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(54) MOUNTING COLLAR FOR A VENTILATION ELEMENT

(57) Mounting collar (1) for securing a ventilation element (2), such as a fire damper (2), in a fire-resistant partition wall (3) in a fire-resistant manner, wherein the mounting collar (1) comprises a sleeve (4) which surrounds a passage (5) in which a ventilation element (2) is intended to be accommodated, wherein the sleeve (4) is intended to extend in a wall passage (6) through a partition wall (3), and wherein the sleeve (4) is substantially made from a fire-resistant and heat-insulating material, such as plaster.

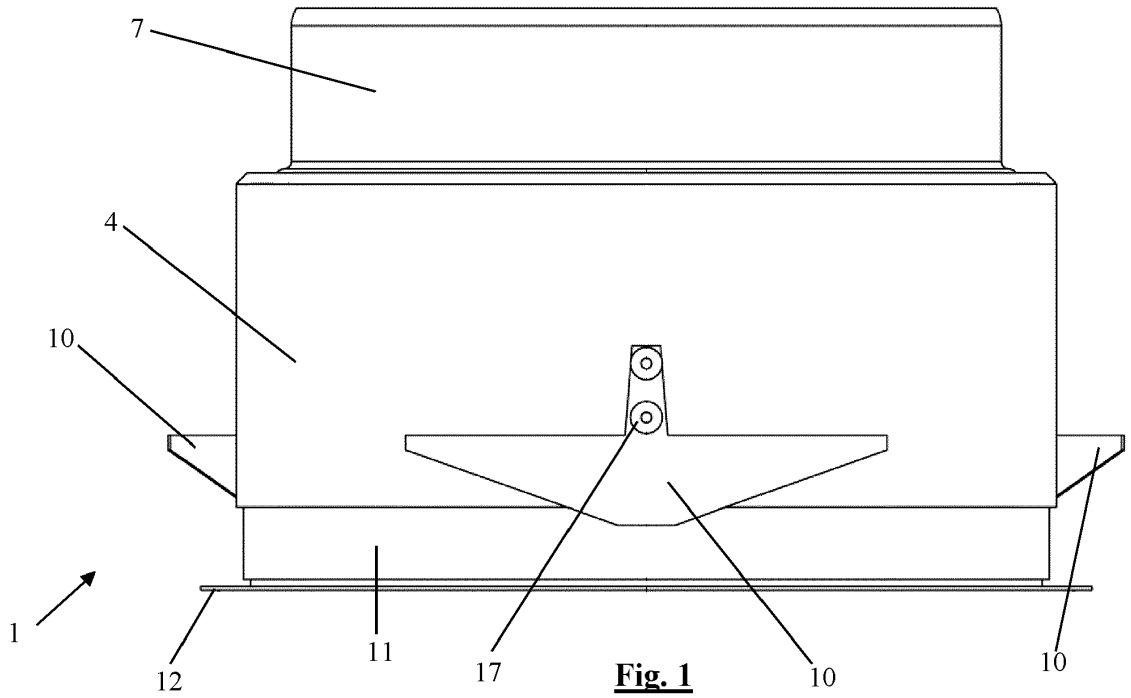

Fig. 1

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Description

[0001] The present invention relates to a mounting collar for securing a ventilation element, such as a fire damper, in a fire-resistant partition wall in a fire-resistant manner, wherein the mounting collar comprises a sleeve which surrounds a passage in which a ventilation element is intended to be accommodated, wherein the sleeve is intended to extend through a wall passage in a partition wall. The present invention also relates to an assembly of such a mounting collar and a ventilation element, such as a fire damper.

[0002] Installing a ventilation element, such as a smoke damper, a fire damper or an air grate, in a fire-resistant manner in a rigid wall, such as a brick wall or a concrete wall, is simple. A passage is created in this wall which is slightly larger than the ventilation element, the ventilation element is fitted in this passage and the space which is present in the passage between the wall and the ventilation element is filled with a filling agent. A fire-resistant ventilation element serves to make ventilation through a wall possible and is, for example, a smoke damper or a fire damper. The ventilation element comprises a body/tunnel which surrounds a body passage through which ventilation is possible. The body may be tubular with a circular cross section, but may also have a rectangular cross section. The ventilation element comprises, for example, one or more closure elements arranged in the body passage, such as a damper blade or slats, so that the ventilation through the body passage is adjustable. The ventilation elements are fitted in a fire-resistant way, so that fire penetration/flame propagation can be stopped for a certain time by the wall in case of fire. By means of a ventilation element, ventilation through a wall thus becomes possible, but it also ensures that fire penetration is stopped for a certain amount of time, despite the presence of the ventilation element in the wall.

[0003] Fitting a ventilation element in a fire-resistant light and thin partition wall in a fire-resistant manner is less simple. The expression fire-resistant partition wall is understood to mean, for example, a wall comprising profiled sections made of wood or metal, onto which gypsum plasterboards, gypsum fibreboards, calcium silicate boards, etc. are fitted. This wall is then, for example, a vertical separating wall or a ceiling. In particular securing a ventilation element in a suspended ceiling in a fire-resistant manner is laborious because the securing arrangement must not be a weak point for fire penetration and, in addition, because the ventilation element must not fall from the ceiling. The ventilation elements which are currently being used in rigid walls cannot simply be fitted in light and thin partition walls, such as suspended ceilings. Therefore, other types of ventilation elements are used which in practice are only used for light partition walls. These ventilation elements are of a relatively complicated construction. Fitting these ventilation elements in a partition wall, for example in a suspended ceiling, is laborious and requires some skill.

[0004] It is therefore an object of the invention to simplify the installation of ventilation elements in a fire-resistant partition wall in a fire-resistant manner.

[0005] This object is achieved by providing a mounting collar for securing a ventilation element, such as a fire damper, in a fire-resistant partition wall in a fire-resistant manner, wherein the mounting collar comprises a sleeve which surrounds a passage in which a ventilation element is intended to be accommodated, wherein the sleeve is intended to extend through a wall passage of a partition wall, wherein the sleeve is substantially made from a fire-resistant and heat-insulating material, such as a material comprising plaster. This material may be, for example, fibre-reinforced plaster, so that the material comprises plaster and fibres and optionally other additives. In this case, the fibres are then, for example, fire-resistant fibres. This material may also comprise cement-bound calcium silicate and optionally additional fibres and additives. The sleeve comprises for example at least 90 % by weight of said material, preferably at least 95 % by weight and still more preferably at least 99 % by weight. Thus, the sleeve for example only comprises said material. The fire-resistant and heat-insulating material has a certain fire resistance and has the fire rating A1 or A2, for example according to the European classification based on NBN EN 13501-1, and is then designated as a non-combustible material. If the fire-resistant and heat-insulating material comprises plaster, the plaster will provide a cooling effect in case of fire due to the chemically bound water which is present in plaster.

[0006] Here, a separate mounting collar is provided for the ventilation element. As a result of the fact that the sleeve extends through a wall passage after installation, this mounting collar is able to provide the necessary fire-resistant and heat-insulating properties. Then, a ventilation element does not have to have any fire-resistant properties and may in this case simply be accommodated in said passage. In other words, it is possible to provide a standard ventilation element which is also, for example, fittable in a rigid wall or at least in a ventilation element which is of less complicated construction. In this case, it is possible to opt to first secure the mounting collar in a partition wall and to subsequently fit a ventilation element in said passage or to first fit the ventilation element in the passage and then to secure the mounting collar with the ventilation element in the partition wall. The mounting collar is intended to be fitted in a wall passage of a partition wall and to extend through this wall passage. In use, the mounting collar has a fixed position with respect to the partition wall. If the partition wall is a suspended ceiling, the mounting collar is preferably supported by the suspended ceiling after it has been installed in the suspended ceiling. The wall passage may take any desired form which allows the mounting collar to extend therein, at least partly. Thus, this wall passage may have a circular cross section, a square cross section, etc., depending on the shape of the sleeve. Thus, the sleeve

may have a circular cross section, a square cross section, etc. The mounting collar extends in this wall passage in such a way that ventilation through the partition wall is possible when the ventilation element has been accommodated in the passage of the sleeve. Preferably, said passage and said wall passage therefore extend in virtually the same direction. Here, the angle between the direction of the wall passage and the direction of the passage of the sleeve is, for example, smaller than 10°, preferably smaller than 5°, still more preferably smaller than 1° and most preferably 0°, so that the direction of the wall passage is the same as the direction of the passage of the sleeve.

[0007] Furthermore preferably, viewed along the length direction of the passage, the sleeve comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side of a partition wall and a second end, wherein the mounting collar comprises a tubular attachment which adjoins the sleeve at the position of the second end, and extends beyond the second end of the sleeve, viewed along the length direction of the passage, and through which the passage is accessible. By means of such an attachment, it is simple to connect a ventilation element which is accommodated in the passage to a ventilation system comprising one or more pipes. The reason for this is that such an attachment is very suitable to be connected to a flexible pipe, as a result of which such a mounting collar is very suitable to form part of a ventilation system comprising one or more pipes. Due to the fact that the attachment adjoins the sleeve and a ventilation element is intended to extend in said passage, good and desired circulation of air is always ensured. The end edge of the first end of the sleeve is intended to extend at the position of the visible side of a partition wall. The visible side of a partition wall usually extends along a plane or at least along essentially a plane at the position of the wall passage. Here, the distance between this plane and the first end, viewed along the length direction of the passage, is preferably smaller than 1 cm, still more preferably smaller than 0.5 cm and yet more preferably smaller than 0.1 cm. The end edge preferably extends along a plane which extends at right angles to the passage. After installation, the latter plane preferably extends along said plane of the visible side. In this case, the second end then preferably adjoins the attachment. Here, the sleeve may successively consist of, viewed along the length direction of the passage, 3 partial regions, being a first end, a central section and a second end. Thus, the second end may adjoin the attachment along its entire height.

[0008] Furthermore preferably, the attachment is made from plastic or from metal. Flexible pipes are connectable to plastic components or to metal components in a simple and virtually airtight manner. Since the sleeve is already heat-insulating and fire-resistant, the attachment does not have to have all of the abovementioned properties. It is only desirable that the attachment is readily connectable to the components of a ventilation system.

[0009] Also furthermore preferably, the sleeve comprises an inner side which surrounds said passage and the attachment adjoins this inner side. Still more preferably, the attachment does not extend beyond the contours of the sleeve, viewed along a plane at right angles to the length direction of the passage. Here, the attachment then does not form an obstacle during installation of the mounting collar through a partition wall. Since in this case the attachment adjoins the inner side, it suffices if is ensured that this attachment does not extend beyond the outer contours of the sleeve, viewed along a cross section at right angles to the length direction of the passage, as a result of which essentially only the dimensions of the sleeve then determine the size of the opening which has to be made in a partition wall in order to be able to install the mounting collar in the partition wall. If desired, one or more securing means may also be present to secure the mounting collar to a partition wall and these do extend beyond the outer contours of the sleeve, viewed along a cross section at right angles to the length direction of the passage. By adjoining the attachment to the inner side of the sleeve, it is simple to ensure a virtually airtight seal between the sleeve and the attachment, as a result of which it is possible to limit ventilation through the partition wall to ventilation through the passage of the sleeve.

[0010] In a preferred embodiment, the sleeve comprises an inner side which surrounds said passage and an outer side which extends opposite the inner side, and the mounting collar comprises at least one installation element for retaining the mounting collar in a partition wall, wherein the installation element is connected to the sleeve and projects beyond the outer side of the sleeve, viewed along a plane at right angles to the length direction of passage. By means of one or more such installation elements, it is easy to retain the mounting collar in the partition wall at the position of the rear side of the partition wall which extends opposite the visible side. If the partition wall is composed of one layer or a double layer of panels, then said rear side is formed by the panels. In the case of a suspended ceiling, this means that the mounting collar is retained by the panels by means of the one or more installation elements. These installation elements may be attached, for example, to the sleeve by means of bolts, (blind) rivets and the like.

[0011] Furthermore preferably, said installation element comprises a resilient element which is convertible between at least two positions, being a rest position in which the resilient element is at least partly at a distance from the sleeve, and a second position in which the resilient element virtually bears against the outer side of the sleeve. Due to the fact that it bears against the sleeve in the second position, the resilient element in this case adds little to the dimensions of the mounting collar, viewed along a plane at right angles to the passage, so that the mounting collar is simply fittable in a wall passage of a partition wall in this second position. The rest position

is the position in which no external forces are applied to the resilient element, i.e. when the resilient element is not pushed against the outer side of the sleeve. In said second position, the resilient element is pushed against the outer side of the sleeve. This second position is useful to simplify the installation of the mounting collar in a partition wall.

[0012] Also furthermore preferably, the sleeve, viewed along the passage, comprises two mutually opposite ends, being a first end, which is intended to extend, with its end edge, at the position of the visible side of a partition wall, and a second end, and said installation element extends at a distance from the end edge of the first end, viewed along the length direction of the passage. A partition wall usually comprises a frame composed of profiled sections, for example metal profiled sections or wooden profiled sections, and one or more panels, such as gypsum plasterboards, fibreglass boards or calcium silicate boards, which will then be secured to the frame to form a visible wall surface. By providing such an installation element, it is simple to fit the mounting collar in a wall passage in such a way that the installation element largely extends on the rear side of the panels, as a result of which it is thus simple to fix the mounting collar behind the panels by means of the installation element. If the partition wall is a suspended ceiling, it is then simple to retain the mounting collar here. Furthermore preferably, the installation element then comprises a said resilient element. Thus, several installation elements may be provided which each comprise a resilient element e.g. a leaf spring. This leaf spring then has a said rest position, in which a portion of the leaf spring extends at a distance from the sleeve, viewed along a cross section through the leaf spring, and along a plane at right angles to the length direction of the passage, and is then deformable from this rest position to said second position, wherein the leaf spring bears against the outer side of the sleeve.

[0013] In a preferred embodiment, the sleeve comprises an inner side which surrounds said passage and an outer side which extends opposite the inner side and the mounting collar comprises a strip of intumescent material, wherein this strip of intumescent material bears against the outer side of the sleeve, and wherein this strip extends virtually completely around the sleeve and preferably extends entirely around the sleeve. In order to install the mounting collar in a partition wall, a hole is made in the partition wall, i.e. a wall passage is formed and the mounting collar is fitted in this wall passage. If the sleeve is, for example, cylindrical, a cylindrical wall passage is provided, for example, in the partition wall, the diameter of this wall passage being slightly greater than the outer diameter of the sleeve. In the space of the wall passage, there is consequently always an opening/space present between the partition wall and the mounting collar. It would be possible to fill this opening in order to prevent fire penetration at the position of this opening in case of fire. However, by providing the mounting collar with said strip of intumescent material, this opening does not have to be filled further. Intumescent material is a material which swells/expands on account of heat and whose volume therefore increases on account of heat. Said intumescent material will therefore, on account of heat, expand from the sleeve outwards. In case of fire, this intumescent material will thus start to fill said opening between the mounting collar and the partition wall. The mounting collar is therefore sealed in a fire-resistant way in case of fire with respect to the partition wall. The need to fill said opening with inflammable material, such as mortar, is thus obsolete. This mounting collar can thus be installed in a partition wall in a very simple manner. The reason for this is that the partition wall only has to be provided with a suitable wall passage. The intumescent material may comprise, for example, expandable graphite or sodium silicate. Other intumescent materials may also be used.

[0014] Furthermore preferably, the sleeve, viewed along the length direction of the passage, comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side of a partition wall, and a second end, with the strip of intumescent material extending at the position of the first end. After the mounting collar has been fitted in the partition wall, this strip of intumescent material will also be situated in the wall passage and thus be able to fill the space between the partition wall and the mounting collar which extends in the wall passage.

[0015] Still further preferably, the sleeve, at the position of the first end, comprises an indentation which extends around virtually the entire sleeve and the strip of intumescent material is arranged in this indentation and this strip of intumescent material extends essentially inside the outer contours of the sleeve, viewed along a plane at right angles to the passage. Here, the strip of intumescent material then does not form a protrusion which renders the installation of the mounting collar in the partition wall more difficult. In this case, the possible directions of expansion of the strip of intumescent material are also limited, as a result of which the space between the mounting collar and the partition wall which is present in the wall passage is more quickly sealed by the expanding intumescent material in case of fire. The first end here then preferably comprises said indentation.

[0016] In a preferred embodiment, the sleeve, viewed along the length direction of its passage, comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side of a partition wall, and a second end, the mounting collar comprising a sealing edge which bears against said end edge and which covers the end edge, wherein the sealing edge extends beyond the contours of the sleeve, viewed along a plane at right angles to the passage. In order to secure the mounting collar to a partition wall, this partition wall is locally provided with a wall passage through which the mounting collar is intended to extend. The dimensions of this wall passage are slightly larger than the largest dimensions of the sleeve, viewed

along a plane at right angles to the length direction of the passage, so that the mounting collar is fittable in the wall passage in a simple manner. By means of said sealing edge, it is then simple to prevent anyone from looking through the partition wall, as a result of which the entirety, the partition wall and the mounting collar, has an aesthetic appearance.

[0017] The object of the invention is also achieved by providing an assembly of a mounting collar and a ventilation element, such as a fire damper, wherein the mounting collar is a mounting collar as described above. The advantages and preferred embodiments of the above-described mounting collar therefore also apply to this assembly. The ventilation element is, for example, a fire damper or a smoke damper.

[0018] Preferably, the ventilation element comprises a tunnel which surrounds a ventilation passage, wherein one or more damper blades are rotatably arranged in this ventilation passage for closing off the ventilation passage, wherein the tunnel is accommodable in the passage of the sleeve in order to connect the ventilation element to the mounting collar. Thus, the passage may be cylindrical and the outer side of the tunnel is therefore also cylindrical, with the diameter of the outer side of the tunnel being just slightly smaller than the diameter of the passage, so that the tunnel is accommodable in the passage of the mounting collar. It is possible to provide, for example, a flexible sealing ring or the like on the outer side of the tunnel, as a result of which the ventilation element does not become detached from the mounting collar again, if this is undesirable.

[0019] Preferably, the tunnel comprises an inner side which surrounds the ventilation passage and an outer side situated opposite this inner side, wherein the ventilation element comprises a sealing ring which extends against the outer side of the tunnel and which surrounds the tunnel virtually completely in order to form a sealing between the sleeve and the tunnel when the ventilation element is connected to the mounting collar. In addition, this sealing ring may ensure that the ventilation element remains connected to the mounting collar. The sealing ring ensures that no air can move through the partition wall between the ventilation element and the mounting collar. In this case, only the one or more damper blades control the ventilation through the partition wall. This sealing ring is made, for example, from rubber, such as EPDM rubber.

[0020] Also preferably, the ventilation element comprises a strip of intumescent material which surrounds the tunnel virtually completely. This strip of intumescent material preferably adjoins said outer side of the tunnel. During a fire, this strip of intumescent material prevents fire penetration at the position of the space which is present between the sleeve and the ventilation element located in the passage of the sleeve. This strip of intumescent material also helps to prevent the ventilation element from becoming detached again from the mounting collar in case of fire. If the ventilation element is retained by means of said sealing ring made from rubber, this rubber may degrade in case of fire. By then additionally providing said strip of intumescent material, this intumescent material will expand in case of fire and thus ensure a fire-resistant sealing between the sleeve and the tunnel of the ventilation element which, in addition, retains the ventilation element in the passage. If it is intended to fit the assembly in a suspended ceiling, the strip of intumescent material is preferably situated under the sealing ring in use.

[0021] The present invention will now be explained in more detail by means of the following detailed description of a preferred embodiment of a mounting collar and an assembly according to the present invention. The sole aim of this description is solely to give illustrative examples and to indicate further advantages and features and can thus by no means be interpreted as a limitation of the area of application of the invention or of the patent rights defined in the claims.

[0022] In this detailed description, reference numerals are used to refer to the attached drawings, in which:

- ***Fig. 1*** shows a front view of a mounting collar according to the invention;
- ***Fig. 2*** shows a cross section of the mounting collar illustrated in Fig. 1 along a plane which extends along the length direction of the passage of the sleeve of the mounting collar;
- ***Fig. 3*** shows a front view of an assembly according to the invention comprising the mounting collar illustrated in Fig. 1 and comprising a ventilation element, wherein a ventilation element is fitted in the mounting collar;
- ***Fig. 4*** is a representation from Fig. 3 which shows a cross section of the mounting collar as in Fig. 2, so that the ventilation element is more clearly visible;
- ***Fig. 5*** shows a cross section of the mounting collar as in Fig. 2, in which this mounting collar is fitted in a fire-resistant suspended ceiling.

[0023] The mounting collar (1) as illustrated in the figures is constructed as follows: the mounting collar (1) comprises a sleeve (4), an attachment (7), a sealing edge (12), a strip of intumescent material (11) and three installation elements (10).

[0024] The sleeve (4) is tubular and, for example, made from fibre-reinforced plaster. The inner side (8) of the sleeve (4) surrounds a passage (5) through this sleeve (4), the passage (5) extending along a rectilinear length direction (A). The sleeve (4) furthermore comprises an outer side (9) which extends opposite the inner side (8) of the sleeve (4). Viewed along the length direction (A), the sleeve (4) successively comprises three partial regions, being a first end which is intended to extend at the position of the panels of a partition wall (3) (see Fig. 5), a central section and a second end. The attachment (7) is also tubular and with one end adjoins the inner side (8) of the sleeve (4) at the position of the second end of

the sleeve (4) (see Figs. 2, 4 and 5). The passage (5) of the sleeve (4) is then also accessible via the attachment (7), viewed along said length direction (A). The attachment (7) is made from plastic or metal and a flexible tube can simply be attached to this attachment (7).

[0025] The first end of the sleeve (4) is covered by the sealing edge (12). Here, the sealing edge (12) is a ring which has been adhesively bonded to and/or mechanically attached, for example by riveting it to the end edge of the first end of the sleeve (4). The outer diameter and the inner diameter of the sealing edge (12) are such that the inner diameter corresponds to the diameter of the passage (5) and the outer diameter is slightly larger than the maximum outer diameter of the sleeve (4). The end edge of the first end is therefore completely covered by the sealing edge (12) and the sealing edge (12) extends beyond the sleeve (4), viewed along a plane at right angles to the length direction (A).

[0026] At the position of the first end and on the outer side (9) of the sleeve (4), the sleeve (4) comprises an indentation. The strip of intumescent material (11) is arranged in this indentation and extends entirely around the sleeve (4), so that the entire sleeve (4) is surrounded by the strip of intumescent material (11). The dimensions of the strip of intumescent material (11) are such that this strip of intumescent material (11) extends inside the outer contours of the sleeve (4), viewed along a plane at right angles to the length direction (A), and thus the intumescent material (11) does not form a protrusion which might hamper the installation of the mounting collar (1) in a partition wall (3) (see below).

[0027] The three installation elements (10) are resilient metal plates (10) which are attached to the outer side (9) of the central section of the sleeve (4) by means of blind rivets (17). They are situated at 120°, 240° and 360°, respectively, around the length direction (A). Viewed along the length direction (A), these sheet metal leaf springs (10) extend substantially at the position of the central section and thus extend substantially between the first end and the second end of the sleeve (4). This position makes it possible to suspend the mounting collar (1) into a suspended ceiling (3) (see Fig. 5 and below).

[0028] These sheet metal leaf springs (10) have a rest position, in which the portions of the leaf springs (10) which are not situated at the position of the blind rivets (17) are situated at a distance from the outer side (9) of the sleeve (4), viewed along a plane at right angles to the length direction (A), and a mounting position in which the leaf springs (10) are pushed in and bear against the outer side (9) of the sleeve (4).

[0029] Here, the fire-resistant partition wall (3) is a suspended ceiling (3) which consists of several girders and fire-resistant panels, such as gypsum plasterboards, calcium silicate boards or gypsum fibreboards, these panels being attached to the girders in a double layer, so that these panels form a visible side (18) which extends essentially along a plane and a rear side (19) situated opposite this visible side (18).

[0030] In order to fit this mounting collar (1) in a fire-resistant suspended ceiling (3), one proceeds as follows. First, a wall passage (6) is provided through the suspended ceiling (3), this wall passage (6) having a diameter which is slightly larger than the outer diameter of the sleeve (4) and slightly smaller than the outer diameter of the sealing edge (12). Then, the leaf springs (10) are fitted in their mounting position by pushing the leaf springs (10) against the outer side (9) of the sleeve (4), as a result of which the mounting collar (1) can be fitted through the wall passage (6) until the sealing edge (12) makes contact with the visible side (18) of the suspended ceiling (3). Since the outer diameter of the sealing edge (12) is larger than the diameter of the wall passage (6), the sealing edge (12) cannot move beyond the visible side (18) of the suspended ceiling (3). During fitting of the mounting collar (1) in the wall passage (6), the leaf springs (10) are released, as a result of which they will rebound when they are partly above the panels of the suspended ceiling (3). These leaf springs (10) then rest on the panels of the suspended ceiling (3) and thus keep the mounting collar (1) in place. The position of the strip of intumescent material (11) after installation in the suspended ceiling (3) is such that this strip of intumescent material (11) extends at the position of the panels, as a result of which the space present in the wall passage (6) and extending between the panels and the mounting collar (1) will, in case of fire, be filled with intumescent material in order thus to prevent fire penetration between the mounting collar (1) and the panels.

[0031] This mounting collar (1) is used to secure a fire damper (2) in the suspended ceiling (3) in a fire-resistant manner. The fire damper (2) itself is constructed as follows. This fire damper (2) comprises a tunnel (16) which surrounds a ventilation passage. Viewed centrally along the length direction of the ventilation passage, the tunnel (16) is relatively narrow. At the position of this narrow section of the tunnel (16), the fire damper (2) comprises a strip of intumescent material (15) which extends around the tunnel (16) and has a sealing ring (14) above it which also extends around the tunnel (16). In the ventilation passage, damper blades are rotatably arranged in order thus to control ventilation through the ventilation passage. The fire damper (2) furthermore comprises a valve (13) which adjoins the tunnel (16). This fire damper (2) is then introduced into the mounting collar (1) from below until the valve (13) makes contact with the sealing edge (12). In this case, the sealing ring (14) makes contact with the inner side (8) of the sleeve (4) of the mounting collar (1). The fire damper (2) is held in the mounting collar (1) by means of this sealing ring (14). In case of fire, the strip of intumescent material (15) of the fire damper (2) will provide a fire-resistant sealing between the fire damper (2) and the mounting collar (1) in order thus to prevent fire penetration.

[0032] By means of the fire damper (2) and the valve (13), ventilation through the suspended ceiling (3) is adjustable due to the fact that the ventilation passage ad-

joins the flexible tube which is connected to the attachment (7) of the mounting collar (1).

Claims

1. Mounting collar (1) for securing a ventilation element (2), such as a fire damper (2), in a fire-resistant partition wall (3) in a fire-resistant manner, wherein the mounting collar (1) comprises a sleeve (4) which surrounds a passage (5) in which a ventilation element (2) is intended to be accommodated, wherein the sleeve (4) is intended to extend through a wall passage (6) of a partition wall (3), **characterized in that** the sleeve (4) is substantially made from a fire-resistant and heat-insulating material.

2. Mounting collar (1) according to Claim 1, **characterized in that**, viewed along the length direction (A) of the passage (5), the sleeve (4) comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side (18) of a partition wall (3) and a second end, wherein the mounting collar (1) comprises a tubular attachment (7) which adjoins the sleeve (4) at the position of the second end, and extends beyond the second end of the sleeve (4), viewed along the length direction (A) of the passage (5), and through which the passage (5) is accessible.

3. Mounting collar (1) according to Claim 2, **characterized in that** the attachment (7) is made from plastic or from metal.

4. Mounting collar (1) according to Claim 2 or 3, **characterized in that** the sleeve (4) comprises an inner side (8) which surrounds said passage (5) and the attachment (7) adjoins this inner side (8).

5. Mounting collar (1) according to one of the preceding claims, **characterized in that** the sleeve (4) comprises an inner side (8) which surrounds said passage (5) and an outer side (9) which extends opposite the inner side (8), and **in that** the mounting collar (1) comprises at least one installation element (10) for retaining the mounting collar (1) in a partition wall (3), wherein the installation element (10) is connected to the sleeve (4) and projects beyond the outer side (9) of the sleeve (4), viewed along a plane at right angles to the length direction (A) of the passage (5).

6. Mounting collar (1) according to Claim 5, **characterized in that** said installation element (10) comprises a resilient element (10) which is convertible between at least two positions, being a rest position in which the resilient element (10) is at least partly at a distance from the sleeve (4), and a second position in which the resilient element (10) virtually bears against the outer side (9) of the sleeve (4).

7. Mounting collar (1) according to Claim 5 or 6, **characterized in that** the sleeve (4), viewed along the length direction (A) of the passage (5), comprises two mutually opposite ends, being a first end, which is intended to extend, with its end edge, at the position of the visible side (18) of a partition wall (3), and a second end, and **in that** said installation element (10) extends at a distance from the end edge of the first end, viewed along the length direction (A) of the passage (5).

8. Mounting collar (1) according to one of the preceding claims, **characterized in that** the sleeve (4) comprises an inner side (8) which surrounds said passage (5) and an outer side (9) which extends opposite the inner side (8) and the mounting collar (1) comprises a strip of intumescent material (11), wherein this strip of intumescent material (11) bears against the outer side (9) of the sleeve (4), and wherein this strip of intumescent material (11) extends virtually completely around the sleeve (4).

9. Mounting collar (1) according to Claim 8, **characterized in that** the sleeve (4), viewed along the length direction (A) of its passage (5), comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side (18) of a partition wall (3), and a second end, with the strip of intumescent material (11) extending at the position of the first end.

10. Mounting collar (1) according to Claim 9, **characterized in that** the sleeve (4), at the position of the first end and its outer side (9), comprises an indentation which extends around virtually the entire sleeve (4) and the strip of intumescent material (11) is arranged in this indentation and extends essentially inside the outer contours of the sleeve (4), viewed along a plane at right angles to the length direction (A) of the passage (5).

11. Mounting collar (1) according to one of the preceding claims, **characterized in that** the sleeve (4), viewed along the length direction (A) of its passage (5), comprises two mutually opposite ends, being a first end which is intended to extend, with its end edge, at the position of the visible side (18) of a partition wall (3), and a second end, the mounting collar (1) comprising a sealing edge (12) which bears against the end edge of the first end and thus covers this end edge, wherein the sealing edge (12) extends beyond the outer contours of the sleeve (4), viewed along a plane at right angles to the length direction (A) of the passage (5).

12. Assembly of a mounting collar (1) and a ventilation element (2), such as a fire damper (2), **characterized in that** the mounting collar (1) is a mounting collar (1) according to one or more of Claims 1 to 11.

13. Assembly according to Claim 12, **characterized in that** the ventilation element (2) comprises a tunnel (16) which surrounds a ventilation passage, wherein one or more damper blades are rotatably arranged in this ventilation passage for closing off the ventilation passage, wherein the tunnel (16) is accommodable in the passage (5) which surrounds the sleeve (4) in order to connect the ventilation element (2) to the mounting collar (1).

14. Assembly according to Claim 13, **characterized in that** the tunnel (16) comprises an inner side which surrounds the ventilation passage and an outer side situated opposite this inner side, wherein the ventilation element (2) comprises a sealing ring (14) which extends against the outer side of the tunnel (16) and which surrounds the tunnel (16) virtually completely in order to form a sealing between the sleeve (4) and the tunnel (16) when the ventilation element (2) is connected to the mounting collar (1).

15. Assembly according to Claim 13 or 14, **characterized in that** the ventilation element (2) comprises a strip of intumescent material (15) which surrounds the tunnel (16) virtually completely.

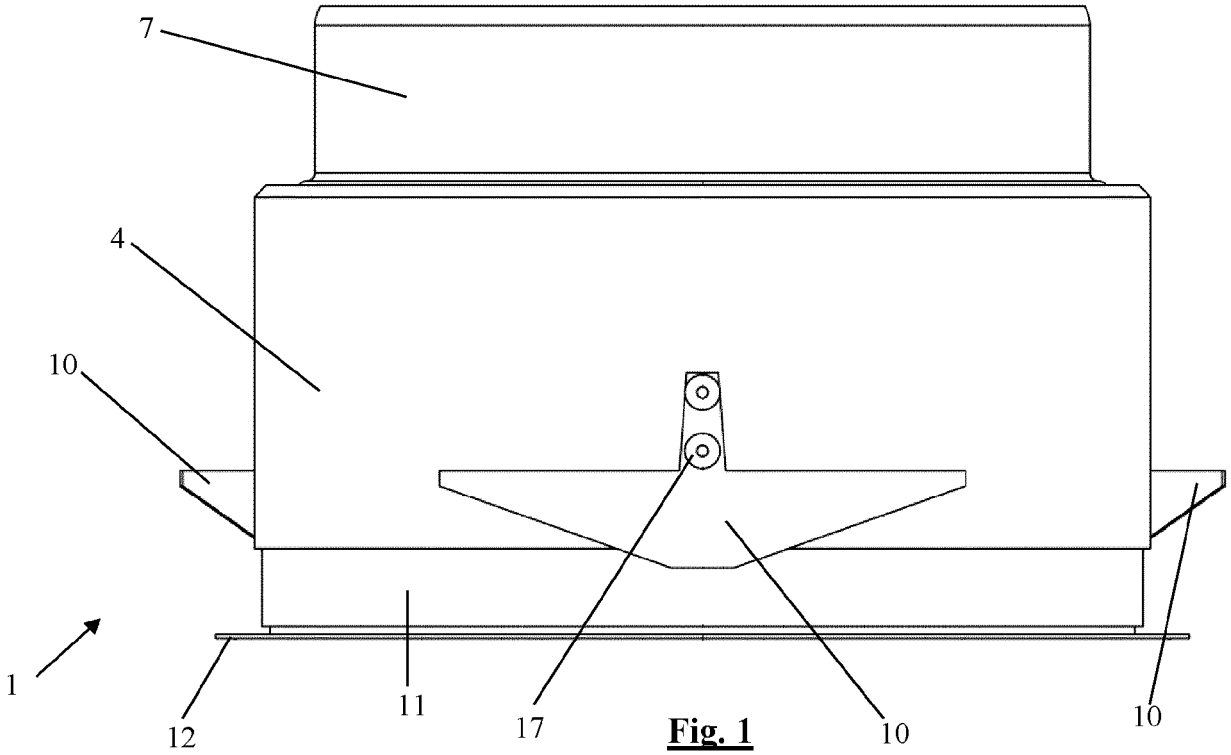

Fig. 1

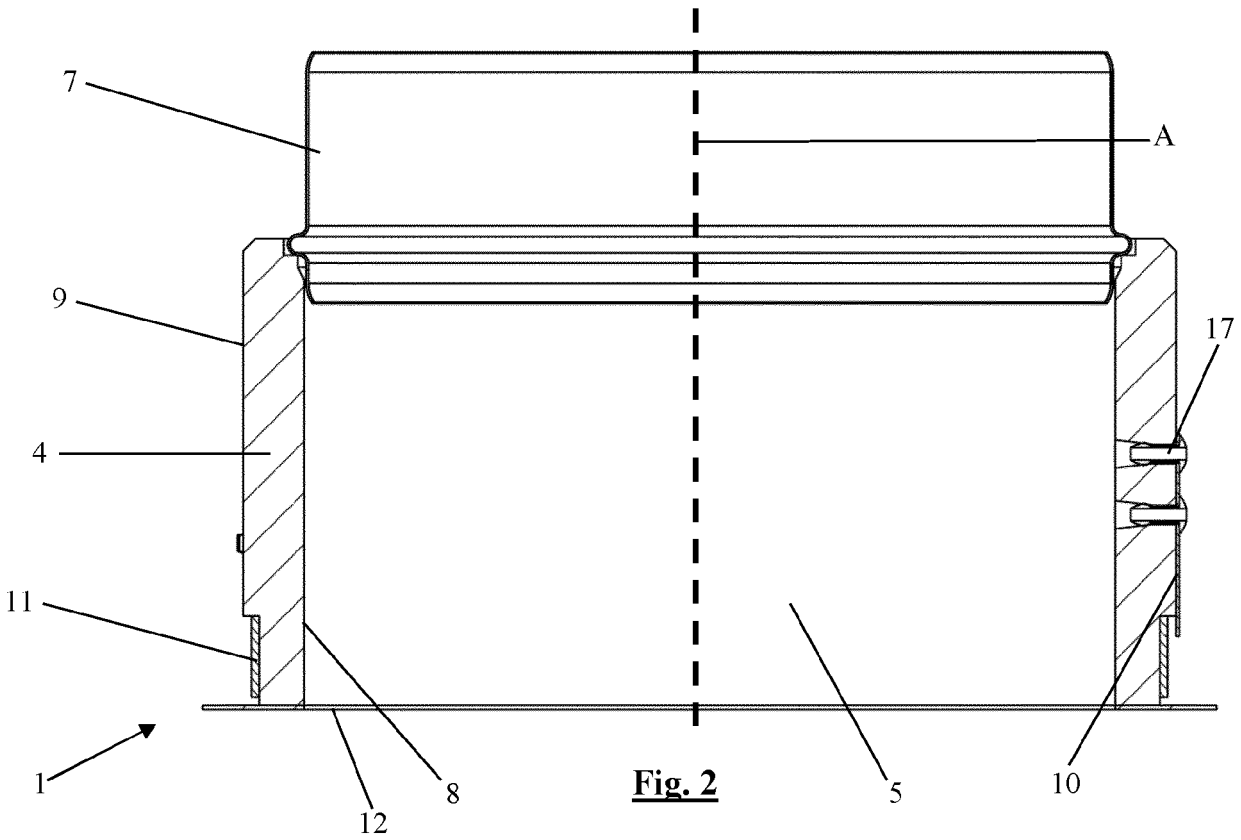

Fig. 2

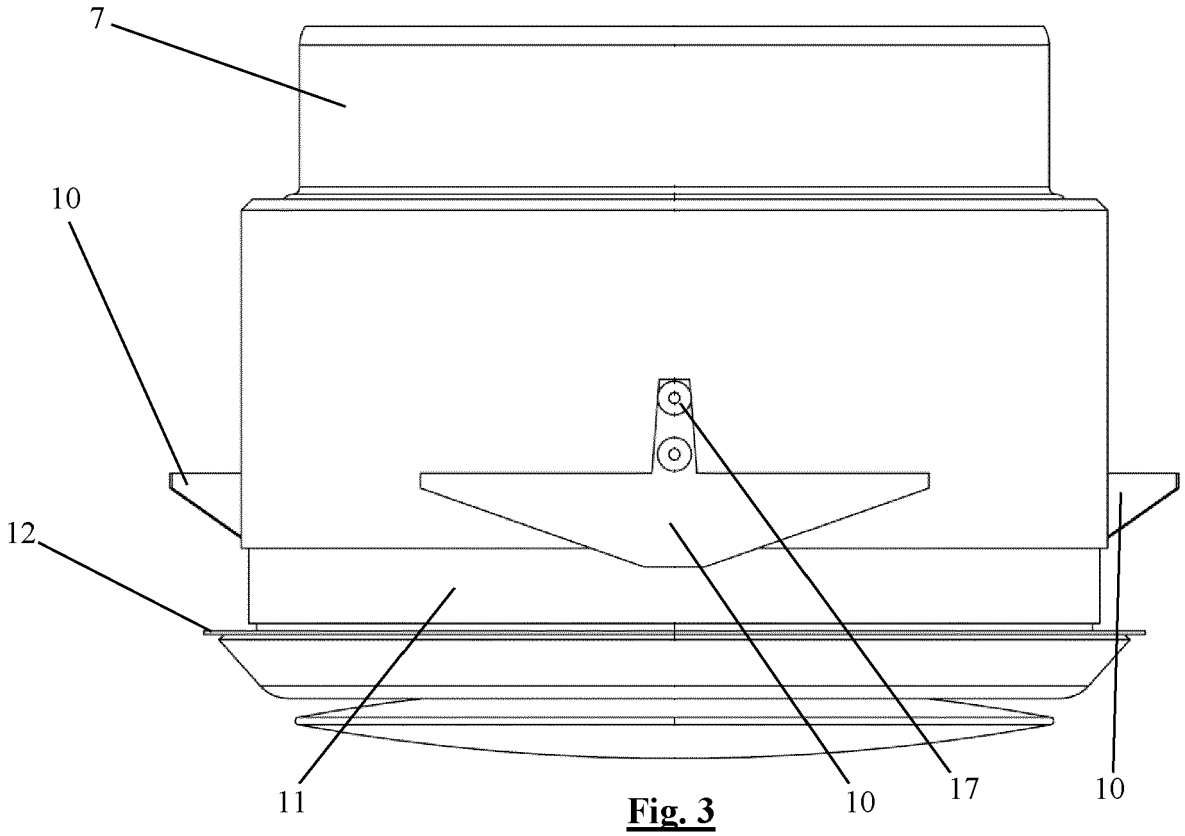

Fig. 3

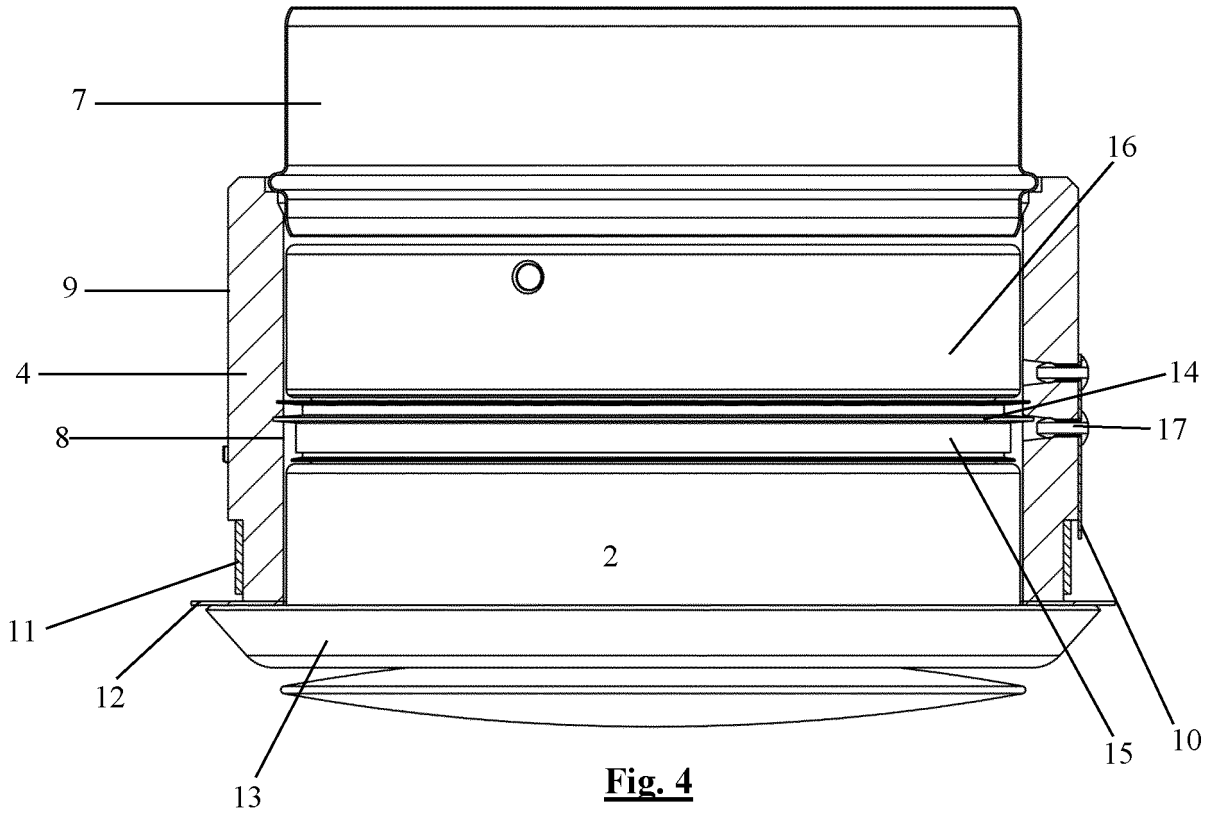

Fig. 4

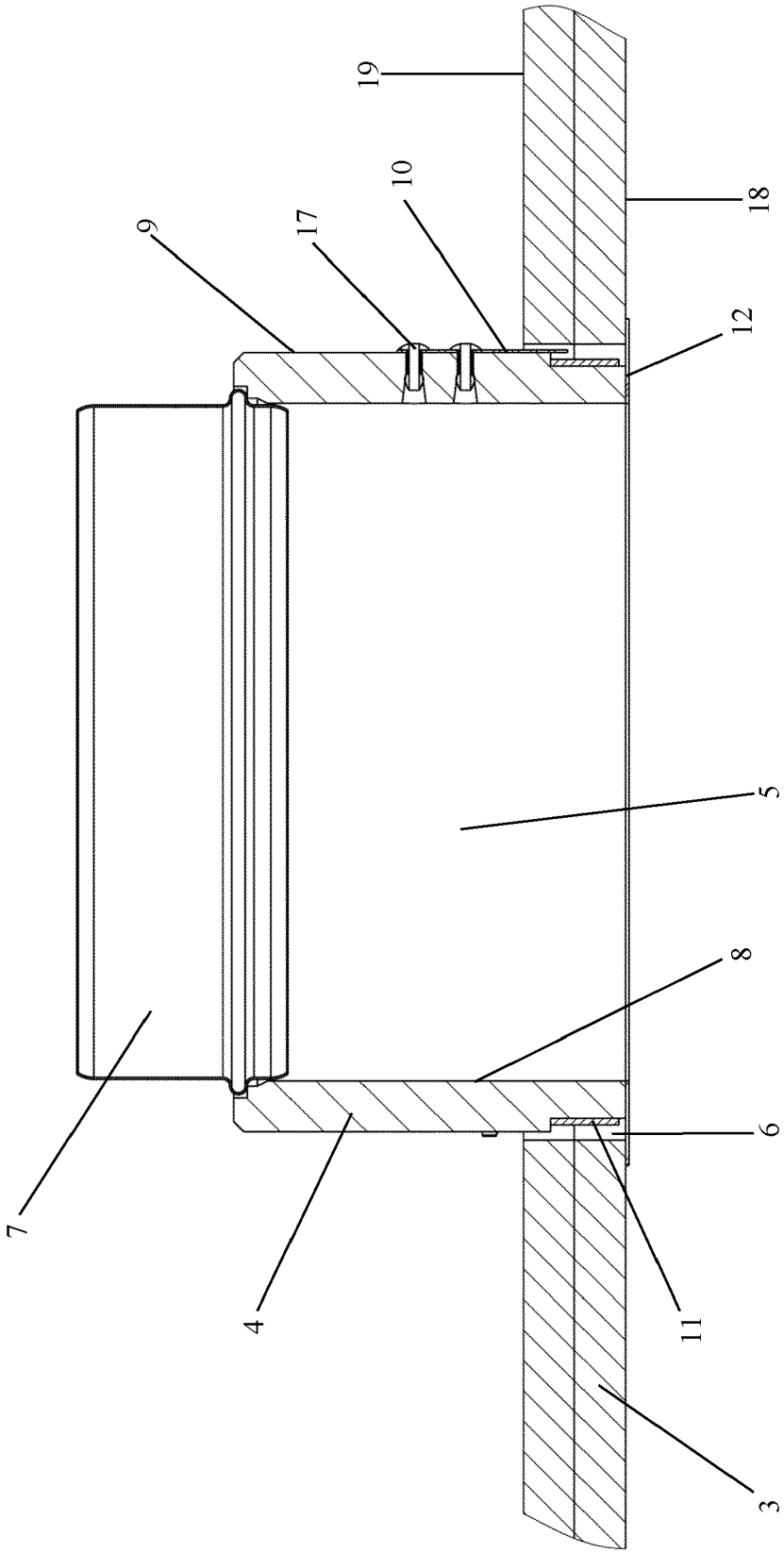

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 21 15 5725

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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F24F
A62C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	3 June 2021	Mattias Grenbäck

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03-06-2021

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