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P 3126

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Container for sound carriers

The invention relates to a container for sound carriers, such as compact cassettes, compact discs and the like, for mounting in a motor vehicle, having the features mentioned in the precharacterising clause of claim 1.

In a known container for sound carriers, a cover provided with insertion openings is mounted on the rear side of the container housing. A connection piece, which is articulated on a mounting base, can be engaged in the openings. Depending upon which insertion opening is chosen, the container can be mounted in different positions in a vehicle by screwing on or sticking on of the mounting base. Because the mounting base is connected to the cover attached to the rear side of the housing, the weight of the container gives rise to a moment acting on the mounting base, which results in undesirable vibration and noise during driving. In addition, a complicated construction is necessary in order to avoid fatigue fracture of the mounting base. Furthermore, the known mounting base has a lockable hinge joint between the connection piece and the mounting base so that the container can be brought into different angled positions for the purpose of improving access. Since the moment originating from the container acts directly on that hinge joint, the container may inadvertently be displaced from its angled position, especially when the vehicle is subjected to hard jolts.

The problem underlying the invention is to provide a container, mountable in a vehicle, that can be attached to a mounting base in a removable and vibration-resistant manner, the mounting base being mounted in the vehicle and being economical to produce.

The problem is solved by the features given in claim 1. As a result of the retaining rails, which are arranged on the side faces of the mounting base and engage in corresponding guides on the container housing, a connection is provided that is capable of absorbing lateral and vertical forces acting on the container. At the same time the container is supported below its centre of gravity when it is in a seated position and above its centre of gravity when it is in a suspended position, so that no vibration or stress peaks can arise in the mounting base as a result of moment stresses.

In order to secure the container in the direction in which it is slid onto the mounting base, according to the invention one of the guide surfaces additionally provided for sliding on the container is formed by a bridge-like web provided with teeth. That web engages resiliently in a rack arranged on the container housing, so that unintentional displacement is ruled out by the interlocking of the teeth between the mounting base and the container. The bridge-like web can be disengaged from the rack of the container housing only by sliding forces applied manually, so that the container can be mounted and removed when required. Advantageously the teeth on the web and on the rack are rounded and/or provided with inclined tooth profiles.

In a further form of the invention the container housing

can have two racks extending mirror-symmetrically parallel so that the container housing can always be slid on in the correct position even if the mounting base is in a rotated orientation.

In order to improve the resilient action of the web it is advantageous for the mounting base, which is made for example of plastics, including the bridge-like web, to be supported by a metal spring.

In order that the container may also be arranged in an angled position, in accordance with a further form of the invention the mounting base can be formed by an upper part that can be connected to the container housing and a lower part that can be mounted in the vehicle, the two parts being connected by means of a joint and being lockable in various angled positions relative to one another. For locking purposes, the end faces of the upper and lower parts have openings arranged one above the other and in alignment with one another, in which openings slider members guided in the upper part can be engaged by means of projections which are arranged on the end faces of the slider members and are matched to the openings. By the engagement of the projections in the aligned openings of the two parts there is obtained a positively-locking connection that prevents unintentional alteration of the angle.

In order to set the desired angle and to secure the angled position, provision is made according to a further form of the invention to connect the slider members to one another by means of a movable cross-bar, the connection being made by means of pegs arranged on the slider member, which pegs engage in obliquely arranged

oblong slots in the cross-bar. As a result of a lug which is arranged on the cross-bar, which lug engages in the guide surfaces of the container housing and is provided with portions of the guide surfaces of the mounting base, once the container housing has been slid onto the mounting base the cross-bar and therefore at the same time also the slider members engaged in the openings are locked. Accordingly the angled position of the container housing is secured.

Preferred embodiments are shown in the accompanying drawings and are described in detail below.

- Figure 1 is an embodiment of a mounting base in a plan view onto the guide surfaces,
- Figure 2 is a longitudinal section through the mounting base according to Figure 1 with the container seated thereon,
- Figure 3 is a further embodiment of the mounting base with means for adjustment of the container,
- Figure 4 is a front view of the embodiment according to Figure 3,
- Figure 5 is a lateral section according to section line B-B shown in Figure 3, and
- Figure 6 is a lateral section according to Figure 5 with an angled position of 15°.

The mounting base 1 shown in Figure 1 consists of a plastics plate which for the purpose of mounting in a vehicle has four attachment holes 2 and/or, on its underside 3, double-sided adhesive tape (not shown). In order to hold the container housing 4 on the mounting base 1, projecting retaining rails 5 are arranged on the two side faces of the mounting base, the retaining

rails 5 engaging in corresponding guides 6 on the container housing 4. In order that the container can be slid onto the mounting base without canting, the latter has several guide surfaces 7 extending parallel to the retaining rails. One of those guide surfaces is constructed in the form of a bridge-like web 8 the surface of which is provided with teeth 9. That web engages in a rack 10 arranged on the container housing 4. As a result of rounded tooth tips and inclined tooth profiles it is possible on application of suitable sliding pressure to slide the container 4 onto the mounting base 1 and, if necessary, to remove it again. When suitable pressure is applied the bridge-like web yields sufficiently for the teeth to become disengaged. In order to improve or to assist the resilient action of the web, a leaf spring 11 is attached behind the web.

By the provision of a second rack 10 it is possible to slide the container onto the mounting base from either side. The second, non-engaged rack acts at the same time as a guide to prevent the container canting when it is being slid on. The other guide bars 12 arranged on the container housing 4 serve the same purpose.

The embodiment of the mounting base 1a shown in Figures 3 to 6 consists of an upper part 13 which can be connected to the container housing 4 and the lower part 14 which can be attached to the vehicle by means of screws or adhesive film. Upper and lower parts are pivotally connected to one another by means of a joint 15. The releasible connection between the upper part 13 and the container housing 4 is effected in the same manner as in the embodiment according to Figures 1 and 2.

In order to lock the upper and lower parts in an angled position relative to one another, the two parts have on their end faces openings 16 arranged one above the other and in alignment with one another, in which openings there engage projections 17, matched to the openings 16, of two slider members 18 guided in the upper part 13. For reasons of appearance, those openings in the lower part 14 according to Figures 5 and 6 can be closed by an injected-moulded skin 19. In order to alter the angled position, the projections 17 are disengaged by withdrawing the slider member 18. The withdrawal of the slider member is effected by means of a movable cross-bar 20 which is connected to the two slider members 18 by means of pegs 21. The pegs engage in obliquely arranged oblong slots 22 in the cross-bar 20, so that by moving the cross-bar 20 the slider members 18 are moved in a direction of movement at a right angle thereto.

The movement of the cross-bar 20 is effected by a peg 23 arranged on the cross-bar, which peg 23 engages, through the hole 24, in the guide bars 12 of the container housing 4. The lug 23 forms a portion of the guide surfaces 7 of the mounting base 1a. When engaged and therefore when the angled position is locked, the lug 23 is located within the two guide bars 12 of the container housing 4, so that the slider members 18 cannot be disengaged inadvertently. The container housing 4, once pushed onto the mounting base 1a, is held by the retaining rails 5 arranged on the upper part, the retaining rails 5 engaging in the corresponding guides 6 of the container housing 4. As a result of the bridge-like web 8 with the teeth 9 engaging in the rack 10, the container housing 4 is locked in the direction of sliding.

Figures 3 to 5 show the mounting base 1a positioned at an angle of 0° , while in Figure 6 it is locked in position at an angle of 15° .



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PATENT CLAIMS

1. Container for sound carriers, such as compact cassettes, compact discs and the like, which for the purpose of mounting in a motor vehicle has a mounting base that is releasably connected to the container housing and can be mounted in the vehicle, characterised in that the mounting base (1, 1a) has a retaining rail (5) on each of its two side faces, the retaining rails (5) engaging in guides (6) of the container housing (4) that engage over the retaining rails, and further guide surfaces (7) are arranged on the mounting base (1, 1a), one guide surface being formed by a bridge-like web (8) which is provided with teeth (9) and which presses resiliently against a rack (10) arranged on the container housing (4).
2. Container according to claim 1, characterised in that the teeth (9) of the web (8) and the rack (10) are rounded and/or are provided with inclined tooth profiles.
3. Container according to claim 1, characterised in that the container housing (4) has two racks (10) extending mirror-symmetrically parallel.
4. Container according to claim 1, characterised in that the web (8) is supported by a metal spring (11).





5. Container according to claim 1, characterised in that the mounting base (1a) is formed by an upper part (13) that can be connected to the container housing (4) and a lower part (14) that can be mounted in the vehicle, the two parts being connected by means of a joint (15) and being lockable in various angled positions relative to one another.

6. Container according to claim 5, characterised in that the end faces of the upper and lower parts (13, 14) have openings (16) arranged one above the other and in alignment with one another, in which openings slider members (18) guided in the upper part (13) can be engaged by means of projections (17), arranged on the end faces of the slider members and matched to the openings (16), in order to lock the angled position.

7. Container according to claims 5 and 6, characterised in that the slider members (18) are connected to one another by means of a movable cross-bar (20), the connection being made by means of pegs (21) arranged on the slider member (18), which pegs engage in obliquely arranged oblong slots (22) in the cross-bar (20).

8. Container according to claim 7, characterised in that the cross-bar (20) has a lug (23) engaging in the guide bars (12) of the container housing (4), which lug is provided with portions of the guide surfaces (7) of the mounting base (1a).



Fig. 1

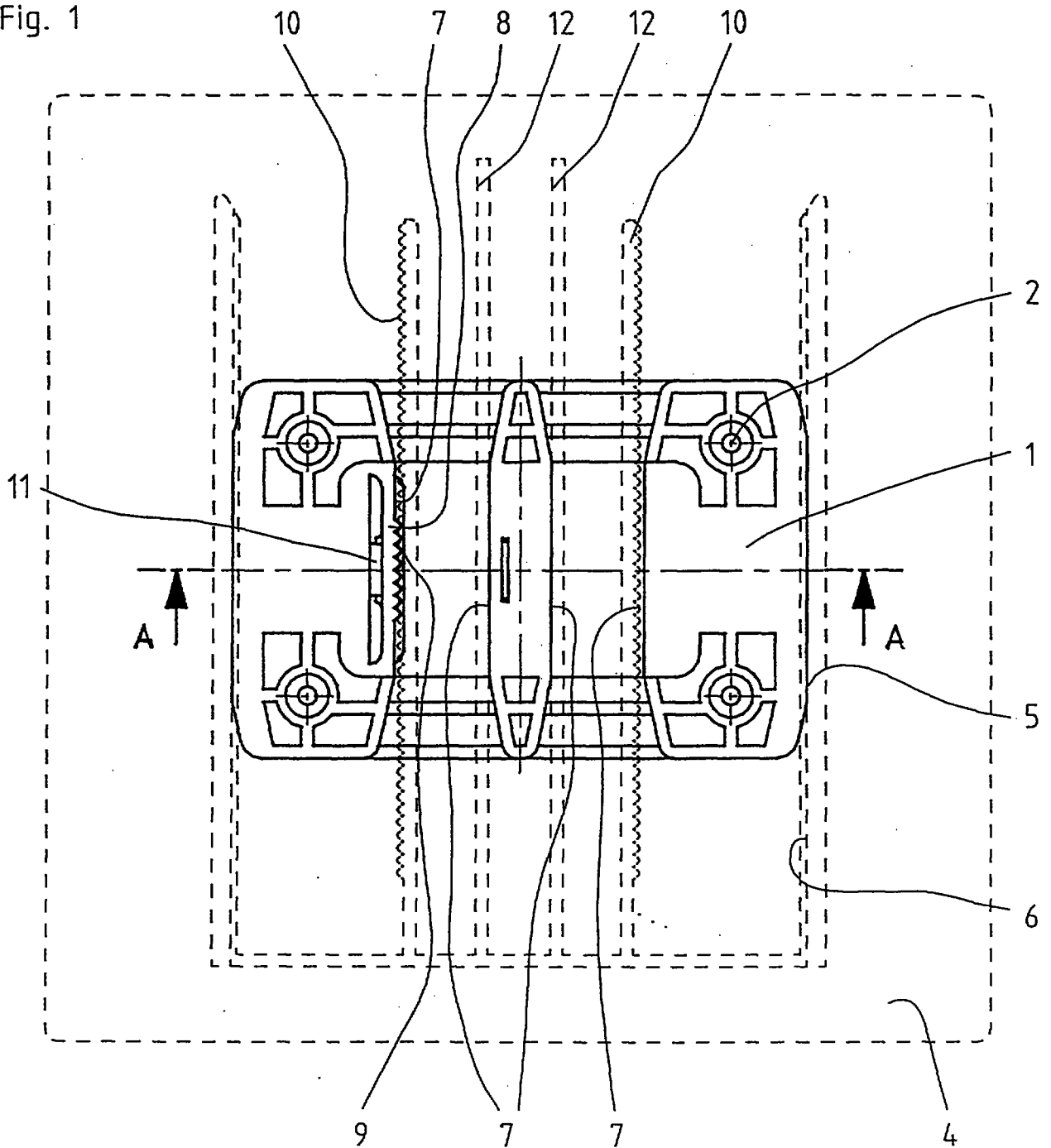
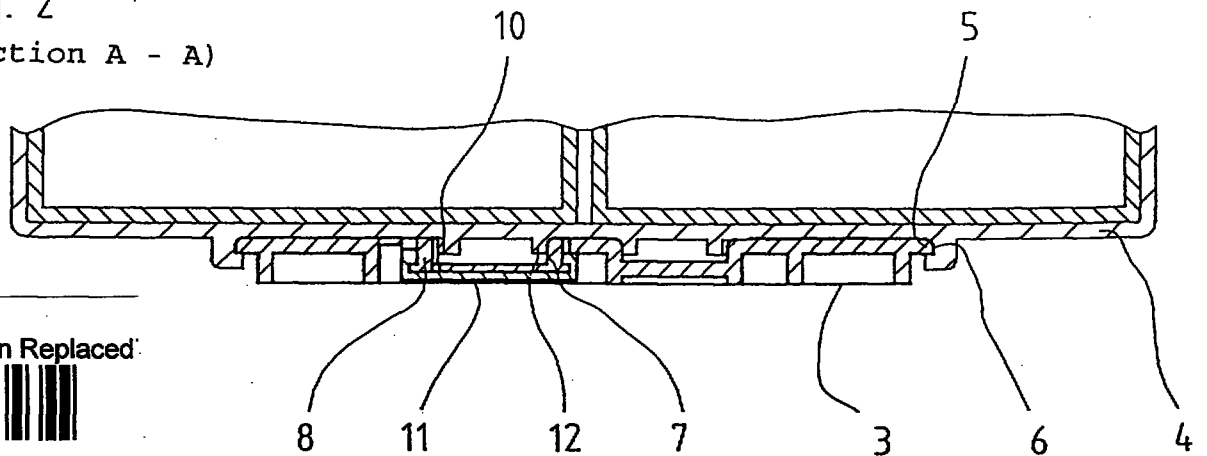


Fig. 2
(Section A - A)



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Fig. 3

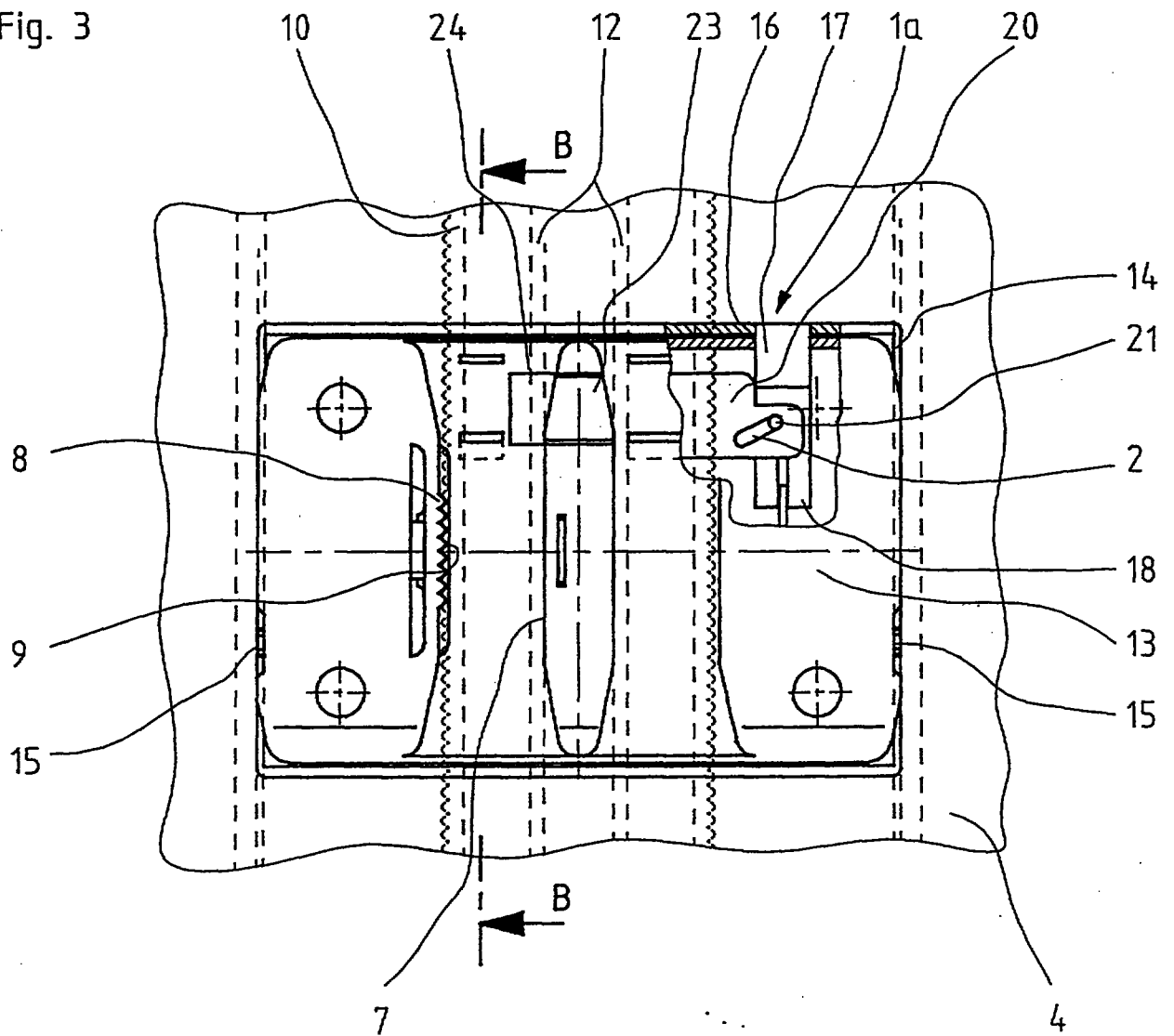
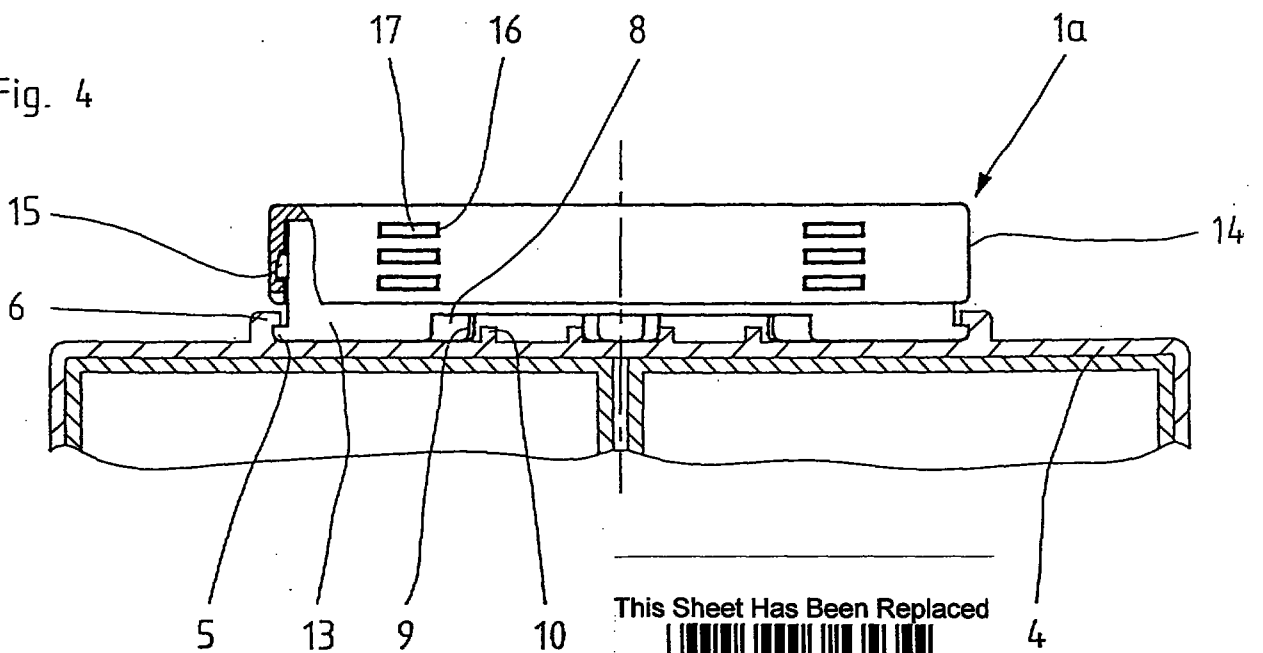


Fig. 4



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Fig. 5
(Section B - B)

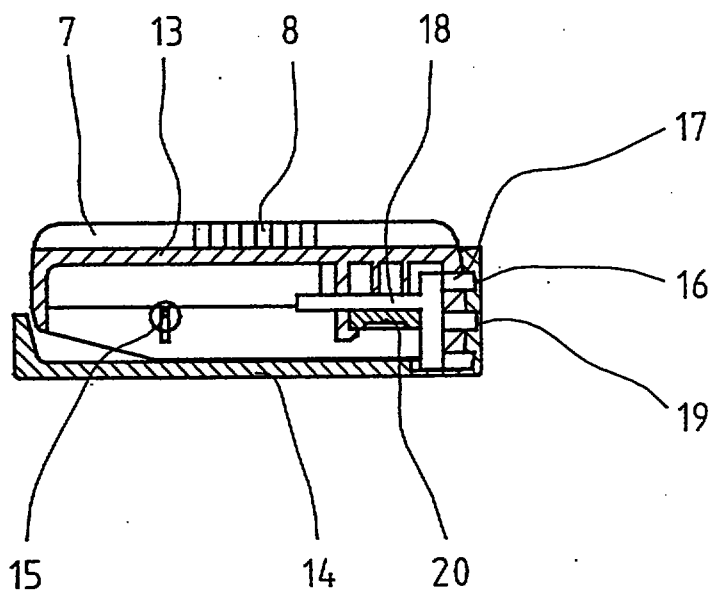
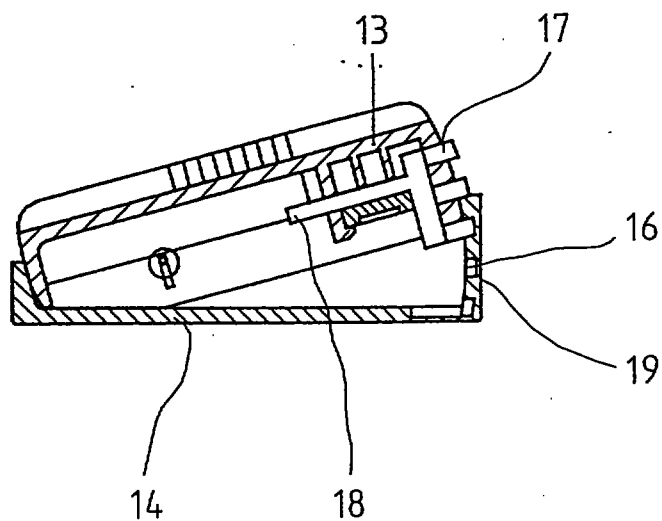


Fig. 6



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Abstract

Container for sound carriers for mounting in motor vehicles

Containers are known that have a mounting base which can be engaged by means of a connection piece in insertion openings that are arranged in a cover mounted on the rear side of the housing. Because the mounting base is in this way supported outside the centre of gravity of the container, the mounting base is subject to vibration and increased stresses.

In order to avoid those disadvantages there is proposed a container having a mounting base which has a retaining rail on each of its two side faces, the retaining rails engaging in guides of the container housing that engage over the retaining rails. In addition, further guide surfaces are arranged on the mounting base, one guide surface being formed by a bridge-like web provided with teeth which presses resiliently against a rack arranged on the container housing. The container can also be formed by an upper part and a lower part which are connected by means of a joint and can be locked in various angled positions relative to one another.

(Figure 1)

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1/3 Replacement Sheet - 26/6/96

Fig. 1

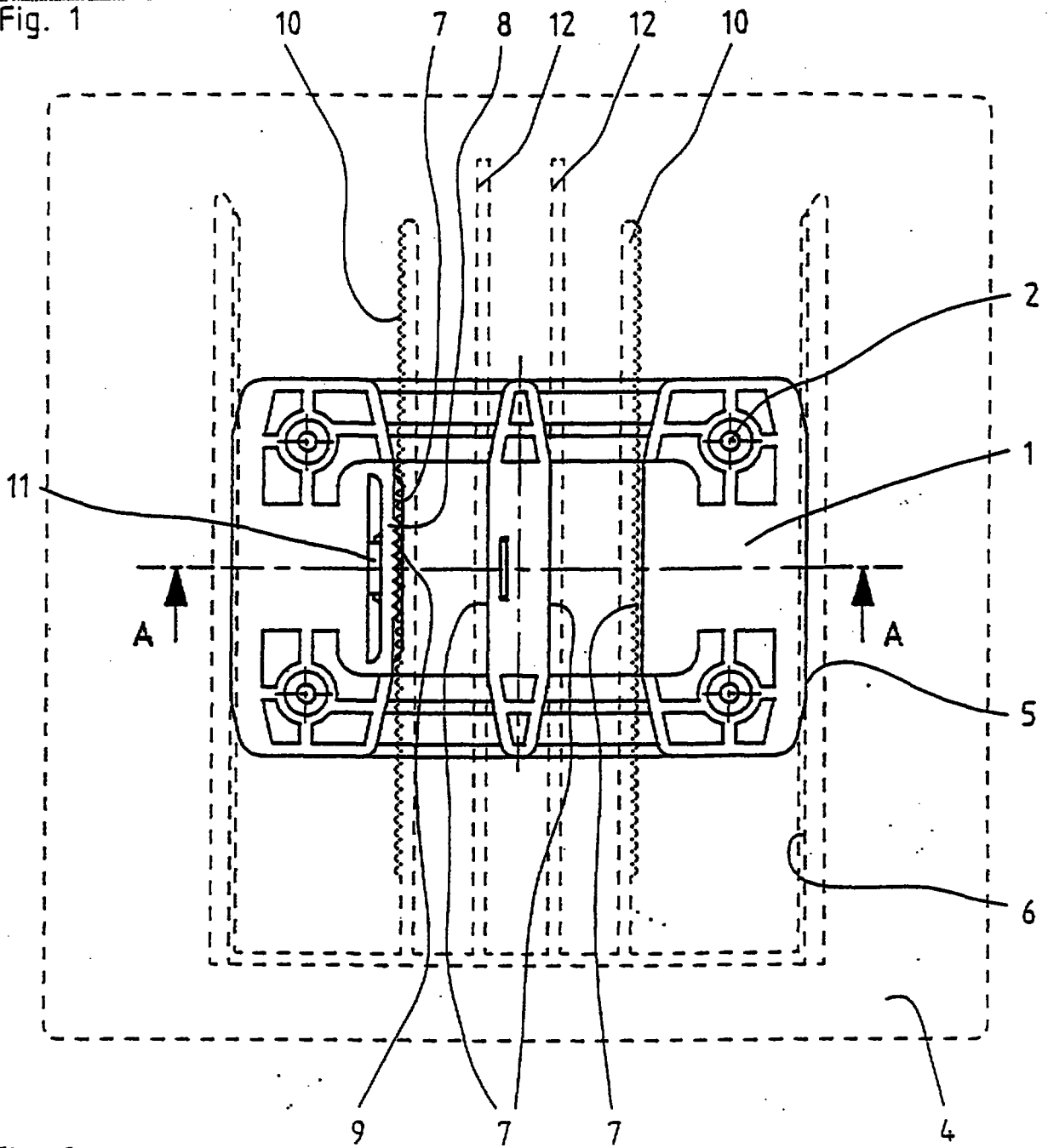
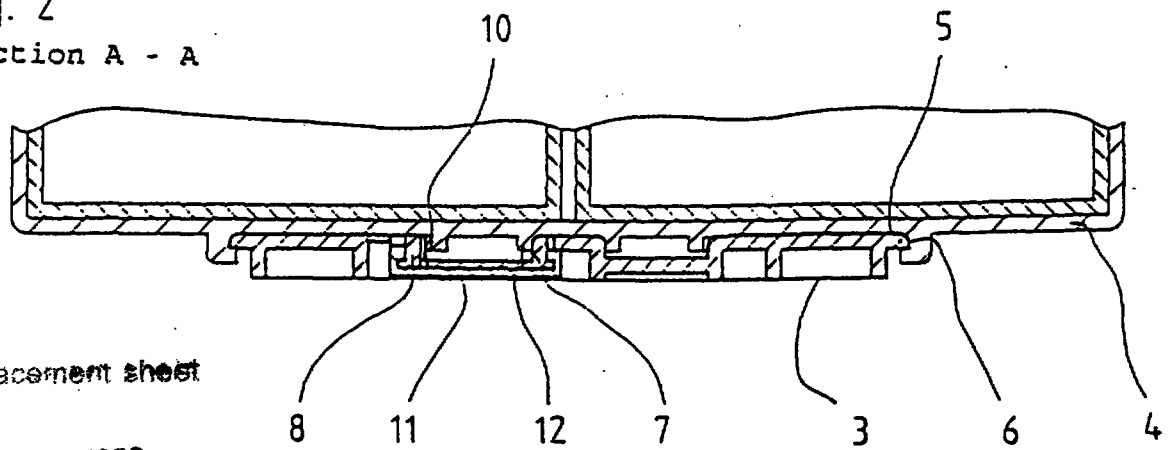


Fig. 2

Section A - A



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Fig. 3

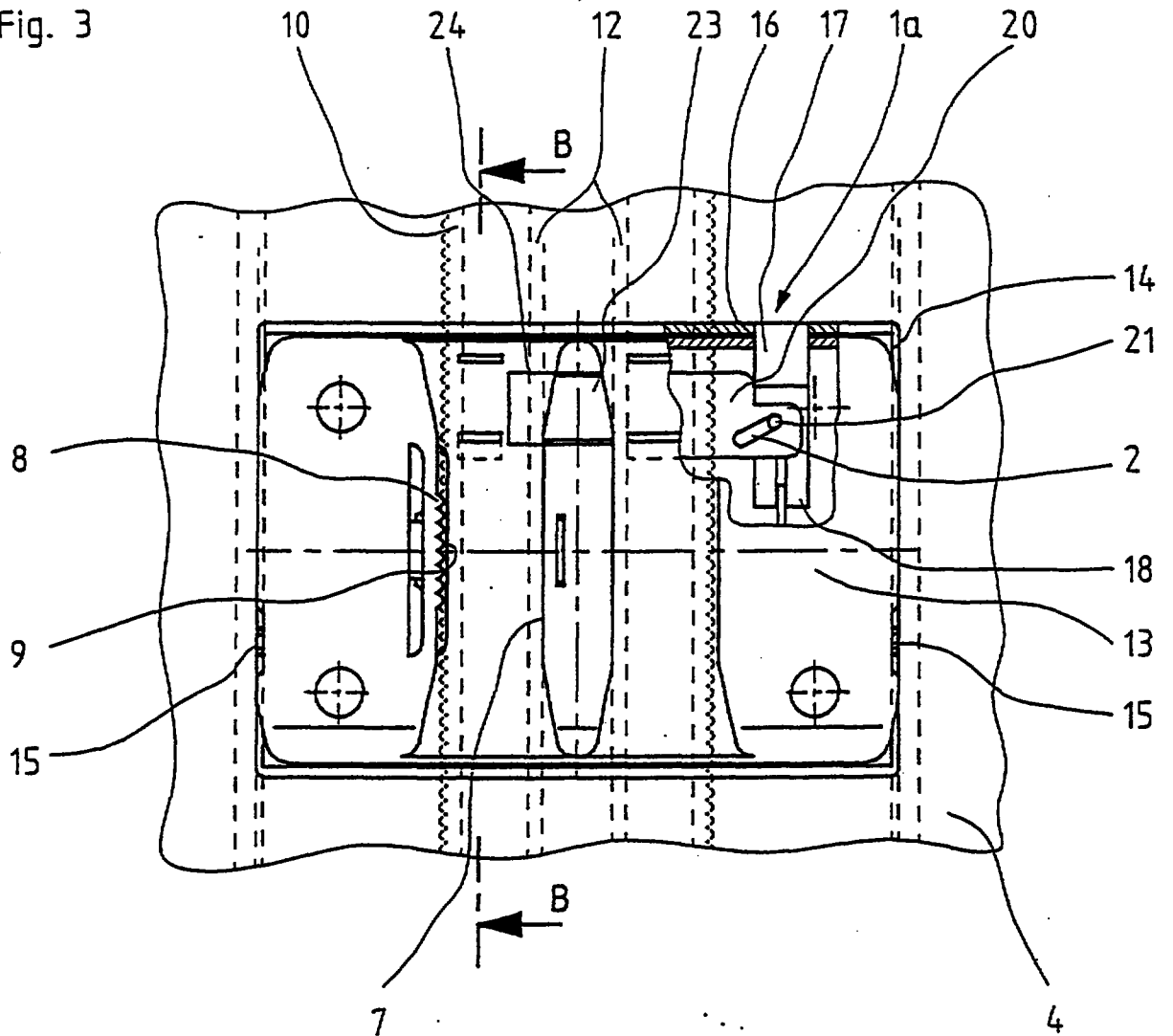
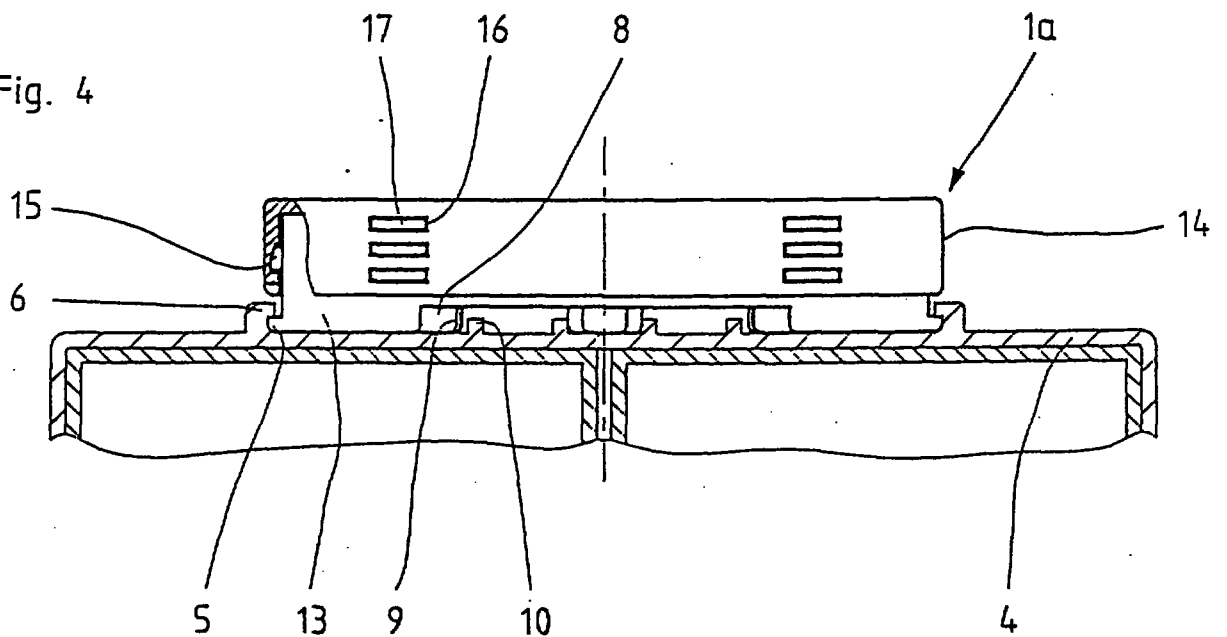


Fig. 4



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Fig. 5
Section B - B

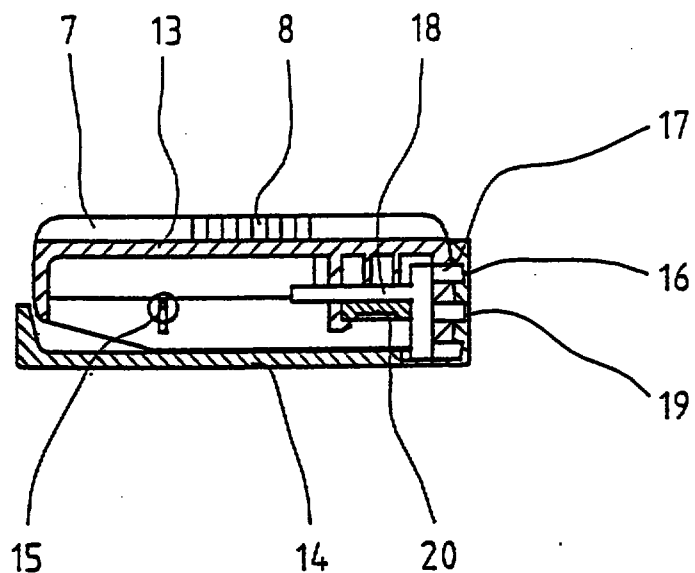
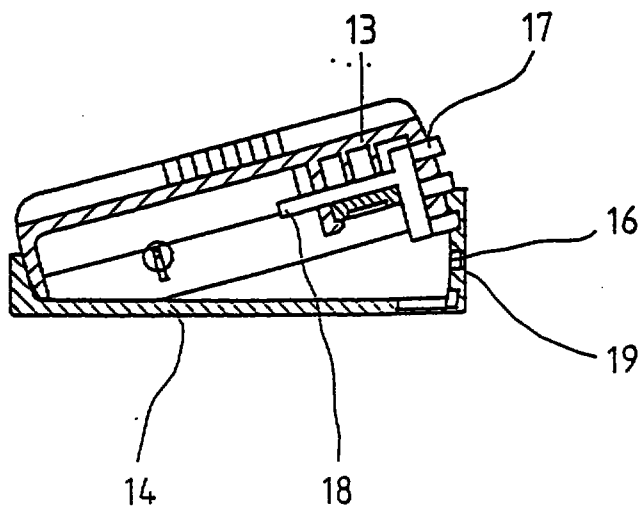


Fig. 6



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Substitute Sheet

(22 December 1997)

PATENT CLAIMS

1. A container for sound carriers, such as compact cassettes, compact discs, and the like, the container comprising a mounting base mountable in a motor vehicle; a container housing releasibly connected with said mounting base, said mounting base having two side faces provided with retaining rails, said container housing having guides in which said retaining rails of said mounting base engage, said mounting base having further guide surfaces, one of said guide surfaces being formed as a web provided with teeth, said container housing having a rack against which said web resiliently rests; and a metal spring which is attached to said web and supports said web.

2. A container as defined in claim 1, wherein said rack further comprises teeth and said teeth of said web and said rack being rounded.

3. A container as defined in claim 2, wherein said teeth of said web and said rack are provided with inclined tooth profiles.

4. A container as defined in claim 1, wherein said rack further comprises teeth and said teeth of said web and said rack being provided with inclined tooth profiles.

5. A container as defined in claim 1, wherein said container housing has another rack, said racks extending mirror-symmetrically and parallel to one another.



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6. A container for sound carriers, such as compact cassettes, compact discs, and the like, the container comprising a mounting base mountable in a motor vehicle; a container housing releasibly connected with said mounting base, said mounting base having two side faces provided with retaining rails, said container housing having guides in which said retaining rails of said mounting base engage, said mounting base having further guide surfaces, one of said guide surfaces being formed as a web provided with teeth, said container housing having a rack against which said web resiliently rests, said mounting base having an upper part connected to said container housing, lower parts mountable in the vehicle and a joint connecting said upper and lower parts with one another, said upper and lower parts further being lockable in various angular positions relative to one another.

7. A container as defined in claim 6, wherein said parts have end faces provided with openings which are arranged one above the other and are aligned with one another; and further comprising slider members guided in said upper part and having end faces provided with projections engaging in said openings in order to lock said parts in angular positions.

8. A container as defined in claim 7; and further comprising a moveable cross-bar connecting said slider members with one another, said cross-bar having obliquely arranged oblong slots; said slider members having pegs engaging in said obliquely arranged oblong slots.



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9. A container as defined in claim 8, wherein said container housing has guide bars, said cross-bar having a lock engaging in said guide bars in said container housing and provided with portions of said guide surfaces of said mounting base.

10. A container as defined in claim 6, wherein said rack also has teeth, said teeth of said web and said rack being rounded.

11. A container as defined in claim 6, wherein said rack also has teeth, said teeth of said web and said rack being provided with inclined tooth profiles.

12. A container as defined in claim 10, wherein said teeth of said web and said rack are provided with inclined tooth profiles.

13. A container as defined in claim 6, wherein said container housing has another rack, said racks extending mirror-symmetrically and parallel to one another.



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