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(54) **System of lamellae**

Lamellensystem

Système de lamelles

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Description

[0001] The invention relates to a system of lamellae for a ventilation device which comprises a series of horizontal lamellae, which are disposed above one another and at a distance from one another and enclose ventilation gaps between them, as well as means for supporting the lamellae, which means comprise at least one upright and a series of lamella holders which are attached to the upright and each support a lamella, which upright has an undercut slot in which each lamella holder is accommodated.

[0002] A system of lamellae of this nature is known from EP-A-199025. The lamella holders of this system each have two click lugs which are clicked into the undercut slot.

[0003] The click lugs are arranged on a strip-like base, by means of which the lamella holders are supported on one another. These bases each bear a projection which engages in the space between the click lugs of the lamella holder above. The aim of the said projection is to prevent the click lugs unintentionally becoming detached from the upright

[0004] The object of the invention is to provide a system of lamellae in which the lamella holders can be attached easily and securely to the associated upright, so that there is no risk of them becoming detached.

[0005] This object is achieved by the fact that at least one of the lamella holders has a widened head with a dimension transverse to the width direction of the head which is at most equal to the width of the opening which provides access to the said slot.

[0006] First of all, this design of the head of the lamella holder offers the possibility of arranging the lamella holder at any desired position in the vertical direction of the upright. To do this, the lamella holder has to be moved into a position which is rotated through approximately 90°, so that the widened head can be inserted into the access opening. Then, the lamella holder is rotated, so that the widened head hooks into the undercut slot and the lamella holder is secured.

[0007] Such an attachment method is highly robust, so that there is no longer any risk of the lamella holder becoming detached. This is because as soon as a lamella has been clicked into place, the lamella holder can no longer rotate.

[0008] In order to stabilize the lamella holders in the desired attachment position, the lamella holder may, at a distance from the widened head, comprise a locking means, such as an elevated section, a projection or the like, which extends into the access opening in order to lock the lamella holder against rotation.

[0009] Each lamella holder may have a strip-like base, on one surface of which there is the widened head and on the other surface of which there is a support for the lamella. The locking means is situated at a distance from the head, also on the base.

[0010] Furthermore, the base may have support means at both ends in order to provide support for the lamella holder with respect to further lamella holders which are arranged on the upright.

[0011] The upright may be designed as a section, for example made of aluminium, which is provided with four undercut slots with a T-shaped cross section. The said section may have a square or rectangular cross section, and each wall of the section may be provided with one or more undercut slots.

[0012] Both horizontal and vertical grates may be arranged on the system of lamellae according to the invention. A fire-retardant gauze may also be provided.

[0013] The invention will now be explained in more detail with reference to an exemplary embodiment which is illustrated in the figures, in which:

Figure 1 shows a system of lamellae according to the invention, in section on line I-I in Figure 2;
Figure 2 shows a cross section through the system of lamellae on line II-II in Figure 1;
Figure 3 shows a rear view of a lamella holder according to the invention;
Figure 4 shows a front view;
Figure 5 shows a cross section through a further variant.

[0014] The system of lamellae according to the invention which is illustrated in Figure 1, comprises an upright 1, on which a number of lamella holders 2 are arranged. Each lamella holder 2 supports a lamella 3. These lamellae extend horizontally above one another, enclosing ventilation gaps 4. These ventilation gaps may be covered by grates which are known per se.

[0015] It can be seen from the top view shown in Figure 2, in which the lamella has been omitted for the sake of clarity, that the upright 1 is designed as a square section which has four undercut slots 5. Each undercut slot 5 has a narrowed access opening 6, into which the widened heads 7 of the lamella holders 2 are hooked.

[0016] As can be seen in Figures 1 and 2, the dimension h of the widened head 7 is at most equal to the width dimension b of the narrowed access opening 6. Consequently, the lamella holder 2 can be attached to the upright 1 in a position in which it has been rotated through approximately 90°. The widened head then fits into the narrowed access opening 6, and after the head 7 has been introduced into the undercut slot 5, the lamella holder 2 can be rotated back In the process, the ends 8 of the widened head 7 hook behind the projecting wall parts 9 which define the access opening 6, resulting in a very secure, stable attachment.

[0017] The upright can be fixed in place by means of bolts 25. The bolts 25 have an elongate head 26 which can be inserted into the undercut slot 5 and can be hooked in place by being rotated.

[0018] In order to lock the lamella holders 2 in this stable position, an elevated section 10 is provided. This elevated section 10 is situated on the strip-like base 11 of

the lamella holder 2, on which the widened head 7 is also located. As shown in Figure 1, this elevated section 10 fits into the narrowed access opening 6 of the section 1, thus avoiding rotation of the lamella holder 2 into the release position.

[0019] On their top side, the lamella holders 2 have support means 12, and on their underside they have support means 13. These support means, as illustrated in Figure 1, enable the lamella holders 2 which lie above one another to be held securely in place stacked on top of one another and the sections (lamellae) to be horizontally aligned.

[0020] As mentioned above, it is also possible to provide grates. According to a first possibility, horizontal grates 14 may be positioned in the grooves 16, 20. As an alternative, vertical grates 15 may be positioned in the grooves 17, 21.

[0021] Finally, a gauze 18 may be attached to the rear side of the uprights 1, for example by means of screws 19. A gauze of this nature may be provided with fire-retardant paint.

[0022] At high temperatures, this paint swells, so that the gauze 18 is partially or completely closed off.

[0023] In the variant shown in Figure 5, the lamella holders 2 are arranged upside-down by comparison with the embodiments shown in Figures 1-4. The assodated upright has been omitted for the sake of clarity.

[0024] In this arrangement, lamellae 30 which are in the form of an inverted V are used. Each lamella 30 has a projection 31 which hooks behind the hook 32 of the associated lamella holder 2. One end edge of each lamella 30 hooks behind the hook 33 of the associated lamella holder 2.

[0025] Grooves 16, 20 in which grates or gauze (not shown) can be accommodated are also provided.

Claims

1. System of lamellae for a ventilation device which comprises a series of horizontal lamellae (3), which are disposed above one another and at a distance from one another and enclose ventilation gaps (4) between them, as well as means for supporting the lamellae (3), comprising at least one upright (1) and a series of lamella holders (2) which are attached to the upright and each support a lamella (3), which upright (1) has an undercut slot (5) in which a widened head (7) of each lamella holder (2) is accommodated, **characterized in that** the widened head of at least one of the lamella holders (2) has a dimension (h)transverse to the width direction of the head (7) which is at most equal to the width (b) of the opening (6) which provides access to the said slot (5), so that, once inserted, the lamella holder can be rotated so that the widened head hooks into the undercut slot.

2. System of lamellae according to Claim 1, in which the lamella holder (2), at a distance from the widened head (7), comprises a locking means, such as an elevated section (10), a projection or the like, which extends into the access opening (6) in order to lock the lamella holder (2) against rotation.

3. Systern of lamellae according to Claim 1 or 2, in which each lamella holder (2) has a strip-like base (11), on one surface of which there is a widened head (7) and on the other surface of which there is a support (14) for a lamella (3).

4. System of lamellae according to Claims 2 and 3, in which the locking means (10) is situated at a distance from the head (7) on the base (11).

5. System of lamellae according to Claim 2, 3 or 4, in which the width of the strip-like base (11) is greater than the width of the access opening (6).

6. System of lamellae according to Claim 3, 4 or 5, in which the base (11) has support means (12) at both ends in order to provide support with respect to further lamella holders (2) which are arranged on the upright (1).

7. System of lamellae according to one of the preceding claims, in which the upright (1) is designed as a section, preferably made of aluminium, which is provided with at least one undercut slot (5) with a T-shaped cross section.

8. System of lamellae according to claim 3, in which the section (1) has a square or rectangular cross section, and each wall of the section is provided with an undercut slot (5).

9. System of lamellae according to Claim 8, In which at least one of the walls is provided with a plurality of undercut slots (5).

10. System of lamellae according to one of the preceding claims, in which each lamella (3) has an internal groove (16) on the underside and an external groove (20) on the top side, in such a manner that an essentially horizontal grate (14) is accommodated in the said internal and external grooves on two lamellae which are positioned directly above one another.

11. System of lamellae according to one of the preceding claims, in which each lamella (3) has, on the top side, both an upwardly directed groove (17) and a downwardly directed groove (21) situated below it, in such a manner that an essentially vertical grate (15) is accommodated in the said internal and external grooves on two lamellae which are positioned

directly above one another.

12. System of lamellae according to one of the preceding claims, in which a gauze (18), which is also attached in the T-grooves of the uprights, is situated on that side of the uprights (1) which is remote from the lamella carrier (2).

13. System of lamellae according to Claim 12, in which the gauze (18) is attached in the slot (5) of each upright (1).

14. System of lamellae according to Claim 12 or 13, in which the gauze is provided with a fire-retardant paint

15. System of lamellae according to one of the preceding claims, in which bolts (25) are provided, which each have an elongate head (26) which can be hooked securely into a slot (5) by being inserted and rotated.

Patentansprüche

1. System von Lamellen für eine Ventilationsvorrichtung, die eine Reihe horizontaler Lamellen (3) umfasst, die übereinander und in einem Abstand zueinander angeordnet sind und Ventilationsspalte (4) zwischen einander einschließen, sowie Mittel zum Halten der Lamellen (3) hat, umfassend mindestens einen Ständer (1) und eine Reihe von Lamellenhaltern (2), die an dem Ständer angebracht sind und jeweils eine Lamelle (3) tragen, welcher Ständer (1) einen hinterschnittenen Schlitz (5) hat, in dem ein verbreiterter Kopf (7) jedes Lamellenhalters (2) aufgenommen ist, **dadurch gekennzeichnet, dass** der verbreiterte Kopf (7) von wenigstens einem der Lamellenhalter (2) eine Abmessung (h) quer zu der Breitenrichtung des Kopfes (7) hat, die nahezu gleich zu der Breite (b) der Öffnung (6) ist, die Zugang zu dem besagten Schlitz (5) bietet, so dass der Lamellenhalter, wenn er eingeführt wurde, derart gedreht werden kann, dass sich der verbreiterte Kopf in den hinterschnittenen Schlitz einhakt.

2. System von Lamellen nach Anspruch 1, bei dem der Lamellenhalter (2) in einem Abstand von dem . verbreiterten Kopf (7) ein Feststellmittel umfasst, wie einen erhöhten Bereich (10), einen Vorsprung oder ähnliches, das sich in die Zugangsöffnung (6) erstreckt, um den Lamellenhalter (2) gegen Drehung festzustellen.

3. System von Lamellen gemäß Anspruch 1 oder 2, bei dem jeder Lamellenhalter (2) eine streifenartige Basis (11) hat, auf deren einer Oberfläche ein verbreiterter Kopf (7) und an deren anderer Oberfläche ein Halter (14) für eine Lamelle (3) vorgesehen ist.

4. System von Lamellen nach Anspruch 2 und 3, bei dem das-Feststellmittel (10) in einem Abstand von dem Kopf (7) auf der Basis (11) angeordnet ist.

5. System von Lamellen nach Anspruch 2, 3 oder 4, bei dem die Breite der streifenartigen Basis (11) größer ist als die Breite der Zugangsöffnung (6).

6. System von Lamellen nach Anspruch 3, 4 oder 5, bei dem die Basis (11) Unterstützungsmittel (12) an beiden Enden hat, um Unterstützung in bezug auf weitere Lamellenhalter (2), die an dem Ständer (1) angeordnet sind, bereitzustellen.

7. System von Lamellen nach einem der vorherigen Ansprüche, bei dem der Ständer (1) als ein Profil ausgebildet ist, vorzugsweise aus Aluminium, welches mit mindestens einem hinterschnittenen Schlitz (5) mit einem T-förmigen Querschnitt versehen ist.

8. System von Lamellen gemäß Anspruch 3, bei dem das Profil (1) einen quadratischen oder rechtwinkligen Querschnitt hat, und jede Wand des Profils mit einem hinterschnittenen Schlitz (5) versehen ist.

9. System von Lamellen nach Anspruch 8, bei dem mindestens eine der Wände mit mehreren hinterschnittenen Schlitzen (5) versehen ist.

10. System von Lamellen nach einem der vorherigen Ansprüche, bei dem jede Lamelle (3) eine innere Nut (16) auf der Unterseite und eine äußere Nut (20) auf der oberen Seite hat, so dass ein im wesentlichen horizontales Gitter (14) in den besagten inneren und äußeren Nuten auf zwei Lamellen, die direkt übereinander positioniert sind, aufgenommen ist.

11. System von Lamellen gemäß einem der vorherigen Ansprüche, bei dem jede Lamelle (3) auf der Oberseite sowohl eine aufwärts gerichtete Nut (17) und eine darunter angeordnete abwärts gerichtete Nut (21) hat, so dass ein im wesentlichen vertikales Gitter (15) in den besagten inneren und äußeren Nuten auf zwei Lamellen, die direkt übereinander angeordnet sind, aufgenommen ist.

12. System von Lamellen nach einem der vorherigen Ansprüche, bei dem ein Drahtgewebe (18), welches auch in den T-Nuten der Ständer angebracht ist, auf der Seite der Ständer (1) angeordnet ist, die von dem Lamellenträger (2) entfernt ist.

13. System von Lamellen nach Anspruch 12, bei dem das Drahtgewebe (18) in dem Schlitz (5) jedes

Ständers (1) angebracht ist.

14. System von Lamellen nach Anspruch 12 oder 13, bei dem das Drahtgewebe mit einer Feuer abweisenden Farbe versehen ist.

15. System von Lamellen nach einem der vorherigen Ansprüche, bei dem Bolzen (25) vorgesehen sind, die je einen verlängerten Kopf (26) haben, der sicher in einen Schlitz (5) durch Einsetzen und Drehen eingehakt werden kann.

Revendications

1. Système de lamelles pour un dispositif de ventilation qui comprend une série de lamelles horizontales (3) qui sont placées les unes au-dessus des autres et à une distance les unes des autres et enferment des espaces de ventilation (4) entre elles, de même que des moyens destinés à supporter les lamelles (3), comprenant au moins un montant (1) et une série de supports de lamelle (2) qui sont attachés au montant et chaque support à une lamelle (3), lequel montant (1) possède une fente en contre dépouille (5) dans laquelle une tête élargie (7) de chaque support de lamelle (2) est logée, **caractérisé en ce que** la tête élargie d'au moins un des supports de lamelle (2) possède une dimension (h) transversale à la direction de la largeur de la tête (7) qui est au plus égale à la largeur (b) de l'ouverture (6) permettant l'accès à ladite fente (5) afin qu'une fois inséré, le support de lamelle puisse être pivoté afin que la tête élargie se raccorde dans la fente en contre dépouille.

2. Système de lamelles selon la revendication 1, dans lequel le support de lamelles (2), à une distance depuis la tête élargie (7), comprend des moyens de verrouillage tels qu'une section élevée (10), une saillie ou équivalent, qui s'étend à l'intérieur de l'ouverture d'accès (6) afin de verrouiller le support de lamelle (2) contre la rotation.

3. Système de lamelles selon la revendication 1 ou 2, dans lequel chaque support de lamelle (2) possède un socle en forme de bande (11) sur une surface duquel il existe une tête élargie (7) et sur l'autre surface duquel se trouve un support (14) pour une lamelle (3).

4. Système de lamelles selon les revendications 2 et 3, dans lequel les moyens de verrouillage (10) sont situés à une distance de la tête (7) sur le socle (11).

5. Système de lamelles selon les revendications 2, 3 ou 4, dans lequel la largeur du socle en forme de bande (11) est supérieure à la largeur de l'ouverture d'accès (6).

6. Système de lamelles selon les revendications 3, 4 ou 5, dans lequel le socle (11) possède des moyens formant soutien (12) au niveau des deux extrémités afin d'assurer le soutien par rapport aux autres supports de lamelle (2) qui sont agencés sur le montant (1).

7. Système de lamelles selon l'une quelconque des revendications précédentes, dans lequel le montant (1) est conçu en tant que section, de préférence composée d'aluminium qui est proposée avec au moins une fente en contre dépouille (5) avec une coupe transversale en forme de T.

8. Système de lamelles selon la revendication 3, dans lequel la section (1) possède une coupe transversale carrée ou rectangulaire et chaque paroi de la section est munie d'une fente en contre dépouille (5).

9. Système de lamelles selon la revendication 8, dans lequel au moins une des parois est proposée avec une pluralité de fentes en contre dépouille (5).

10. Système de lamelles selon l'une quelconque des revendications précédentes, dans lequel chaque lamelle (3) possède une rainure intérieure (16) au dos et une rainure extérieure (20) sur le dessus de telle manière qu'une grille essentiellement horizontale (14) est logée dans lesdites rainures intérieures et extérieures sur deux lamelles qui sont placées directement l'une au-dessus de l'autre.

11. Système de lamelles selon l'une quelconque des revendications précédentes, dans lequel chaque lamelle (3) possède sur le dessus, à 1a foi une rainure dirigée vers le haut (17) et une rainure dirigée vers le bas (21) placée sous elle, de telle manière qu'une grille essentiellement verticale (15) est logée dans lesdites rainures intérieures et extérieures sur deux lamelles qui sont placées directement l'une au-dessus de l'autre.

12. Système de lamelles selon l'une quelconque des revendications précédentes, dans lequel une toile (18), qui est également fixée dans les rainures en T des montants, est placée sur ce côté des montants (1) qui est éloigné du porteur de lamelles (2).

13. Système de lamelles selon la revendication 12, dans lequel la toile (18) est fixée dans 1a fente (5) de chaque montant (1).

14. Système de lamelles selon la revendication 12 ou 13, dans lequel la toile présente une peinture ignifuge.

15. Système de lamelles selon l'une quelconque des revendications précédentes, dans lequel des boulons (25) sont prévus qui ont chacun une tête allongée (26) qui peut être accrochée de manière fixe à l'intérieur d'une fente (5) en étant insérée et pivotée.

Fig - 1

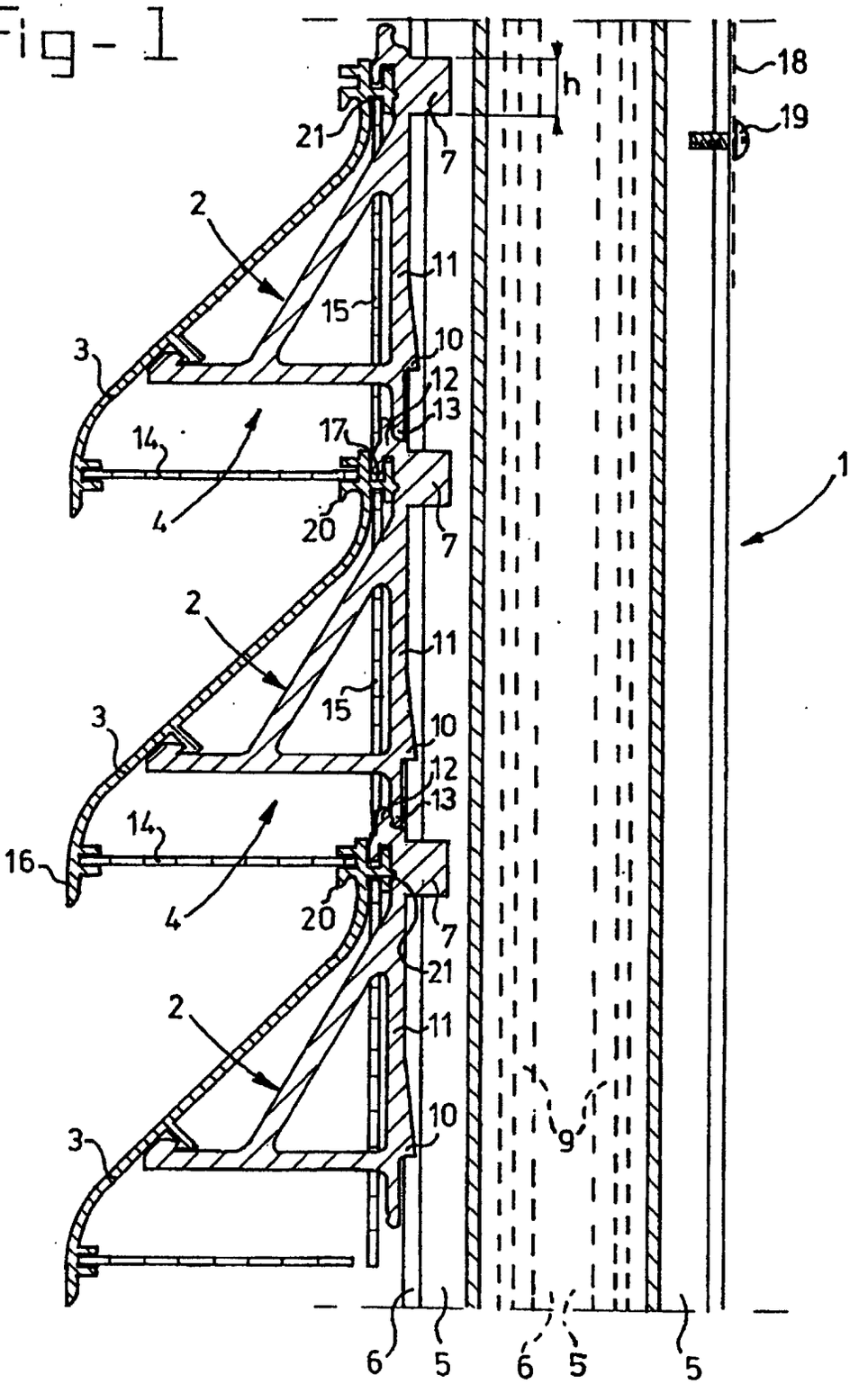
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Fig - 2

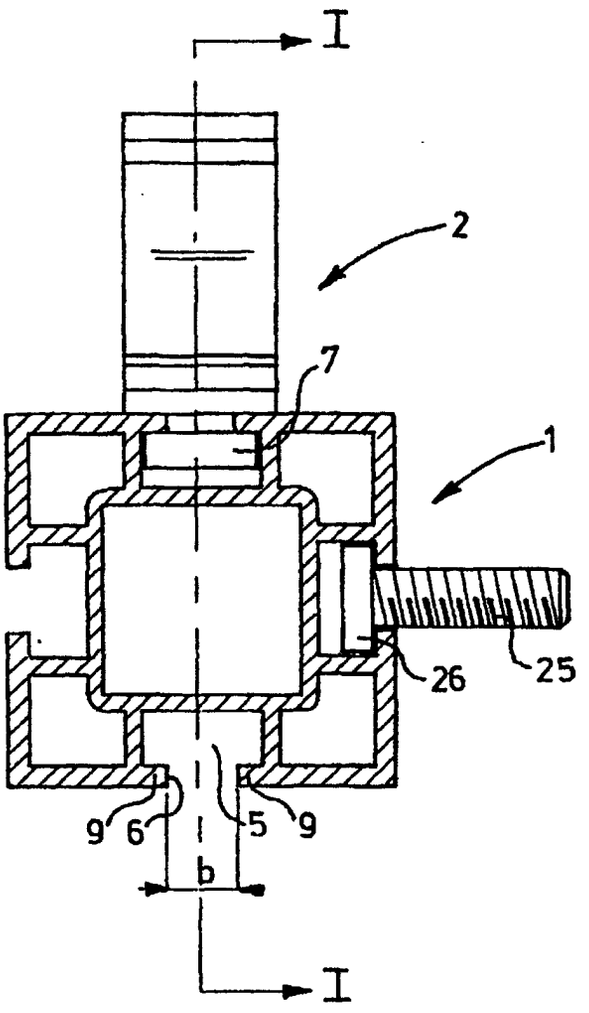


Fig - 3

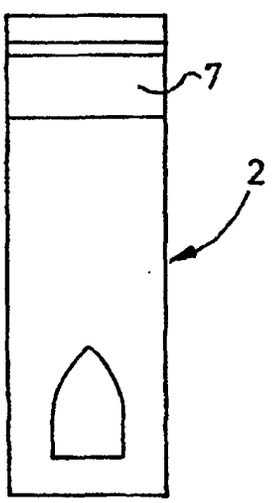
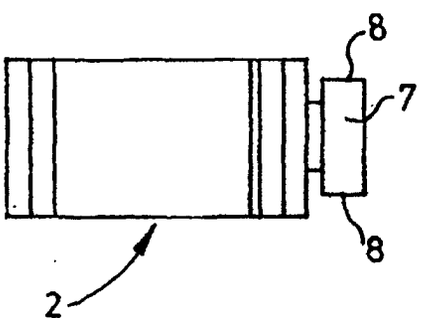
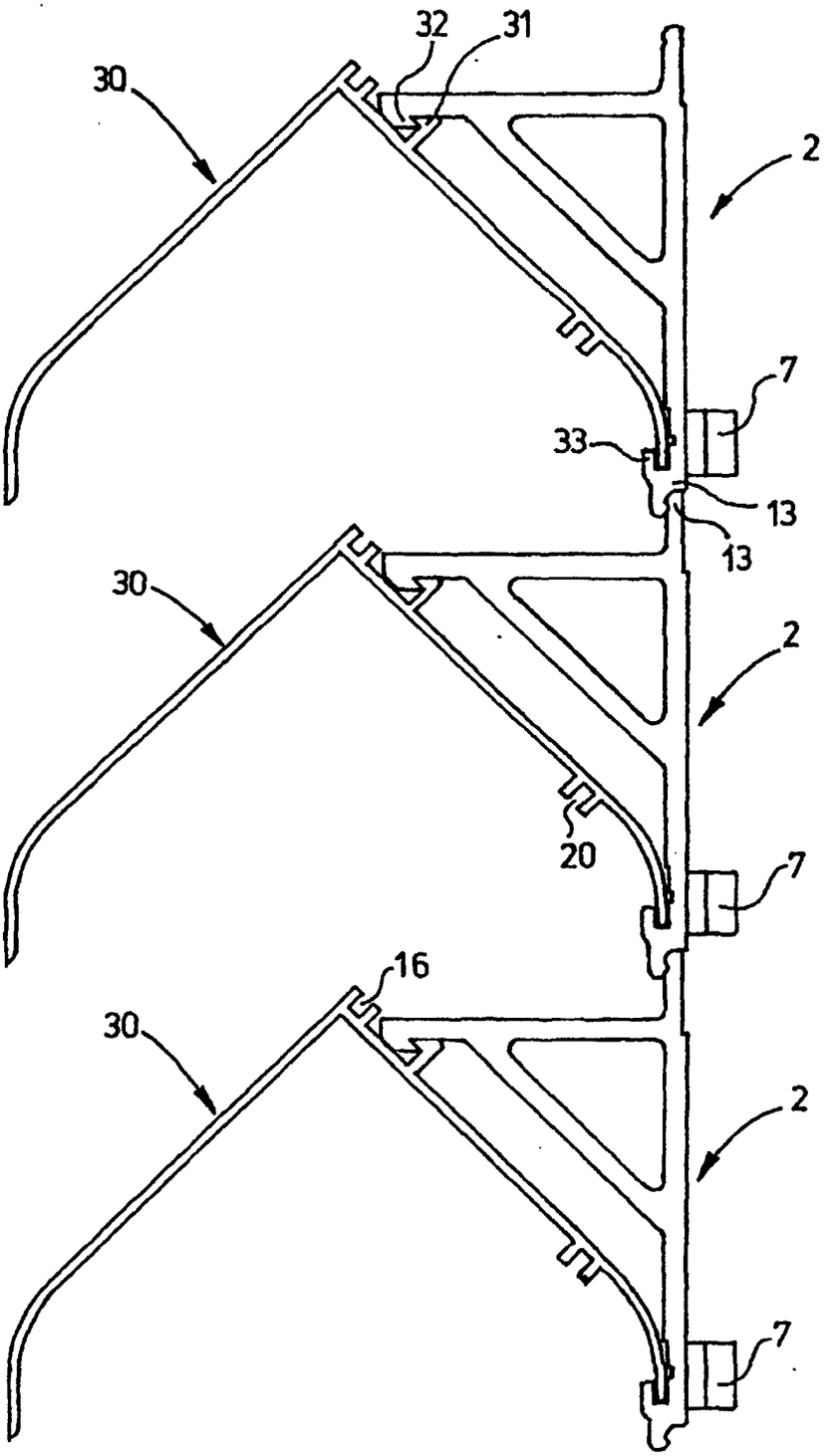


Fig - 4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