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(54) **AIR OUTLET**

LUFTAUSSTRÖMER

SORTIE D'AIR

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Description

TECHNICAL FIELD

[0001] The present invention relates to an air flow apparatus comprising air flow directing means in an air flow passage in order to direct an air flow from the air flow apparatus into a room according to the preamble of claim 1.

BACKGROUND OF THE INVENTION

[0002] Air flow apparatuses are common in ventilation systems for directing and spreading air into a room. Air flow apparatuses may be arranged in ceilings. In order to spread an air flow from an air flow apparatus effectively into a room, it is aimed at guiding the air flow from the air flow apparatus along the ceiling, where the air flow apparatus is arranged, over an as large area as possible. This is done since the air that normally flows out of the air flow apparatus usually has a somewhat lower temperature than the ambient air in the room. In order for the colder air flow from the air flow apparatus not to fall directly down from the air flow apparatus due to the fact that the colder air is heavier, it is aimed at spreading the air flow over an as large area or surface as possible along the ceiling. To be able to achieve this spread, air flow apparatuses usually are provided with air flow directing means, which are arranged to be adjustable in different directions, such that the air flow may be led out of the air flow apparatus in a desirable way. Known air flow apparatuses comprise a number of bladelike directional means which are interconnected and arranged in the air flow passage of an air flow apparatus. By adjusting the angle of these bladelike directional means, a flow of air out of the air flow apparatus may be directed to flow in a chosen direction into the room. The bladelike directional means may be interconnected by the aid of a guide means that are hingedly connected with the air flow apparatus. Simultaneously is the respective bladelike directional means rotatably connected with the air flow apparatus. When the guide means are adjusted this affects all of the interconnected bladelike directional means into placing themselves in a chosen direction in order to change direction of an air flow out from the air flow apparatus. Wear and play between and within components may occur after certain usage, due to the number of interconnected and in relation to each other adjustable components. This may result in that the bladelike directional means become flapping and unstable, and give rise to noise during change of direction of an air flow from the air flow apparatus. Furthermore, this may result in that the redirected air flow becomes unstably redirected, whereby the direction of the air flow out of the air flow apparatus is not stable.

[0003] US 4426918 discloses an air flow apparatus upon which the preamble of appending claim 1 is based.

SUMMARY OF THE INVENTION

[0004] One objective of the present invention is to eliminate the above-mentioned problems. Another objective with the invention is to be able to adjust or control the direction of an air flow out of the air flow apparatus by adjusting the size of air flow directing means in an air flow passage.

[0005] A further objective is to reduce the number of individual and moveable parts and components which are active during direction and adjustment of an air flow out of the air flow apparatus.

[0006] A further objective is to reduce the time for manufacture and the costs for manufacture for air flow apparatuses having controllable air flow directing means as seen in relation to prior art ones.

[0007] The above-mentioned objectives, and other objectives, will be achieved by the invention, by giving the initially mentioned air flow apparatus the features of the characterising portion of claim 1. That is that the air flow directing means are adjustably arranged in relation to the air flow passage between an inactive and an active position wherein in the active position the air flow directing means are physically more arranged within the air flow passage than in the inactive position in order to change direction of the outflowing air flow in relation to the outflowing air flow in the inactive position.

[0008] An advantage that is achieved by the apparatus according to the invention is that an air flow out of an air flow apparatus may be adjusted directly and distinctly in comparison to prior art. Another advantage is that during adjustment of the air flow directing means, no play between components in the air flow directing means need to occur due to *i.a.* wear, because the air flow directing means do not comprise any moveable parts that may wear against each other. Yet another advantage is that the air flow directing means may be manufactured of one material element or material blank. At manufacture of the air flow apparatus the manufacturing time and cost may thus be kept low. This is due to the fact that amongst other things the air flow directing means do not need to comprise components that need assemblage or connection to one another.

[0009] According to one embodiment the active position of the air flow directing means is variable in the air flow passage. One effect of this is that thereby the amount of outflowing air flow, for which is desirous to change direction from the discharge of the air flow apparatus, may be adjusted, set.

[0010] According to a further embodiment the air flow apparatus is adjustably arranged in relation to the air flow passage via recesses of the air flow passage. The air flow directing means comprise air directing tongues. These air directing tongues are configured to be adjustably arranged through said recesses. Further, the air flow direction means comprise an elongate element. The elongate element may function as a rigid beam element. Said air directing tongues are arranged to the elongate

element and forms a unit herewith. One effect of this is that the air directing means comprising said air directing tongues and elongate element thereby may be manufactured from one material element, i.a. an elongate plate sheet, where said air directing tongues may be formed by shearing, cutting, punching or other method for cutting through plates. The material element or material blank may be made of other material than sheet metal, such as plastics, composites etc.

[0011] According to a further embodiment said recesses are arranged in a wall element of the air flow passage. Said recesses may comprise a number of openings which are arranged at a distance to each other through the wall element. According to an embodiment the openings, recesses, may be evenly distributed along the wall element. In the air flow apparatus the wall element may be provided along a discharge of the air flow apparatus, through which discharge the air flow is led into the room. The wall element is configured to separate the air flow passage from a regulating space, which regulating space extends along the discharge and is formed by the wall element and a bottom part of the air flow apparatus.

[0012] According to a further embodiment the elongate element of the air flow directing means is provided in the regulating space. Further, the air directing tongues are arranged from the elongate element in the regulating space and through the respective opening in the wall element. One effect of this is that the elongate element thereby is protected, or shielded off, from the air flow passage, whereby no interfering turbulence need to arise in the air flow out of the discharge.

[0013] According to an embodiment the air flow directing means may comprise one regulating means for positioning of the air flow directing means in the air flow passage. Such a regulating means would make it possible for a user to adjust, regulate, the position of the air flow directing means in the air flow apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Preferred embodiments of the apparatus according to the invention will now be further described with reference to the accompanying schematical drawings, which only disclose the details that are necessary for the understanding of the invention.

Fig. 1 shows in a perspective view an air flow apparatus,

Fig. 2 shows a cross section of the air flow apparatus according to the invention,

Fig. 3 shows in a perspective view a bottom part of the air flow apparatus that is provided with air flow directing means,

Fig. 4 shows in a perspective view an air flow directing means having air directing tongues.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0015] Fig. 1 shows an air flow apparatus 1 for arrangement in a ceiling or in a load-bearing structure in a room. The air flow apparatus 1 according to Fig. 1 is configured to receive a first flow of air 2a, named air flow 2a. The air flow 2a is led into the air flow apparatus 1 in order to get mixed therein with a second flow of air 2b, named room air 2b. The room air 2b may be sucked in through *i.a.* induction from the room into the air flow apparatus 1. Said air flows 2a, 2b are mixed in the air flow apparatus 1 and are thereafter led out of the air flow apparatus 1 as a third flow of air 2c, named outflowing air 2c. The air flow apparatus 1 is configured to lead said outflowing air 2c to the room for mixing with air that is available in the room, and for continuously during operation of the air flow apparatus 1 exchanging the air that is available in the room for the outflowing air 2c from the air flow apparatus 1. In the following text the third air flow having reference numeral 2c is synonymous with the notion of air flow being accompanied by reference numeral 2.

[0016] Fig. 2 shows an air flow apparatus 1 according to the invention for leading an air flow 2 into a room. The air flow apparatus 1 comprises at least one air flow passage 3a, 3b having at least one air flow directing means 4a, 4b arranged therein for regulation of the air flow 2 from the air flow apparatus 1 into the room. According to one embodiment of the invention the air flow apparatus 1 may be provided with two air flow passages 3a, 3b. One air flow 2 can hence be led out of the air flow apparatus 1 in two directions. According to a further embodiment an air flow apparatus may be provided with three or four air flow passages. By having three air flow passages the air flow may be led out of the air flow apparatus in three directions, or from three sides, of the air flow apparatus. If four air flow passages should be provided in the air flow apparatus, the air flow may be led out of the air flow apparatus in all directions around the air flow apparatus. The may be an advantage e.g. if the air flow apparatus is arranged centrally in a room and it is desirous to lead air into the room at 360 degrees out of the air flow apparatus.

[0017] In the air flow apparatus 1 one or several cooling batteries may be provided, not shown in the figure. Room air 2b, which is sucked into the air flow apparatus 1, passes through said cooling batteries for temperature effect. After the passage through the cooling batteries the temperature affected air is mixed with the incoming air 2a of the air flow apparatus. The temperature affected, preferably colder, mixed air is thereafter led out into the room as one air flow 2 from the air flow apparatus 1.

[0018] The air flow directing means 4a, 4b are in the air flow apparatus 1 adjustably arranged in relation to the air flow passage 3a, 3b between an inactive and at least one active position, in which active position the air flow directing means 4a, 4b are physically more provided inside the air flow passage 3a, 3b than in the inactive po-

sition. This in order to in and/or from the air flow passage 3a, 3b change direction of the outflowing air flow 2 in relation to the outflowing air 2 in the inactive position. According to the embodiment of the invention at least one air flow directing means 4a, 4b is provided in connection with the respective air flow passage 3a, 3b.

[0019] In Fig. 2 at the left hand side, one air flow passage 4a is shown in an active position. On the other side of Fig. 2 the other air flow passage 4b is shown in an inactive position. In the active position the air flow directing means 4a, 4b are affecting the air flow 2 by changing its direction when passing out of the air flow apparatus 1. In the inactive position no affecting, or generally no active affecting, takes place to change direction of the air flow when passing out from the air flow apparatus 1.

[0020] The active position for the air flow directing means 4a, 4b is variable in the air flow passage 3a 3b. This contributes to that the air flow directing means 4a, 4b may be adjusted such that the direction of the outflowing air flow 2 from the air flow apparatus 1 may be affected either fully or partly.

[0021] The air flow directing means 4a, 4b are adjustably provided in relation to the air flow passage 3a, 3b via recesses 5 of the air flow passage 3a, 3b. This is displayed in e.g. Fig. 3 which discloses air flow directing means 4a, 4b which are adjustably provided through recesses 5 in a respective wall element 8a, 8b. The air flow directing means 4a, 4b comprise air directing tongues 6. The air directing tongues 6 are configured to be variably moved forwards and backwards through said recesses 6. The air directing tongues 6 are constituted of bladelike elements. Furthermore the air flow direction means 4a, 4b comprise an elongate element 7a, 7b. This elongate element 7a, 7b has a stiffness which makes it function as an elongate beam element without being plastically deformable. Said air directing tongues 6 are arranged to the elongate element 7a, 7b and form together with the elongate element 7a 7b one unit.

[0022] Said recesses 5 are according to Fig. 3 provided in a wall element 8a, 8b of the air flow passage 3a, 3b. Each respective air directing tongue 6 may be adjustably arranged through the respective recess 5. The recesses 5 are constituted of a number of openings which are provided at a distance to each other through the wall element 8a, 8b. The respective distance between adjacent recesses 5 may be equal. Hereby it is obtained that the air directing tongues 6 may be equally and symmetrically distributed along the length of the wall element 8a, 8b and along the width of the air flow passage 3a, 3b. Through said symmetry a uniformly directed air flow 2 is achieved of that part of the air flow which is affected by the air directing tongues 6.

[0023] The wall element 8a, 8b, see Fig. 2, is provided along a discharge 9a, 9b of the air flow apparatus 1, through which discharge 9a, 9b the air flow 2 is led into the room. The discharge 9a, 9b may be so arranged that when the air flow apparatus 1 is arranged in a ceiling, said discharge 9a, 9b is generally flush with the ceiling and preferably with the false ceiling of a room. According to the embodiment of Fig. 2 the air flow apparatus 1 comprises two discharges 9a, 9b. The discharges 9a, 9b are arranged in parallel in the air flow apparatus 1 in order for the air flow 2 to be able to be led out of the air flow apparatus 1 and being optimally spread. An optimal spread is an air flow which is spread in directions which in general are diverging from an air flow apparatus. It is aimed at spreading the outflowing air, which normally has a temperature which is slightly lower than the air in the room, over an as wide surface, area, as possible along the ceiling from the air flow apparatus. This since the cold, cooled, air is heavier, and by spreading the cooled air over a large surface, the time before the air starts to sink down in the room and to mix with the existing air may be extended, and the mixing of air from the air flow apparatus with the air from the room may be improved, since the mixing thus takes place over a larger area of the room and consequently with a larger volume of the room. If the spreading of air from the air flow apparatus is poor or inefficient, it may result in that the cooled air falls down directly from the air flow apparatus, whereby the mixing between the cooled air and the air from the room is impaired in large parts of the room.

[0024] Fig. 2 and 3 show how the wall element 8a, 8b separates the air flow passage 3a, 3b from a regulating space 10a, 10b, which regulating space 10a, 10b extends along the discharge 9a, 9b and is formed by the wall element 8a, 8b and a bottom part 11 of the air flow apparatus 1. The bottom part 11 may be named under plate. The respective wall element 8a, 8b may be constituted of a part which is bent or flanged from or at an edge zone of the bottom part 11, in order to form said wall element 8a, 8b. The wall elements 8a, 8b have an air flow area which is facing said air flow passage 3a, 3b. The air flow passage 3a, 3b may be formed between said air flow area and an inner side of a housing of the air flow apparatus 1. On one inner side, opposite the air flow area, the regulating space 10a, 10b is arranged. The regulating space 10a, 10b is restricted between said inner side of the wall elements 8a, 8b and the bottom part 11. The regulating space 10a, 10b may be seen as constituted of the space that is created between the wall elements 8a, 8b. Alternatively, the regulating space may be seen as constituted by the space that is created between the wall elements 8a, 8b and a cooling element that is provided therein.

[0025] The elongate element 7a, 7b of the air flow directing means 1 is provided in the regulating space 10a, 10b. Said elongate element 7a, 7b is formed having a length which is shorter than the regulating space 10a, 10b.

[0026] The air directing tongues 6, see Fig. 3, are provided from the elongate element 7a, 7b in the regulating space 10a, 10b and through the respective recess 5, opening, in the wall element 8a, 8b. By having the elongate element provided in the regulating space 10a, 10b it is avoided that disturbing turbulence arises in the out-

flowing air flow 2 from the air flow apparatus 1.

[0027] The air flow directing means 4a, 4b may comprise at least one regulating means 12a, 12b for positioning of the air flow directing means 4a, 4b in the air flow passage 3a, 3b. Regulating means 12a, 12b may be arranged towards the elongate element 7a, 7b of the air flow directing means 4a, 4b in a respective end part thereof. The respective regulating means 12a, 12b may extend through a passage in the bottom part 11 in order to be regulated from within the room by having a person stretching up to the regulating means 12a, 12b, not shown in the figure. According to one embodiment, which is not shown in the figure, the regulating means 12a, 12b may be associated with an electrical unit for automated regulation.

[0028] Fig. 4 shows an air flow directing means 4a, 4b according to the invention. The air flow directing means 4a, 4b are provided with air directing tongues 6, which are provided from an elongate element 7a, 7b. The air directing tongues 6 and the elongate element 7a, 7b are configured to together form, or constitute, one unit. The air directing tongues 6 and the elongate element 7a, 7b may be formed by one material element, e.g. a plate sheet. The air directing tongues 6 may be formed of the material element by aid of shearing, cutting or punching, whereby said tongues form said air directing tongues 6. From the material element the air directing tongues 6 may be angled in order to reach an angled position in relation to the elongate element 7a, 7b. The angulation also results in that the air directing tongues 6 may be fitted into the recesses 5 in order to adjustably be provided in the air flow passage 3a, 3b.

[0029] Fig. 4 shows an encircled part. This concerns an enlargement of the end part of the air flow directing means 4a, 4b for elucidation. In the enlargement it is shown that a respective air directing tongue 6 is bent, folded. Hereby an improved guiding of the air flow 2, which is redirected from the discharge 9a, 9b into the room is achieved.

[0030] According to one embodiment the air flow directing means 4a, 4b may be provided in the air flow passage 3a, 3b by moving, pushing or pressing the air flow directing means 4a, 4b horizontally with the bottom part 11 in the direction of the discharge 9a, 9b. One effect of this embodiment is that the bottom part 11, the under plate, is carrying the air flow directing means 4a, 4b. Thereby no further carrying elements are needed to arrange the air flow directing means 4a, 4b in the air flow apparatus 1. During this movement the air directing tongues 6 are pushed through the respective recess 5 into the air flow passage 3a, 3b. In relation to the air flow passage 3a, 3b the air directing tongues 6 have an angle which results in that, when these are entering the air flow passage 3a, 3b, the air directing tongues 6 will change direction of the outflowing air flow 2 out of the air flow passage 3a, 3b. When the air flow directing means 4a, 4b are moved into the active position in the air flow passage 3a, 3b, the air flow directing means 4a, 4b may be adjusted such that one end part of the air flow directing means 4a, 4b may be moved further into the air flow passage 3a, 3b in comparison to the other end part. This results in that the air flow directing means 4a, 4b may be arranged having a varying redirection of the air flow 2 out of the discharge 9a, 9b by making it possible to have an increasing or decreasing angulation of the air flow 2 towards e.g. an end part of the elongate discharge 9a, 9b. Such a design enables the attainment of a wider spread of the air flow 2 from the air flow apparatus 1. It may be desirous to reach a spread of the air flow 2 out of the discharge 9a, 9b which may be compared with a so called fan shape. By providing in the axial extension of an air flow passage 3a, 3b with two subsequent air flow directing means 4a, 4b, said fan shape of the outflowing air flow 2 may be attained. This happens such that a respective adjacent end part of the two air flow directing means 4a, 4b in the air flow passage 3a, 3b is arranged in an inactive position. The respective other end part of the respective air flow directing means 4a, 4b is arranged in an active position. This results in that the outflowing air flow 2, along a middle part of the discharge 9a, 9b, is given an air flow direction from the air flow apparatus 1 which generally is not redirected. The redirection of the discharge 9a, 9b increases from the middle part of the discharge 9a, 9b in the direction of the end part of the respective air flow directing means 4a, 4b. By the arrangement of the two adjacent air flow directing means 4a, 4b in the air flow passage 3a, 3b, said fan shape of the outflowing air flow 2 from the discharge 9a, 9b of the air flow apparatus 1 may be achieved.

[0031] According to one embodiment the air flow directing means 4a 4b may be provided in the air flow passage 3a, 3b by moving the air flow directing means 4a, 4b in a vertical direction in relation to the bottom part 11, up through the recesses 5 and into the air flow passage 3a, 3b, not shown in the figure. By having the wall element 8a, 8b at an angle in relation to the bottom part 11, the air flow directing means 4a, 4b with the air directing tongues 6 may be pushed up through said recesses 5 in order to be variably provided in the air flow passage 3a, 3b.

[0032] According to another embodiment the air flow directing means 4a, 4b may be provided in the regulating space 10a, 10b, such that the air flow directing means 4a, 4b in its axial extension is turnably provided, not shown in the figure. By having the air flow directing means 4a, 4b turnable, the air directing tongues 6 through the recesses 5 through the wall element 8a, 8b may be provided turnably in position into the sir flow passage 3a, 3b.

[0033] According to a further embodiment the air flow directing means 4a, 4b may be provided such that its air directing tongues 6 may be moved into the air flow passage 3a, 3b in an active position from an upper side in the direction of the wall element 8a, 8b. The upper side may e.g. be constituted of a housing of the air flow apparatus 1 or other upper element, for forming of the air flow passage 3a, 3b between said wall element 8a, 8b

and the housing or the upper element.

[0034] The invention is not limited to the shown embodiment but may be varied and modified within the scope of the subsequent claims, which to certain extend has been disclosed above.

Claims

1. An air flow apparatus (1) for directing an air flow (2) into a room, which air flow apparatus (1) comprises at least one air flow passage (3a, 3b) having at least one air flow directing means (4a, 4b) received therein, for directing the air flow (2) from the air flow apparatus (1) into the room, said air flow directing means (4a, 4b) comprise air directing tongues (6) which are adjustably arranged via a respective recess to the air flow passage (3a, 3b). **characterised in that**, the air flow directing means (4a, 4b) being adjustably arranged in relation to the air flow passage (3a, 3b) by being variably arranged within the air flow passage (3a, 3b) in order to change direction of the outflowing air flow (2),

2. An air flow apparatus (1) according to claim 1, **characterised in that** the air directing means (4a, 4b) comprise an elongate element (7a, 7b).

3. An air flow apparatus (1) according to any one of claims 1 - 2, **characterised in that** the air directing tongues (6) are arranged to the elongate element (7a, 7b) and form a unit with the elongate element (7a, 7b).

4. An air flow apparatus (1) according to any one of claims 1 - 3, **characterised in that** said recess (5) is provided in a wall element (8a, 8b) to the air flow passage (3a, 3b).

5. An air flow apparatus (1) according to claim 4, **characterised in that** said recess (5) is constituted of a number of openings which are arranged at a distance in relation to each other through the wall element (8a, 8b).

6. An air flow apparatus (1) according to any one of claims 4 - 5, **characterised in that** the wall element (8a, 8b) is provided along a discharge (9a, 9b) to the air flow apparatus (1), wherein the air flow (2) is led into the room through the discharge (9a, 9b).

7. An air flow apparatus (1) according to any one of claims 4 - 6, **characterised in that** the wall element (8a, 8b) separates the air flow passage (3a, 3b) from a regulating space (10a, 10b), which regulating space (10a, 10b) extends along the discharge (9a, 9b) and is formed by the wall element (8a, 8b) and a bottom part (11) of the air flow apparatus (1).

8. An air flow apparatus (1) according to claim 7, **characterised in that** the elongate element (7a, 7b) of the air flow directing means (4a, 4b) is provided in the regulating space (10a, 10b).

9. An air flow apparatus (1) according to any one of claims 7 - 8, **characterised in that** the air directing tongues (6) are arranged from the elongate element (7a, 7b) in the regulating space (10a, 10b) and through the respective recess (5), opening, in the wall element (8a, 8b).

10. An air flow apparatus (1) according to any one of claims 1 - 9, **characterised in that** the air flow directing means (4a, 4b) comprise at least one regulating means (12a, 12b) for positioning of the air flow directing means (4a, 4b) in the air flow passage (3a, 3b).

Patentansprüche

1. Luftströmeranordnung (1) zum Leiten eines Luftstroms (2) in einen Raum, wobei die Luftströmeranordnung (1) zumindest einen Luftstromdurchlass (3a, 3b) mit zumindest einem darin aufgenommenen Luftstromleitmittel (4a, 4b) umfasst, um den Luftstrom (2) von der Luftströmeranordnung (1) in den Raum zu leiten,
dadurch gekennzeichnet, dass die Luftstromleitmittel (4a, 4b) in Bezug auf den Luftstromdurchlass (3a, 3b) einstellbar angeordnet sind, indem sie innerhalb des Luftstromdurchlasses (3a, 3b) variabel angeordnet sind, um die Richtung des ausströmenden Luftstroms (2) zu ändern,
wobei die Luftstromleitmittel (4a, 4b) Luftleitzungen (6) umfassen, die über eine jeweilige Aussparung im Luftstromdurchlass (3a, 3b) einstellbar angeordnet sind.

2. Luftströmeranordnung (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Luftstromleitmittel (4a, 4b) ein längliches Element (7a, 7b) umfassen.

3. Luftströmeranordnung (1) nach einem der Ansprüche 1 - 2, **dadurch gekennzeichnet, dass** das die Luftleitzungen (6) zum länglichen Element (7a, 7b) angeordnet sind und mit dem länglichen Element (7a, 7b) eine Einheit bilden.

4. Luftströmeranordnung (1) nach einem der Ansprüche 1 - 3, **dadurch gekennzeichnet, dass** die Aussparung (5) in einem Wandelement (8a, 8b) des Luftstromdurchlasses (3a, 3b) bereitgestellt ist.

5. Luftströmeranordnung (1) nach Anspruch 4, **dadurch gekennzeichnet, dass** die Aussparung (5)

aus mehreren Öffnungen gebildet ist, die in einem Abstand in Bezug aufeinander durch das Wandelement (8a, 8b) angeordnet sind.

6. Luftströmeranordnung (1) nach einem der Ansprüche 4 - 5, **dadurch gekennzeichnet, dass** das Wandelement (8a, 8b) entlang eines Auslasses (9a, 9b) der Luftströmeranordnung (1) bereitgestellt ist, wobei der Luftstrom (2) durch den Auslass (9a, 9b) in den Raum geleitet wird.

7. Luftströmeranordnung (1) nach einem der Ansprüche 4 - 6, **dadurch gekennzeichnet, dass** das Wandelement (8a, 8b) den Luftstromdurchlass (3a, 3b) von einem Regulierungsraum (10a, 10b) trennt, wobei sich der Regulierungsraum (10a, 10b) entlang des Auslasses (9a, 9b) erstreckt und vom Wandelement (8a, 8b) und einem Bodenteil (11) der Luftströmeranordnung (1) gebildet ist.

8. Luftströmeranordnung (1) nach Anspruch 7, **dadurch gekennzeichnet, dass** das längliche Element (7a, 7b) der Luftstromleitmittel (4a, 4b) im Regulierungsraum (10a, 10b) bereitgestellt ist.

9. Luftströmeranordnung (1) nach einem der Ansprüche 7 - 8, **dadurch gekennzeichnet, dass** das die Luftleitzungen (6) von dem länglichen Element (7a, 7b) im Regulierungsraum (10a, 10b) aus und durch die jeweilige Aussparung (5), Öffnung, im Wandelement (8a, 8b) angeordnet sind.

10. Luftströmeranordnung (1) nach einem der Ansprüche 1 - 9, **dadurch gekennzeichnet, dass** die Luftstromleitmittel (4a, 4b) zumindest ein Regulierungsmittel (12a, 12b) zum Positionieren der Luftstromleitmittel (4a, 4b) im Luftstromdurchlass (3a, 3b) umfassen.

Revendications

1. Appareil à flux d'air (1) permettant d'orienter un flux d'air (2) dans une pièce, lequel appareil à flux d'air (1) comprend au moins un passage de flux d'air (3a, 3b) comportant au moins un moyen d'orientation de flux d'air (4a, 4b) reçu en son sein, pour orienter le flux d'air (2) de l'appareil à flux d'air (1) dans la pièce, **caractérisé en ce que** le moyen d'orientation de flux d'air (4a, 4b) est disposé de façon réglable par rapport au passage de flux d'air (3a, 3b) en étant disposé de façon variable au sein du passage de flux d'air (3a, 3b) afin de changer la direction du flux d'air sortant (2),
ledit moyen d'orientation de flux d'air (4a, 4b) comprend des languettes d'orientation d'air (6) qui sont disposées de façon réglable par l'intermédiaire d'un évidement respectif sur le passage de flux d'air (3a, 3b).

2. Appareil à flux d'air (1) selon la revendication 1, **caractérisé en ce que** le moyen d'orientation de flux d'air (4a, 4b) comprend un élément allongé (7a, 7b).

3. Appareil à flux d'air (1) selon l'une quelconque des revendications 1 à 2, **caractérisé en ce que** les languettes d'orientation d'air (6) sont disposées sur l'élément allongé (7a, 7b) et forment une unité avec l'élément allongé (7a, 7b).

4. Appareil à flux d'air (1) selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** ledit évidement (5) est fourni dans un élément de paroi (8a, 8b) sur le passage de flux d'air (3a, 3b).

5. Appareil à flux d'air (1) selon la revendication 4, **caractérisé en ce que** ledit évidement (5) est constitué d'un certain nombre d'ouvertures qui sont disposées à une certaine distance les unes par rapport aux autres à travers l'élément de paroi (8a, 8b).

6. Appareil à flux d'air (1) selon l'une quelconque des revendications 4 à 5, **caractérisé en ce que** l'élément de paroi (8a, 8b) est fourni le long d'une évacuation (9a, 9b) sur l'appareil à flux d'air (1), dans lequel le flux d'air (2) est amené dans la pièce à travers l'évacuation (9a, 9b).

7. Appareil à flux d'air (1) selon l'une quelconque des revendications 4 à 6, **caractérisé en ce que** l'élément de paroi (8a, 8b) sépare le passage de flux d'air (3a, 3b) d'un espace de régulation (10a, 10b), lequel espace de régulation (10a, 10b) s'étend le long de l'évacuation (9a, 9b) et est formé par l'élément de paroi (8a, 8b) et une partie inférieure (11) de l'appareil à flux d'air (1).

8. Appareil à flux d'air (1) selon la revendication 7, **caractérisé en ce que** l'élément allongé (7a, 7b) du moyen d'orientation de flux d'air (4a, 4b) est fourni dans l'espace de régulation (10a, 10b).

9. Appareil à flux d'air (1) selon l'une quelconque des revendications 7 à 8, **caractérisé en ce que** les languettes d'orientation d'air (6) sont disposées à partir de l'élément allongé (7a, 7b) dans l'espace de régulation (10a, 10b) et à travers l'évidement (5), ouverture, respectif dans l'élément de paroi (8a, 8b).

10. Appareil à flux d'air (1) selon l'une quelconque des revendications 1 à 9, **caractérisé en ce que** le moyen d'orientation de flux d'air (4a, 4b) comprend au moins un moyen de régulation (12a, 12b) pour le positionnement du moyen d'orientation de flux d'air (4a, 4b) dans le passage de flux d'air (3a, 3b).

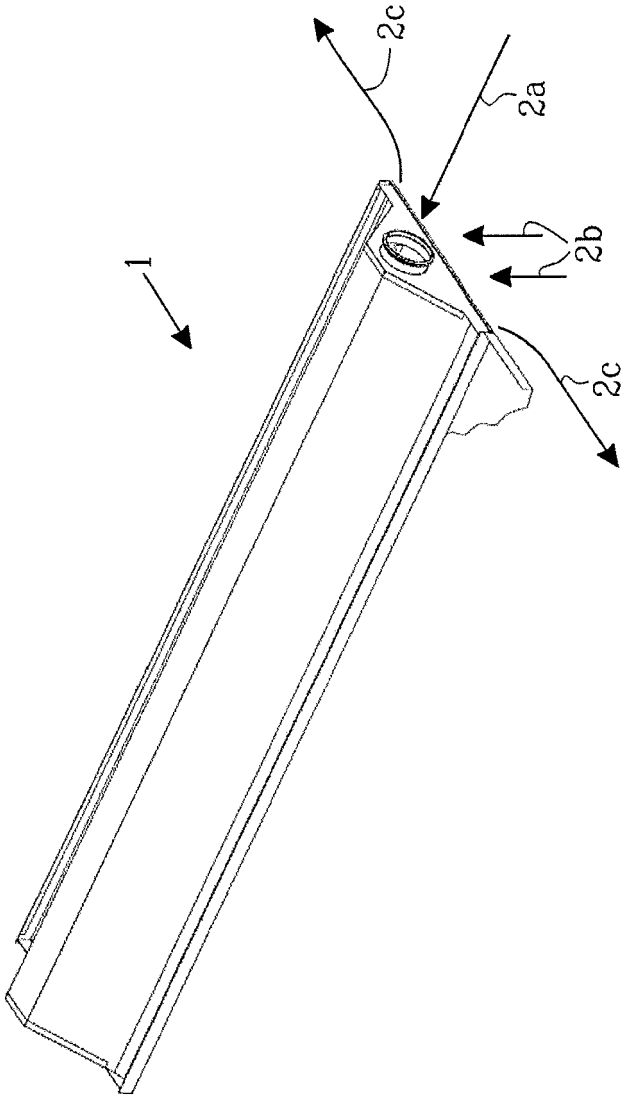

Fig. 1

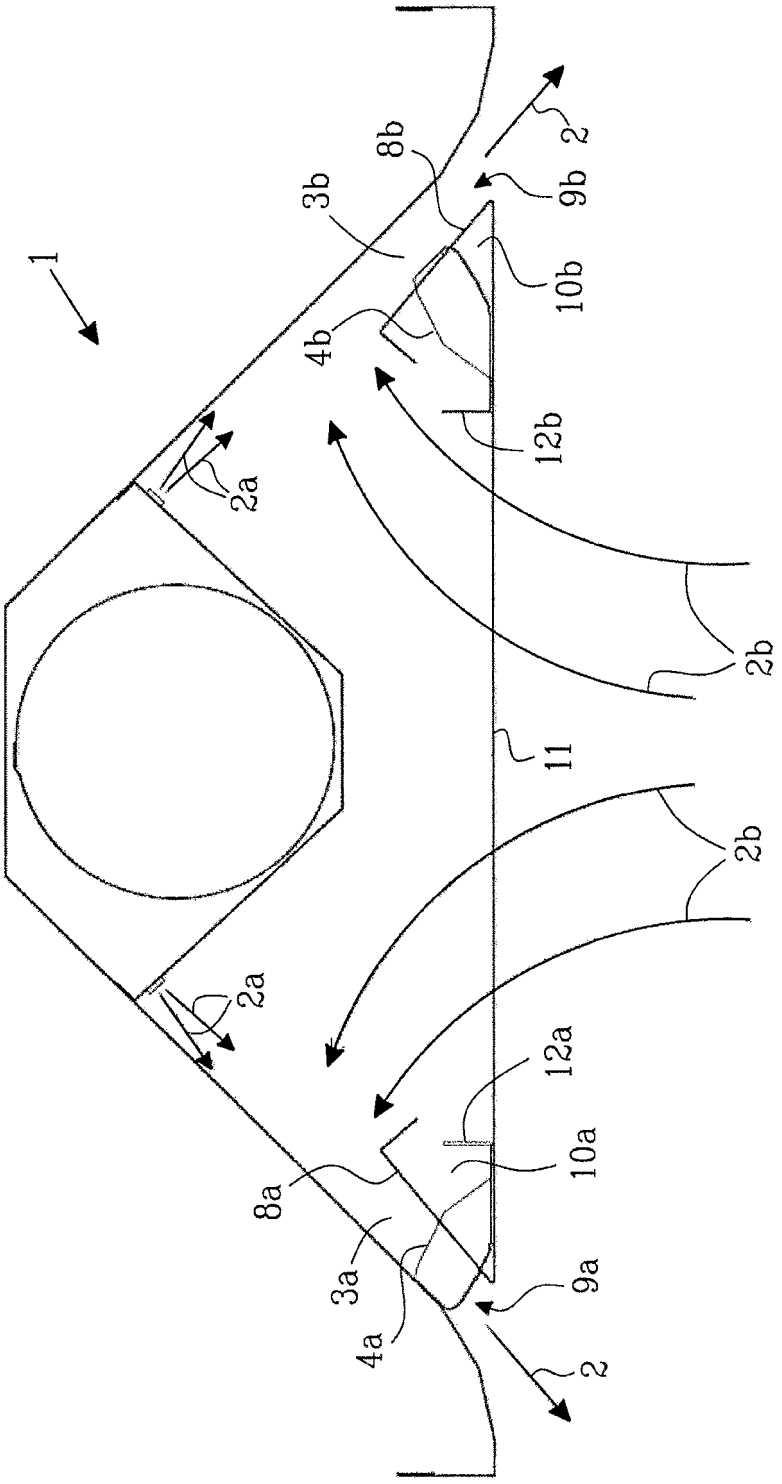

Fig.2

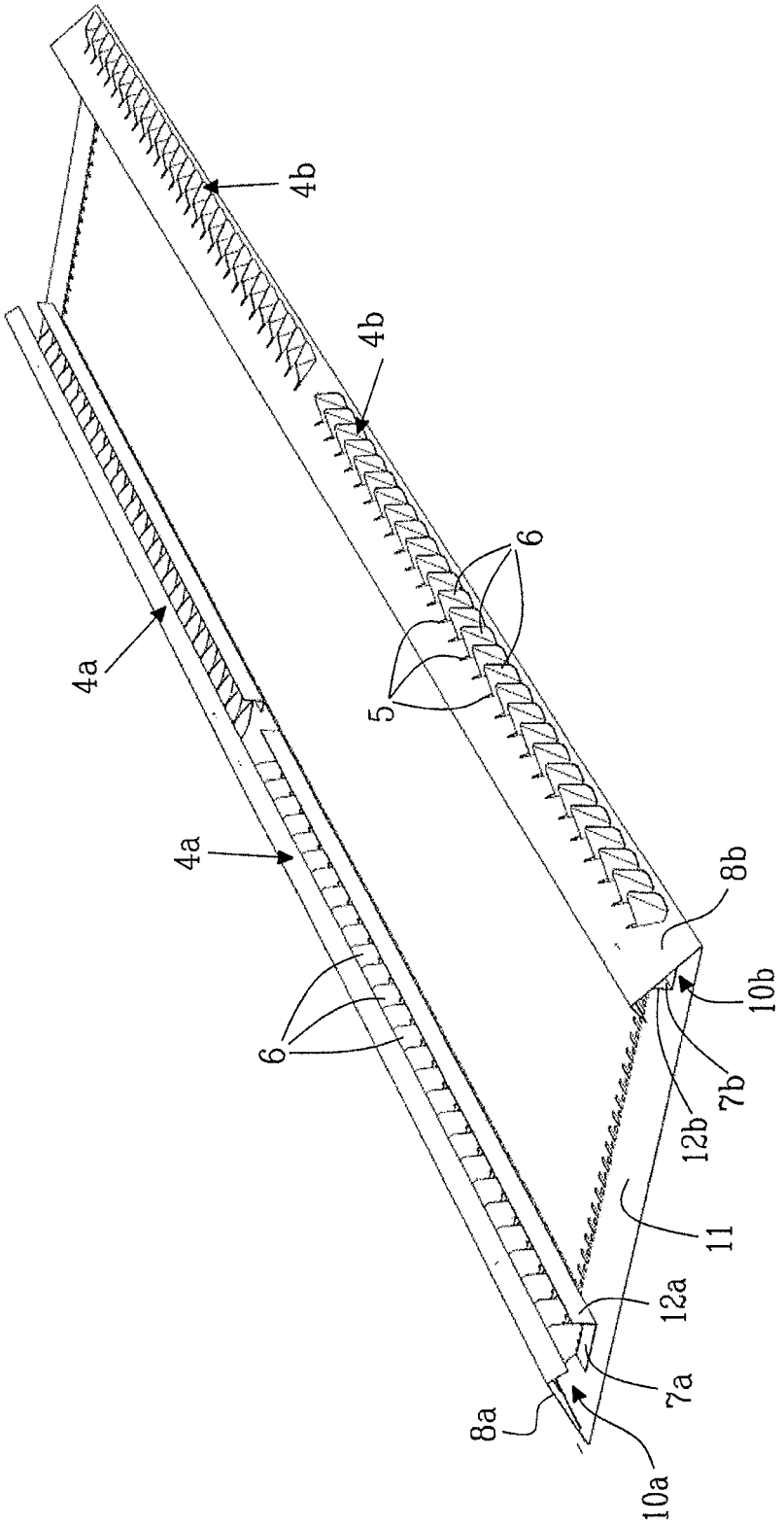

Fig. 3

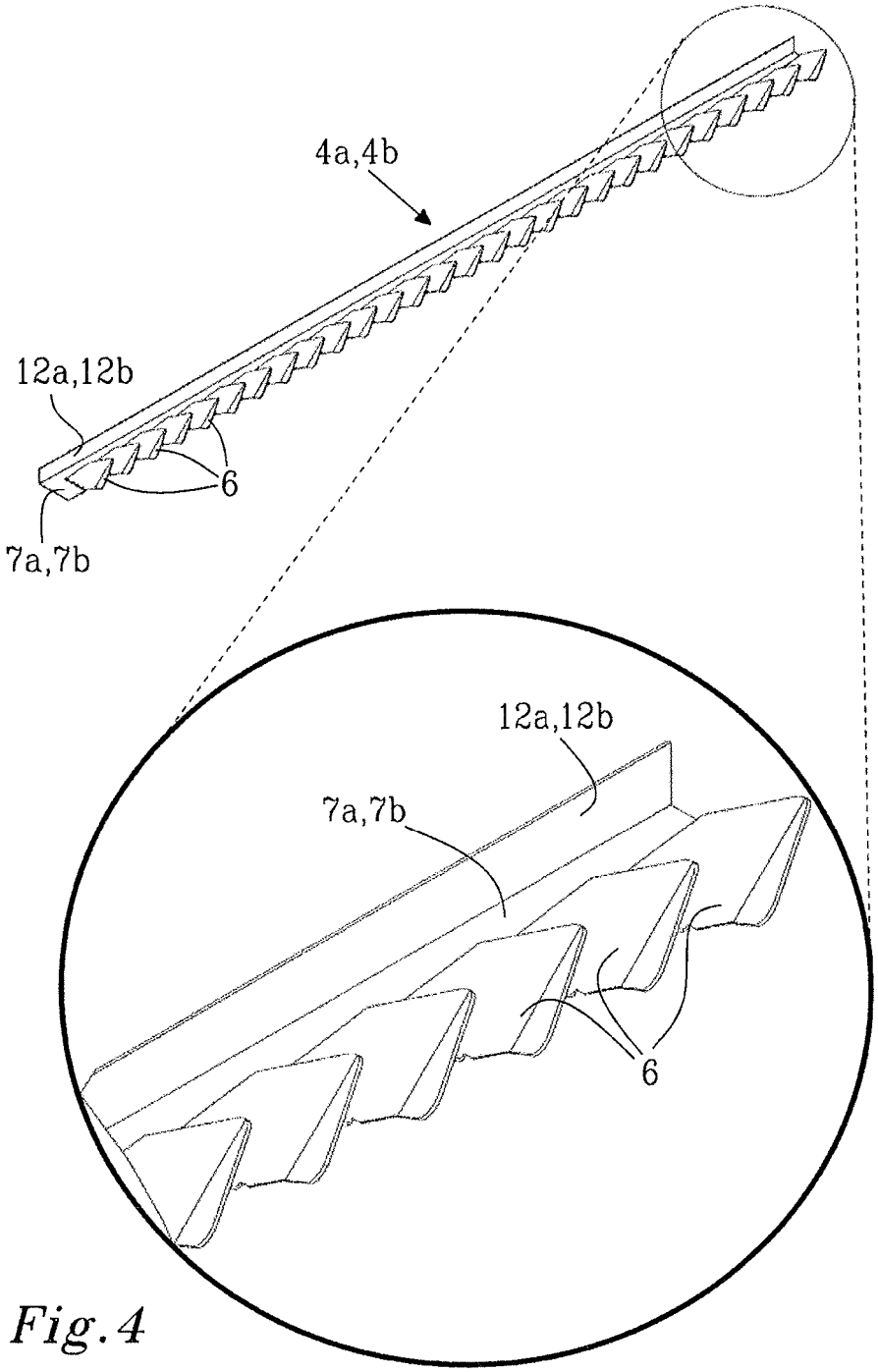

Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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