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(54) **DEVICE FOR INSTALLING A PROFILE WHICH SUPPORTS AN AWNING IN A PERGOLA-LIKE STRUCTURE**

VORRICHTUNG ZUR INSTALLATION EINES PROFILS, DAS EINE MARKISE IN EINER PERGOLA-ÄHNLICHEN STRUKTUR TRÄGT

DISPOSITIF POUR INSTALLER UN PROFIL QUI SUPPORTE UN AUVENT DANS UNE STRUCTURE SIMILAIRE À UNE PERGOLA

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Description

[0001] The present invention relates to a device for installing a profile which supports an awning in a pergola-like structure.

[0002] A pergola-like structure that supports an awning in an upward region is typically constituted by a rectangular frame with a pair of longitudinal members and a pair of cross-members, which rests on at least four uprights. Between the two longitudinal members there are transverse profiles that support the awning, which are associated at their ends with guides that are adapted to slide along the longitudinal members. The transverse profiles are in fact movable and each one of them is conveniently coupled to the awning; they are adapted to slide along the longitudinal members, becoming mutually spaced apart in order to extend the awning or mutually closer together in order to collect it in folds.

[0003] Nowadays it is common to install the profiles by way of a device constituted by a Z-shaped or otherwise-shaped bracket the lower portion of which is fastened in advance to a guide, and a bracket shaped like an upside-down L the vertical side of which is fastened in advance to the end of the profile. During the installation of the structure, the two brackets are coupled by way of mechanical fastening at their upper portions.

[0004] Such operation is rather difficult for the operator, who has to simultaneously support the transverse profile, and it is also rather unsafe, because when fastening the two brackets by way of bolts the operator is forced to support the profile with one hand only, with the risk that the profile could fall on him disastrously.

[0005] The problems found are even more evident in pergola-like structures with curved profiles, because the very shape structure of the profiles makes the system even more unstable, at least until the profiles are fastened to the respective guides at both ends.

[0006] The aim of the present invention is to provide a device for installing a profile which supports an awning in a pergola-like structure, which is capable of improving the known art in one or more of the above mentioned aspects.

[0007] Within this aim, an object of the invention is to provide a device that facilitates the installation of transverse profiles in a pergola-like structure.

[0008] Another object of the invention is to make the installation of profiles in pergola-like structures safer for the operator.

[0009] Another object of the invention is to fasten the profile to the respective guide with precision.

[0010] Furthermore, another object of the present invention is to overcome the drawbacks of the known art in an alternative manner to any existing solutions.

[0011] Another object of the invention is to provide a device that is highly reliable, easy to implement and at low cost.

[0012] This aim and these and other objects which will become better apparent hereinafter are achieved by a

device according to claim 1, optionally provided with one or more of the characteristics of the dependent claims.

[0013] Further characteristics and advantages of the invention will become better apparent from the description of a preferred, but not exclusive, embodiment of the device according to the invention, which is illustrated by way of non-limiting example in the accompanying drawings wherein:

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- Figure 1 is an exploded perspective view of the device according to the invention;
 - Figure 2 is a side view of the device according to the invention during a step of installing a transverse profile of the pergola-like structure;
 - Figure 3 shows, in the same view as Figure 2, the device according to the invention in a subsequent step of installing the profile;
 - Figure 4 shows, again in the same view as Figure 2, the device according to the invention at the end of the installation of the profile;
 - Figure 5 is a cross-sectional side view of the device according to the invention in the step of installation shown in Figure 3.

[0014] With reference to the figures, the device according to the invention, generally designated by the reference numeral 10, can be used for installing a profile which supports an awning in a pergola-like structure of the type comprising uprights which support a frame with a pair of longitudinal members 33, cross-members and profiles 11 that are transverse to the longitudinal members 33 and are adapted to slide along the longitudinal members on adapted guides 12, which are conventional.

[0015] The device 10 comprises:

- an L-shaped bracket 13 to be fixed with a portion 14 thereof, which is bottommost and substantially horizontal in the installation configuration of the profile to a carriage 32, which is arranged in a guide 12,
- a connecting element 15 between one of the profiles 11 and the bracket 13, which is provided with a seat 16 designed to accommodate an end portion 17, which is uppermost in the installation configuration, of the bracket 13,
- fastening means 18 for fastening the bracket 13 to the connecting element 15.

[0016] Such fastening means 18 comprise:

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- a pawl-like first component 19, which is adapted to retain the bracket 13 with its end portion 17 in the seat 16, comprising at least one pawl 19a with which it is adapted to be arranged in the active configuration below a corresponding shoulder 20 of the bracket 13,
 - at least one second component 21, which connects the first component 19 to the connecting element 15, allowing the oscillation thereof in order to pass from an inactive configuration to the active configuration.

[0017] In the installation configuration of the profile 11, the portion 14 of the bracket 13 is the bottommost one and is arranged substantially horizontally, while the remaining portion, where the end portion 17 is present, is substantially vertical.

[0018] The bracket 13, which is arranged to form an L as shown in the figures, has two lateral wings 27 which protrude from opposite edges below the end portion 17, so as to create a pair of corresponding shoulders 20. Conveniently, the first component 19 has a pair of pawls 19a which extend on opposite sides and are each adapted to be arranged below a corresponding shoulder 20.

[0019] The two pawls 19a are directed upward so as to prevent an accidental displacement of the first component 19 from the active configuration.

[0020] The connecting element 15, as can be seen in particular in the exploded perspective view in Figure 1, is constituted by a contoured body with a first portion 22 for butt fastening to the end of the profile 11 and a second portion 23 which is adapted to accommodate the end portion 17 from below in the seat 16.

[0021] The first portion 22 has two protrusions 24 to be inserted into special seats which are at the end of the profile 11, and holes 25 for fastening to the profile by way of screws 26, as illustrated in the cross-sectional view in Figure 5.

[0022] There are two second components 21, which consist of a pair of screws 28 that pass through the connecting element 15 at adapted slotted holes which are on the second portion 23 and at least partially through the first component 19. The slotted shape of the holes allows the fastening means 18, which are constituted by the first component 19 and by the screws 28, to oscillate, allowing the former to pass from an inactive configuration to the active configuration.

[0023] The first component 19 expressly has two threaded holes to receive the screws.

[0024] The device 10 advantageously also comprises a guide for the edges of the awning, which is constituted by a retaining element 29 for a flap of fabric, to be coupled above the connecting element 15 with the interposition of the flap of that awning.

[0025] The retaining element 29 can be coupled to the connecting element 15 by way of the screws 28 that pass through it at a coupling portion 30 thereof, indicated in Figure 2, and for such purpose it conveniently has two slotted holes, corresponding to the holes of the connecting element 15, in which the screws 28 can oscillate.

[0026] It furthermore has a portion 31, indicated in Figure 2, that overlaps the element for connection, creating an interspace between the two for the flap of fabric.

[0027] The bracket 13 is preferably made of steel, while the other components are preferably made of aluminum, giving lightness to the system that is rendered integral with the profile during the installation.

[0028] Use of the device according to the invention is the following.

[0029] The bracket 13 is fastened in advance to an

adapted carriage 32 in a guide 12, as shown in Figure 5, by way of bolts, and the connecting element 15 is fastened in advance to the end of the profile 11, with the first portion 22 thereof.

[0030] The screws 28 are inserted in succession through the elongated holes of the retaining element 29 and of the connecting element 15 and are screwed into the first component 19, without tightening them. The screws 28 and the component 19 are therefore free to oscillate integrally.

[0031] The operator brings the system, constituted by the profile 11, the connecting element 15 and the fastening means 18, toward the bracket 13, and inserts the end portion 17 of the latter into the seat 16. The first component 19 is then brought to the active configuration of holding the position of the bracket 13, i.e. with the pawls 19a below the respective shoulders 20, and the screws 28 are tightened.

[0032] For the installation of each profile, one device 10 is used for each end thereof.

[0033] At the end of the installation of all the profiles, the lateral edges of the awning are arranged in the guides between the portion 31 of the element 29 and the connecting element 15 in order to hold the fabric in position and ensure a better outflow of water in the event of rain.

[0034] It should be noted that the device 10 according to the invention allows to fasten the profiles to the guides after having placed them stably on the respective brackets 13. Therefore, it is evident that for the operator it is possible to install the profiles more easily and quickly, as well as more safely, with respect to conventional devices.

[0035] It should also be noted that the connecting element 15, owing to its particular shape, enables stable resting on the bracket and in a precise position.

[0036] In practice it has been found that the invention fully achieves the intended aim and objects by providing a device that facilitates the installation of transverse profiles in a pergola-like structure and makes such installation safer and more precise.

[0037] The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

[0038] In practice the materials employed, provided they are compatible with the specific use, and the contingent dimensions and shapes, may be any according to requirements and to the state of the art.

[0039] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A device able to install, in an installation configuration, a profile which supports an awning in a pergola-like structure, of the type comprising uprights which support a frame with longitudinal members (33), cross-members and profiles (11) that are transverse to the longitudinal members (33) and said profiles (11) being slidably connected along said longitudinal members on adapted guides (12), said device (10) comprising:

- an L-shaped bracket (13) able to be fixed with its portion (14), which is bottommost and substantially horizontal in the installation configuration of the profile (11), to a carriage (32), which is arranged in one of said guides (12),
- a connecting element (15) able to be connected between one of said profiles (11) and said bracket (13), said connecting element (15) being provided with a seat (16) that accommodates an end portion (17), which is uppermost in said installation configuration, of said bracket (13),
- fastening means (18) that fasten said bracket (13) to said connecting element (15).

2. The device according to claim 1, **characterized in that** said fastening means (18) comprise:

- a pawl-like first component (19), which retains said bracket (13) with its end portion (17) in said seat (16), and which comprises at least one pawl (19a) with which it is arranged in the installation configuration below a corresponding shoulder (20) of said bracket (13),
- at least one second component (21), which connects said first component (19) to said connecting element (15), allowing the oscillation thereof in order to pass from an inactive configuration to said installation configuration.

3. The device according to claim 2, **characterized in that** there are two of said second components (21), which consist of a pair of screws (28) that pass through said connecting element (15) at adapted slotted holes and at least partially through said first component (19).

4. The device according to one or more of the preceding claims, **characterized in that** it comprises a guide for the edges of the awning, which is constituted by a retaining element (29) for a flap of fabric, to be above said connecting element (15) with the interposition of the flap of said awning.

5. The device according to claim 4, **characterized in that** said retaining element (29) is able to be coupled to said connecting element (15) by way of said at

least one screw (28) which passes through it at a portion for coupling (30) thereof.

6. The device according to one or more of the preceding claims, **characterized in that** said connecting element (15) is constituted by a contoured body which has a first portion (22) butt able to be fastened to the end of said profile (11) and a second portion (23) which accommodates said end portion (17) from below in said seat (16).

7. The device according to claim 2, **characterized in that** said bracket (13) has an L-shaped configuration with two lateral wings (27) which protrude from opposite edges below said end portion (17) so as to create a pair of corresponding said shoulders (20) and said first component (19) has a pair of said pawls (19a) which extend on opposite sides and are each arranged below a corresponding one of said shoulders (20).

Patentansprüche

1. Eine Vorrichtung, die ausgebildet ist, in einer Installationskonfiguration ein Profil zu installieren, welche eine Markise in einer Pergola-ähnlichen Struktur trägt, von der Art, die Pfosten umfasst, die einen Rahmen mit Längsgliedern (33), Querträger und Profile (11), die quer zu den Längsgliedern (33) sind tragen, wobei die Profile (11) verschiebbar entlang den Längsgliedern mit geeigneten Führungen (12) gekoppelt sind, wobei die Vorrichtung (10) Folgendes umfasst:

- einen L-förmigen Träger (13), der ausgebildet ist, mit seinem untersten Abschnitt (14), der in der Installationskonfiguration des Profils (11) im Wesentlichen horizontal ist, an einem Schlitten (32) befestigt zu werden, welcher in einer der Führungen (12) angeordnet ist,
- ein Verbindungselement (15), das ausgebildet ist, zwischen einem der Profile (11) und dem Träger (13) angeschlossen zu werden, wobei das Verbindungselement (15) mit einem Sitz (16) ausgestattet ist, der einen Endabschnitt (17) des Trägers (13) aufnimmt, welcher in der Installationskonfiguration ganz oben ist,
- Befestigungsmittel (18), die den Träger (13) an dem Verbindungselement (15) befestigen.

2. Die Vorrichtung gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die Befestigungsmittel (18) umfassen:

- eine klinkenartige erste Komponente (19), die den Träger (13) mit seinem Endabschnitt (17) in dem Sitz (16) hält und die mindestens eine

- Klinke (19a) umfasst, mit welcher sie in der Installationskonfiguration unterhalb einer entsprechenden Schulter (20) des Trägers (13) angeordnet ist,
- mindestens eine zweite Komponente (21), die die erste Komponente (19) mit dem Verbindungselement (15) verbindet und dabei die Oszillation davon ermöglicht, um aus einer inaktiven Konfiguration in die Installationskonfiguration zu wechseln.
3. Die Vorrichtung gemäß Anspruch 2, **dadurch gekennzeichnet, dass** es zwei der zweiten Komponenten (21) gibt, die aus einem Paar von Schrauben (28) bestehen, welche in geeigneten Schlitzlöchern das Verbindungselement (15) und zumindest teilweise die erste Komponente (19) durchdringen.
 4. Die Vorrichtung gemäß einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** sie eine Führung für die Ränder der Markise umfasst, die aus einem Halteelement (29) für einen Flügel aus Stoff besteht, dazu bestimmt, oberhalb des Verbindungselements (15) zu liegen, mit Anordnung des Flügels der Markise dazwischen.
 5. Die Vorrichtung gemäß Anspruch 4, **dadurch gekennzeichnet, dass** das Halteelement (29) ausgebildet ist, mit dem Verbindungselement (15) mit Hilfe der mindestens einen Schraube (28) gekoppelt zu werden, die es an einem Kopplungsabschnitt (30) desselben durchdringt.
 6. Die Vorrichtung gemäß einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Verbindungselement (15) einen konturierten Körper aufweist, der ein erstes Endstück (22) hat, das an dem Ende des Profils (11) befestigt werden kann, und einen zweiten Abschnitt (23), der den Endabschnitt (17) von unten in dem Sitz (16) aufnimmt.
 7. Die Vorrichtung gemäß Anspruch 2, **dadurch gekennzeichnet, dass** der Träger (13) als L-förmige Anordnung mit zwei Seitenflügeln (27) ausgebildet ist, die von gegenüberliegenden Seiten unterhalb des Endabschnitts (17) vorstehen, um ein Paar der entsprechenden Schultern (20) zu bilden; und die erste Komponente (19) ein Paar der Klinken (19a) hat, die sich auf gegenüberliegenden Seiten erstrecken und jeweils unterhalb einer jeweiligen Schulter (20) angeordnet sind.
- Revendications**
1. Dispositif pouvant installer, dans une configuration d'installation, un profilé qui supporte un auvent dans une structure analogue à une pergola, du type comportant des montants qui supportent un châssis avec des éléments longitudinaux (33), des traverses et des profilés (11) qui sont transversaux aux éléments longitudinaux (33) et lesdits profilés (11) étant reliés de manière à pouvoir coulisser le long desdits éléments longitudinaux sur des guides (12) adaptés, ledit dispositif (10) comportant :
 - une équerre en forme de L (13) pouvant être fixée avec sa partie (14), qui est la plus basse et sensiblement horizontale dans la configuration d'installation du profilé (11), à un coulisseau (32), qui est agencé dans l'un desdits guides (12),
 - un élément de liaison (15) pouvant établir une liaison entre l'un desdits profilés (11) et ladite équerre (13), ledit élément de liaison (15) étant pourvu d'un logement (16) qui reçoit une partie d'extrémité (17), qui est la plus haute dans ladite configuration d'installation, de ladite équerre (13),
 - des moyens de fixation (18) qui fixent ladite équerre (13) audit élément de liaison (15).
 2. Dispositif selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation (18) comportent :
 - un premier composant analogue à un cliquet (19), qui retient ladite équerre (13) avec sa partie d'extrémité (17) dans ledit logement (16), et qui comporte au moins un cliquet (19a) avec lequel il est agencé dans la configuration d'installation sous un épaulement (20) correspondant de ladite équerre (13),
 - au moins un second composant (21), qui relie ledit premier composant (19) audit élément de liaison (15), permettant l'oscillation de celui-ci afin de passer d'une configuration inactive à ladite configuration d'installation.
 3. Dispositif selon la revendication 2, **caractérisé en ce qu'il** y a deux desdits seconds composants (21), qui sont constitués d'une paire de vis (28) qui passent à travers ledit élément de liaison (15) au niveau de trous oblongs adaptés et au moins partiellement à travers ledit premier composant (19).
 4. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce qu'il** comporte un guide pour que les bords de l'auvent, qui est constitué d'un élément de retenue (29) pour un rabat en toile, soient au-dessus dudit élément de liaison (15) avec l'interposition du rabat dudit auvent.
 5. Dispositif selon la revendication 4, **caractérisé en ce que** ledit élément de retenue (29) peut être couplé audit élément de liaison (15) au moyen de ladite au

moins une vis (28) qui le traverse sur une partie de couplage (30) de celui-ci.

6. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément de liaison (15) est constitué d'un corps profilé qui a une première partie (22) pouvant être fixée bout à bout à l'extrémité dudit profilé (11) et une seconde partie (23) qui reçoit ladite partie d'extrémité (17) par le dessous dans ledit logement (16). 5
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7. Dispositif selon la revendication 2, **caractérisé en ce que** ladite équerre (13) a une configuration en forme de L avec deux ailes latérales (27) qui font saillie à partir de bords opposés sous ladite partie d'extrémité (17) de manière à créer une paire desdits épaulements (20) correspondants et ledit premier composant (19) a une paire desdits cliquets (19a) qui s'étendent sur des côtés opposés et sont chacun agencés sous un épaulement correspondant desdits épaulements (20) . 15
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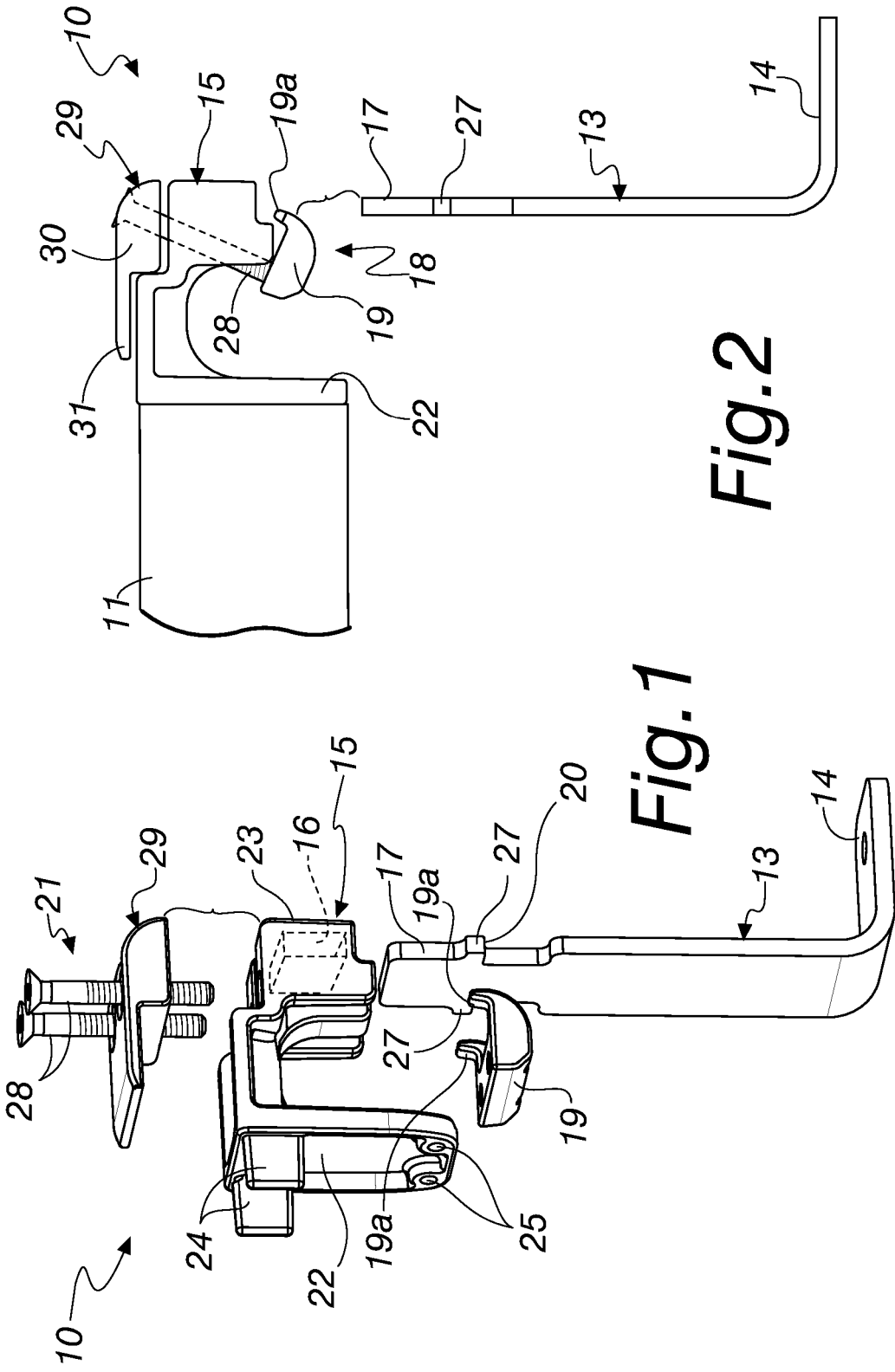


Fig. 1

Fig. 2

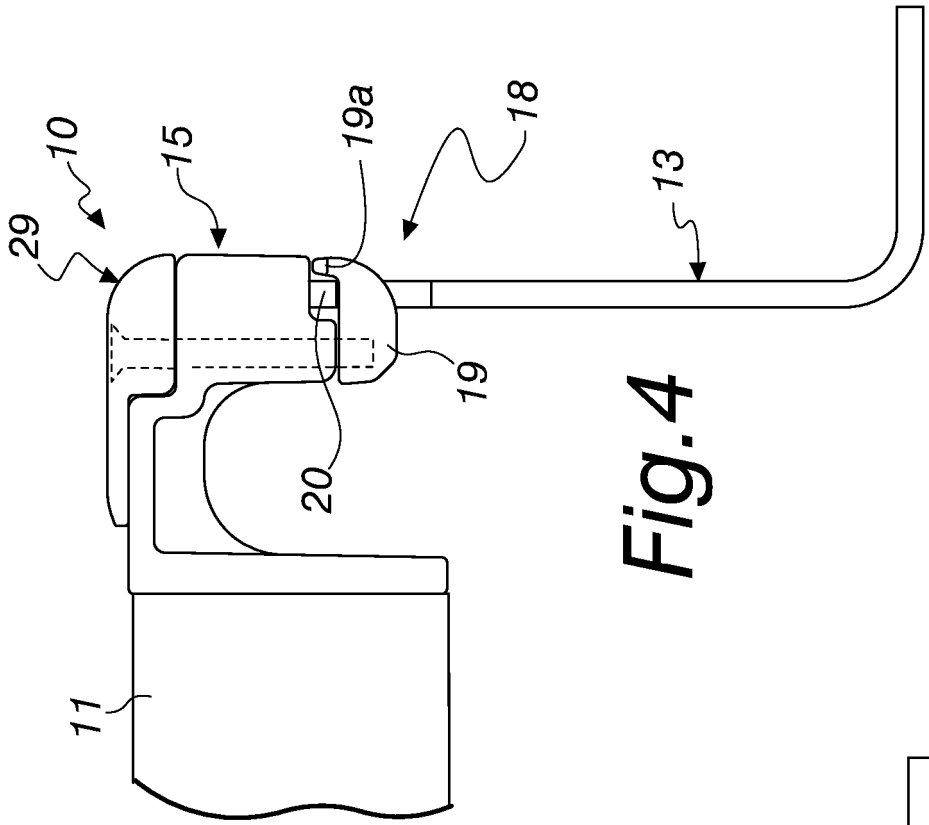


Fig. 4

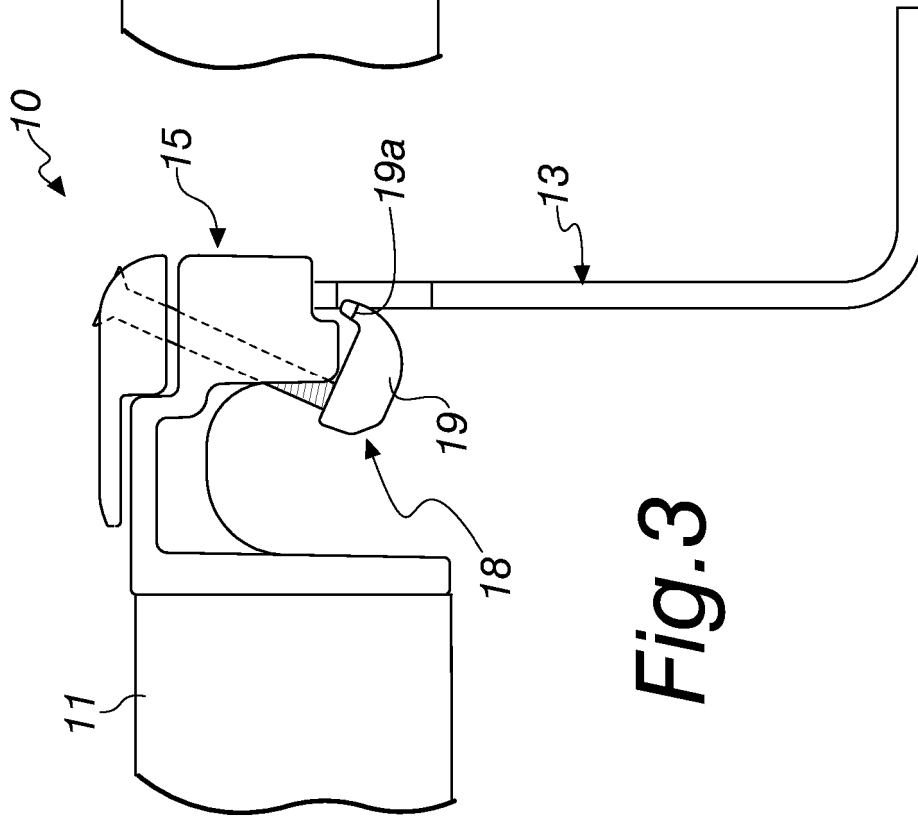


Fig. 3

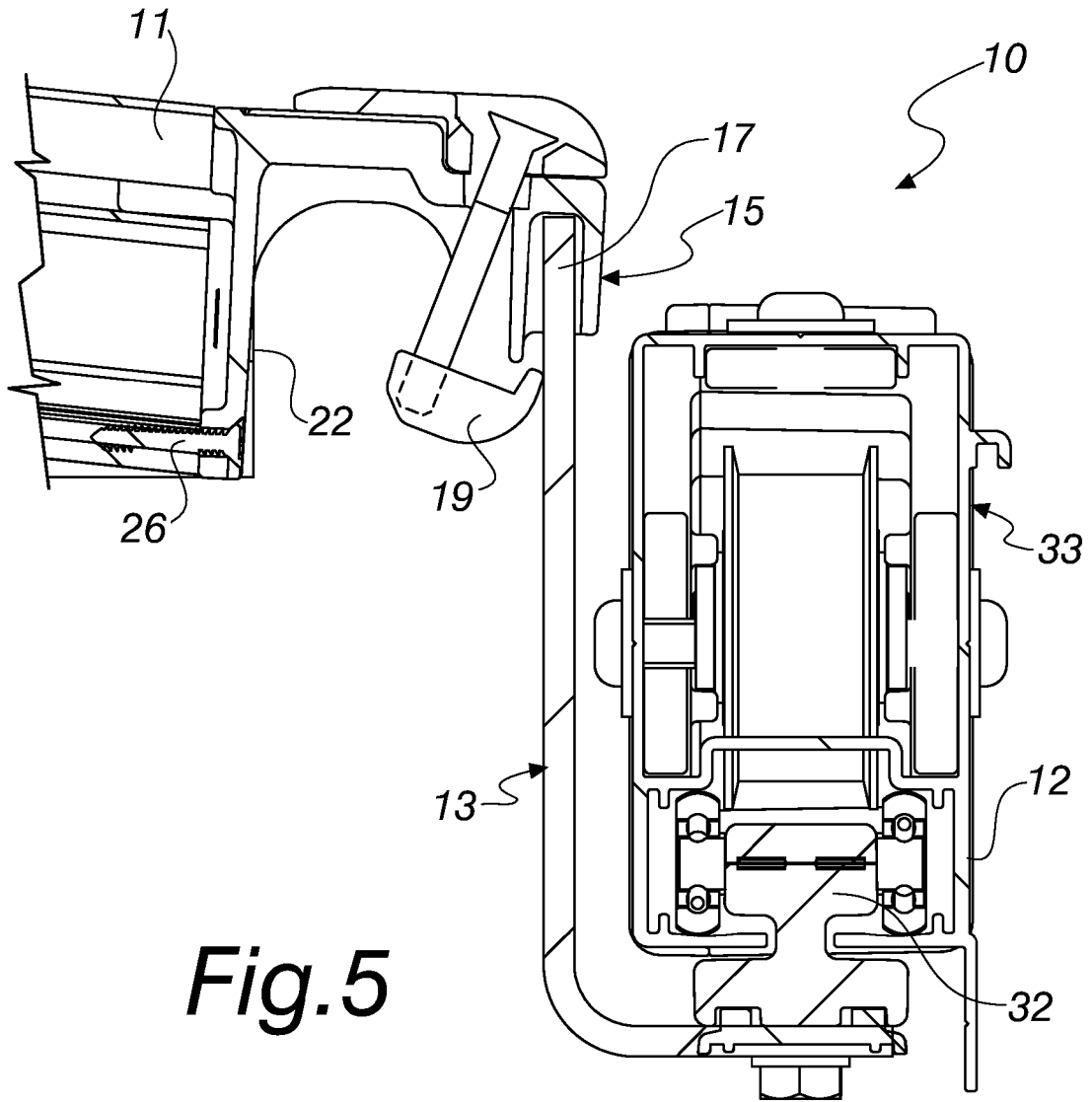


Fig.5