

(19) **DANMARK**



Patent- og
Varemærkestyrelsen

(12)

Oversættelse af europæisk patentskrift

(10) **DK/EP 4008618 T3**

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- (51) Int.Cl.: **B 62 J 7/04 (2006.01)** **B 62 J 7/08 (2006.01)** **B 62 J 9/23 (2020.01)**
B 62 J 9/24 (2020.01) **B 62 J 9/27 (2020.01)**
- (45) Oversættelsen bekendtgjort den: **2024-01-02**
- (80) Dato for Den Europæiske Patentmyndigheds bekendtgørelse om meddelelse af patentet: **2023-09-20**
- (86) Europæisk ansøgning nr.: **21211460.7**
- (86) Europæisk indleveringsdag: **2021-11-30**
- (87) Den europæiske ansøgnings publiceringsdag: **2022-06-08**
- (30) Prioritet: **2020-12-01 DE 102020131795**
- (84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**
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- (54) Benævnelse: **BAGAGEBÆRERSYSTEM TIL MONTERING AF TO STYKKER BAGAGE OG BAGAGEBÆRERANORDNING**
- (56) Fremdragne publikationer:
CN-U- 210 212 605
DE-A1- 19 517 847
DE-U1- 9 213 180
DE-U1- 9 310 998
US-A1- 2013 292 438

Description

This invention relates to a luggage carrier system and a luggage carrier arrangement that allow two luggage items, namely a suspended luggage item and an attachment luggage item, to be mounted on a luggage carrier of a bicycle.

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A luggage carrier system of the aforementioned type is known from the type DE 92 13 180 U1. It discloses in detail a mounting device for the purpose of attaching a container consisting of two dimensionally stable hard shells to a bicycle luggage carrier. With the device, an approximately rectangular carrier plate provided on the upper side of the luggage carrier can be fastened to the luggage carrier by means of detachable fastening element using two counter plates situated on the underside of the luggage carrier, approximately along the two longitudinal sides of the carrier plate. The carrier plate has recesses behind which retaining and securing elements fastened to or in the base of the container engage in the form of at least one holding claw and one locking quick-release fastener. Arrangements in which a luggage carrier is attached to a bicycle are already known from the state of the art. Such a luggage carrier can be attached, for example, in the area of the rear wheel but also in the area of the front wheel or to the side of it. An attachment luggage item, such as a bicycle basket, can normally be attached to such a carrier. It is also possible to attach suspended luggage items, such as saddlebags, in particular in a hanging position and usually to the side of the luggage carrier. Sometimes it is necessary to fasten both luggage items simultaneously.

This is where the present invention is of value because there are no systems in the state of the art that allow simple positioning of two luggage items, namely the above-mentioned suspended luggage items and attachment luggage items. The task is to provide a system which allows simultaneous assembly of such two luggage items, but also the individual assembly and disassembly of these luggage items in a reliable and simple way.

This task is solved by a luggage carrier system according to independent claim 1.

According to the invention this task is solved by a luggage carrier system for the purpose of mounting two luggage items, namely a suspended luggage item and an attachment luggage item, on a luggage carrier of a bicycle, consisting of a base clamping means receptacle that can be fixed to the luggage carrier, optionally screwed or fixed in a similar manner, or is formed thereon; a base carrier, with a base clamping means, via which the base carrier can be detachably fixed,

optionally clamped; an intermediate carrier, via which the suspended luggage item can be fixed to the base carrier, optionally screwed or fixed in a similar manner, and which has at least one attachment clamping means receptacle; and an attachment carrier that can be secured, optionally screwed or fixed in a similar manner, to the attachment luggage item, and that has an attachment clamping means, via which the attachment carrier can be detachably fixed, optionally clamped, to the attachment clamping means receptacle, whereby the attachment clamping means is designed in such a way that it can be detachably clamped both to the attachment clamping means receptacle on the intermediate carrier and to the base clamping means receptacle on the luggage carrier.

By "fixed" and optionally "screwed" or fixed in a similar manner, it is understood here that a fixed connection is created that can preferably be released only with greater time expenditure than the clampable connection described below. For example, screw connections, riveted connections, cable ties, wire clamps etc. are conceivable here. Optionally excluded are connections that allow the objects to be detached from each other easily, in particular without tools.

Fixed, optionally clamped is understood to mean any detachable connection that allows simple, in particular tool-free, release between the base clamping means and the base clamping means receptacle or the attachment clamping means receptacle and the attachment clamping means. Optional examples include elastic clamping protrusions, pre-tensioned locking systems, latching connections, quick-release fasteners, latching systems, hook locks and, optionally, systems in which insertion is possible without actuation of a release agent and removal is possible with actuation of such release agent. Such systems are known from the state of the art.

Clamped therefore stands in contrast to fixed; it optionally defines a different type of fastening. Different systems with different locking and de-locking functions are thus optionally defined, whereby clampable describes the fast, optionally also non-destructive release, and clamped describes the more time-consuming, optionally also destructive release.

In connection with the base clamping means receptacle, which "can be arranged on the luggage carrier", it is optional that this can also be formed, in particular integrally, on the luggage carrier. For example, the base clamping means receptacle may also be designed as at least one bar, a component, a stiffening element, etc. of the luggage carrier. The base clamping means of the

base carrier can then be designed correspondingly as a clamping element, which can be brought into coupling engagement with this correspondingly designed base clamping means receptacle.

One aspect of the invention is that the suspended luggage item is attached firmly to the base carrier and the intermediate carrier. It can optionally be removed from the luggage carrier together with these carriers. A user must therefore fix the suspended luggage item to the intermediate carrier and/or the base carrier once, whereby a fixed connection is then formed between these carriers and the suspended luggage item.

Optionally, holding means, and in particular at least one handle, are provided on the carrier or on the suspended luggage item so that the suspended luggage item can be removed from and/or attached to the luggage carrier together with the carriers.

The intermediate carrier in turn includes an attachment clamping means receptacle, via which the attachment luggage item may be clamped with its attached attachment carrier, on which an attachment clamping means is clampable. This makes it very easy to detach the attachment luggage item from the suspended luggage items or the luggage carrier.

In combination, it is very easy to mount the two luggage items on the carrier.

It is also conceivable to provide different intermediate carriers that differ, for example, in terms of resistance, force transfer ratio, etc., in order to attach different suspended luggage items or attachment luggage items, for example.

It is conceivable to attach the suspended luggage item to the intermediate carrier in order to then attach the combination of the two to the base carrier. It is conceivable to attach the suspended luggage item to the base carrier and then attach the intermediate carrier, and/or it is conceivable to attach the suspended luggage item between the base carrier and the intermediate carrier, for example by clamping it. These explanations are discussed in greater below.

As described above, the attachment clamping means is designed in such a way that it can be detachably clamped to both the attachment clamping means receptacle on the intermediate carrier and the base clamping means receptacle on the luggage carrier. In this way, the attachment luggage item may be attached to the attachment carrier together with the suspended luggage item

or on its own. This means that the attachment luggage item may be removed from the intermediate carrier, the intermediate carrier together with the suspended luggage item may be removed from the luggage carrier and then the attachment luggage item can be clamped back onto the luggage carrier. Of course, it is also possible to attach a suspended luggage item to the luggage carrier in addition to the attachment luggage item subsequently.

Optionally, the attachment clamping means is essentially identical to the base clamping means and/or the attachment clamping means receptacle is essentially identical to the base clamping means receptacle. Optionally, this means that the elements of the respective means that are at least complementary and in clamping engagement with one another are designed identically to each other so that the clamping means or clamping means receptacles can enter into clamping connection with one another.

In this context in particular, it is conceivable that the means or the means receptacle comprises further elements which are only formed on one of the respective means, i.e. the base means or means receptacles or the attachment means or means receptacles.

Optionally, the intermediate carrier may be fixed to the base carrier and/or the attachment carrier may be fixed to the attachment luggage item with at least one fastening element in such a way that they may only be released with a tool in order to prevent an unauthorised release of the suspended luggage item from the base carrier or of the attachment luggage item from the attachment carrier for at least a limited period of time, in particular at least three minutes, optionally at least one minute. As mentioned at the start, such fastening elements may be screw connections, non-detachable clamp connections, cord connections, etc. The fastening element is preferably designed in such a way that it remains reliably attached to the respective luggage item during transport of the suspended luggage item and/or the attachment luggage item, for example when the piece of attachment luggage item and/or the suspended luggage item is removed from the bicycle carrier. In particular, such a design gains significance with an embodiment in which the base carrier and/or the attachment carrier optionally have a securing method by means of which the base carrier can be detachably secured to the luggage carrier in a manner that is protected against theft or the attachment carrier can be secured to the intermediate carrier in a theft-protected manner, and optionally can only be detached using a key. A key may be a conventional socket key, a code lock or an electrical security device, etc. The key optionally

allows just one authorised person to release and/or lock the locking device. A typical security device may be a key lock, for example.

Optionally, the suspended luggage item is a luggage item to be situated on the side of the luggage carrier, for example a saddle bag, optionally a saddle bag with two pockets, which is to be situated on opposite sides of the bicycle. Such saddlebags may, for example, be arranged in the area of the front wheel and/or in the area of the rear wheel of a bicycle. They are adequately well-known from the state of the art.

Optionally, the attachment luggage items is a luggage items to be placed on the luggage carrier, for example a basket, a dog basket, a top case or a child seat. Optionally, the intermediate carrier may be adapted to the respective luggage items and, in particular, the attachment luggage item. For example, an intermediate carrier designed for a child seat may be more stable than an intermediate carrier that is designed for a basket. Optionally, it is possible to ensure that the respective luggage items may only be situated and, in particular, clamped on the intermediate carrier designed for this purpose. The same design may, of course, also apply to the attachment carrier and/or the base carrier so that, for example, an intermediate carrier suitable for a child seat may only be situated and, in particular, fixed on a correspondingly designed base carrier.

Optionally, the intermediate carrier will have at least one fixing element, optionally a pressing element, and the base carrier has at least one corresponding fixing counter-element, optionally a pressing counter-element, that are designed to complement each other in such a way that, in the fixed state of the suspended luggage item, they fix, optionally clamp, at least one mounting element of the suspended luggage item, optionally a bridge of a saddlebag, which connects two pockets of the saddlebag. This guarantees that the suspended luggage item will be securely attached to the base carrier as well as the intermediate carrier. It is conceivable to design the fixing elements and the corresponding fixing counter-elements in such a way that the suspended luggage item is fixed multi-axially, so that both vertical fixing and horizontal fixing is guaranteed.

Horizontal and vertical here refer optionally to the main direction of extension of the bicycle and a roadway on which the bicycle is moved, whereby horizontal is then optionally understood to be coplanar with the roadway.

Optionally, the fixing element and the fixing counter-element, optionally the pressing element and the pressing counter-element, will be formed on opposite sides of the intermediate carrier and the base carrier, optionally on an underside of the intermediate carrier and on an upper side of the base carrier. In particular in this context, the fixing element, optionally the pressing element, may protrude as a projection and/or as a recess from the plane of extension of the intermediate carrier or is formed as a depression therein, and/or the fixing counter element, optionally the pressing counter element, may protrude as a projection complementary thereto and/or as a recess complementary thereto from the plane of extension of the base carrier or be formed as a depression therein in such a way that a fixing area, optionally a clamping area, is formed for the suspended luggage item. The suspended luggage item is optionally fixed in this fixing or clamping area. In the case of corresponding pressing elements or pressing counter elements in the form of projections, the suspended luggage item is preferably secured by pressing through the projections.

In the case of pressing elements and pressing counter elements designed as a projection and complementary recess, the fixing is also achieved by pressing and, in particular, by changing the direction of extension of the assembly element, which is pressed into the recess, for example. When two corresponding recesses are formed, fixing is effected optionally via a locking means which is provided on the mounting element and which optionally engages in the recesses in a locking manner as soon as the recesses are brought into a corresponding alignment with one another.

Optionally, a plurality of fixing elements, optionally pressing elements, and/or fixing counter elements, optionally pressing counter elements, are provided, at least two of which are situated apart from each other to form a fixing-free region, optionally a clamping-free region. This fixation-free, optionally clamping-free region allows the arrangement of suspended luggage items that have assembly elements in this area, for example from other assembly series for the suspended luggage item, and in particular suspended luggage items which are offered on the market by competitors, for example. In this context in particular, the fixing elements and/or fixing counter-elements are optionally designed so that they may fix a large number of different suspended luggage items. Optionally, they are as small as possible and optionally have a small surface area, so that only small areas of the suspended luggage assembly elements are optionally clamped. The size of the fixing elements is chosen in such a way as to ensure that the suspended luggage item in particular is securely fixed against movement relative to the luggage carrier.

Fixing elements and counter-fixing elements may also be designed as protrusions, for example, that engage through recesses in the mounting element of the suspended luggage item and so allow primarily horizontal fixing, while vertical fixing is ensured by other elements, for example longitudinal and/or cross members of the base carrier and/or intermediate carrier.

Optionally, a relative distance between the underside of the intermediate carrier and the upper side of the base carrier in the region between the pressing element and the pressing counter element will be less than the distance between the underside of the intermediate carrier and the upper side of the base carrier in the fixing-free area, optionally the clamping-free region. This applies in particular in connection with the previously mentioned spacing of the relevant fixing elements and fixing counter elements.

In general, the fixing element may optionally be designed as a pressing element, and the fixing counter element as a pressing counter element.

Optionally, the base carrier and/or the intermediate carrier and/or the attachment carrier have a plate geometry with a main extension plane E_B , E_Z , E_A , whereby optionally at least two of the main extension planes are aligned coplanar to one another in the fixed or clamped state. Minor deviations in coplanarity are conceivable. These deviations may optionally be ± 5 degrees, and optionally ± 2 degrees.

Optionally, the coplanarity or the formation of the main extension planes is to be seen as an average value, whereby protrusions and recesses are to be disregarded.

Optionally, the base carrier may be stacked on the intermediate carrier and/or the intermediate carrier may be stacked on the attachment carrier. Optionally, the respective carriers form a sandwich arrangement in the clamped or fixed state and, in particular, an arrangement in which, for example, the suspended luggage item is fixed, optionally clamped, between two carriers.

Optionally, the intermediate carrier will have a frame geometry that consists of a plurality of frame carriers which are connected to one another in a substantially bend-resistant manner. Such a frame geometry may take the form of a plate with a main extension plane. In principle, the

main extension plane in the clamped or fixed state is preferably horizontal and in particular horizontal to the roadway on which the bicycle is moved.

Optionally, at least some of the frame members are designed as cross members and longitudinal members. These cross members and longitudinal side members are optionally connected to each other in a bend-resistant manner. Optionally, the longitudinal members are coaxial to the main axis of extension of the luggage carrier and/or the bicycle and, in particular, to a direction of movement of the bicycle. Optionally, at least one cross member is thicker in cross-section than at least one longitudinal member. As an option, the crossbars are the main load carriers, primarily transferring the loads from the clamped luggage item to the luggage carrier. Optionally, the clamping means or counter-clamping means are situated on the cross member or are force-coupled to it.

Optionally, the longitudinal member is set back with respect to an upper side of the cross-member, optionally in relation to an upper side plane formed by upper sides of at least two cross-members, and/or in relation to a lower side of the cross-member, optionally in relation to a lower side plane formed by lower sides of at least two cross-members. In this context in particular, the previously described fixation-free, optionally clamping-free region may be formed. In particular, a point bearing is optionally designed in such a way that the intermediate carrier is point-mounted on the base carrier and/or the attachment carrier is point-mounted on the intermediate carrier or three or more points are provided as bearing points.

Optionally, the frame members of the intermediate carrier are connected to each other in such a way that they enclose a central access passage. Access to a carrier element of the suspended luggage item or to other additional elements provided on the luggage carrier and/or the suspended luggage item, for example a battery, a luggage carrier clamp, a lighting device or parts thereof, is possible via such an access passage. A storage element, such as a compartment or box, may also be situated in the area of this access passage or accessible through it.

Such a box or compartment may optionally be firmly attached or fixed to the base carrier and/or firmly attached to the intermediate carrier.

Optionally, the base carrier will have at least one positioning element and the intermediate carrier will have at least one positioning counter-element, which are in decoupling engagement with

each other in a set position PS between the base carrier and the intermediate carrier, aligned relative to each other, and/or the intermediate carrier will have a positioning element and the attachment carrier has a positioning counter-element, in a coupling engagement with each other in a set position PS between the intermediate carrier and the attachment carrier, aligned relative to each other. Such a design allows the respective carriers to be easily aligned with each other. In particular, temporary fixing is possible to allow the attachment of the fixing means described at the beginning, for example screws, bolts, cords, etc.

The positioning means may optionally serve as a horizontally acting positioning means and/or as a vertically acting positioning means. In the case of vertically acting positioning, for example, a distance between the respective carriers may be set in the clamped or fixed state.

Optionally, the base carrier and/or the intermediate carrier and/or the attachment carrier will be made from an injection-moulded material, optionally from fibre-reinforced plastic, further optionally from polyamide 6 with 30 % glass fibre (PA 6 EF30) and further optionally from the same material. Here, at least two carriers are optionally made of the same material.

According to dependent claim 15, the present invention relates not only to a luggage carrier system but also to a luggage carrier arrangement consisting of such a luggage carrier system and a luggage carrier, optionally further comprising two luggage items, namely a suspended luggage item and an attachment luggage item. It is also conceivable that such a luggage carrier arrangement could include a bicycle.

Optionally, it is conceivable that the hanging luggage item in the clamped or fixed state will be arranged essentially below the attachment luggage item or a partial area below the attachment luggage item. However, it is also conceivable to arrange the suspended luggage item in the same horizontal plane as the attachment luggage item and/or above this plane.

Further embodiments of the luggage carrier system according to the invention are presented in the dependent claims 2-14.

The invention is described below with reference to embodiments which are explained in greater detail in the attached drawings. Here:

Figure 1 shows an exploded view of the luggage carrier arrangement and the luggage carrier system according to one embodiment of the invention;

Figure 2 shows the embodiment according to Figure 1 in a fixed state;

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Figure 3 is a partial representation of the embodiment in accordance with Figure 2;

Figure 4 shows an embodiment according to Figure 3 in a fixed and clamped state without luggage items;

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Figures 5 to 9 present different detailed views of an embodiment of an intermediate carrier;

Figures 10 and 11 show detailed illustrations of positioning and counter-positioning elements of an embodiment of the intermediate carrier;

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Figure 12 presents an isometric view of the intermediate carrier with a fixed suspended luggage item.

In the following, the same reference symbols are used for components that are identical and have the same effect, although sometimes superscripts are used.

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In principle, the terms used in the figure description should be interpreted in accordance with the above part. This applies in particular to the terms "clampable", "screwable", "fixable" and "formed". Unless otherwise defined, all terms used here (including technical and scientific terms) have the same meaning, and in particular a meaning as generally understood by an average person skilled in the art when interpreted in the context of the description and drawings. It is further understood that terms, such as those defined in commonly used dictionaries, will be interpreted in relation to the technical field that is relevant here, and not in an idealised or excessively formal sense unless explicitly so defined. In certain cases, a detailed description of generally known devices and processes may be dispensed with in order to avoid redundancy in the description. The description of certain embodiments and the terminology used are not intended to limit the invention. The singular forms "a" or "an" or "the" may also include the plural forms, unless the context clearly suggests otherwise. The term "and/or" includes any and all combinations of one or more of the associated listed items. It should be understood that the

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terms "comprising" and/or "consisting of" indicate the presence of the said features, but do not exclude the presence or addition of one or more other features. It should further be understood that when a particular step of a process is indicated as following another step, it may directly follow that other step or one or more intermediate steps may be carried out before the particular step is performed, unless otherwise indicated. In the same way, it is understood that when a connection between structures or components is described, this connection may be direct or via intermediate structures or components, unless otherwise specified. In the event of a conflict, this specification, including its definitions, will apply.

The invention is described here with reference to the attached drawings, in which embodiments of the invention are presented. However, the invention may also be embodied in many different forms and should not be understood to be limited to the embodiments presented here. Instead, the embodiments are presented here so that the present disclosure is detailed and complete and sets out the scope of the invention for the person skilled in the art in a complete but exemplary manner. The description of the exemplary embodiments should be read in conjunction with the accompanying drawings that count as part of the whole written description. In the drawings, the absolute and relative sizes of systems, components, layers and areas may be exaggerated for the purpose of clarity. Embodiments may be described by means of schematic and/or cross-sectional illustrations, idealised embodiments and intermediate structures of the invention. Relative terms as well as their derivatives should be understood to refer to the orientation as described or shown in the drawing that has just been discussed. These relative terms are used to provide a clearer description and do not require the system to be set up or operated in a specific orientation unless explicitly stated otherwise. In this description, words such as "substantially", "approximately" or "generally" shall be understood to include at least deviations of a dimension of 10% or less, preferably 5% or less, or deviations from a form that would still fall within the scope of the relevant definition for a person skilled in the art, unless otherwise specified.

Figures 1 and 2 present exploded views of an embodiment of the luggage carrier arrangement in accordance with the invention and the luggage carrier system according to the invention in different states of assembly. A luggage carrier 6 is shown, on which a suspended luggage item 2 and an attachment luggage item 4 may be mounted. Ax indicates the longitudinal extension axis of the luggage carrier or the main extension axis of a bicycle.

A luggage carrier system 1 is provided to secure the luggage items, essentially consisting of a base carrier 10, an intermediate carrier 20 and an attachment carrier 30.

According to the invention, the base carrier 10 has a base clamping means 12, via which it may
5 be clamped to a base clamping means receptacle 14 on the luggage carrier 6.

Optionally, the base clamping means 12 are arranged on an underside 11 of the base carrier 10. The base clamping means receptacle 14 is optionally arranged on an upper side 61 of the luggage carrier 6.

10 In order to attach the suspended luggage item 2 shown here, optionally designed as a saddle bag with two pockets 2a, 2b, that are connected to each other via a mounting element and here optionally via a bridge 3, to the luggage carrier, the intermediate carrier 20 is provided in accordance with the invention, via which the suspended luggage item 2 may be attached to the
15 base carrier 10. The suspended luggage item may be screwed or fixed to the base carrier in a similar manner. This defined state is shown in Figure 2, among others. The suspended luggage item 2 is arranged here between an underside 21 (see Fig. 3) of the intermediate carrier 20 and an upper side 13 of the base carrier, optionally clamped. For this purpose, at least one fastening element 40, in this case a plurality of screws, is optionally provided (see Fig. 1), via which the
20 intermediate carrier 20 may be screwed to the base carrier 10 or fixed in a similar manner. Any type of fastening element 40 may be used here to enable fixing in the sense of the present invention. The combination of intermediate carrier 20, suspended luggage item 2 and base carrier 10 may be easily attached to the luggage carrier 6 using the base clamping means 12. Thanks to the corresponding design of the base clamping means and base clamping means receptacles, this
25 combination may be both easily clamped and released from the carrier 6.

In order to secure a further luggage item, shown here as basket 4, and in particular an attachment luggage item 4 to the luggage carrier 6, the intermediate carrier 20 has, in accordance with the invention, a base clamping means receptacle/attachment clamping means receptacle 34 on its
30 upper side 23, via which the attachment carrier 30 may be clamped with correspondingly designed attachment clamping means 32. For its part, the attachment carrier 30 may be screwed or similarly secured to the attachment luggage item 4. The definitions given here for the expression 'can be fixed' also apply here. Due to the fixed connection between the attachment carrier 30 and the attachment luggage item 4, the combination of the two may be force-coupled

to the intermediate carrier 20 via the attachment clamping means provided at the combination of the two with the clamping means receptacle 34 and thus the attachment luggage item 4 may be securely but detachably fastened to the luggage carrier 6 with optional intermediate arrangement of the suspended luggage item 2.

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As shown in particular in Fig. 3 and 4, the attachment clamping means 32 is designed in such a way that it may be detachably clamped both to the attachment clamping means receptacle 34 on the intermediate carrier 20 and to the base clamping means receptacle 14 on the luggage carrier 6. In this way, the luggage attachment 4 may be clamped directly to both the intermediate carrier 20 as well as the luggage carrier 6. In principle, it is of course also possible to form several intermediate carriers 20, via which a number of other luggage items may be attached to the luggage carrier 6. In this context in particular, luggage may be understood to mean not only a basket or a bag etc., but also additional components such as couplings, lights, additional modules, battery holders etc.

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Figure 3 also shows that the attachment clamping means 32 is optionally formed substantially identically to the base clamping means 12 and/or the attachment clamping means receptacle 34 is formed substantially identically to the base clamping means receptacle 14. In this context in particular, it is possible to design clamping means or clamping means receptacles so that only certain carriers may be attached to corresponding carriers. In this way, for example, it is possible to ensure that a child seat combined with the attachment carrier 30 may only be placed on an intermediate carrier 20 designed to carry the load of a child seat and a correspondingly designed base carrier 10. The base carrier and/or attachment carrier is optionally fastened via the securing means shown in Figure 4, whereby this fastening, in particular the clamping, is advantageously designed to be detachable without tools. Such a securing means 44 may optionally also be provided with anti-theft protection, so that it may optionally be released only with the use of a key. In this way, theft of luggage attached to the luggage carrier 6 may be prevented.

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As shown in particular in Fig. 5 to 11, the intermediate carrier 20 has at least one fixing element, optionally a pressing element 22, and the base carrier 10 has at least one corresponding fixing counter-element, optionally a pressing counter-element 24. These elements 22 and counter elements 24 are designed to complement each other in such a way that in the fixed state of the suspended luggage item 2, see for example Fig. 12, they fix, optionally clamp, at least one mounting element 3 of the suspended luggage item 2. In the embodiment shown here, at least

one positioning element 26 may also be provided on the base carrier and at least one positioning counter-element 28 may be provided on the intermediate carrier, which are in coupling engagement with each other between base carrier 10 and intermediate carrier 20 in a set position PS aligned relative to one another, see for example in Fig. 4 or Fig. 12. This makes it easier to align the carriers relative to each other. It is also conceivable to design positioning element 26 and positioning counter-element 28 as fixing elements that serve the purpose of securing the suspended luggage item. In this embodiment, see in particular Fig. 12, the positioning elements 26 and positioning counter-elements 28, for example, allow horizontal fixation by engaging through openings 5 on the mounting element 3 or the bridge 3 of the suspended luggage piece 2. Here too, a positioning aid may be achieved by the positioning elements or counter elements of the suspended luggage item relative to the base carrier and/or intermediate carrier.

Such a simplification of positioning is also optionally possible by the design of the intermediate carrier and the attachment carrier, as already explained at the beginning.

As shown in Fig. 11, the positioning counter element may also be formed in a recess of the passage 46. It optionally has a base area 47, which may be designed as a storage surface for the positioning element, especially for vertical loads.

A passage 46 may also be formed in the base carrier (see Fig. 10). This passage may also be a blind hole. The fastening counterpart may be formed in this passage, for example a thread, a nut receptacle, etc.

Figure 8 shows a side view of a further, different embodiment of the intermediate carrier. The first embodiment includes the projection 27 described above, whilst the other embodiment represents the fixing-free region 25 shown here in dashed lines which is characterised here by a recess in a partial region of the longitudinal member and/or the cross member.

In all the figures contained here, it is shown that optionally the base carrier 10 and/or the intermediate carrier 20 and/or the attachment carrier 30 have a plate geometry with a main extension plane E_B , E_Z , E_A whereby, as established here, at least two of the main extension planes are aligned coplanar to one another in the fixed or clamped state. The levels are shown as examples in Fig. 1 and 2.

In particular in connection with this level arrangement, the base carrier 10 is optionally designed to be stackable on the intermediate carrier 20 and/or the intermediate carrier 20 is designed to be stackable on the attachment carrier 30 and the carriers are optionally designed as a sandwich arrangement in the clamped or fixed state.

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As shown in particular in Fig. 5 to 9 and 12, the intermediate carrier 20 optionally has a frame geometry comprising a plurality of frame carriers 50. These frame carriers 50 are optionally connected to each other in a substantially bend-resistant manner. At least some of the frame carriers 50 are optionally designed as cross members 52 and longitudinal members 54.

10 Optionally, at least some of the cross members are thicker in cross-section than at least some of the longitudinal members.

As shown in particular in Fig. 9, it is possible that at least one longitudinal member 54 is set back in relation to an upper side 53 of the cross member 52, optionally in relation to an upper side plane formed by upper sides 53 of at least two cross members 52.

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Whilst in this embodiment, as shown for example in Fig. 8 and 9, the longitudinal members are designed to project in relation to an underside of the cross members, optionally in relation to an underside plane formed by undersides of at least two cross members 52, at least in a partial area, characterised by the reference sign 27, it is also possible to arrange the longitudinal member set back in relation to the undersides or the underside plane.

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Optionally, the frame members of the intermediate carrier 20 are interconnected in such a way that they include a central access passage 56, as shown in Fig. 12 and elsewhere. The mounting elements 3 or bridges 3 of the pockets 2a and 2b clamped between the base carrier and intermediate carrier 20 and the intermediate carrier 20 formed by the frame supports 50 with its access area 56 are recognisable here. In this embodiment, this access area provides access to a handle 58, for example, which allows the combination of suspended luggage item, base carrier and intermediate carrier to be lifted easily.

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As shown in almost all figures, the intermediate carrier 20 and the base carrier are optionally designed to complement each other in such a way that in the fixed state, see for example Fig. 2, 4 and 12, and in particular in the fixed state of the suspended luggage item 2 (see Fig. 2 and 12), they fix and optionally clamp at least the mounting element 3 of the suspended luggage item 2.

For this purpose, the intermediate carrier 20 optionally has at least one fixing element 22, which is optionally designed here as a pressing element 22 and in particular as a pressing surface, and the base carrier 10 has at least one corresponding fixing counter-element 24 or pressing counter-element 24 which are designed so that they clamp in the fixed state of the suspended luggage item 2, see for example Fig. 2 and 12, or at least one mounting element 3 of the suspended luggage item 2.

In this embodiment, fixing element 22 and fixing counter-element 24 are optionally arranged on opposite sides of intermediate carrier 20 and the base carrier 10. Optionally, as shown in particular in Fig. 3, they are formed on an underside 21 of the intermediate carrier 20 and an upper side 13 of the base carrier 10.

Fixing element 22 and fixing counter element 24 may be designed in different ways. It is conceivable to design the fixing element as a pressing element 22 and the fixing counter element as a pressing counter-element. It is also conceivable to design the fixing element and the fixing counter-element as complementary components in such a way that they interlock in order to allow vertical fixing of a mounting element arranged between them and/or horizontal fixing. Optionally, it is conceivable that the fixing element protrudes as a projection and/or as a recess from the extension plane of the intermediate carrier or is formed in it. It is also conceivable that the fixing counter element can protrude from or is formed in the extension plane of the base carrier as a complementary projection and/or as a complementary recess. Fixing element and fixing counter element optionally form a clamping area for the suspended baggage item.

As shown in Fig. 5 to 9, in the embodiment shown here, the fixing element 22 is optionally designed as a pressing element that clamps the mounting element of the suspended luggage item against a pressing counter-element 24 on the base carrier 10. Furthermore, fixing may be achieved by the coupling between the fastening element 40 and the fastening counterpart.

In this embodiment, optionally, a passage 46 in the intermediate carrier 20 forms part of the respective fastening element 40 via which the intermediate carrier 20 may be fastened to the base carrier 10. For example, a fastening element in the form of a screw or similar bolt may be passed through this passage.

As shown in particular in Fig. 9, a plurality of fixing elements and/or fixing counter-elements are provided, of which at least two 22, 24 are spaced apart from one another, forming a fixing-free region 25. Optionally, the relative distance between the underside 21 of the intermediate carrier 20 and the upper side of the base carrier 10 in the area between the pressing element and the pressing counter-element is less than the distance between the underside 21 of the intermediate carrier 20 and the upper side of the base carrier 10 in the fixing-free region.

Reference sign

	1	Luggage carrier system
10	2a, 2b	Bags
	2	Suspended luggage item
	3	Mounting element or bridge
	4	Attachment luggage item
	6	Luggage carrier
15	10	Base carrier
	11	Underside
	12	Base clamping means
	13	Upper side
	14	Base clamping means receptacle
20	20	Intermediate carrier
	21	Underside
	22	Fixing element or pressing element
	23	Upper side
	24	Fixing counter-element or pressing counter-element
25	25	Fixation-free region or press-free region
	26	Positioning element
	27	Projection
	28	Positioning counter-element
	30	Attachment carrier
30	32	Attachment clamping means
	34	Clamping means receptacle
	40	Fastening element
	44	Securing means
	46	Passage

	50	Frame members
	52	Cross member
	53	Upper side
	54	Longitudinal member
5	55	Underside
	56	Access passage
	58	Handle
	61	Upper side
	E _B , E _Z , E _A	Main extension plane
10	P _S	Set position
	A _X	Longitudinal extension axis of the luggage carrier or main extension axis of a bicycle

Patentkrav

1. Bagagebærersystem, til montering af to stykker bagage, nemlig et stykke hængende bagage (2) og et stykke påsætningsbagage (4), på en cykels bagagebærer (6), omfattende:

- en basisklemmemiddelholder (14), der kan fastgøres på bagagebæreren (6),
5 eventuelt fastskrues eller fastgøres på en tilsvarende måde, eller er dannet derpå;
- en basisbærer (10) med et basisklemmemiddel (12), ved hvilket basisbæreren (10) kan aftageligt fastsættes, eventuelt fastspændes på basisklemmemiddelholderen (14), på bagagebæreren (6);
- en mellembærer (20), ved hvilken det hængende stykke bagage (2) kan fastsættes,
10 eventuelt fastspændes eller fastgøres på en tilsvarende måde til basisbæreren (10), og som har der mindst én fastgørelsesklemmemiddelholder (34); og
- en påsætningsholder (30), der kan fastsættes, eventuelt fastskrues eller fastgøres på en tilsvarende måde til påsætningsbagagestykket (4), og som har et fastgørelsesklemmemiddel (32), ved hvilket påsætningsholderen (30) aftageligt kan fastsættes,
15 eventuelt fastklemmes, på fastgørelsesklemmemiddelholderen (34),

kendetegnet ved, at

fastgørelsesklemmemidlet (32) er dannet på en sådan måde, at det kan aftageligt fastklemmes både på fastgørelsesklemmemiddelholderen (34) på mellembæreren (20) og på basisklemmemiddelholderen (14) på bagagebæreren (6).

20

2. Bagagebærersystem ifølge krav 1,

kendetegnet ved, at

fastgørelsesklemmemidlet (32) er dannet i det væsentligt identisk med basisklemmemidlet (12), og/eller ved, at, fastgørelsesklemmemiddelholderen (34) i det
25 væsentlige er dannet identisk med basisklemmemiddelholderen (14).

3. Bagagebærersystem ifølge et af de foregående krav,

kendetegnet ved, at

basisbæreren (10) og/eller påsætningsholderen (30) har et sikringsmiddel (44), ved
30 hvilket basisbæreren (10) kan aftageligt fastgøres til bagagebæreren (6) på en tyverisikret måde eller påsætningsholderen (30) kan fastgøres på mellembæreren (20) på en tyverisikret måde og eventuelt kun kan frigøres ved hjælp af en nøgle.

4. Bagagebærersystem ifølge et af de foregående krav,

kendetegnet ved, at

mellembæreren (20) og basisbæreren (10) er dannet komplementære til hinanden på en sådan måde, at de i den fastsatte tilstand for de to stykker hængende bagage (2) fastgør, eventuelt fastspænder, mindst ét montageelement (3) af det hængende stykke bagage (2), eventuelt en bro (3) til en saddeltaske (2), der forbinder saddeltaskens (2) to tasker (2a, 2b).

5. Bagagebærersystem ifølge et af de foregående krav,**kendetegnet ved, at**

mellembæreren (20) har mindst et fastgørelseselement, eventuelt ét presseelement (22), og basisbæreren (10) er dannet af mindst et tilsvarende fastgørelsesmodelement, eventuelt ét pressemodelement (24), der er dannet komplementære til hinanden på en sådan måde, at de i den fastgjorte tilstand for det hængende stykke bagage (2) fastgør, eventuelt fastspænder mindst ét montageelement (3) af de hængende stykker bagage (2), eventuelt en bro (3) til en saddeltaske (2), der eventuelt forbinder saddeltaskens (2) to tasker (2a, 2b).

6. Bagagebærersystem ifølge krav 5,**kendetegnet ved, at**

fastgørelseselementet og fastgørelsesmodelementet, eventuelt presseelementet (22) og pressemodelementet (24), er dannet på modstående sider af mellembæreren (20) og basisbæreren (10), eventuelt på en underside (21) af mellembæreren (20) og på en overside (13) af basisbæreren (10).

7. Bagagebærersystem ifølge et af kravene 5 eller 6,**kendetegnet ved, at**

fastgørelseselementet, eventuelt presseelementet (22), står frem som et fremspring fra mellembærerens forlængelsesplan eller er dannet som en fordybning deri, og fastgørelsesmodelementet, eventuelt pressemodelementet (24) står frem fra basisbærerens (10) forlængelsesplan som et fremspring komplementært dertil eller er dannet deri som en komplementær fordybning dertil, på en sådan måde, at et fastgørelsesområde, eventuelt et klemmeområde, dannes til det hængende stykke bagage.

8. Bagagebærersystem ifølge et af kravene 5 - 7,**kendetegnet ved, at**

en flerhed af sådanne fastgørelseselementer, eventuelt presseelementer (22), og/eller sådanne fastgørelsesmodelementer, eventuelt pressemodelementer (24), er tilvejebragt, hvoraf mindst to (22, 24) er adskilt fra hinanden for at danne et fastgørelsesfrit område (25), eventuelt et klemmefrit område (25).

5

9. Bagagebærersystem ifølge krav 8, når det afhænger af krav 6,
kendetegnet ved, at

10 en relativ afstand mellem undersiden (21) af mellembæreren (20) og oversiden af basisbæreren (10) i området mellem presseelementet (22) og pressemodelementet (24) er mindre end afstanden mellem oversiden (21) af mellembæreren (20) og oversiden af basisbæreren (10) i det fastgørelsesfrie område (25), eventuelt det klemmefrie område (25).

10. Bagagebærersystem ifølge et af de foregående krav,
kendetegnet ved, at

15 mellembæreren (20) har en rammegeometri af en flerhed af rammebærere (50), der i det væsentlige er stift forbundet med hinanden, eventuelt hvor mindst en del af rammebærerne (50) er dannet som tværbærere (52) og længdebærere (54).

11. Bagagebærersystem ifølge krav 10,
kendetegnet ved, at

20 mindst en del af tværbæreren (52) i tværsnit er tykkere end mindst en del af længdebæreren (54).

12. Bagagebærersystem ifølge et af kravene 10 eller 11,
kendetegnet ved, at

25 mindst én af længdebærerne (54) er anbragt placeret tilbage i forhold til en overside (53) af mindst én af tværbærerne (52), eventuelt i forhold til et oversideplan dannet af oversider af mindst to tværbærere, og/eller i forhold til en underside af mindst én tværbærer, eventuelt i forhold til et undersideplan dannet af undersider af mindst to tværbærere.

30

13. Bagagebærersystem ifølge et af kravene 10 - 12,
kendetegnet ved, at

mellembæreren (20) har en rammegeometri af en flerhed af rammebærere (50), der i det væsentlige er stift forbundet med hinanden, eventuelt hvor mindst en del af rammebærerne (50) er dannet som tværbærere (52) og længdebærere (54), indeslutte en central adgangspassage (56).

14. Bagagebærersystem ifølge et af de foregående krav,

kendetegnet ved, at

basisbæreren (10) har mindst ét positioneringselement (26) og mellembæreren (20) mindst ét
5 positioneringsmodelement (28), der er i koblingsindgreb med hinanden basisbæreren (10) og
mellembæreren (20) i en indstillet position (PS) flugtende med hinanden mellem, og/eller ved,
at

mellembæreren (20) har et positioneringselement (26) og fastgørelsesbæreren (30) et
positioneringsmodelement (28), der er i koblingsindgreb med hinanden mellem mellembæreren
10 (20) og fastgørelsesbæreren (30) i en indstillet position (PS) flugtende med hinanden.

15. Bagagebæreranordning, der omfatter bagagebærersystemet ifølge et af de foregående
krav og en bagagebærer (6), og som eventuelt endvidere omfatter to stykker bagage, nemlig et
stykke hængende bagage (2) og et stykke påsætningsbagage (4).

1

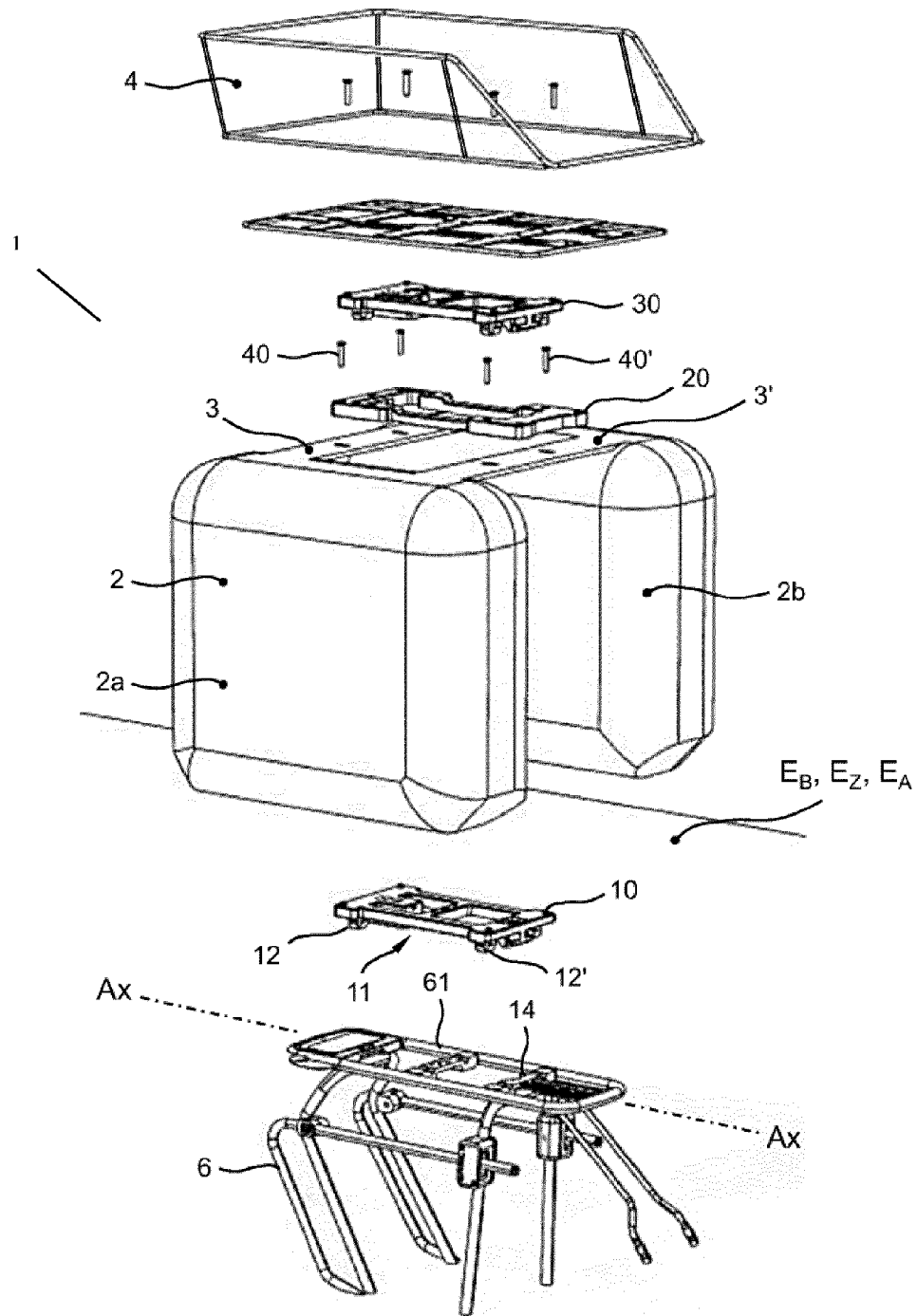


Fig. 1

1

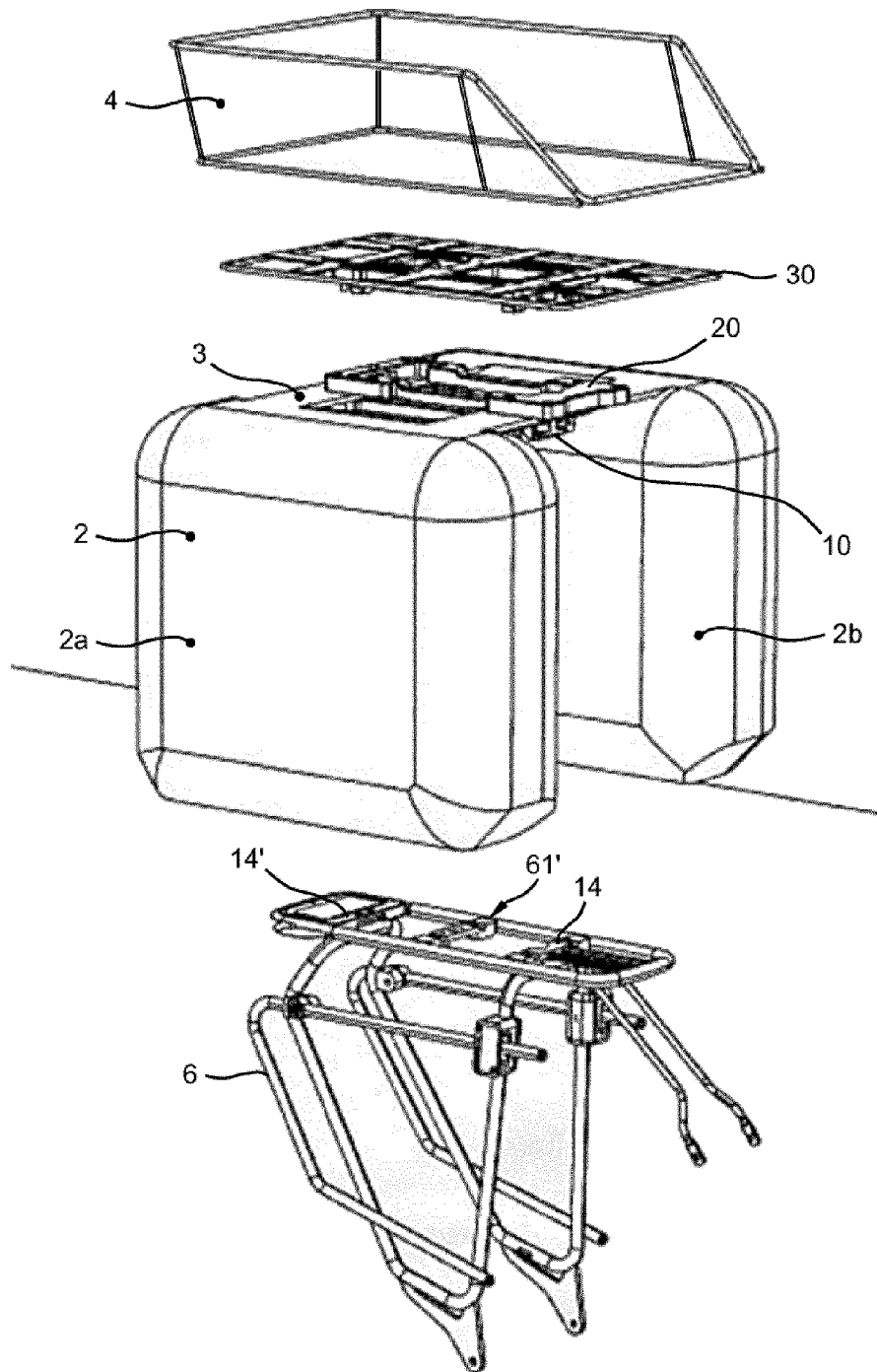


Fig. 2

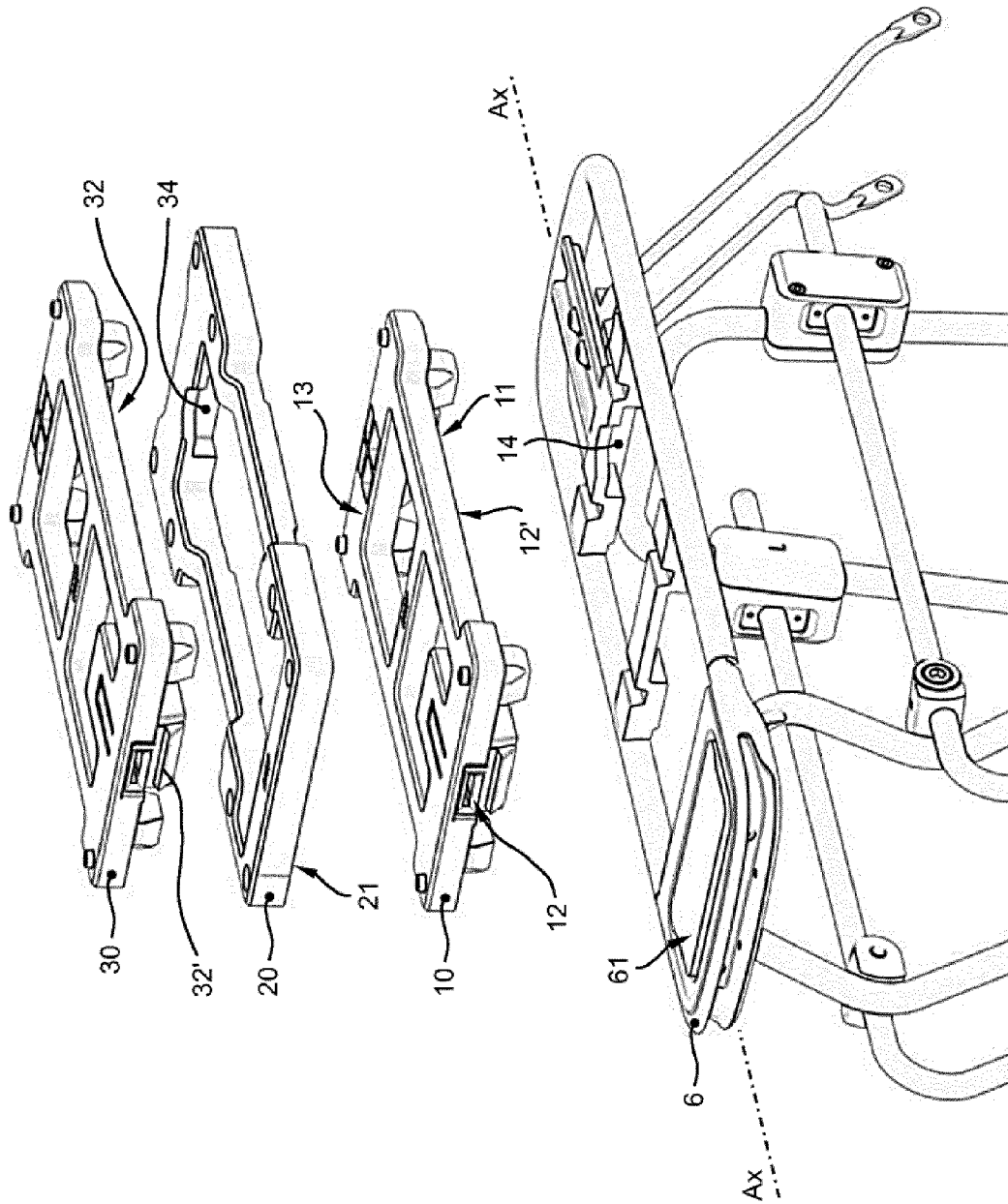


Fig. 3

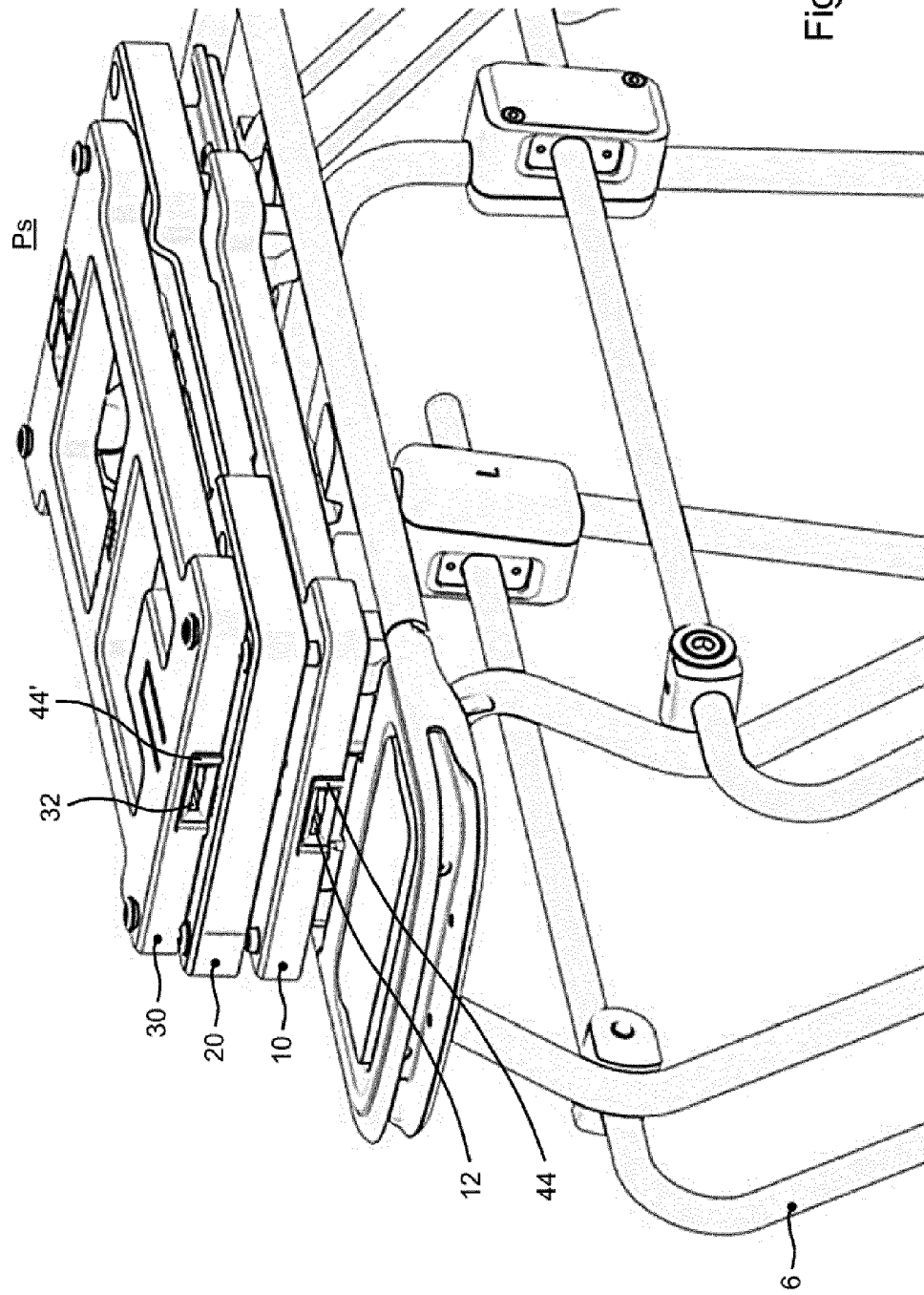


Fig. 4

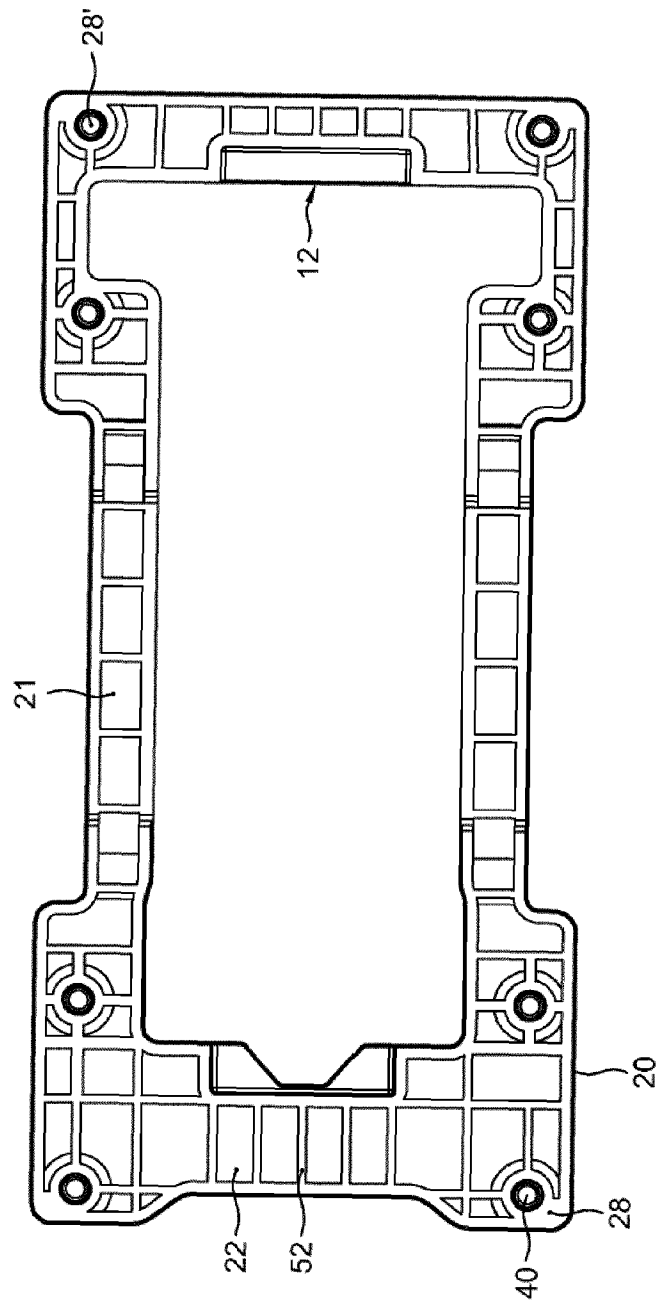


Fig. 5

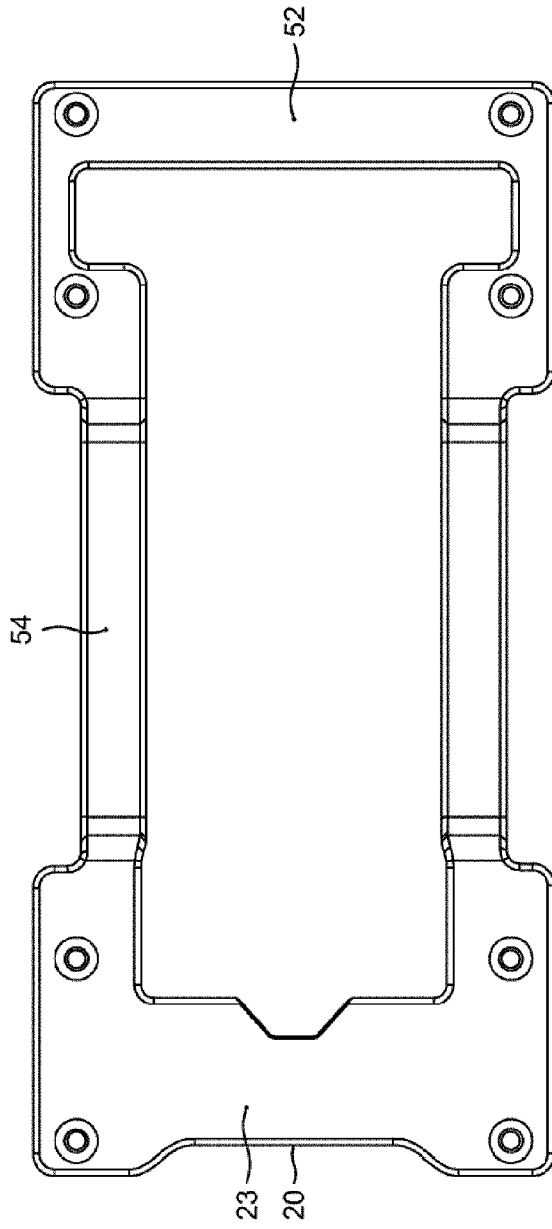


Fig. 7

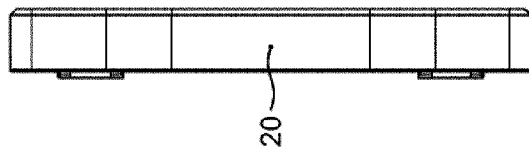


Fig. 6

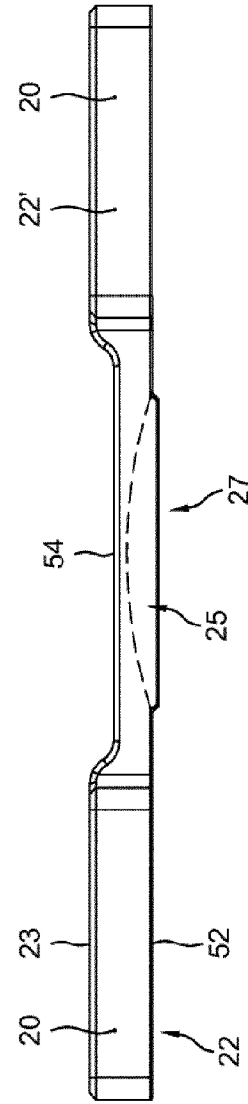


Fig. 8

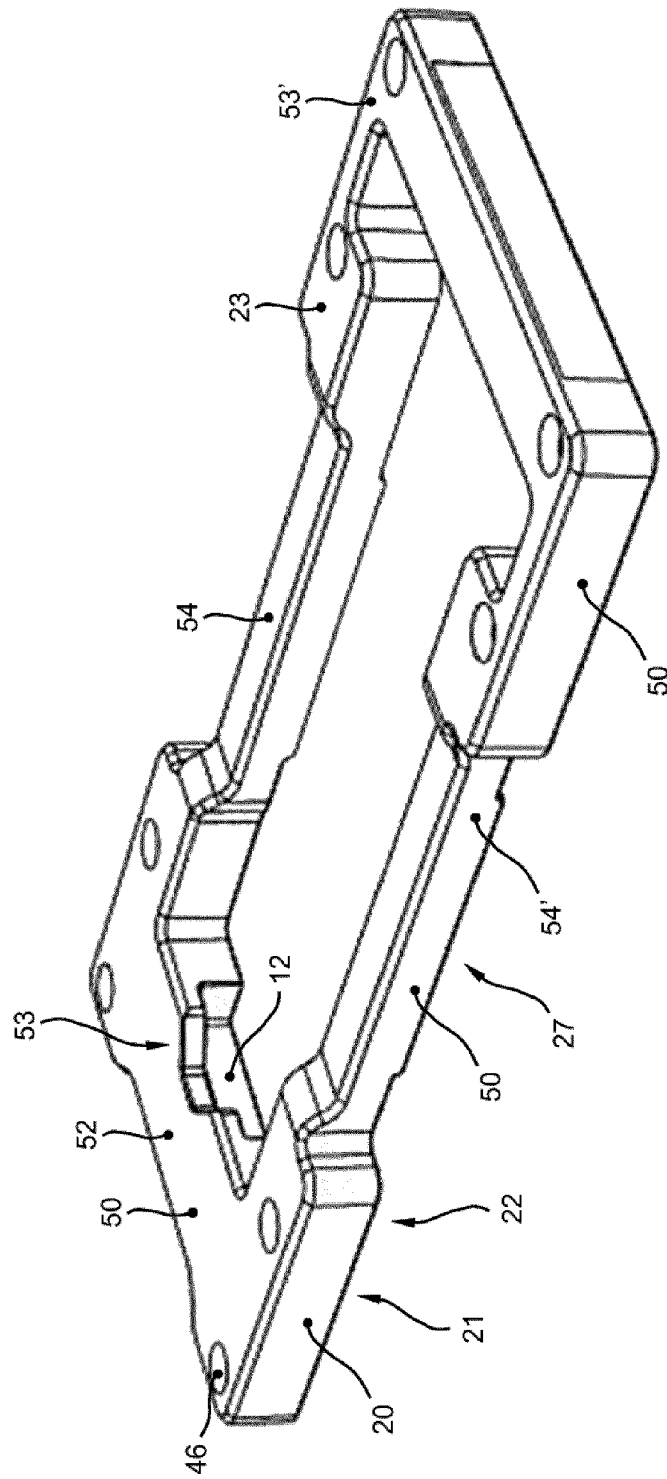


Fig. 9

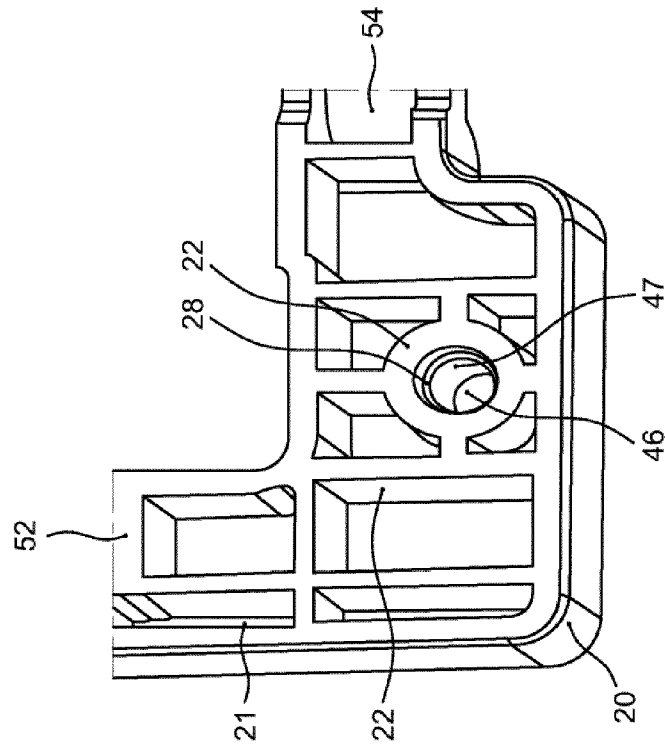


Fig. 11

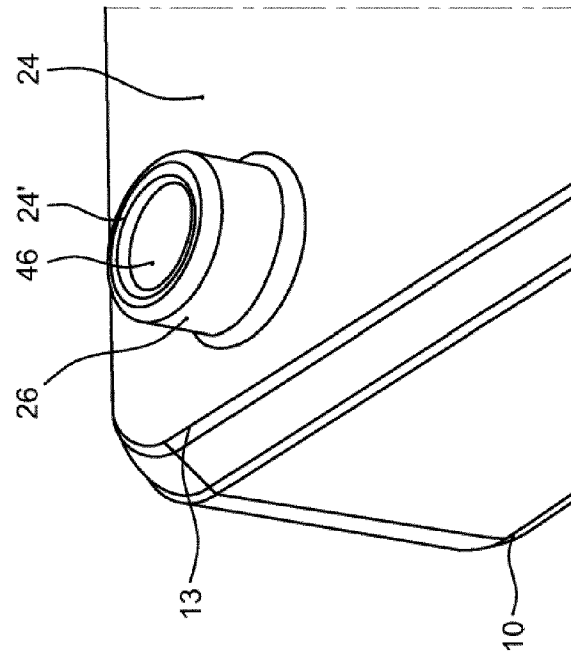


Fig. 10

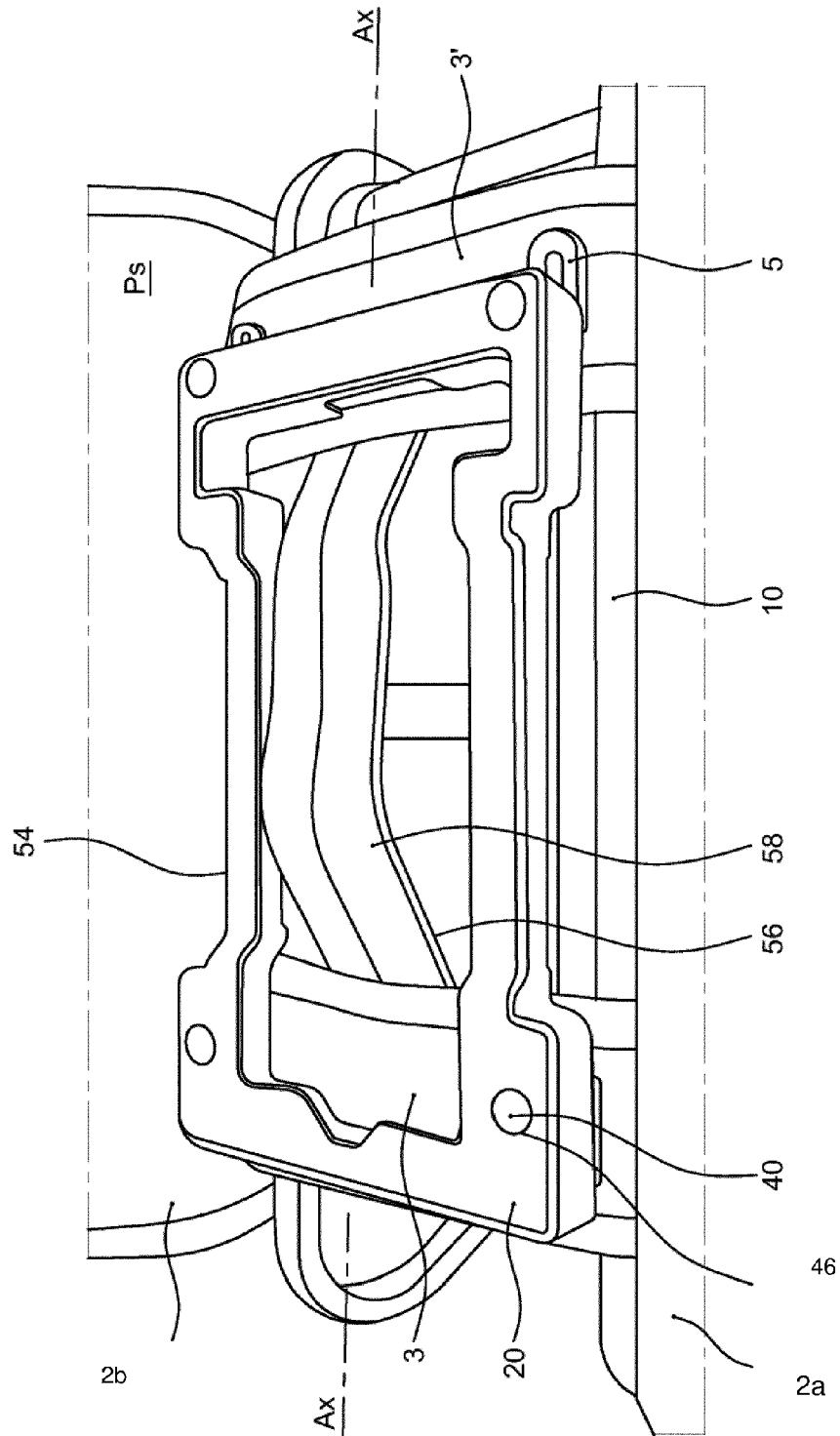


Fig. 12