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(54) **System of lamellae**

(57) A system of lamellae for a ventilation device 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 (1) 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. At least one of the lamella holder (2) has a head (7) with a dimension h transverse to the width direction of the head which is at most equal to the width b of the opening (6) which provides access to the said slot (5).

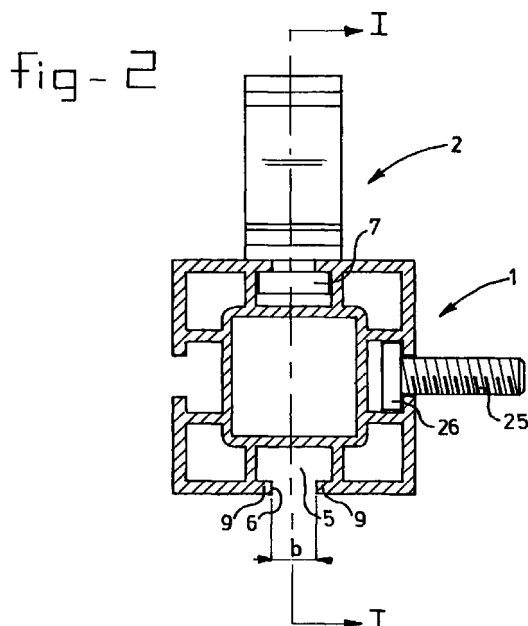
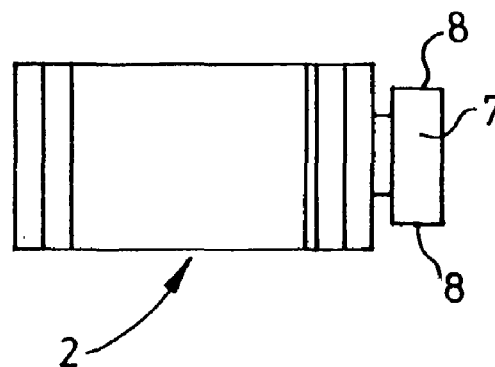


fig - 4



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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 associated 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 at least one of the lamella holders (2) has a head (7) with 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).
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. System 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). 5
14. System of lamellae according to Claim 12 or 13, in which the gauze is provided with a fire-retardant paint. 10
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. 15

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fig- 1

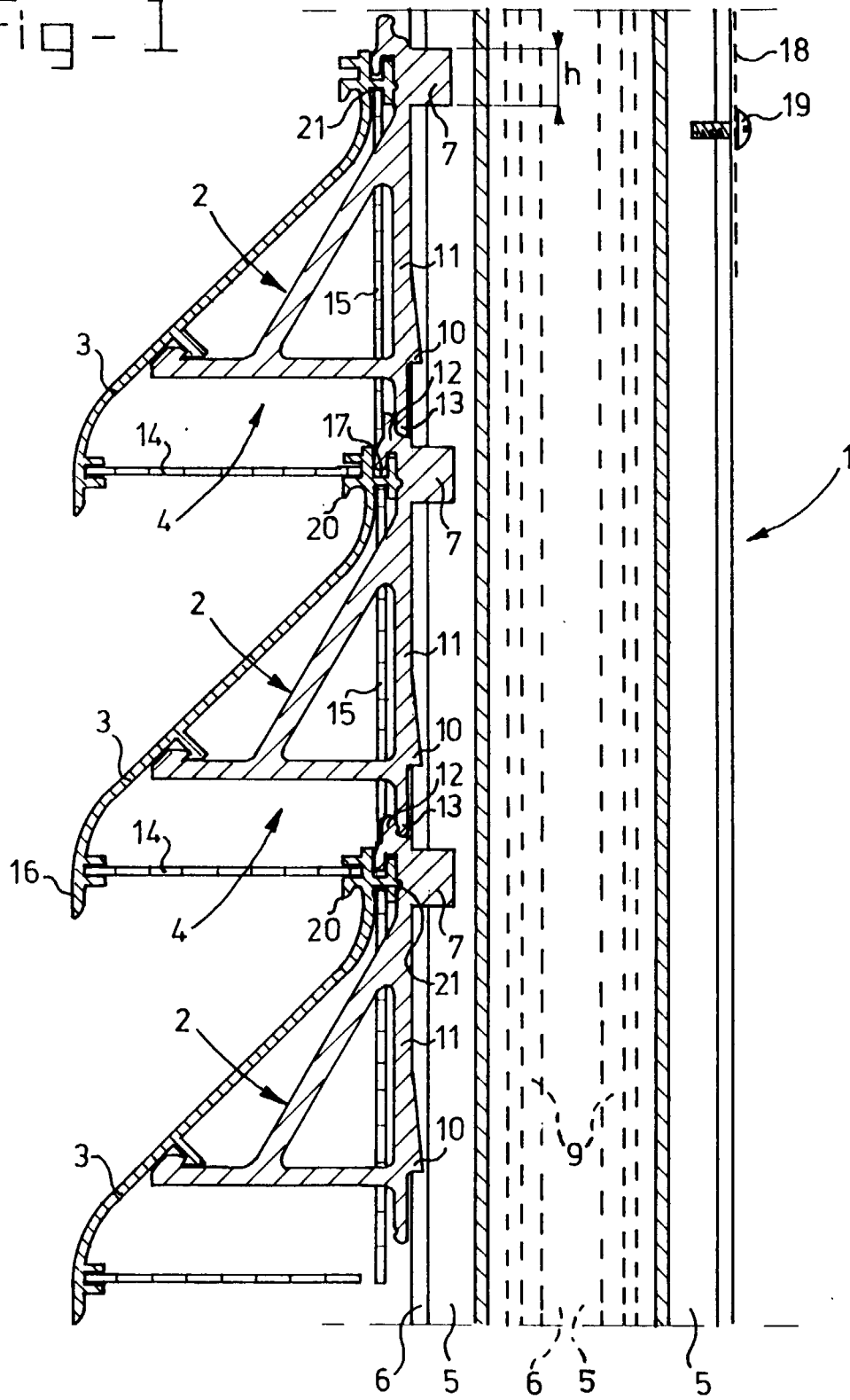


fig - 2

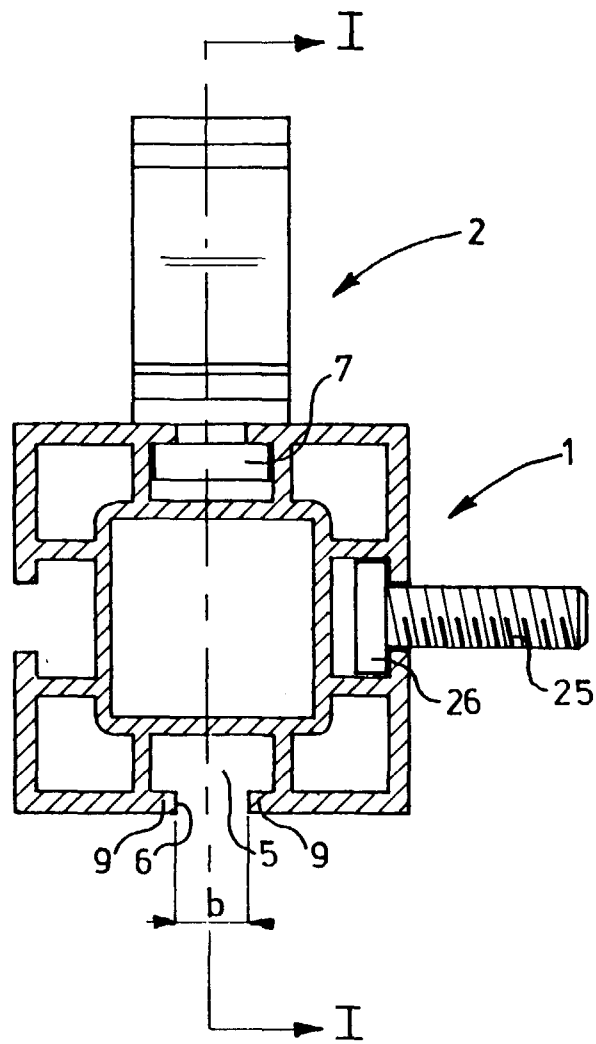


fig - 3

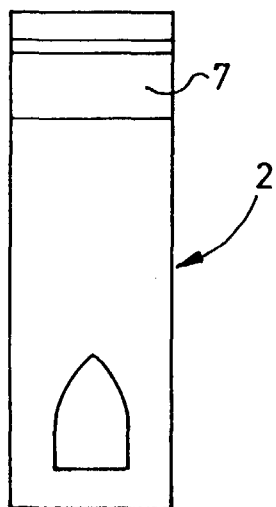


fig - 4

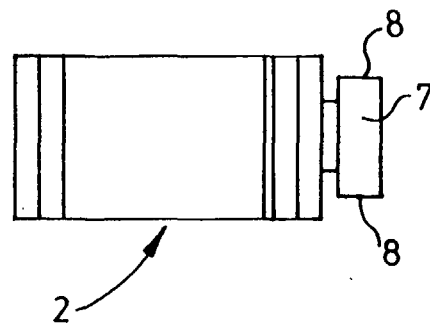
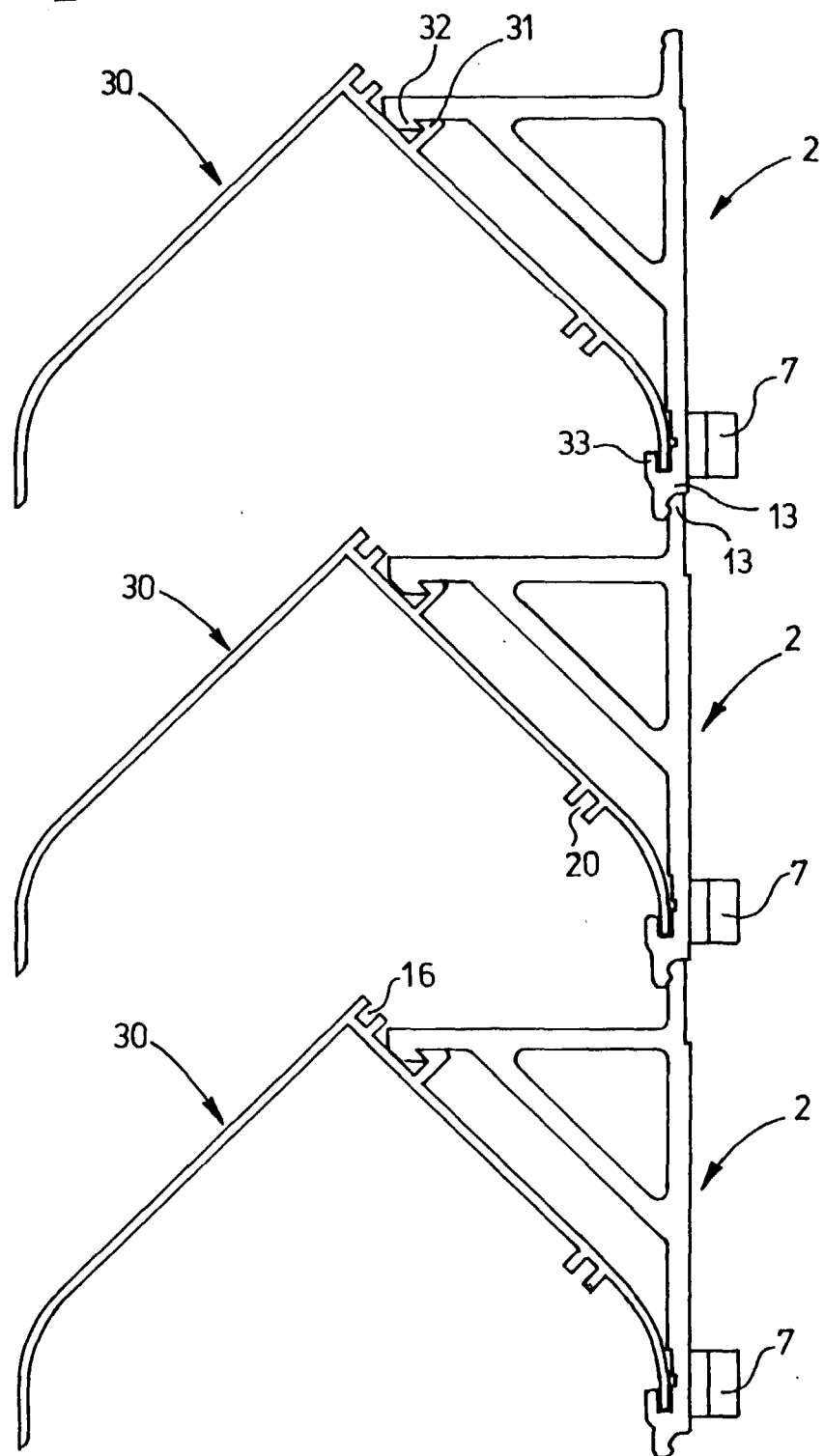


fig- 5





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EUROPEAN SEARCH REPORT

Application Number
EP 98 20 4035

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	WO 86 05573 A (ELTREVA AG) 25 September 1986 * abstract; figures *	1	E06B7/082 F24F13/08
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6) E06B F24F
Place of search THE HAGUE		Date of completion of the search 11 May 1999	Examiner Gonzalez-Granda, C
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 20 4035

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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