and allowing the downward deviation of said cables.



NL C 2003991

Dit octrooi is verleend ongeacht het bijgevoegde resultaat van het onderzoek naar de stand van de techniek en schriftelijke opinie. Het octrooischrift komt overeen met de oorspronkelijk ingediende stukken.

CABLE DROP OUT DEVICE IN CABLE TRAYS

Object of the Invention

The present invention relates to a cable drop out device for cable trays, the purpose which lies in being formed as a quick fixing element in the base of cable trays, of the type referred to as grid trays, which are formed by rods or wires, called chain rods or wires, which are longitudinally arranged, and rods or wires, called weft rods or wires, which are U-shaped and transversely arranged, such that they form a channel for housing and supporting the cables of a hanging electric installation, and such specifically that the cables present in the installation are to be deviated downwards.

Background of the Invention

Different devices intended for the same purpose as that of the present invention are known, the following background documents being emphasized:

Utility Model ES1060615 U describes an improved grid tray in which specific features of the tray are claimed, mentioning in the specification an accessory, depicted in Figure 3, facilitating the downward extraction of the cables located in the tray. According to what is depicted in the mentioned Figure 3, this accessory has a considerably constant a width between its larger sides and has projections emerging from the lower face of the device, oriented towards its front area, for the coupling thereof in either longitudinal wires or, by default, in transverse wires arranged in the base of the grid tray. The uniformity of width in the entire the length of the accessory determines that in the assembly position between two contiguous wires of the tray, the curved end serving as support for the downward cables has a smaller width than the separation between the inner faces of said wires with the evident risk that the cables laterally shift during their installation or handling and that they are pinched between the curved edges of the accessory and the longitudinal wires arranged on the sides of said edges, which can cause the rubbing and deterioration of the cables. On the other hand, in the accessory of the mentioned Utility Model ES1060615 U, the actuation of the actual weight of the cables on the downward curved area can cause shifting the accessory towards its rear end, with its subsequent release from the wires housed in the fixing projections oriented in the opposite direction, i.e., towards the front area of the accessory.

Utility Model ES1035372 U describes a device for deviating a cable

downwards from a grid which supports it in the raised position and which incorporates, among others, on its back side a recess at a right angle extending along half the length of said back side, the other half having two wings forming a cavity for receiving a transverse wire of the base of the tray and in its respective side edges vertical wings parallel with its upper parts bent outwardly at a different height to engage on respective longitudinal wires close to the base of the tray. This device has the drawback that its stable fixing is limited to those areas of the cable tray in which there are longitudinal and transverse wires. The stable fixing of this device requires the actuation on the wires of the tray of the upper arms which originate from the opposite sides of the curved or downward area, limiting its assembly to an intermediate position in the tray and preventing the curved or downward position from being able to be arranged in cantilever at one of the ends or sides of the tray, distancing the downward cables from the cable tray.

Description of the Invention

The cable drop out device for cable trays, being of the type intended to be positioned on cable trays formed by longitudinal wires and transverse wires and comprising a body of considerably constant thickness having a flat portion extending at its front end in a downward curved portion, and means for the fixing thereof to the wires of the base of the cable tray, has constructive particularities aimed at allowing its stable fixing either on longitudinal wires or on transverse wires of the tray, without the assembly limitations of the mentioned background documents.

Another objective of the invention is to allow the assembly of the device both in an intermediate area of the base of the cable tray, and in cantilever assembly, in this case the curved portion of the body of the device projecting on one of the ends or on one of the sides of the cable tray.

Another objective of the invention is to prevent the uncontrolled longitudinal shifting of the device with respect to the tray due to the pushing caused by the actuation of the weight of the cables on the curved portion of the body of the device.

Another objective of the invention is to provide the curved portion of the device with sufficient width so as to prevent pinching the cables between the opposite sides of said curved portion and the fixing wires, typical of the base of the tray, when said wires are laterally placed against the device.

To that end and in accordance with the features of the invention described

in the claims, the curved portion of the body is wider than the flat portion and has on the opposite sides respective open works or partial trimming, arranged under the plane defined by the flat portion of the device.

5 The possibility that said partial open works are symmetrical and are made to allow the passage through each of them of a longitudinal wire of the base of the tray is contemplated.

10 The distance between the two opposite sides of the mentioned curved portion is greater than that existing between the inner faces of two contiguous longitudinal wires of the base of the cable tray and does not exceed the distance between the outer faces of said two contiguous longitudinal wires, which allows arranging in said curved portion a larger support surface for the downward cables and preventing pinching the cables between the sides of the curved portion and the mentioned longitudinal wires arranged on both sides of the device.

15 According to the invention, the partial open works of the curved portion are delimited above by respective support flanges on respective longitudinal wires of the cable tray, which contributes to stabilizing the device in the assembly position on the tray.

20 Said partial open works define, in a modular use of the device, and by means of the arrangement of two devices laterally placed against one another, an assembled orifice for the passage of the mentioned longitudinal wires.

In turn, the flat portion extends on the longer opposite sides of the body of the device, in respective downward walls intended to be positioned between respective contiguous longitudinal or transverse wires, longer opposite sides (21) the position thereof in the cable tray.

25 Each of the mentioned downward walls of the flat portion has at least three notches defining a lower opening for the insertion of two longitudinal wires or, by default, two transverse wires and a housing for their positioning in the device in collaboration with longitudinal appendages delimited by said notches in the longitudinal appendages of the downward walls.

30 In one embodiment of the invention, the notches of the downward walls partially affect the flat portion.

35 The definition in the downward walls of at least three notches suitably distanced in the longitudinal direction allows fixing the device on two longitudinal wires or on two transverse wires, using in each case that pair of notches the separation of which corresponds with that of the wires of assembly.

In accordance with the invention, the rear longitudinal appendage of the downward walls and the intermediate longitudinal appendage form means for fixing the device on two contiguous transverse wires, whereas the rear longitudinal appendage and the front longitudinal appendage form means for fixing the device on two contiguous longitudinal wires.

In the assembly position of the device, the rear longitudinal appendage externally clamps a longitudinal or transverse wire of the base of the tray.

In one embodiment of the invention, the longitudinal appendages of the downward walls of the flat portion are equal to one another, allowing their assembly indistinctly on longitudinal wires or on transverse wires.

The possibility that the mentioned longitudinal appendages of the downward walls are oriented towards the curved portion or front end of the body of the device or towards the start of the flat portion is contemplated.

The flat portion of the mentioned body has at least three cuts, longitudinally distributed in accordance with the notches of the downward walls. Said cuts delimit flanges which can be deformed towards the lower area forming respective front retaining stops of the longitudinal or transverse wires housed in the respective grooves of the mentioned notches, preventing the device from being able to shift towards the rear area and accidentally being released from the wires housed in the grooves of the notches.

In one embodiment of the invention, the body of the device is metallic, although its formation in other materials is not discarded.

The invention also relates to a cable tray including at least one cable drop out device according to the invention.

Description of the Drawings

To complement the description being made and for the purpose of aiding understanding of the features of the invention, a set of drawings is attached to the present specification in which the following has been depicted with an illustrative and non-limiting character:

- Figure 1 shows a perspective view of an embodiment of the device of the invention.
- Figure 2 shows an upper plan view of the device of the previous figure.
- Figure 3 shows a side view of the device of the previous figures.
- Figure 4 shows a perspective view of the device of the invention

assembled in different positions on the base of a cable tray.

- Figure 5 shows a side view of the device in the use position assembled on transverse wires of a cable tray, vertically sectioned to allow showing the transverse wires housed in two of the grooves defined by the notches of the downward walls of the flat portion.

- Figure 6 shows an upper plan view of two devices laterally placed against one another fixed to the transverse wires of the base of a cable tray and arranged between consecutive longitudinal wires of said cable tray.

Preferred Embodiment of the Invention

As can be seen in the mentioned figures, the device of the invention comprises a body (1) of considerably constant thickness with a flat portion (2) extending at its front end in a curved portion (3) which is wider than the flat portion (2) and having on its opposite sides (31) partial open works (7), arranged under the plane defined by the flat portion (2) of the device.

Said partial open works (7) are preferably symmetrical and are made to allow the passage through each of them of a longitudinal wire (41) of the base of the cable tray (4).

In the use position, the flat portion (2) is arranged in a plane parallel to the base of the cable tray (4), the curved portion (3) projecting towards the lower area of the tray (4).

As can be seen in the attached figures, the distance between the two opposite sides (31) of the curved portion (3) is greater than that existing between the inner faces of two contiguous longitudinal wires (41) of the base of the cable tray (4) and does not exceed the distance existing between the outer faces of said contiguous longitudinal wires (41), which allows arranging in said curved portion (3) a larger support surface for the downward cables and preventing pinching such cables between the opposite sides (31) of the curved portion (3) and the mentioned longitudinal wires (41) arranged on both sides of the device.

The mentioned partial open works (7) of the curved portion are delimited above by respective support flanges (8) made to be seated on the respective longitudinal wires (41) of the base of the cable tray.

As shown in Figure 6, the presence of these open works (7) allows the body (1) to be modular and, having another body (1) contiguous to the previous one, allows the partial open works (7) of both bodies to form a through orifice (9) for the passage of the mentioned longitudinal wires (41) without the need to modify the

body (1) or even without the need of making a cut in the longitudinal wire (41) to allow its assembly, when two bodies (1) are to be arranged in an intermediate area of a tray (4).

5 The flat portion (2) extends on the longer opposite sides (21) in respective downward walls (5) intended to be positioned between the inner faces of respective contiguous longitudinal wires (41) or transverse wires (42), depending on the assembly position thereof in the tray (4).

10 Each of the downward walls (5) incorporates at least three notches (6) defining a lower opening (61) for the insertion of two longitudinal wires (41) or, by default, two transverse wires (42) and a housing (62) for their positioning in the device in collaboration with longitudinal appendages (51) delimited by said notches in the lower ends of the downward walls (5).

15 The housings (62) in collaboration with the respective longitudinal appendages (51) prevent the body (1) from being able to be released from the wires housed in the housings (62), both in the upward direction and in the same direction in which the longitudinal appendages (51) of the side walls (5) are oriented.

The notches (6) of the downward walls (5) also partially affect the flat portion (2).

20 The downward walls (5) of the flat portion (2) are always arranged between the inner faces of two contiguous longitudinal wires (41) or contiguous transverse wires (42), depending on the position thereof in the tray (4).

25 The width dimensions of the flat portion (2), i.e., the distance existing between the two longer opposite sides (21) of the flat portion (2), are not greater than the separation existing between the inner faces of two contiguous longitudinal wires (41) present in the base of the tray (4).

30 In addition, the distance existing between the two opposite sides (31) of the curved portion (3) is greater than that existing between the two longer opposite sides (21) of the flat portion (2) and in turn does not exceed that existing between the two outer faces of two contiguous longitudinal wires (41).

The longitudinal appendages (51) of the downward walls (5) of the flat portion (2) are directed towards the curved portion (3) and are preferably equal to one another.

35 The rear longitudinal appendage (51), arranged closer to the start of the flat portion (2), externally clamps the longitudinal wire (41) or transverse wire (42) of

the base of the tray (4).

As shown in Figure 4, the rear longitudinal appendage (51), arranged closer to the start of the flat portion (2), acts together with the intermediate longitudinal appendage (51) when the device is assembled on transverse wires (42), and together with the front longitudinal appendage (51), closest to the curved portion (3), when the device is assembled on longitudinal wires (41).

As is shown in the attached figures, the flat portion has at least three cuts (10), longitudinally distributed in accordance with the notches (6) of the downward walls (5), delimiting flanges (11) which can be deformed towards the lower area forming respective retaining stops of the longitudinal wires (41) or of the transverse wires (42) housed in the respective grooves (62) of the notches (6), assuring the retention of the body (1) in the assembly position on the cable tray (4).

Although the body (1) is preferably metallic, it can be made of any other material.

Having sufficiently described the nature of the invention, as well as a preferred embodiment, it is hereby stated for all effects and purposes that the materials, shape, size and arrangement of the described elements can be modified provided that such modification does not alter the essential features of the invention which are claimed below.

Conclusies

1. Kabeluitvoerinrichting voor kabelgoten, van het type bedoeld om te worden gepositioneerd aan de basis van kabelgoten (4) van longitudinale draden (41) en transversale draden (42), en een lichaam (1) van in hoofdzaak constante dikte omvattend met een vlak deel (2) dat zich aan de voorzijde uitstrekt in een neerwaarts gekromd deel (3), en middelen voor het bevestigen daarvan aan de draden (41, 42) van de kabelgoot (4), met het kenmerk dat het gekromde deel (3) breder is dan het vlakke deel (2) en aan de tegenoverliggende zijden (31) respectieve gedeeltelijk opengewerkte delen (7) heeft, gelegen onder het vlak gedefinieerd door het vlakke deel (2) van de inrichting.
2. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 1, met het kenmerk dat de gedeeltelijk opengewerkte delen (7) symmetrisch zijn en zijn gemaakt om het passeren van een longitudinale draad (41) van de kabelgoot (4) door elk daarvan toe te staan.
3. Kabeluitvoerinrichting voor kabelgoten volgens een der conclusies 1 en 2, met het kenmerk dat de afstand tussen de twee tegenoverliggende zijden (31) van het gekromde deel (3) groter is dan die bestaat tussen de binnenvlakken van twee naburige longitudinale draden (41) van de kabelgoot (4) en de afstand tussen de buitenvlakken van de genoemde twee longitudinale draden (41) niet overschrijdt.
4. Kabeluitvoerinrichting voor kabelgoten volgens een der voorgaande conclusies, met het kenmerk dat de gedeeltelijke opengewerkte delen (7) van het gekromde deel (3) aan de bovenzijde begrensd zijn door respectieve steunflenzen (8) op respectieve longitudinale draden (41) van de kabelgoot (4).
5. Kabeluitvoerinrichting voor kabelgoten volgens een der voorgaande conclusies, met het kenmerk dat de gedeeltelijk opengewerkte delen (7) door middel van de positionering van twee lateraal tegen elkaar geplaatste

inrichtingen een samengestelde opening (9) definiëren voor het passeren van de genoemde longitudinale draden (41).

6. Kabeluitvoerinrichting voor kabelgoten volgens een der voorgaande conclusies, met het kenmerk dat het vlakke deel (2) van het lichaam (1) zich
5 aan de tegenoverliggende zijden (21) uitstrekt in respectieve neerwaartse wanden (5) bedoeld om tussen de binnenvlakken van naburige respectieve longitudinale draden (41) te zijn gepositioneerd, afhankelijk van de assemblagepositie daarvan in de kabelgoot (4).
7. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 6, met het
10 kenmerk dat elk van de neerwaartse wanden (5) van het vlakke deel (2) ten minste drie uitsparingen (6) omvat die een onderste opening (61) definiëren voor het inbrengen van tweelongitudinale draden (41) of in, standaard, twee transversale draden (42) en een behuizing (62) voor hun positionering in de inrichting in samenwerking met longitudinale uitsteeksels (51) die zijn
15 begrensd door die uitsparingen (6) in de onderstel einden van de van de neerwaartse wanden (5).
8. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 7, met het kenmerk dat de uitsparingen (6) van de neerwaartse wanden ten dele het vlakke deel (2) van het lichaam (1) bestrijken.
- 20 9. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 7 of 8, met het kenmerk dat de achterste en middelste longitudinale uitsteeksels (51) van de neerwaartse wanden (5) middelen vormen voor het bevestigen van de inrichting aan twee naburige transversale draden (42) van de kabelgoot (4).
10. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 7 of 8, met het
25 kenmerk dat de achterste en voorste longitudinale uitsteeksels (51) van de neerwaartse wanden (5) middelen vormen voor het bevestigen van de inrichting aan twee naburige transversale draden (42) van de kabelgoot (4).
11. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 9 of 10, met het kenmerk dat in de assemblagepositie het achterste longitudinale uitsteeksel

(51) een longitudinale draad (41) of transversale draad (42) van de basis van de kabelgoot (4) uitwendig klemmt.

12. Kabeluitvoerinrichting voor kabelgoten volgens een der conclusies 7, 9, 10 en 11, met het kenmerk, dat de longitudinale uitsteeksels (51) van de
5 neerwaartse wanden (5) van het vlakke deel (2) aan elkaar gelijk zijn.
13. Kabeluitvoerinrichting voor kabelgoten volgens een der conclusies 7, 9, 10, 11 en 12, met het kenmerk, dat de longitudinale uitsteeksels (51) van de neerwaartse wanden (5) van het vlakke deel (2) naar het gekromde deel zijn gericht.
- 10 14. Kabeluitvoerinrichting voor kabelgoten volgens conclusie 7, met het kenmerk dat het vlakke deel (2) ten minste drie sneden (10) heeft die longitudinaal zijn verdeeld in overeenstemming met de uitsparingen (6) van de neerwaartse wanden (5) en die flenzen (11) begrenzen die naar het onderste gebied kunnen worden vervormd en respectieve vasthoudstoppers vormen van
15 de longitudinale draden (41) of van de transversale draden (42) die in de respectieve groeven (62) van de uitsparingen (6) zijn opgenomen.
15. Kabelgoot omvattende ten minste een kabeluitvoerinrichting volgens een der conclusies 1-14.

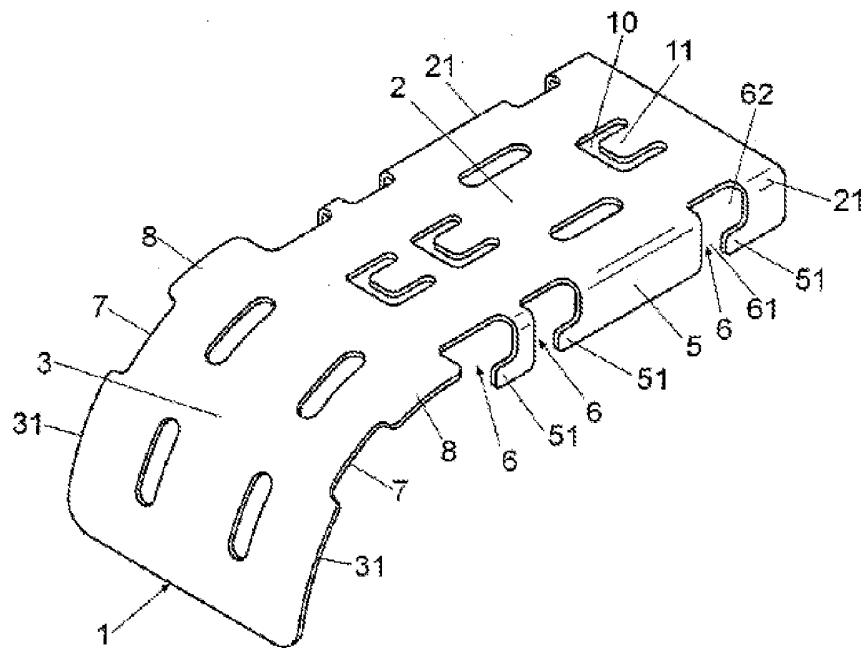
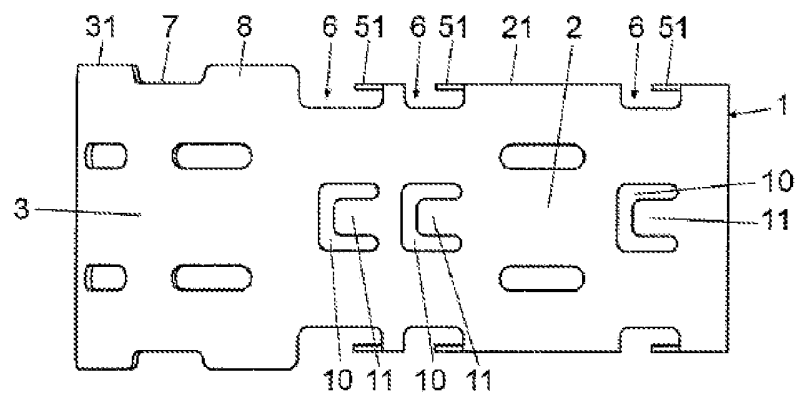


Fig. 1



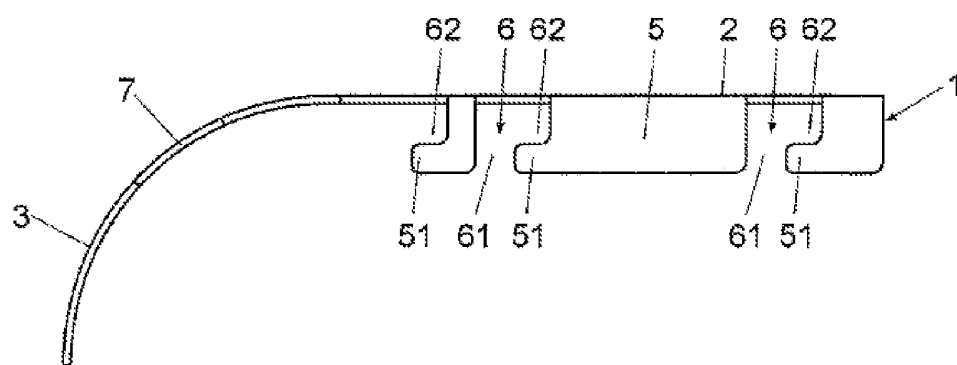


Fig. 3

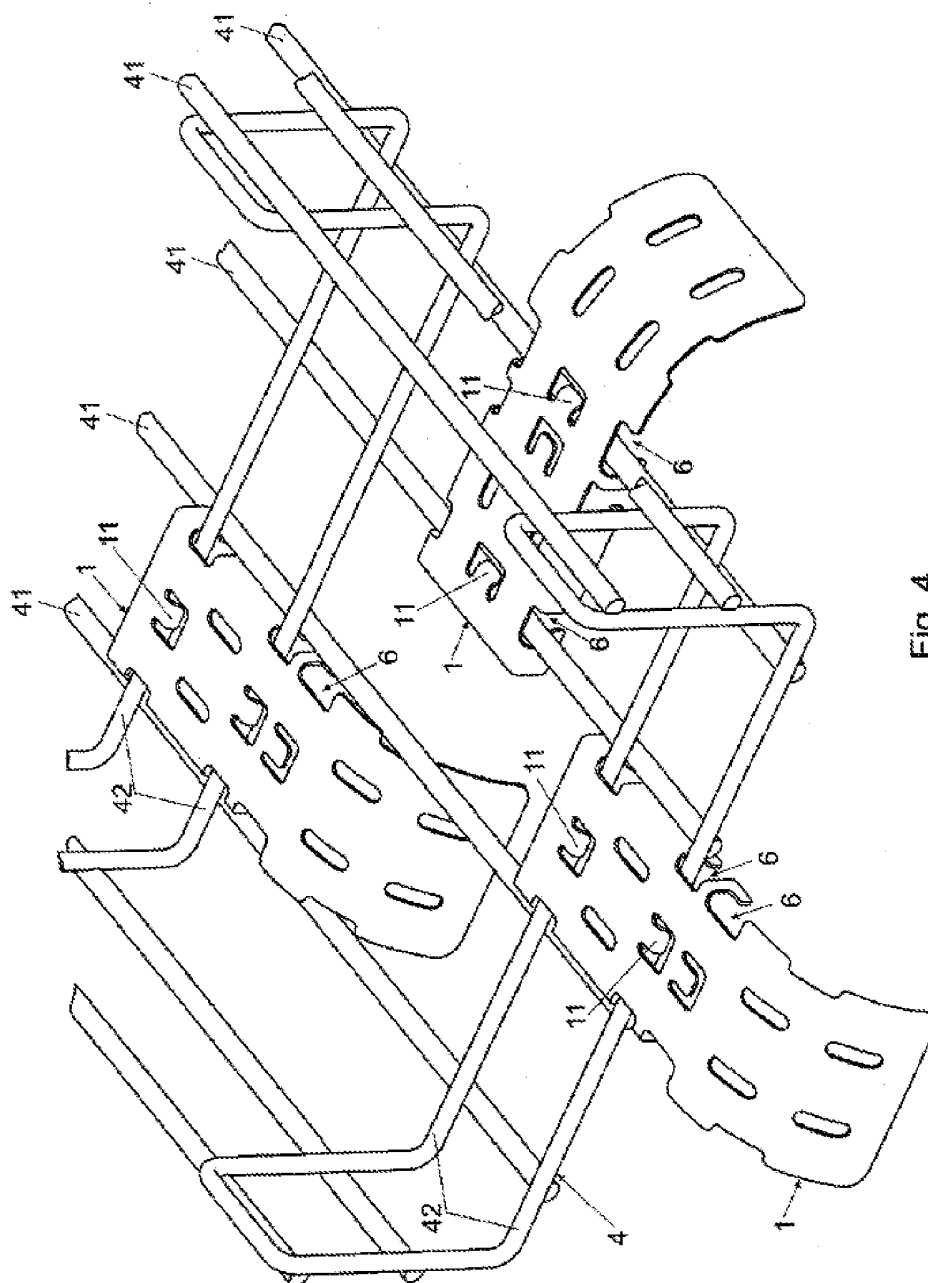


Fig. 4

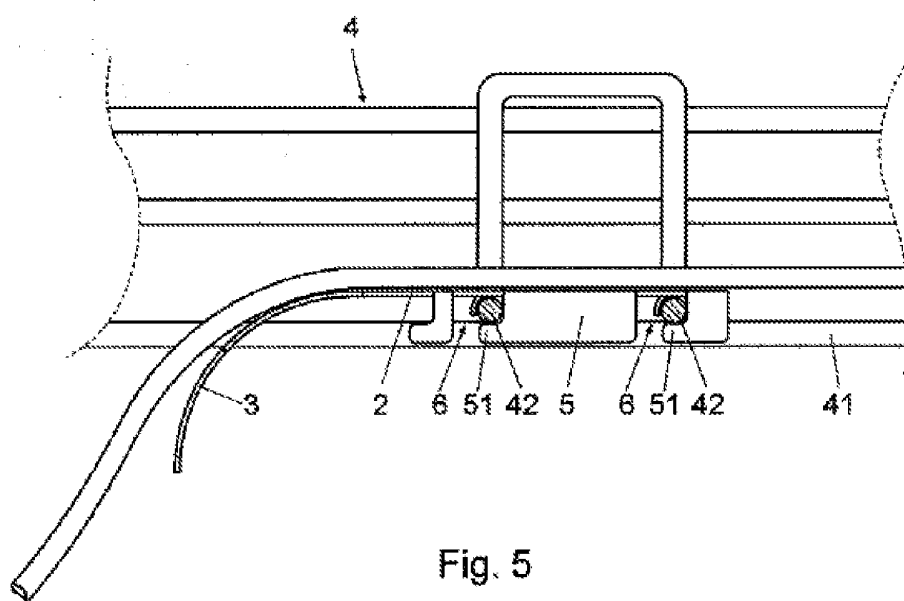


Fig. 5

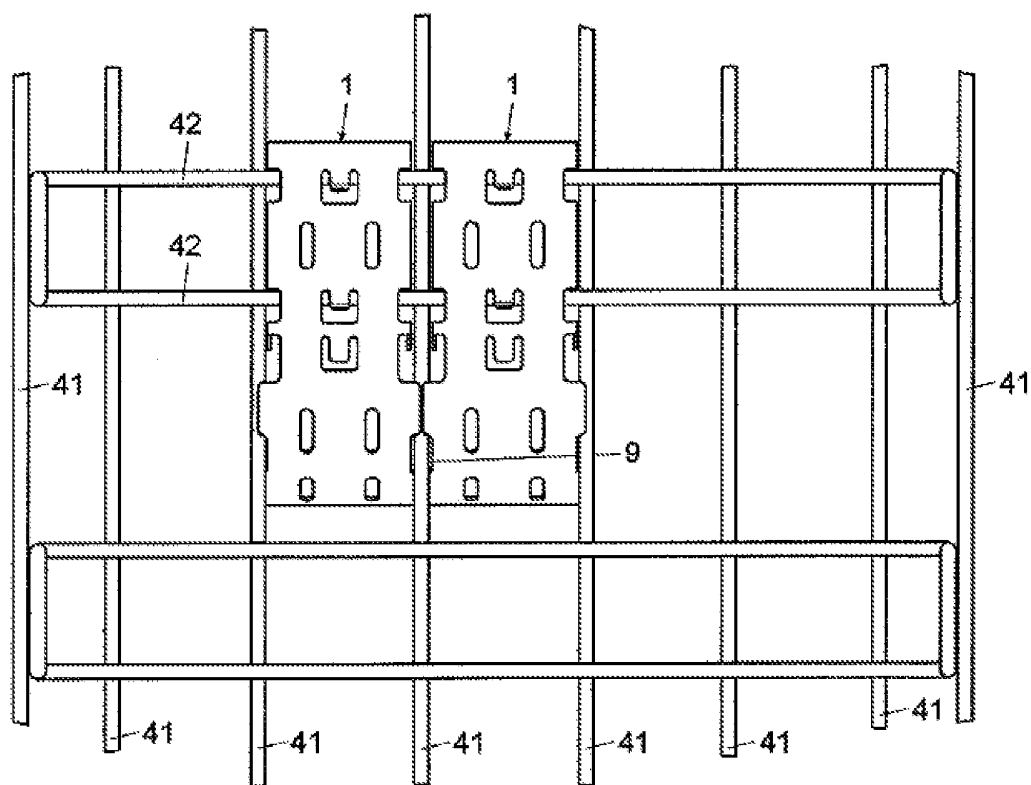


Fig. 6



ONDERZOEKSRAPPORT

BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK

RELEVANTE LITERATUUR			
Categorie ¹	Literatuur met, voor zover nodig, aanduiding van speciaal van belang zijnde tekstgedeelten of figuren.	Van belang voor conclusie(s) nr:	Classificatie (IPC)
A,D	ES 1 060 615 U (PEMSA PEQUENO MATERIAL ELECTRI [ES]) 16 oktober 2005 (2005-10-16) * het gehele document * -----	1-15	INV. H02G3/04
A,D	ES 1 035 372 U (MARTINEZ RAMOS JUAN JOSE [ES]) 16 april 1997 (1997-04-16) * het gehele document * -----	1-15	
A	US 6 024 329 A (STJERNEBY SVEN [SE]) 15 februari 2000 (2000-02-15) * het gehele document *	1-15	
A	WO 2008/111888 A1 (WIBE AB [SE]; SJOEQVIST DAN [SE]) 18 september 2008 (2008-09-18) * het gehele document * -----	1-15	
			Onderzochte gebieden van de techniek
			H02G
Indien gewijzigde conclusies zijn ingediend, heeft dit rapport betrekking op de conclusies ingediend op:			
Plaats van onderzoek:	Datum waarop het onderzoek werd voltooid:	Bevoegd ambtenaar:	
's-Gravenhage	5 april 2013	Skaropoulos, N	

¹ CATEGORIE VAN DE VERMELDE LITERATUUR

X: de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur
Y: de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht
A: niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft
O: niet-schriftelijke stand van de techniek
P: tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

T: na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding
E: eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven
D: in de octrooiaanvraag vermeld
L: om andere redenen vermelde literatuur
&: lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

**AANHANGSEL BEHORENDE BIJ HET RAPPORT BETREFFENDE
HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK,
UITGEVOERD IN DE OCTROOIAANVRAGE NR.**

NO 137142
NL 2003991

Het aanhangsel bevat een opgave van elders gepubliceerde octrooiaanvragen of octrooien (zogenaamde leden van dezelfde octrooifamilie), die overeenkomen met octrooischriften genoemd in het rapport.

De opgave is samengesteld aan de hand van gegevens uit het computerbestand van het Europees Octrooibureau per De juistheid en volledigheid van deze opgave wordt noch door het Europees Octrooibureau, noch door het Bureau voor de Industriële eigendom gegarandeerd; de gegevens worden verstrekt voor informatiedoeleinden.

05-04-2013

In het rapport genoemd octrooigeschrift		Datum van publicatie	Overeenkomend(e) geschrift(en)		Datum van publicatie
ES 1060615	U	16-10-2005	GEEN		
ES 1035372	U	16-04-1997	GEEN		
US 6024329	A	15-02-2000	GEEN		
WO 2008111888	A1	18-09-2008	EP	2122791 A1	25-11-2009
			SE	0700630 A	15-09-2008
			US	2010038496 A1	18-02-2010
			WO	2008111888 A1	18-09-2008

SCHRIFTELIJKE OPINIE

DOSSIER NUMMER NO137142	INDIENINGSDATUM 21.12.2009	VOORRANGSDATUM 22.12.2008	AANVRAAGNUMMER NL2003991
CLASSIFICATIE INV. H02G3/04			
AANVRAGER Schneider Electric España S.A.			

Deze schriftelijke opinie bevat een toelichting op de volgende onderdelen:

- ☒ Onderdeel I Basis van de schriftelijke opinie
- ☐ Onderdeel II Voorrang
- ☐ Onderdeel III Vaststelling nieuwheid, inventiviteit en industriële toepasbaarheid niet mogelijk
- ☐ Onderdeel IV De aanvraag heeft betrekking op meer dan één uitvinding
- ☒ Onderdeel V Gemotiveerde verklaring ten aanzien van nieuwheid, inventiviteit en industriële toepasbaarheid
- ☐ Onderdeel VI Andere geciteerde documenten
- ☐ Onderdeel VII Overige gebreken
- ☐ Onderdeel VIII Overige opmerkingen

	DE BEVOEGDE AMBTENAAR Skaropoulos, N
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SCHRIFTELIJKE OPINIE

Aanvraag nr.:

NL2003991

Onderdeel I Basis van de Schriftelijke Opinie

1. Deze schriftelijke opinie is opgesteld op basis van de meest recente conclusies ingediend voor aanvang van het onderzoek.
2. Met betrekking tot **nucleotide en/of aminozuur sequenties** die genoemd worden in de aanvraag en relevant zijn voor de uitvinding zoals beschreven in de conclusies, is dit onderzoek gedaan op basis van:
 - a. type materiaal:
 - ☐ sequentie opsomming
 - ☐ tabel met betrekking tot de sequentie lijst
 - b. vorm van het materiaal:
 - ☐ op papier
 - ☐ in elektronische vorm
 - c. moment van indiening/aanlevering:
 - ☐ opgenomen in de aanvraag zoals ingediend
 - ☐ samen met de aanvraag elektronisch ingediend
 - ☐ later aangeleverd voor het onderzoek
3. ☐ In geval er meer dan één versie of kopie van een sequentie opsomming of tabel met betrekking op een sequentie is ingediend of aangeleverd, zijn de benodigde verklaringen ingediend dat de informatie in de latere of additionele kopieën identiek is aan de aanvraag zoals ingediend of niet meer informatie bevatten dan de aanvraag zoals oorspronkelijk werd ingediend.
4. Overige opmerkingen:

SCHRIFTELIJKE OPINIE

Aanvraag nr.:
NL2003991

Onderdeel V Gemotiveerde verklaring ten aanzien van nieuwheid, inventiviteit en industriële toepasbaarheid

1. Verklaring

Nieuwheid	Ja: Conclusies 1-15 Nee: Conclusies
Inventiviteit	Ja: Conclusies 1-15 Nee: Conclusies
Industriële toepasbaarheid	Ja: Conclusies 1-15 Nee: Conclusies

2. Citaties en toelichting:

Zie aparte bladzijde

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 *Cited documents*

Reference is made to the following documents:

- D1 ES 1 060 615 U (PEMSA PEQUENO MATERIAL ELECTRI [ES]) 16 oktober 2005 (2005-10-16)
- D2 ES 1 035 372 U (MARTINEZ RAMOS JUAN JOSE [ES]) 16 april 1997 (1997-04-16)
- D3 US 6 024 329 A (STJERNEBY SVEN [SE]) 15 februari 2000 (2000-02-15)
- D4 WO 2008/111888 A1 (WIBE AB [SE]; SJOEQVIST DAN [SE]) 18 september 2008 (2008-09-18)

2 *Assessment of novelty and inventive step of the claim 1*

This authority is of the opinion that the subject-matter of the independent claim 1 meets the requirements of novelty and of inventive step. The reasoning is presented below.

2.1 *Closest prior art*

The document D1, which was cited by the applicant on page 1 of the application, belongs to the same technical field as the application, namely the field of cable drop out devices for cable trays, and it discloses a device (see D1, the figure 3, the element with reference sign 9) that is structurally very similar to the claimed one in that it also comprises a flat portion and a downward curved portion.

The document D2, D3, and D4 also belong to the technical field of cable drop out devices for cable trays but they disclose devices that comprise only a downward curved portion (see the document D2, the figures 2 and 3, the column 1, lines 61-66; the document D3, the figures 2, 4, and 6, the column 2,

the lines 57-62, the column 3, the lines 37-42, the column 4, the lines 8-10; the document D4, the figures 1 and 4, the page 5, the lines 21-30) and are, thus, less similar to the claimed device than the device known from D1.

Consequently, the document D1 is regarded as being the prior art closest to the subject-matter of claim 1.

2.2 *Distinguishing feature of the claim 1*

The document D1 discloses a device comprising the technical feature of the preamble of the claim 1 (see D1, the figure, the element with reference sign 9; the description, the column 2, the lines 50-55)

The subject-matter of claim 1 therefore differs from this known device in the characterizing features of the claim, namely in that

the curved portion (3) is wider than the flat portion (2) and has on the opposite sides (31) respective partial open works (7), arranged under the plane defined by the flat portion (2) of the device.

2.3 *Technical effect and objective technical problem*

The description of the present application states (see the page 1, the lines 22-34) that the device known from D1 suffers from the following drawbacks:

(i) Because the width of the device is smaller than the separation between the inner faces of the wires of the cable tray, the cables may shift laterally during their installation or handling and they may become pinched between the curved edges of the device and the wires of the cable tray, which can cause the rubbing and deterioration of the cables.

(ii) The actuation of the actual weight of the cables on the downward curved area can cause the shifting of the accessory towards its rear end and its subsequent release from the wires of the cable tray.

The claimed device effectively removes the above drawback (i) by making the curved portion wider and the above drawback (ii) by providing recesses on the curved portion.

The objective technical problem may, thus, be seen in adapting the device known from D1 so as to remove the above drawbacks.

2.4 *Reasoning for inventive step*

None of the documents D2 to D4 that were retrieved during the search offers a hint that would have prompted the skilled person to the direction of the invention. The document D2 teaches providing the curved device with wings so as to attach it to the cable tray; the document D3 teaches a device which is overall wider than the distance between the wires of the cable tray, said device comprising slots for accommodating the longitudinal wire; whereas the document D4 teaches a device of uniform width that is adapted to attach to vertically aligned guiding means.

The skilled person would not, thus, arrive at the subject-matter of the claim 1 in an obvious manner without the benefit of hindsight.

3 *Dependent claims*

The claims 2-15 are dependent on the independent claim 1 whose subject-matter is considered as being new and inventive on the basis of the reasoning presented above. Consequently, said dependent claims also meet the requirements of novelty and inventive step.