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(54) LONGITUDINAL LUMINAIRE WITH ALIGNMENT FEATURES

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(73) Proprietor: **Thorn Lighting Limited**
Spennymoor, Durham DL16 6HL (GB)

(72) Inventors:
• **CARROLL, Paul**
Durham DL39YA (GB)

- **POTTER, Kenneth**
Durham (GB)
- **BOWNESS, Anton**
Newcastle Upon Tyne, Shiremoor (GB)
- **BROWN, Nigel**
Durham DH7 6XJ (GB)

(74) Representative: **Kiwit, Benedikt**
Mitscherlich PartmbB
Patent- und Rechtsanwälte
Karlstraße 7
80333 München (DE)

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Description

[0001] The present invention is directed to a longitudinal luminaire extending along a longitudinal axis and comprising a longitudinal track profile, a longitudinal light source and a plurality of optical elements.

[0002] Such longitudinal luminaires are well known in the prior art. Usually, the plurality of optical elements are individually provided and positioned/aligned with respect to a corresponding LED of a light source, respectively, to allow for a desired light output characteristic.

[0003] The plurality of optical elements can also be gathered together in optical groups, which are then fixed to the track profile. For instance by means of screws being screwed through the optical group and a PCB of the light source, these elements can be aligned to each other. This, however, requires a cumbersome positioning of these elements and increased mounting efforts for the luminaire. Also, the so stiffly fixed light sources might be prone to mechanical defects due to thermal heat expansion.

[0004] EP 3 336 419 A1 relates to a lamp with a mounting rail that defines a contact surface for a circuit board, a circuit board that rests on the contact surface and carries a plurality of LEDs as the light source of the lamp on a side opposite the contact surface, a reflective and a transparent optical component, which affect light radiation emitted by the LEDs, and at least one positioning element, the positioning element being set up to simultaneously position the circuit board, the reflective optical component and the transparent optical component on the mounting rail against one another and to hold them mechanically.

[0005] It is thus an object of the present invention to provide a longitudinal luminaire of the type described herein above, which allows for an easy mounting and alignment of the corresponding optical features.

[0006] The object is achieved by the subject-matter of the independent claim. The dependent claims study further the central idea of the present invention.

[0007] According to an aspect, the present invention is directed to a longitudinal luminaire extending along a longitudinal axis. The luminaire comprises a longitudinal track profile delimiting an interior space. The track profile comprises a longitudinal opening to access the interior space. The luminaire further comprises a longitudinal light source being provided in the interior space and extending in parallel to the longitudinal axis. The light source comprises a longitudinal PCB (Printed Circuit Board) being equipped with a plurality of LEDs (Light Emitting Diodes) arranged in a row. The luminaire further comprises a plurality of optical elements being integrally formed (i.e. in one piece) as an optical group and arranged in a row corresponding to the LEDs so that each of the optical elements can be functionally positioned to at least one of the LEDs when the optical group is attached to the track profile so that the optical elements can optically influence light emitted from the associated

LEDs. The luminaire further comprises an attachment clip. The attachment clip comprises a first attachment section, a first fixing section and a first alignment section. The first attachment section can be or is attached to a corresponding second attachment section of the track profile for holding the attachment clip at the track profile at least in a direction orthogonal to the longitudinal axis; preferably in a vertical direction, i.e. in a direction towards the longitudinal opening. The first fixing section relatively fixes the light source via a corresponding second fixing section of the light source with respect to the attachment clip. The first alignment section aligns the attachment clip relative to the optical group via a corresponding second alignment section of the optical group so that each of the optical elements is functionally positioned to the associated LEDs.

[0008] With the longitudinal luminaire according to the present invention, mounting of the optical features, i.e. the light source with the LEDs on the one hand and the associated optical elements on the other hand, can be facilitated as they can be easily attached to the track profile by the attachment clip as a kind of attachment adapter. Moreover, due to the alignment function of the attachment clip to the optical elements or optical group on the one hand and the secure fixing of the clip with respect to the light source on the other hand, alignment of the light source with respect to the optical group so that each of the optical elements can be functionally positioned with respect to the associated LEDs can be easily and automatically obtained; preferably at least along the longitudinal axis direction but also in any other possible direction, if required.

[0009] The attachment clip can have a substantially U-shaped layout with two opposite side arms being connected by a connection section and delimiting a receiving space for longitudinally passing through and thus receiving the light source. The clip thus securely surrounds the light source so that it cannot slip laterally out of the attachment clip during mounting. Moreover, in association with the track profile, the attachment clip can easily and securely receive and hold the light source to and preferably against the track profile.

[0010] The connection section can be bulged towards the receiving space. Thus, a secure contact of the attachment clip with the light source and thus further a secure attachment of the light source to the track profile can be obtained. Thus, a flat contact between the track profile and the light source can be obtained, which may further result in a positive effect on the heat transfer from the light source to the track profile during operation of the luminaire.

[0011] The side arms may comprise the first attachment section, respectively. The first attachment section can preferably be provided at a distal end of the respective side arm with respect to the connection section and thus protrude towards the track profile to allow for an easy attachment of the first and second attachment section.

[0012] The connection section may comprise the first

fixing section preferably at a side facing the receiving space. Hence, a secure connection of the first and second fixing sections can be obtained. Moreover, in connection with the bulged layout of the connection section, a light and secure connection of the first and second fixing sections can be ensured.

[0013] The connection section may comprise the first alignment section preferable at a side opposite to the receiving space. Hence, the first alignment section is positioned such that it can protrude directly towards the optical group and thus allows for an easy layout and secure connection of the first and second alignment sections.

[0014] Attachment of the attachment clip to the track profile is preferably obtained by form fit and/or frictional connection between the first and second attachment section. In a same manner, also fixing of the light source to the attachment clip is preferably obtained by form fit and/or frictional connection of the first and second fixing section. In the same manner, also alignment of the optical group to the attachment clip is preferably obtained by form fit and/or frictional connection of the first and second alignment section. Hence, the connection can be flexibly designed according to the required needs to ensure a secure connection between the corresponding connection partners.

[0015] The first attachment section may comprise a clamping section, like a clamping spring and/or a locking section, like a snap connection element, and/or a latching section, like a tooth-like or a sawtooth-like structure. The second attachment section then may comprise a corresponding layout to obtain the attachment of the attachment clip to the track profile, like a recess, a longitudinal groove, a corresponding snap connection element, and/or a latching structure. These structural elements thus allow for a secure attachment according to the required needs. For instance, a clamping section may allow for an easy attachment due to simple straight insertion of the cooperating partners. A snap connection element may allow for a secure attachment including form fit. A latching section may allow for attachment at different insertion positions. Therefore, the receiving space between the attachment clamp and the corresponding track profile section can be varied in size/distance, to thus allow the insertion of PCBs having a different thickness, which further increases the flexibility of the luminaire.

[0016] The first fixing section may comprise a protrusion or a recess, preferable a pin-like protrusion. The second fixing section may then comprise a corresponding layout to obtain the fixing of the light source to the attachment clip, like a recess or a protrusion, preferably a recess or a through hole in the PCB. Preferably, the corresponding cooperating partners for the fixing have the same cross section and dimension and thus allow for a tight fixing and fitment at least in a direction along the longitudinal axis.

[0017] The first alignment section may comprise a protrusion with at least two first surface sections being

distant from each other along the longitudinal axis (and preferably facing at least partially towards the longitudinal axis direction). The second alignment section may then comprise at least two second surface sections being distant from each other along the longitudinal axis as well (and preferably facing at least partially towards the longitudinal axis direction). Each of the first surface sections are then preferably in abutment with one of the second surface sections, respectively, for alignment of the optical group to the attachment clip, preferably at least with respect to a longitudinal axis direction. Hence, an easy layout can be provided with which an easy and automatic alignment of the cooperating elements can be obtained, thus further facilitating the assembly of the luminaire.

[0018] The second surface sections can be part of an outer and preferably rear contour of the optical group preferably facing a space between two neighboring optical elements of the optical group. Hence, the alignment sections are positioned between optical paths through the optical group, i.e. through the optical elements, and do thus not hinder the optical light output.

[0019] The track profile preferable comprises a U-shaped cross-section when viewed in the longitudinal axis direction. The track profile thus has two opposite side walls laterally delimiting the longitudinal opening and being connected by a rear wall for delimiting the interior space. Hence, an easy layout of the track profile can be provided which can also be manufactured in an easy manner, e.g. by extrusion molding or strand casting.

[0020] The rear wall may comprise the second attachment section at a side facing the interior space. Hence, the attachment of the clip and thus the light source can be done at a side opposite to the longitudinal opening and thus at a preferred position for an efficient light output. Also, the second attachment section is thus provided at an easily accessible position.

[0021] The optical group comprises a first holding section, preferably an elastically deformable side wall protrusion. The side wall protrusion can extend longitudinally in parallel to the longitudinal axis and thus be a longitudinal side wall protrusion. The track profile, preferably the opposite side walls and further preferred at a side facing the interior space, comprises a second holding section for mechanically cooperating with the first holding section to attach the optical group to the track profile. Hence, a structure for an easy attachment of the optical group to the track profile can be provided. Due to the preferably elastically deformable characteristics of the corresponding first holding section, the optical group can be, for instance, simply snapped on the track profile for attachment thereof. The track profile may comprise a (longitudinal) protruding section protruding towards the interior space, which forms a stop for the optical group when being inserted into the track profile in an insertion direction preferably being or extending orthogonal to the longitudinal axis and to the longitudinal opening.

[0022] The second attachment section and preferably also the second holding section and also preferred the

stop, if present, can be made by a longitudinal profile structure of the track profile. Of course, all other parts of the track profile can also be made by a longitudinal profile structure of the track profile in the same manner. Hence, any desired positioning of the respective features along the longitudinal axis is possible. Also, the light source can be carried in a floated manner along the longitudinal axis to absorb, for instance, thermal expansion of the light source or any other components of the luminaire. Due to the provision of the attachment clip, even during thermal expansion the relative positioning and thus alignment between the light source and the optical group can be maintained.

[0023] The optical elements can be lenses and/or reflectors or any other type of optical element, respectively. The optical group or its optical elements may cover and preferably close at least part of the longitudinal opening. Hence, the flexibility of the luminaire can be even further increased. Due to the optical group covering the longitudinal opening, the light emission of the luminaire can be optimized and light output be increased in efficiency.

[0024] A plurality of the light sources and/ or a plurality of the optical groups can be provided in the track profile, preferably arranged in a row in parallel to the longitudinal axis. Hence, the longitudinal luminaire can be provided in any desired lengths while using standard components, e.g. for the light source or the optical group.

[0025] Each of the light sources can functionally cooperate with at least two of the attachment clips to thus increase the stability of the connection and alignment; dependent on the length and dimension of the light source. At least one and preferably at least two of the attachment clips can functionally cooperate with one optical group for alignment thereof with respect to the light source. Hence, alignment for all corresponding cooperating partners can be securely obtained.

[0026] The luminaire may further comprise a mounting element for mounting the longitudinal luminaire to a mounting surface, like a wall or a ceiling. The mounting element may preferably comprise a cord suspension, a mounting adapter, like a mounting bracket, and/or a longitudinal mounting profile. The latter preferably having a U-shaped cross-sectional layout with its opening facing downwards and into which any suspension or other fixing means can be easily inserted. Therefore, the mounting profile may comprise any desired and preferably longitudinally extending structure features to allow for an easy attachment and preferably also detachment of the luminaire components, as desired.

[0027] The luminaire may further comprise lighting electronics, like a driver or sensors, which are preferably attached to the track profile, preferably at an outer side of its rear wall or the mounting element, preferably its longitudinal mounting profile, if present. Hence, the luminaire can be directly equipped with any required electronic devices. If the lighting electronics are positioned at the mounting element, these electronics can be used for a plurality of such longitudinal luminaires, e.g. arranged in

a row, to thus reduce the number of parts.

[0028] Further details and advantages of the present invention will now be described with reference to the embodiments shown in the drawings of the enclosed figures.

Fig. 1 shows a perspective exploded view of a luminaire according to a first embodiment of the present invention,

Fig. 2 shows a perspective exploded view of a luminaire according to a second embodiment of the present invention,

Fig. 3 shows a perspective view of the luminaire according to Fig. 1,

Fig. 4 shows a perspective view of the luminaire according to Fig. 2,

Fig. 5 shows a side view of a luminaire (without the attachment clip and the light source) according to a third embodiment of the present invention,

Fig. 6 shows three different perspective views of an optical group of a luminaire according to the present invention with different layouts for first holding sections having (a) a medium extension, (b) a longitudinal extension, and (c) a short extension,

Fig. 7 shows two different instructions for attaching the optical groups to the track profile of a luminaire according to the present invention by (a) straight movement, or (b) pivoting movement,

Fig. 8 shows a side view of a track profile and an attachment clip of a luminaire according to a further embodiment of the present invention,

Fig. 9 shows two different perspective views from (a) a bottom and (b) a top of the attachment clip of Fig. 8,

Fig. 10 shows a side view of a track profile and an attachment clip of a luminaire according to a further embodiment of the present invention,

Fig. 11 shows two different perspective views from (a) a bottom and (b) a top of the attachment clip of Fig. 10,

Fig. 12 shows a side view of a track profile and an attachment clip of an even further embodiment of a luminaire of the present invention, and

Fig. 13 shows two different perspective views from (a) a bottom and (b) a top of the attachment clip of Fig. 12.

[0029] The figures show different embodiments and features of a longitudinal luminaire 1 according to the present invention. As best shown in figs. 1 to 4, the longitudinal luminaire 1 extends along a longitudinal axis L.

[0030] The luminaire 1 comprises a longitudinal track profile 2 delimiting an interior space 20. The track profile 2 comprises a longitudinal opening 21 to access the interior space 20. Preferably, the track profile 2 is made by extrusion molding and thus has the same cross section along its longitudinal axis L. The track profile 2 can be made of a metal material, like aluminum. However, the track profile 2 may also be made of another material, like plastic. If made of a plastic material, the track profile 2 can also be made by injection molding or the like. The longitudinal opening 21 may extend along the entire length of the longitudinal luminaire 1, which thus has here one open side via which the interior space 20 can be accessed and easily equipped with features as further described in the following.

[0031] The luminaire 1 further comprises a longitudinal light source 3 being provided in the interior space 20 and extending in parallel to the longitudinal axis L. The light source comprises a longitudinal PCB 30 being equipped with a plurality of LEDs 31 arranged in a row (i.e. preferably in one or in a plurality of rows) as can be seen in figs. 1 and 2. The luminaire 1 as shown here comprises four of such longitudinal light sources 3, while the present invention is not limited to any number of light sources 3. The LEDs can be arranged as single LED or in groups at a defined location on the PCB, while being distant to neighboring LEDs or grouped LEDs in a row by a defined distant (i.e. pitch). For instance, the grouped LEDs can be RGB-LEDs or any other LED-cluster.

[0032] The luminaire 1 further comprises a plurality of optical elements 40 being integrally formed as an optical group 4 and arranged in a row (i.e. preferably in one or in a plurality of rows) corresponding to the LEDs 31 so that each of the optical elements 40 can be functionally positioned (i.e. in optical cooperation) to at least one of the LEDs 31 when the optical group 4 is attached to the track profile 2 so that the optical elements 40 can optically influence light emitted from the associated LEDs 31. As shown, the luminaire 1 may comprise a plurality of such optical groups 4; here six optical groups 4. The number of optical groups 4 is not limited by the present invention. The optical elements 40 can be lenses and/or (as shown) reflectors, respectively. Of course, the optical elements 40 can also be any other type of optical element known in the art. As can be seen, for instance, in fig. 5, the optical group 4 or its optical elements 40 cover and preferably close at least part of the longitudinal opening 21.

[0033] As mentioned, a plurality of the light sources 3 and/or a plurality of the optical groups 4 can be provided

in the track profile 2, preferably arranged in a row in parallel to the longitudinal axis L, as exemplarily shown in the embodiments of figs. 1 and 2.

[0034] The luminaire 1 further comprises an attachment clip 5 as can be best seen in figs. 8 to 13 and also in figs. 1 and 2. The attachment clip 5 comprises a first attachment section 50 which can be attached to a corresponding second attachment section 22 of the track profile 2 for holding the attachment clip 5 at the track profile 2 at least in a direction orthogonal to the longitudinal axis L. The cooperating partners, i.e. the first attachment section 50 and the second attachment section 22, can also be designed such that they allow for a holding (preferably a fixing) with respect to any other direction, e.g. also along the longitudinal direction L.

[0035] Attachment of the attachment clip 5 to the track profile 2 can be obtained by form fit and/or frictional connection between the first and second attachment sections 50, 22. For instance, the first attachment section 50 may comprise a clamping section 500, like a clamping spring, as shown in the embodiments of figs. 8 to 11, in which the corresponding first attachment section 50 here has a kind of U-shape and thus allows for flexibility to allow for this first attachment section 50 be inserted in the second attachment section 22 here provided as a kind of recess or longitudinal groove 250.

[0036] The first attachment section 50 can also be a locking section 501, like a snap connection element. This is here shown in figs. 8 to 11 by the distal end of the first attachment section 50 which is snapped on a corresponding snap connection element 251 of the track profile 2 here provided as a (longitudinal) protrusion, which forms a seat for the distal end 501 of the first attachment section 50 in a direction of gravity force to thus withhold the attachment clip 5 in position.

[0037] The first attachment section 50 may also comprise a latching section 502, like a tooth-like (see figs. 8 and 9) or - as shown, for instance, in figs. 12 and 13 - a sawtooth-like structure. The latching section 502 may allow for different attachment positions of the attachment clip 5 to the track profile 2 when being brought into engagement with a corresponding (longitudinal) latching structure 252 of the track profile 2, so that the attachment clip 5 can be attached at different positions with respect to the track profile 2 thus increasing the flexibility of the attachment features.

[0038] The attachment clip 5 further comprises a first fixing section 51 for relatively fixing the light source 3 via a corresponding second fixing section 32 of the light source 3 with respect to the attachment clip 5. The fixing of the light source 3 to the attachment clip 5 can preferably be obtained by form fit and/or frictional connection of the first and second fixing sections 51, 32.

[0039] Here, the first fixing section 51 may comprise a protrusion, preferably a pin-like protrusion. Then, the second fixing section 32 may comprise a corresponding layout to obtain the fixing of the light source 3 to the attachment clip 5, preferably a recess or a through hole,

in the PCB. Such through holes are usually provided at standard PCBs 30 for alignment or attachment reasons, which through holes can thus also be used as the second fixing sections 32. Of course, the first fixing section 51 can, for instance, also be a recess or may have any other structure, and the second fixing section 32 may then be or comprise a corresponding structure, like a protrusion to extend into or received by the first fixing section 51. The present invention is not limited to any type of first and second fixing sections 51, 32 layout as long as the physical cooperation thereof allows for the required fixing between the light source 3 and the attachment clip 5 in the desired manner.

[0040] The attachment clip 5 further comprises a first alignment section 52 for alignment of the attachment clip 5 relative to the optical group 4 via a corresponding second alignment section 42 of the optical group 4 so that each of the optical elements 40 is functionally positioned to the associated LEDs 31.

[0041] The alignment of the optical group 4 to the attachment clip 5 is preferable obtained by form fit and/or frictional connection of the first and second alignment sections 52, 42. As shown, the first alignment section 52 may comprise a protrusion with at least two first surface sections 53 being distant from each other in a direction of or in parallel to the longitudinal axis L. The second alignment section 42 then may comprise at least two second surface sections 43 also being distant from each other in a direction of or in parallel to the longitudinal axis L. Each of the first surface sections 53 is in abutment with one of the second surface sections 43, respectively, for alignment of the optical group 4 to the attachment clip 5 when being assembled.

[0042] The second surface sections 43 can be part of an outer and preferably rear contour of the optical group 4 preferable facing (e.g. in the longitudinal direction L) towards a space 44 between two neighboring optical elements 40 of the optical group 4, as exemplarily shown in fig. 6a to 6c.

[0043] As shown, for instance, in figs. 8 to 13, the attachment clip 5 may have a substantially U-shaped layout with two opposite side arms 55 being connected by a connection section 56 and delimiting a receiving space 57 for longitudinally passing through and thus receiving the light source 3.

[0044] As is clearly shown in figs. 8, 10 and 12, the connection section 56 can be bulged towards the receiving space 57; here towards the track profile 2 and preferably towards its rear wall 24. Hence, a secure abutment of the light source 3 to the track profile 2 can be ensured, e.g. for a more efficient heat transfer from the light source 3 to the track profile 2 during operation.

[0045] The side arms 55 may comprise the first attachment section 50, respectively, preferably at a distal end 54 thereof with respect to the connection section 56. The connection section 56 may comprise the first fixing section 51 at a side 58 facing the receiving space 57. The connection section 56 may comprise the first alignment

section 52 at a side 59 opposite to the receiving space 57 or the side 58 facing the receiving space 57.

[0046] The track profile 2 preferably comprises a U-shaped cross-section when viewed in the longitudinal axis L direction. In this case and as exemplarily shown in figs. 5, 8, 10 and 12, the track profile 2 may comprise two opposite side walls 23 (here longitudinal side walls 23) laterally delimiting the longitudinal opening 21 and being connected by a rear wall 24 (here a longitudinal rear wall 24) for delimiting the interior space 20. The rear wall 24 may comprise the second attachment section 22 at a side 25 facing the interior space 21.

[0047] With reference to figs. 5, 8, 10 and 12, the track profile 2 may further comprise a mounting structure 26 here provided at a rear side 27 of the rear wall 24 opposite to the interior space 21, thus extending rearwardly from the track profile 2. The mounting structure 26 can comprise two longitudinal grooves 260 facing towards each other for receiving, for instance, any possible type of mounting element 6 for mounting the longitudinal luminaire 1 to a mounting surface, like a wall or a ceiling. This mounting element 6 can thus be a further part of the present luminaire 1. The mounting element 6 may preferably comprise a cord suspension 60 (see, e.g., fig. 4), a mounting adapter 61, like a mounting bracket, and/or a longitudinal mounting profile 62 (see, e.g., fig. 1 and 3). The longitudinal mounting profile 62 here comprises a U-shaped cross sectional layout, thus, providing an interior space 63 into which parts of the track profile 2 or mounting element 6 can be introduced for attaching the track profile 2 to the mounting profile 62. The longitudinal mounting profile 62 preferably comprises longitudinally extending structures 64 to allow for a corresponding attachment.

[0048] The luminaire 1 may further comprise lighting electronics 7 like a driver 70 or sensors, which can preferably be attached to the track profile 2, preferably at an outer side 27 of its rear wall 24 (see, e.g., figs. 2 and 4), or at the mounting element 6, preferably its longitudinal mounting profile 62, if present and as exemplarily shown in figs. 1 and 3.

[0049] As can be seen, for instance, in figs. 5, 8, 10 and 12, the rear side 27 of the rear wall 24 may further comprise additional structural features 29, like a here longitudinal guiding structure into which further elements, like cables 8, can be received and preferably guided.

[0050] As can be seen, for instance, in fig. 5 also in combination with figs. 6a to 6c, the optical group 4 further comprises a first holding section 45. The first holding section 45 can be preferably an elastically deformable side wall protrusion 46 as exemplarily shown in fig. 5. The first holding section 45 thus can be provided as a kind of lateral wing protrusion. The track profile 2, preferably the opposite side walls 23 and further preferred at a side 230 facing the interior 21, comprises a second holding section 200 for mechanically cooperating with the first holding section 45 to attach the optical group 4 to the track profile 2. The second holding section 200 therefore may provide

a longitudinal groove section 201 into which the first holding section 45, here with lateral protrusions 450 which in the shown embodiment protrude laterally outside, can snap in. To avoid the optical group 4 to be inserted too far inside the interior space 20, the track profile 2 may further comprise stop structures 202 against which the optical group 4 and preferably the first holding sections 45 abut upon insertion of the optical group 4 into the track profile 2; here orthogonally to the longitudinal axis L direction via the longitudinal opening 21.

[0051] The lateral protrusions 450 can have different dimensions, i.e. extensions in parallel to the longitudinal axis L. For instance, very short protrusions as shown in fig. 6c can be provided and preferably here (evenly) distributed along the first holding section 45. The lateral protrusions 450 can also have a longer extension along a direction of the longitudinal axis L, as shown, for instance, in fig. 6a. Also, the lateral protrusions 450 can extend along the entire length of the first holding section 45 or optical group 4 at all, as shown, for instance, in fig. 6b.

[0052] The second attachment section 22 and preferably also the second holding section 200 and even the stop structures 202, if present, can be made by a longitudinal profile structure on the track profile 2; like any other structural elements of the track profile 2 as discussed herein above.

[0053] Figs. 7a and 7b show two different installation method options for attaching the optical group 4 (in)to the track profile 2. Due to the corresponding layout of the optical group 4 in particular with its first holding sections 45 here provided as elastically deformable side wall protrusions 46, the optical group 4 may inserted by a straight movement into the interior space 20; i.e. in a direction orthogonally to the longitudinal opening 21 or the longitudinal axis L (see, e.g., fig. 7a). To allow for insertion, the two opposite first holding sections 45 can be manually bent slightly towards each other, thus allowing the optical group 4 be inserted. Once being in the installation position, the lateral protrusions 45 snap laterally outwards into the second holding section 200 for mechanically cooperating with the first holding section 45 to attach the optical group 4 to the track profile 2.

[0054] In an alternative installation method option as shown in fig. 7b, the optical group 4 can be slightly inclined when being attached to the track profile 2 so that one of the two first holding sections 45 can already be inserted into the interior space 20 with its lateral protrusion 450 positioned at the corresponding second holding section 200. Then, the optical group 4 can be pivoted about an axis extending in parallel to the longitudinal axis L to thus move the other of the two first holding sections 45 into installation position. To allow for installation, said other of the two first holding sections 45 can be manually elastically bent towards the one of the first holding sections 45 to allow insertion of the optical group 4 by pivoting movement. Once being in its installation position, i.e. fully inserted and preferably in abutment with the stop structures 202, both lateral protrusions 450 snap into or are

snapped in the corresponding second holding sections 200 and thus the optical group 4 is securely inserted and fit into the track profile 2.

[0055] As can be clearly seen with respective figs. 1 and 2, each of the light sources 3 can functionally cooperate with at least two of the attachment clips 5. Also, at least one and preferably at least two of the attachment clips 5 can functionally cooperate with one optical group 4 for alignment thereof with respect to the light source 3.

[0056] The present invention is not limited to the embodiments described herein above as long as being covered by the appended claims. All the features of the embodiments can be combined and interchanged in any desired manner.

Claims

1. Longitudinal luminaire (1) extending along a longitudinal axis (L), comprising:

a longitudinal track profile (2) delimiting an interior space (20), wherein the track profile (2) comprises a longitudinal opening (21) to access the interior space (20),

a longitudinal light source (3) being provided in the interior space (20) and extending in parallel to the longitudinal axis (L), the light source (3) comprising a longitudinal PCB (30) being equipped with a plurality of LEDs (31) arranged in a row,

a plurality of optical elements (40) being integrally formed as an optical group (4) and arranged in a row corresponding to the LEDs (31) so that each of the optical elements (40) can be functionally positioned to at least one of the LEDs (31) when the optical group (4) is attached to the track profile (2) so that the optical elements (40) can optically influence light emitted from the associated LEDs (31), and an attachment clip (5) comprising:

- a first attachment section (50) to be attached to a corresponding second attachment section (22) of the track profile (2) for holding the attachment clip (5) at the track profile (2) at least in a direction orthogonal to the longitudinal axis (L),
- a first fixing section (51) for relatively fixing the light source (3) via a corresponding second fixing section (32) of the light source (3) with respect to the attachment clip (5), and
- a first alignment section (52) for alignment of the attachment clip (5) relative to the optical group (4) via a corresponding second alignment section (42) of the optical group (4) so that each of the optical ele-

ments (40) are functionally positioned to the associated LEDs (31)

wherein the optical group (4) comprises a first holding section (45) and the track profile (2) comprises a second holding structure (200) for mechanically cooperating with the first holding section (45) to attach the optical group (4) to the track profile (2).

2. Longitudinal luminaire (1) according to claim 1, wherein the attachment clip (5) has a substantially U-shaped layout with two opposite side arms (55) being connected by a connection section (56) and delimiting a receiving space (57) for longitudinally passing through and thus receiving the light source (3).

3. Longitudinal luminaire (1) according to claim 2, wherein the connection section (56) is bulged towards the receiving space (57), and/or

wherein the side arms (55) comprise the first attachment section (50), respectively, preferably at a distal end (54) thereof with respect to the connection section (56), and/or

wherein the connection section (56) comprises the first fixing section (51) at a side facing the receiving space (57), and/or

wherein the connection section (56) comprises the first alignment section (52) at a side (59) opposite to the receiving space (57).

4. Longitudinal luminaire (1) according to any one of the preceding claims, wherein attachment of the attachment clip (5) to the track profile (2) is obtained by form fit and/or frictional connection between the first and second attachment section (50, 22), and/or wherein

- the first attachment section (50) comprises a clamping section, like a clamping spring, and/or a locking section, like a snap connection element, and/or a latching section, like a tooth-like or sawtooth-like structure, and

- the second attachment section (22) comprises a corresponding layout to obtain the attachment of the attachment clip (5) to the track profile (2), like a recess, a longitudinal groove, a corresponding snap connection element, and/or a latching structure.

5. Longitudinal luminaire (1) according to any one of the preceding claims, wherein fixing of the light source (3) to the attachment clip (5) is obtained by form fit and/or frictional connection of the first and second fixing section (51, 32), and/or wherein

- the first fixing section (51) comprises a protrusion or a recess, preferably a pin-like protrusion, and

- the second fixing section (32) comprises a corresponding layout to obtain the fixing of the light source (3) to the attachment clip (5), like a recess or a protrusion, preferably a recess or through hole in the PCB (30).

6. Longitudinal luminaire (1) according to any one of the preceding claims, wherein alignment of the optical group (4) to the attachment clip (5) is obtained by form fit and/or frictional connection of the first and second alignment section (52, 42), and/or

wherein the first alignment section (52) comprises a protrusion with at least two first surface sections (53) being distant from each other along the longitudinal axis (L), wherein the second alignment section (42) comprises at least two second surface sections (43) being distant from each other along the longitudinal axis (L), and wherein each of the first surface sections (53) is in abutment with one of the second surface sections (43), respectively, for alignment of the optical group (4) to the attachment clip (5).

7. Longitudinal luminaire (1) according to any one of the preceding claims, wherein the second surface sections (43) are part of an outer and preferably rear contour of the optical group (4) preferably facing a space (44) between two neighboring optical elements (40) of the optical group (4).

8. Longitudinal luminaire (1) according to any one of the preceding claims, wherein the track profile (2) comprises a U-shaped cross-section when viewed in the longitudinal axis (L) direction, having two opposite side walls (23) laterally delimiting the longitudinal opening (21) and being connected by a rear wall (24) for delimiting the interior space (20),

wherein preferably the rear wall (24) comprises the second attachment section (22) at a side (25) facing the interior space (20),

wherein preferably the opposite side walls (23), more preferred at a side (230) facing the interior space (20), comprise the second holding structure (200).

9. Longitudinal luminaire (1) according to any one of the preceding claims, wherein the first holding section (45) is an elastically deformable side wall protrusion (46) of the optical group (4).

10. Longitudinal luminaire (1) according to any one of the preceding claims, wherein the second attachment section (22) and preferably also the second holding section (200), if present, is made by a longitudinal profile structure of the track profile (2).

11. Longitudinal luminaire (1) according to any one of the preceding claims, wherein the optical elements (40) are lenses and/or reflectors, respectively, and/or wherein the optical group (4) or its optical elements (40) cover and preferably close at least part of the longitudinal opening (21). 5
12. Longitudinal luminaire (1) according to any one of the preceding claims, wherein a plurality of the light sources (3) and/or a plurality of the optical groups (4) are provided in the track profile (2), preferably arrange in a row in parallel to the longitudinal axis (L). 10
13. Longitudinal luminaire (1) according to any one of the preceding claims, wherein each of the light sources (3) functionally cooperates with at least two of the attachment clips (5), and/or wherein at least one and preferably at least two of the attachment clips (5) functionally cooperate with one optical group (4) for alignment thereof with respect to the light source (3). 15 20
14. Longitudinal luminaire (1) according to any one of the preceding claims, further comprising a mounting element (6) for mounting the longitudinal luminaire (1) to a mounting surface, like a wall or ceiling, wherein the mounting element (6) preferably comprises a cord suspension (60), a mounting adapter (61), like a mounting bracket, and/or a longitudinal mounting profile (62). 25 30
15. Longitudinal luminaire (1) according to any one of the preceding claims, further comprising lighting electronics (7), like a driver (70) or sensors, which are preferably attached to the track profile (2), preferably at an outer side of its rear wall (24), or the mounting element (6), preferably its longitudinal mounting profile (62), if present. 35

Patentansprüche

1. Längsleuchte (1), die sich entlang einer Längsachse (L) erstreckt, umfassend: ein Längsschienenprofil (2), das einen Innenraum (20) begrenzt, wobei das Schienenprofil (2) eine Längsöffnung (21) für den Zugang zu dem Innenraum (20) umfasst, 45
- eine Längslichtquelle (3), die in dem Innenraum (20) bereitgestellt ist und sich parallel zu der Längsachse (L) erstreckt, die Lichtquelle (3) umfassend eine Längsleiterplatte (30), die mit einer Vielzahl von LEDs (31), die in einer Reihe angeordnet sind, ausgerüstet ist, 50
- eine Vielzahl von optischen Elementen (40), die als optische Gruppe (4) integral ausgebildet und in einer Reihe entsprechend den LEDs (31) angeordnet sind, so dass jedes der optischen Ele- 55

mente (40) zu mindestens einer der LEDs (31) funktional positioniert werden kann, wenn die optische Gruppe (4) an dem Schienenprofil (2) befestigt ist, sodass die optischen Elemente (40) Licht, das von den zugehörigen LEDs (31) emittiert wird, optisch beeinflussen können, und einen Befestigungsclip (5), umfassend:

- einen ersten Befestigungsabschnitt (50), der an einem entsprechenden zweiten Befestigungsabschnitt (22) des Schienenprofils (2) zum Halten des Befestigungsclips (5) an dem Schienenprofil (2), mindestens in einer Richtung orthogonal zu der Längsachse (L), zu befestigen ist,
- einen ersten Fixierungsabschnitt (51) zum relativen Fixieren der Lichtquelle (3) über einen entsprechenden zweiten Fixierungsabschnitt (32) der Lichtquelle (3) in Bezug auf den Befestigungsclip (5), und
- einen ersten Ausrichtungsabschnitt (52) zum Ausrichten des Befestigungsclips (5) relativ zu der optischen Gruppe (4) über einen entsprechenden zweiten Ausrichtungsabschnitt (42) der optischen Gruppe (4), sodass jedes der optischen Elemente (40) zu den zugehörigen LEDs (31) funktional positioniert ist,

wobei die optische Gruppe (4) einen ersten Halteabschnitt (45) umfasst und das Schienenprofil (2) eine zweite Haltestruktur (200) zum mechanischen Zusammenwirken mit dem ersten Halteabschnitt (45) umfasst, um die optische Gruppe (4) an dem Schienenprofil (2) zu befestigen.

2. Längsleuchte (1) nach Anspruch 1, wobei der Befestigungsclip (5) eine im Wesentlichen U-förmige Ausgestaltung mit zwei gegenüberliegenden Seitenarme (55) aufweist, die durch einen Verbindungsabschnitt (56) verbunden sind und einen Aufnahmeraum (57) zum Längsdurchführen und somit Aufnehmen der Lichtquelle (3) begrenzen. 40
3. Längsleuchte (1) nach Anspruch 2, wobei der Verbindungsabschnitt (56) zu dem Aufnahmeraum (57) hin ausgewölbt ist, und/oder

wobei die Seitenarme (55) jeweils den ersten Befestigungsabschnitt (50) umfassen, vorzugsweise an einem distalen Ende (54) davon in Bezug auf den Verbindungsabschnitt (56), und/oder wobei der Verbindungsabschnitt (56) den ersten Fixierungsabschnitt (51) an einer dem Aufnahmeraum (57) zugewandten Seite aufweist, un-

- d/oder
wobei der Verbindungsabschnitt (56) den ersten Ausrichtungsabschnitt (52) an einer dem Aufnahme-
raum (57) gegenüberliegenden Seite (59) aufweist.
4. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei die Befestigung des Befestigungsclips (5) an dem Schienenprofil (2) durch Formschluss und/oder Kraftschlussverbindung zwischen dem ersten und zweiten Befestigungsabschnitt (50, 22) erhalten wird, und/oder
wobei
- der erste Befestigungsabschnitt (50) einen Klemmabschnitt, wie eine Klemmfeder, und/oder einen Verriegelungsabschnitt, wie ein Schnappverbindungselement, und/oder einen Rastabschnitt, wie eine zahn- oder sägezahnartige Struktur, aufweist, und
 - der zweite Befestigungsabschnitt (22) eine entsprechende Ausgestaltung, um die Befestigung des Befestigungsclips (5) an dem Schienenprofil (2) zu erhalten, wie eine Aussparung, eine Längsnut, ein entsprechendes Schnappverbindungselement und/oder eine Raststruktur, umfasst.
5. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei die Fixierung der Lichtquelle (3) an dem Befestigungsclip (5) durch Formschluss und/oder Kraftschlussverbindung des ersten und des zweiten Fixierungsabschnitts (51, 32) erhalten wird, und/oder
wobei
- der erste Fixierungsabschnitt (51) einen Vorsprung oder eine Vertiefung, vorzugsweise einen stiftartigen Vorsprung, umfasst, und
 - der zweite Fixierungsabschnitt (32) eine entsprechende Ausgestaltung, um die Fixierung der Lichtquelle (3) an dem Befestigungsclip (5) zu erhalten, wie eine Aussparung oder ein Vorsprung, vorzugsweise eine Aussparung oder ein Durchgangsloch in der Leiterplatte (30), umfasst.
6. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei die Ausrichtung der optischen Gruppe (4) an dem Befestigungsclip (5) durch Formschluss und/oder Kraftschlussverbindung des ersten und des zweiten Ausrichtungsabschnitts (52, 42) erhalten wird, und/oder
wobei der erste Ausrichtungsabschnitt (52) einen Vorsprung mit mindestens zwei ersten Oberflächenabschnitten (53), die entlang der Längsachse (L) voneinander beabstandet sind, umfasst, wobei der zweite Ausrichtungsabschnitt (42) mindestens zwei
- zweite Oberflächenabschnitte (43), die entlang der Längsachse (L) voneinander beabstandet sind, umfasst, und wobei jeder der ersten Oberflächenabschnitte (53) jeweils an einem der zweiten Oberflächenabschnitte (43) für die Ausrichtung der optischen Gruppe (4) auf den Befestigungsclip (5) anliegt.
7. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei die zweiten Oberflächenabschnitte (43) Teil einer äußeren und vorzugsweise rückseitigen Kontur der optischen Gruppe (4) sind, die vorzugsweise einem Raum (44) zwischen zwei benachbarten optischen Elementen (40) der optischen Gruppe (4) zugewandt ist.
8. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei das Schienenprofil (2) einen U-förmigen Querschnitt, wenn in Richtung der Längsachse (L) betrachtet, umfasst, der zwei gegenüberliegenden Seitenwänden (23) aufweist, die die Längsöffnung (21) seitlich begrenzen und durch eine Rückwand (24) zum Begrenzung des Innenraums (20) verbunden sind,
- wobei vorzugsweise die Rückwand (24) den zweiten Befestigungsabschnitt (22) an einer dem Innenraum (20) zugewandten Seite (25) umfasst,
wobei vorzugsweise die gegenüberliegenden Seitenwände (23), mehr bevorzugt an einer dem Innenraum (20) zugewandten Seite (230), die zweite Haltestruktur (200) umfassen.
9. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei der erste Halteabschnitt (45) ein elastisch verformbarer Seitenwandvorsprung (46) der optischen Gruppe (4) ist.
10. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei der zweite Befestigungsabschnitt (22) und vorzugsweise auch der zweite Halteabschnitt (200), falls vorhanden, durch eine Längsprofilstruktur des Schienenprofils (2) gebildet ist.
11. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei die optischen Elemente (40) Linsen beziehungsweise Reflektoren sind und/oder
wobei die optische Gruppe (4) oder deren optische Elemente (40) mindestens einen Teil der Längsöffnung (21) abdecken und vorzugsweise verschließen.
12. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei eine Vielzahl der Lichtquellen (3) und/oder eine Vielzahl der optischen Gruppen (4) in dem Schienenprofil (2) bereitgestellt sind, vorzugsweise in einer Reihe parallel zu der Längsachse

(L) angeordnet sind.

13. Längsleuchte (1) nach einem der vorstehenden Ansprüche, wobei jede der Lichtquellen (3) mit mindestens zwei der Befestigungsclips (5) funktional zusammenwirkt, und/oder
wobei mindestens einer und vorzugsweise mindestens zwei der Befestigungsclips (5) mit einer optischen Gruppe (4) für deren Ausrichtung in Bezug auf die Lichtquelle (3) funktional zusammenwirken. 5 10
14. Längsleuchte (1) nach einem der vorstehenden Ansprüche, ferner umfassend ein Montageelement (6) zum Montieren der Längsleuchte (1) an einer Montageoberfläche, wie einer Wand oder Decke, wobei das Montageelement (6) vorzugsweise eine Seilaufhängung (60), einen Montageadapter (61), wie eine Montagehalterung, und/oder ein Längsmontageprofil (62) umfasst. 15 20
15. Längsleuchte (1) nach einem der vorstehenden Ansprüche, ferner umfassend eine Lichtelektronik (7), wie einen Treiber (70) oder Sensoren, die vorzugsweise an dem Schienenprofil (2), vorzugsweise an einer Außenseite seiner Rückwand (24) oder dem Montageelement (6), vorzugsweise dessen Längsmontageprofil (62), falls vorhanden, befestigt sind. 25

Revendications

1. Luminaire longitudinal (1) s'étendant le long d'un axe longitudinal (L), comprenant : un profil de piste longitudinal (2) délimitant un espace intérieur (20), dans lequel le profil de piste (2) comprend une ouverture longitudinale (21) pour accéder à l'espace intérieur (20),
une source lumineuse longitudinale (3) étant fournie dans l'espace intérieur (20) et s'étendant parallèlement à l'axe longitudinal (L), la source lumineuse (3) comprenant un PCB longitudinal (30) étant équipé d'une pluralité de DEL (31) agencées en une rangée,
une pluralité d'éléments optiques (40) étant formés intégralement comme un groupe optique (4) et agencés dans une rangée correspondant aux DEL (31) de telle sorte que chacun des éléments optiques (40) peut être positionné fonctionnellement à au moins l'une parmi les DEL (31) lorsque le groupe optique (4) est fixé au profil de piste (2) de telle sorte que les éléments optiques (40) peuvent influencer optiquement la lumière émise par les DEL (31) associées, et
un clip de fixation (5) comprenant :
• une première section de fixation (50) à 30 35 40 45 50 55

fixer à une seconde section de fixation correspondante (22) du profil de piste (2) pour maintenir le clip de fixation (5) au niveau du profil de piste (2) au moins dans une direction orthogonale à l'axe longitudinal (L),
• une première section de fixation (51) pour fixer relativement la source lumineuse (3) par l'intermédiaire d'une seconde section de fixation correspondante (32) de la source lumineuse (3) par rapport au clip de fixation (5), et
• une première section d'alignement (52) pour l'alignement du clip de fixation (5) par rapport au groupe optique (4) par l'intermédiaire d'une seconde section d'alignement correspondante (42) du groupe optique (4) de telle sorte que chacun des éléments optiques (40) soit fonctionnellement positionné aux DEL associées (31)

dans lequel le groupe optique (4) comprend une première section de maintien (45) et le profil de piste (2) comprend une seconde structure de maintien (200) pour coopérer mécaniquement avec la première section de maintien (45) afin de fixer le groupe optique (4) au profil de piste (2).

2. Luminaire longitudinal (1) selon la revendication 1, dans lequel le clip de fixation (5) a une forme sensiblement en U avec deux bras latéraux opposés (55) étant reliés par une section de connexion (56) et délimitant un espace de réception (57) pour traverser longitudinalement et donc recevoir la source lumineuse (3). 30
3. Luminaire longitudinal (1) selon la revendication 2, dans lequel la section de connexion (56) est bombée vers l'espace de réception (57), et/ou
dans lequel les bras latéraux (55) comprennent la première section de fixation (50), respectivement, de préférence au niveau d'une extrémité distale (54) de celle-ci par rapport à la section de connexion (56), et/ou
dans lequel la section de connexion (56) comprend la première section de fixation (51) au niveau d'un côté faisant face à l'espace de réception (57), et/ou
dans lequel la section de connexion (56) comprend la première section d'alignement (52) au niveau d'un côté (59) opposé à l'espace de réception (57). 35 40 45 50 55
4. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel la fixation du clip de fixation (5) au profil de piste (2) est obtenue par ajustement de forme et/ou par connexion par friction entre la première et la seconde 55

section de fixation (50, 22), et/ou dans lequel

- la première section de fixation (50) comprend une section de serrage, comme un ressort de serrage, et/ou une section de verrouillage, comme un élément d'assemblage par encliquetage, et/ou une section de verrouillage, comme une structure en forme de dent ou de dent de scie, et
- la seconde section de fixation (22) comprend une disposition correspondante pour obtenir la fixation du clip de fixation (5) au profil de piste (2), comme un évidement, une rainure longitudinale, un élément de connexion par encliquetage correspondant, et/ou une structure de verrouillage.

5. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel la fixation de la source lumineuse (3) au clip de fixation (5) est obtenue par ajustement de forme et/ou par connexion par friction de la première et de la seconde section de fixation (51, 32), et/ou dans lequel

- la première section de fixation (51) comprend une saillie ou un évidement, de préférence une saillie en forme de broche, et
- la seconde section de fixation (32) comprend une disposition correspondante pour obtenir la fixation de la source lumineuse (3) au clip de fixation (5), comme un évidement ou une saillie, de préférence un évidement ou un trou traversant dans le PCB (30).

6. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel l'alignement du groupe optique (4) sur le clip de fixation (5) est obtenu par ajustement de forme et/ou connexion par friction de la première et seconde section d'alignement (52, 42), et/ou dans lequel la première section d'alignement (52) comprend une saillie avec au moins deux premières sections de surface (53) étant éloignées l'une de l'autre le long de l'axe longitudinal (L), dans lequel la seconde section d'alignement (42) comprend au moins deux secondes sections de surface (43) étant éloignées l'une de l'autre le long de l'axe longitudinal (L), et dans lequel chacune des premières sections de surface (53) est en butée avec l'une des secondes sections de surface (43), respectivement, pour l'alignement du groupe optique (4) sur le clip de fixation (5).

7. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel les secondes sections de surface (43) font partie d'un

contour extérieur et de préférence arrière du groupe optique (4) faisant de préférence face à un espace (44) entre deux éléments optiques voisins (40) du groupe optique (4).

8. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel le profil de piste (2) comprend une section transversale en forme de U lorsqu'il est observé dans la direction de l'axe longitudinal (L), ayant deux parois latérales opposées (23) délimitant latéralement l'ouverture longitudinale (21) et étant connecté par une paroi arrière (24) pour délimiter l'espace intérieur (20),

dans lequel, de préférence, la paroi arrière (24) comprend la seconde section de fixation (22) au niveau d'un côté (25) faisant face à l'espace intérieur (20),

dans lequel, de préférence, les parois latérales opposées (23), plus préférentiellement au niveau d'un côté (230) faisant face à l'espace intérieur (20), comprennent la seconde structure de maintien (200).

9. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel la première section de maintien (45) est une saillie de paroi latérale élastiquement déformable (46) du groupe optique (4).

10. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel la seconde section de fixation (22) et, de préférence également la seconde section de maintien (200), si présente, est faite par une structure de profil longitudinal du profil de piste (2).

11. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel les éléments optiques (40) sont respectivement des lentilles et/ou des réflecteurs, et/ou dans lequel le groupe optique (4) ou ses éléments optiques (40) couvrent et, de préférence, ferment au moins une partie de l'ouverture longitudinale (21).

12. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel une pluralité de sources lumineuses (3) et/ou une pluralité de groupes optiques (4) sont prévues dans le profil de piste (2), de préférence agencées dans une rangée parallèlement à l'axe longitudinal (L).

13. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, dans lequel chacune des sources lumineuses (3) coopère fonctionnellement avec au moins deux des clips de fixation (5), et/ou dans lequel au moins un et de préférence au moins

deux des clips de fixation (5) coopèrent fonctionnellement avec un groupe optique (4) pour un alignement de ceux-ci par rapport à la source lumineuse (3).

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14. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, comprenant en outre un élément de montage (6) pour fixer le luminaire longitudinal (1) à une surface de montage, comme un mur ou un plafond, dans lequel l'élément de montage (6) comprend de préférence une suspension de cordon (60), un adaptateur de montage (61), comme un support de montage, et/ou un profil de montage longitudinal (62).

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15. Luminaire longitudinal (1) selon l'une quelconque des revendications précédentes, comprenant en outre des composants électroniques d'éclairage (7), tels qu'un pilote (70) ou des capteurs, qui sont de préférence fixés au profil de piste (2), de préférence au niveau d'un côté extérieur de sa paroi arrière (24), ou à l'élément de montage (6), de préférence à son profil de montage longitudinal (62), s'il est présent.

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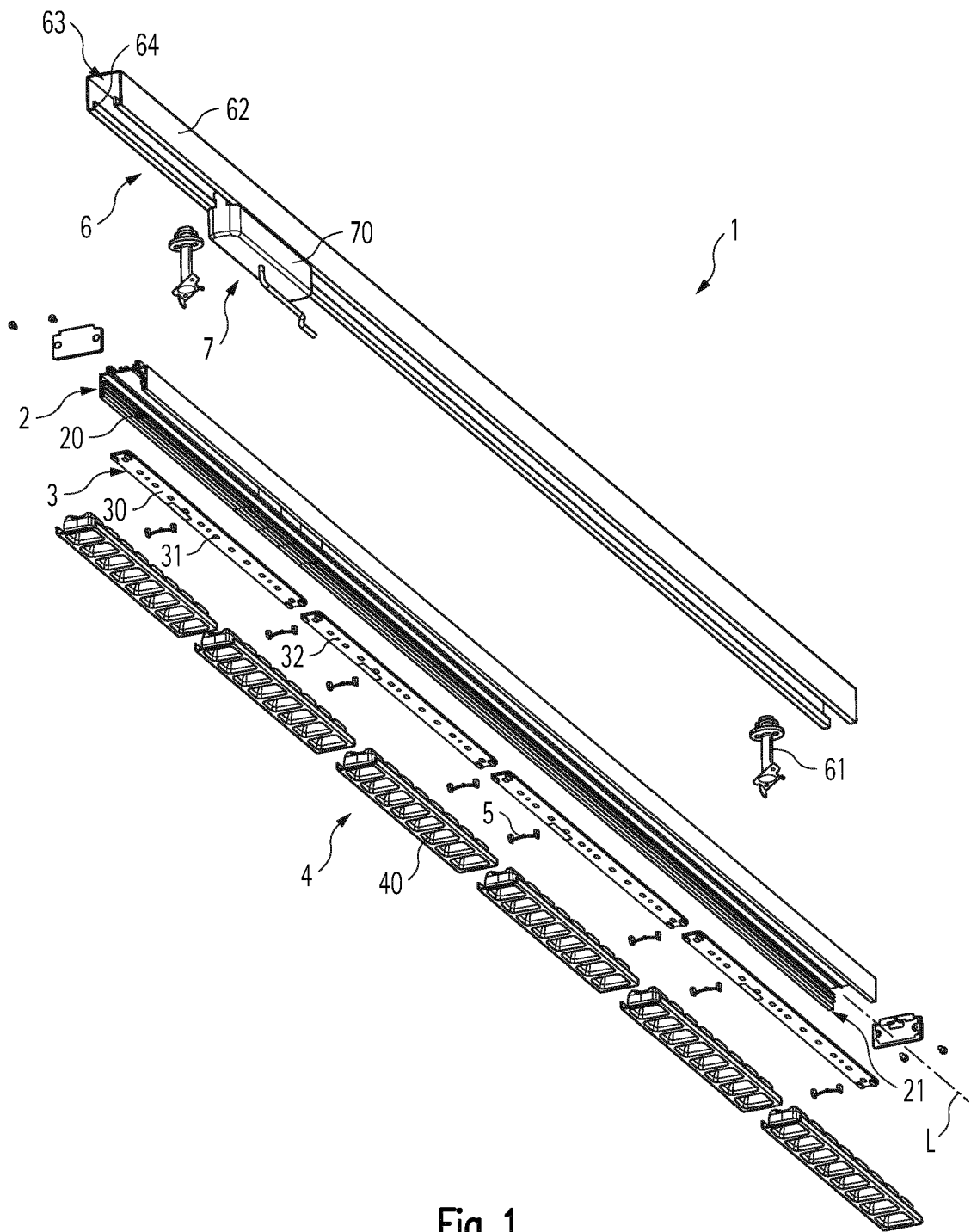


Fig. 1

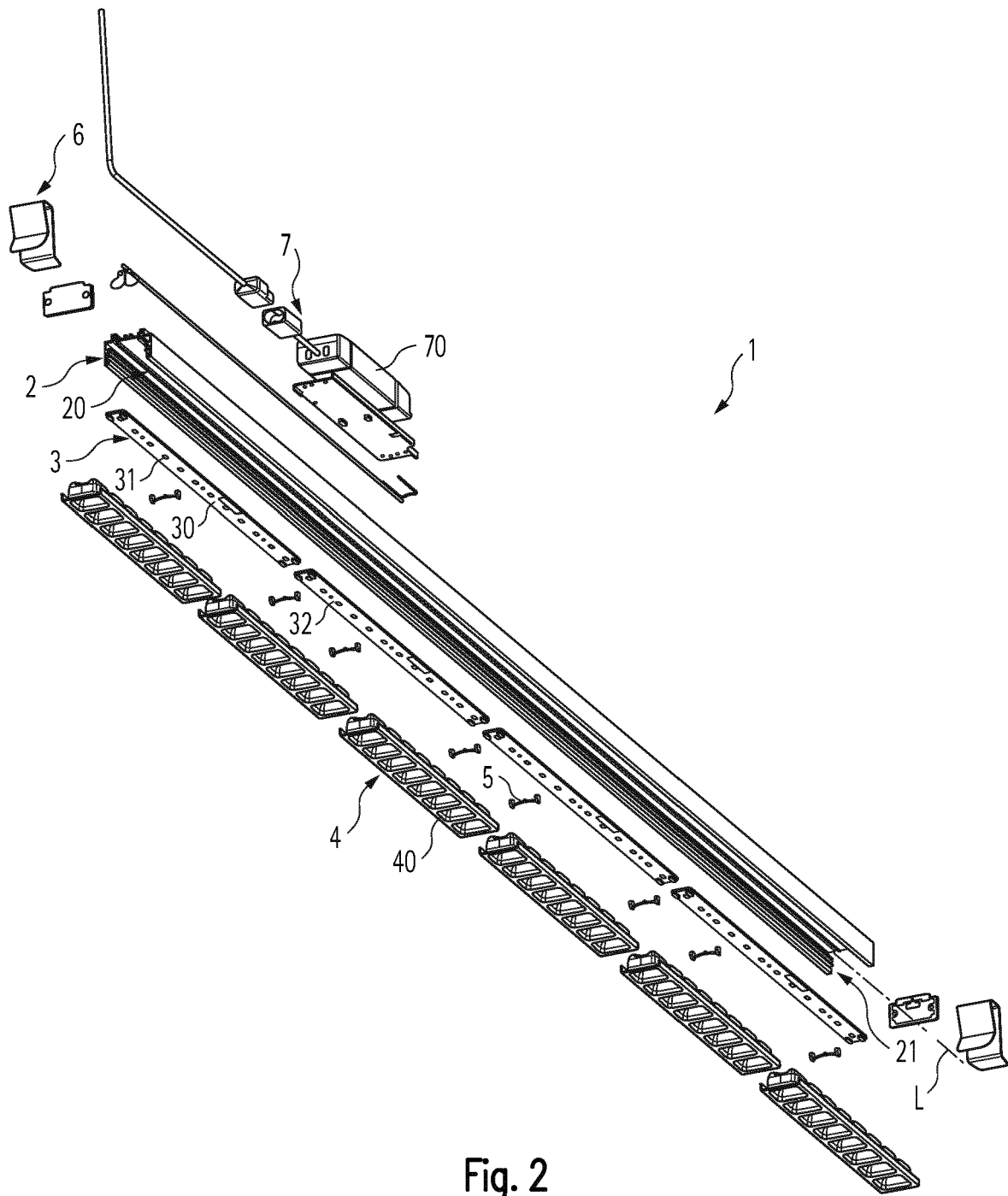


Fig. 2

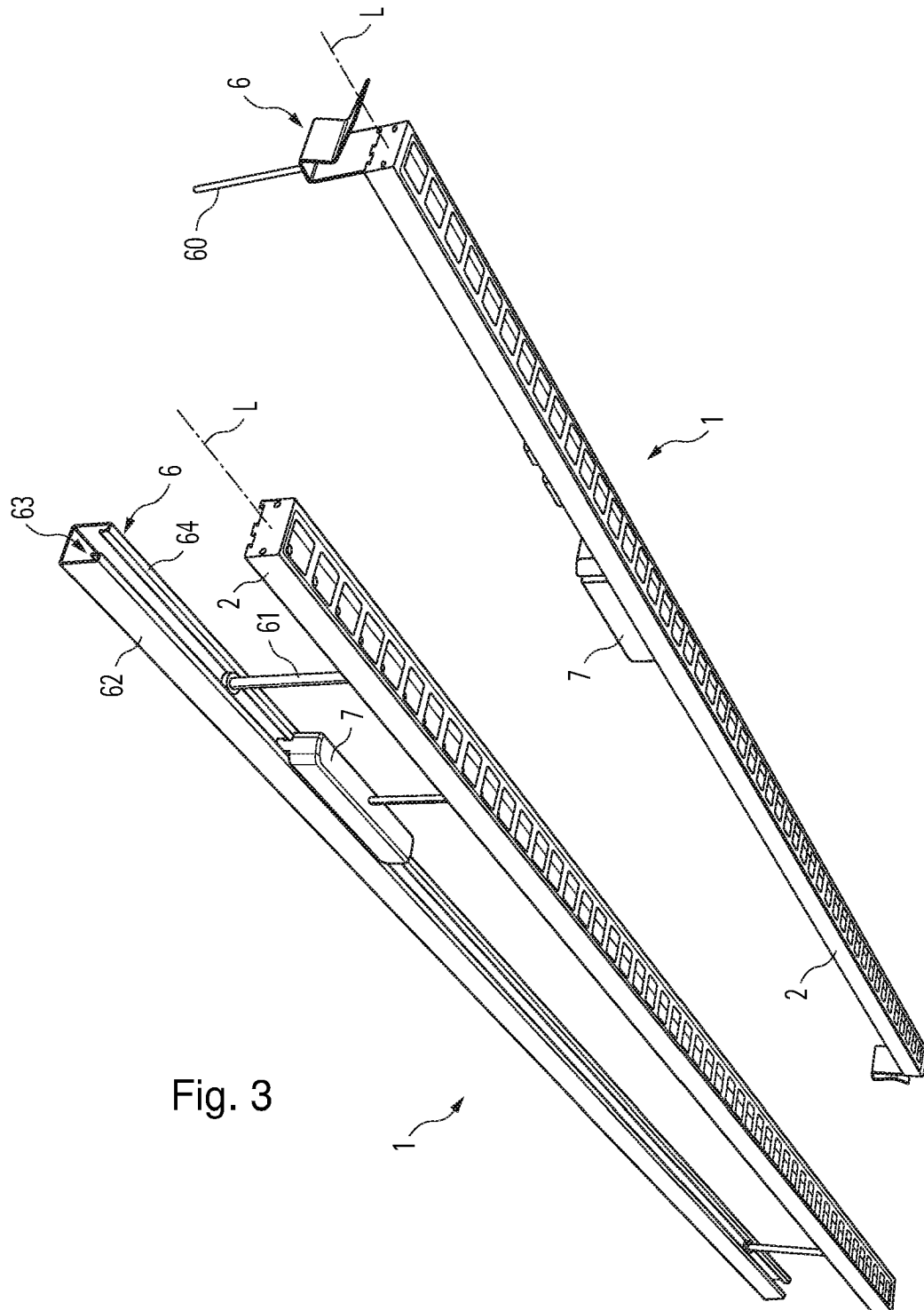


Fig. 4

Fig. 3

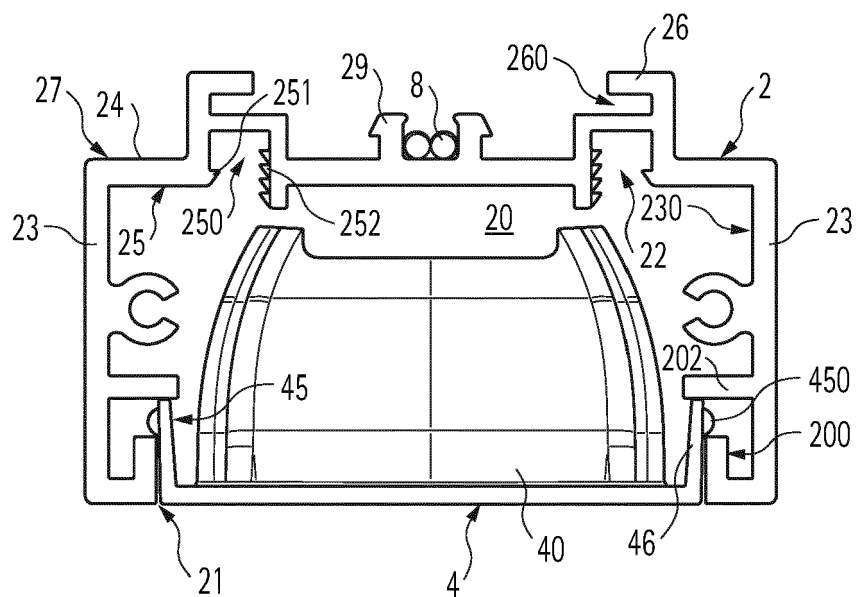


Fig. 5

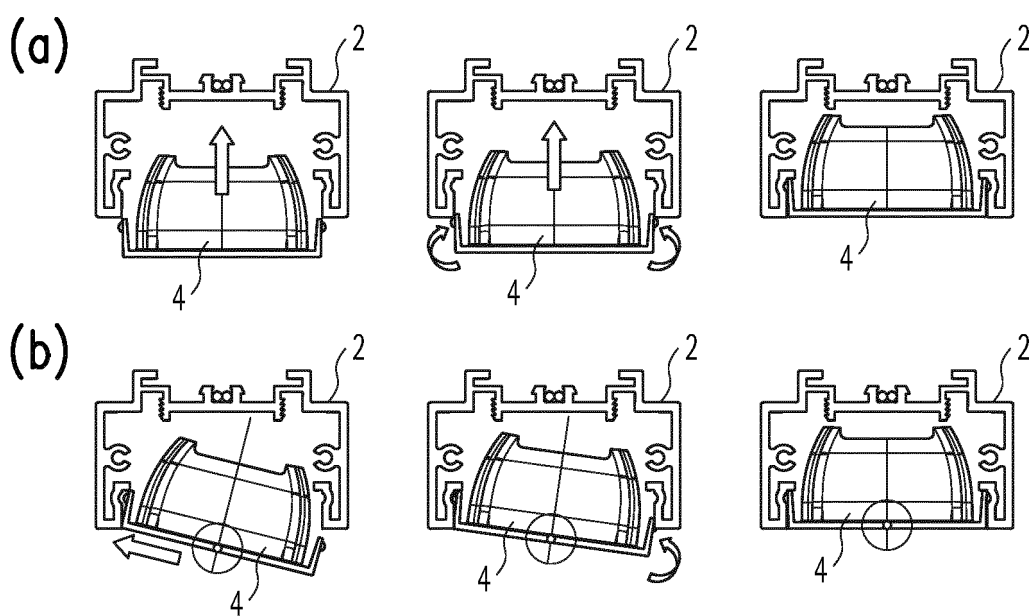


Fig. 7

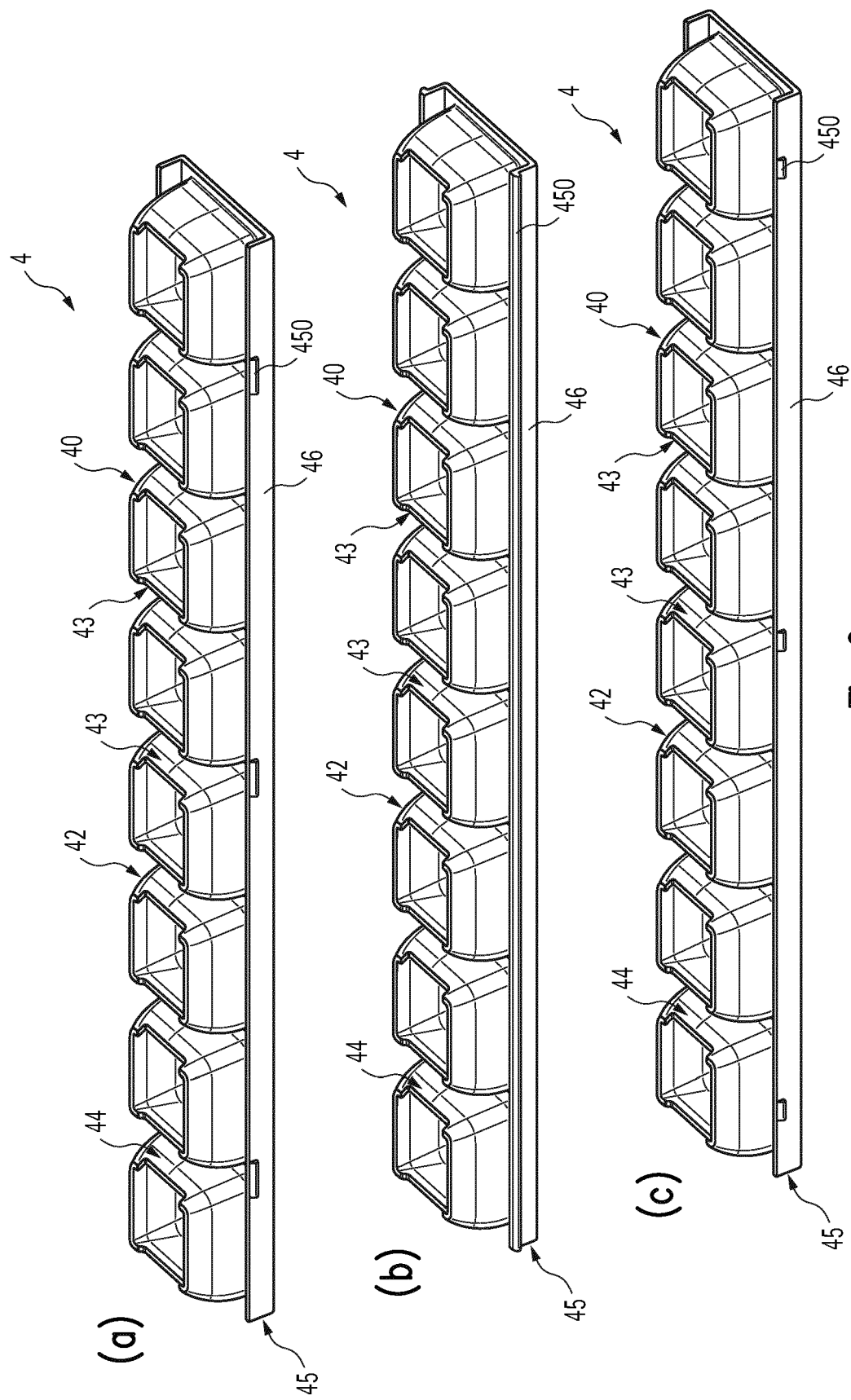


Fig. 6

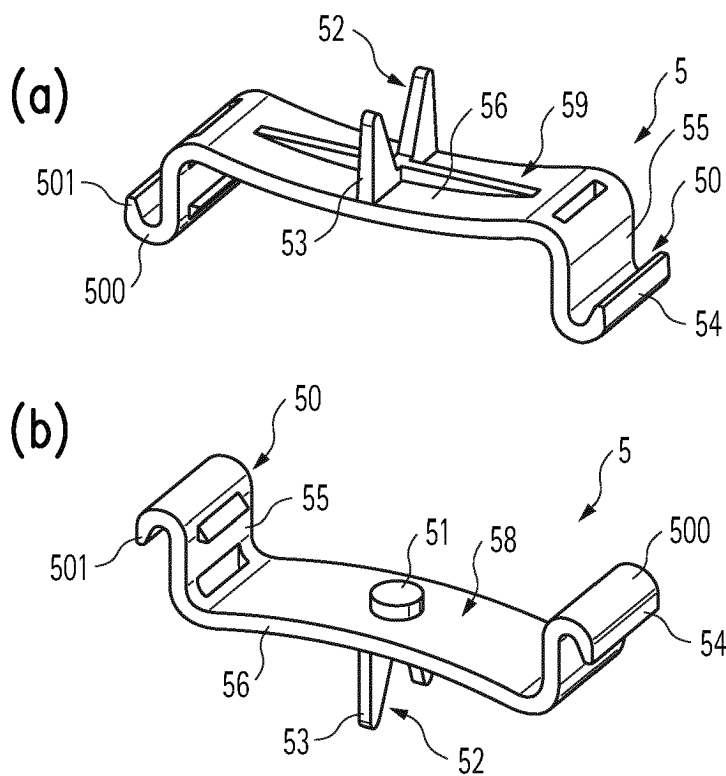
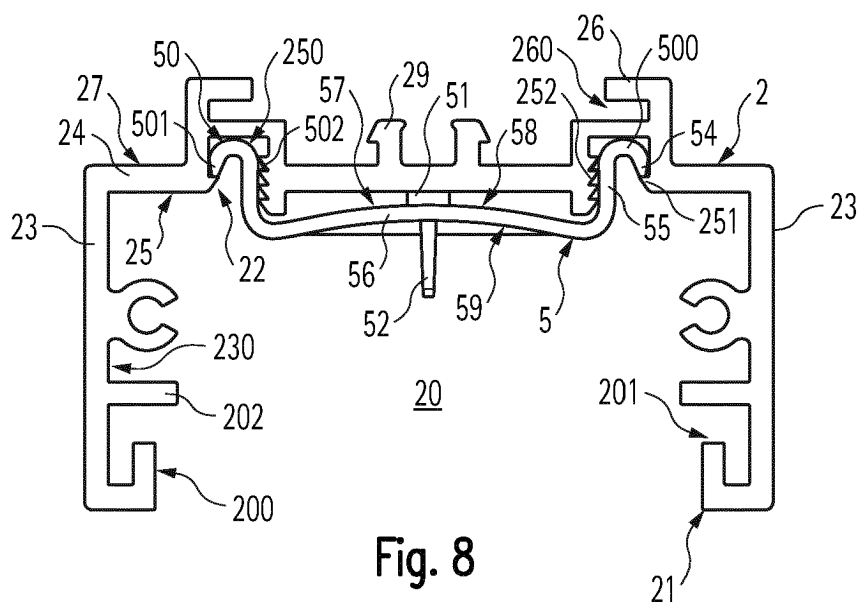


Fig. 9

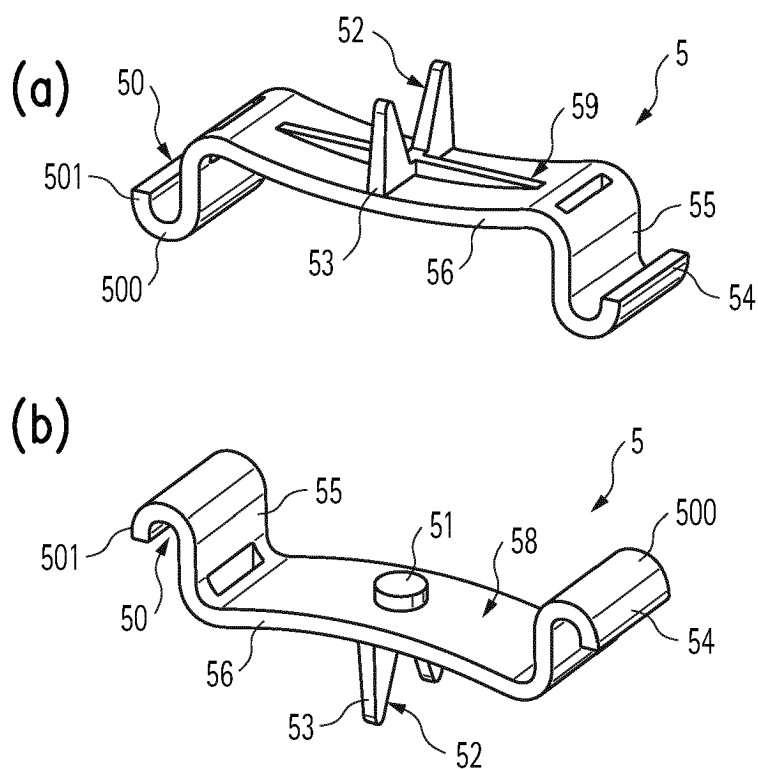
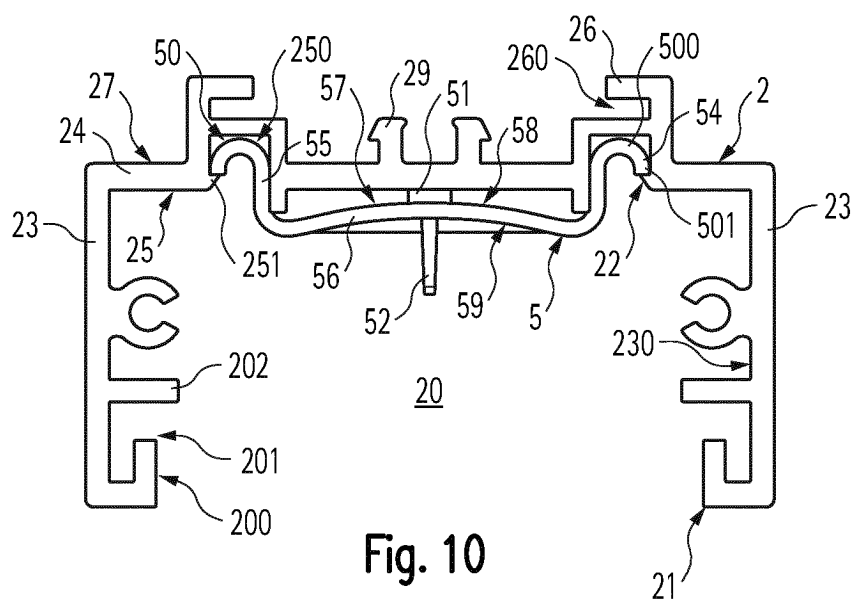


Fig. 11

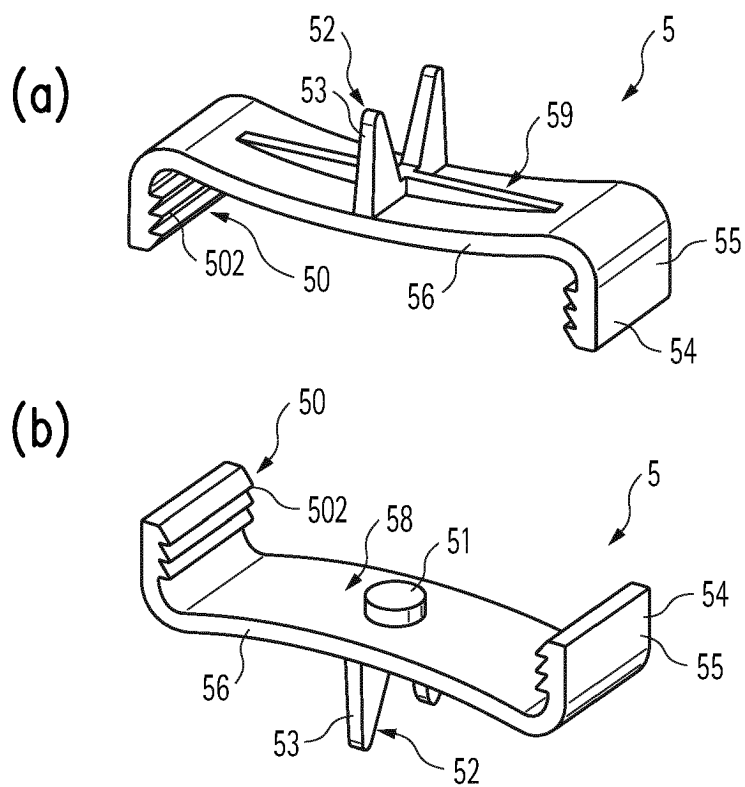
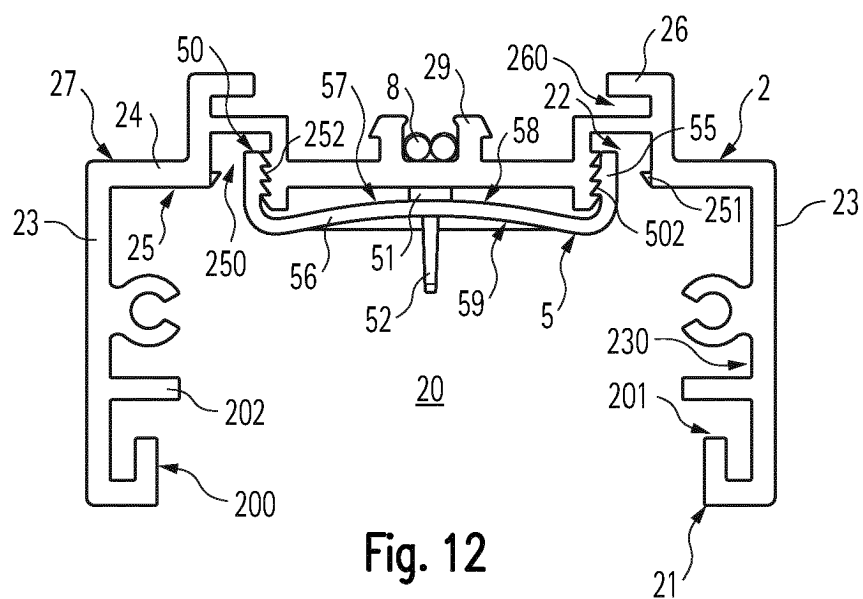


Fig. 13

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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