

ORIGINAL

ABSTRACT

“LINING OF A VEHICLE PART”

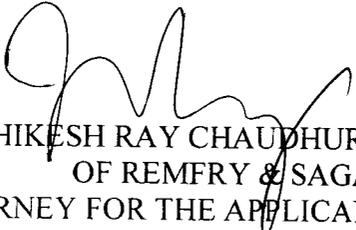
The present invention relates to the lining of a Vehicle part, comprising a main body that has a reinforcement.

Claims

1. A lining (1) of a vehicle part having a main body (2) which comprises a reinforcement (3), characterized in that the main body (2) and the reinforcement (3) are made from the same material.
2. The lining as claimed in claim 1, characterized in that the reinforcement (3) consists of material removed from the main body (2).
3. The lining as claimed in one of the preceding claims, characterized in that the reinforcement (3) bears at least partially flat on the main body (2).
4. The lining as claimed in one of claims 1-3, characterized in that the reinforcement (3) is at least partially aligned perpendicular to the main body (2).
5. The lining as claimed in one of the preceding claims, characterized in that the reinforcement (3) comprises a structure (4).
6. The lining as claimed in one of the preceding claims, characterized in that it is provided with a decorative layer.
7. A method for producing a lining (1) of a vehicle part having a main body (2) which comprises a recess (5) and a reinforcement (3), characterized in that the recess (5) is incorporated in the main body and that the material obtained thereby is used for producing the reinforcement (3).

8. The method as claimed in claim 7, characterized in that the reinforcement (3) is connected, preferably pressed, to the main body.
9. The method as claimed in claim 8, characterized in that the material of the reinforcement is processed, preferably formed, before being connected.

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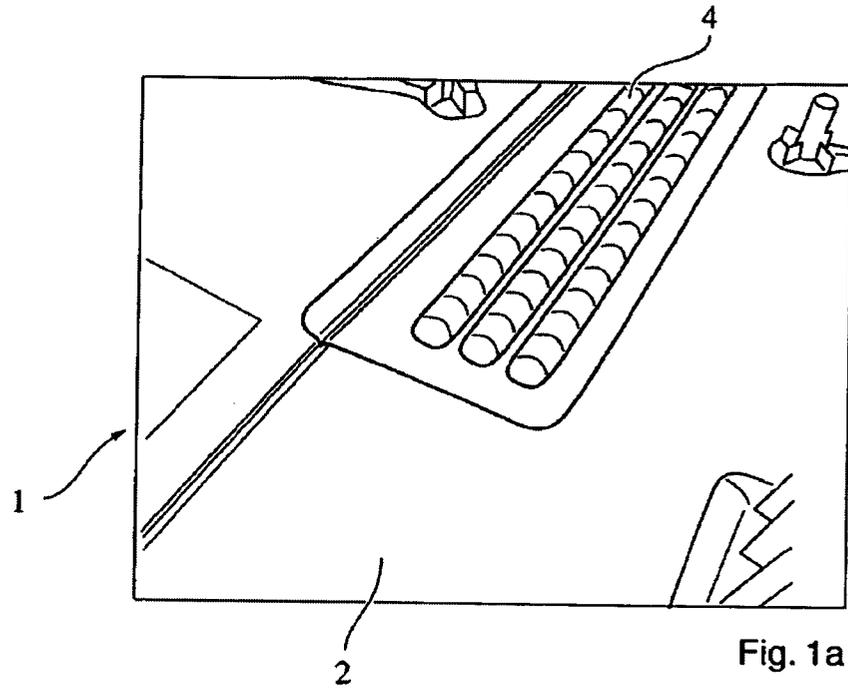


Fig. 1a

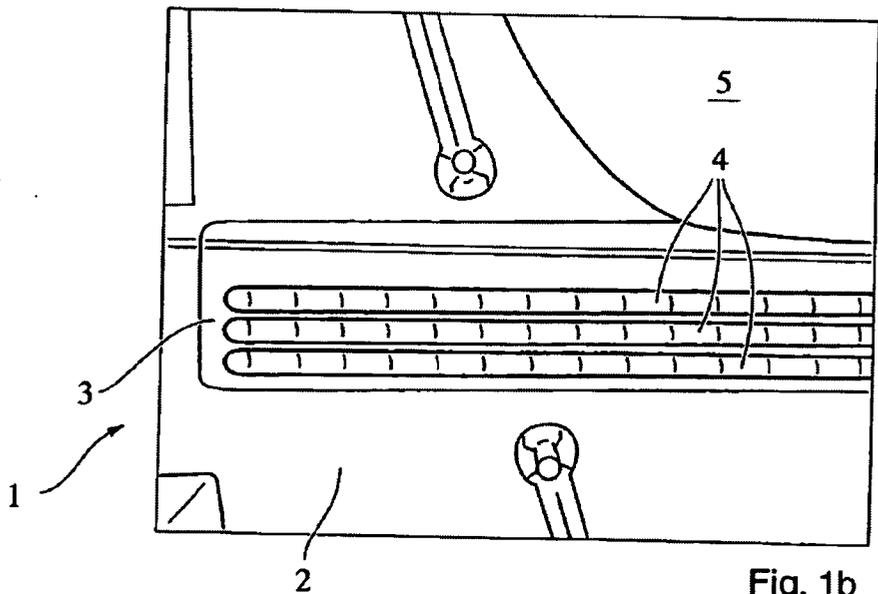


Fig. 1b

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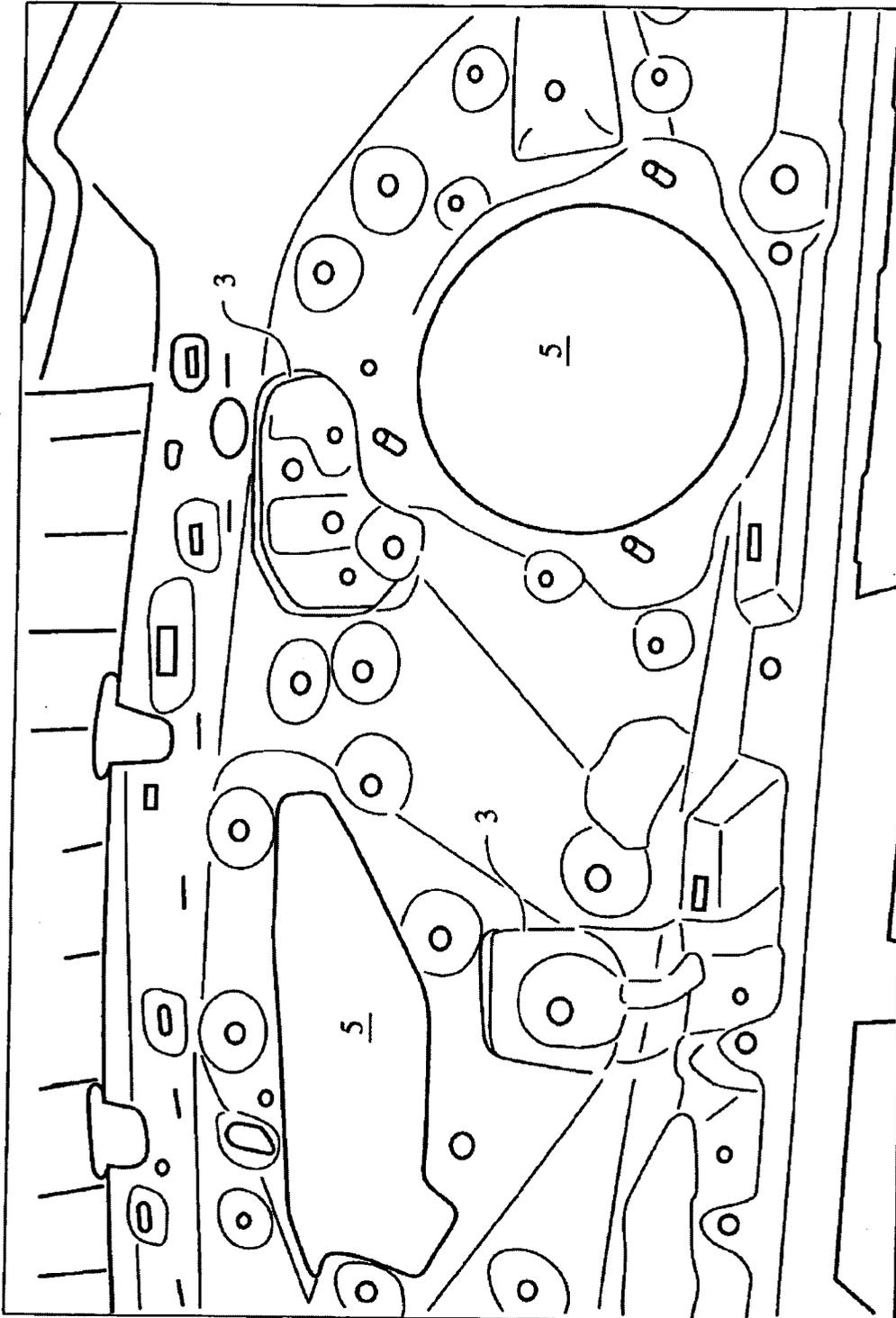


Fig. 2

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Lining of a vehicle part

The present invention relates to the lining of a vehicle part having a main body which comprises a reinforcement.

Such linings are used, in particular, in the field of the internal equipment of a vehicle and are disclosed, for example, in DE 10 2007 050 398 A1, DE 100 64 680 A1, DE 195 01 292 A1 and DE 101 20 099 C1. The lining parts disclosed therein are, however, of relatively costly design and/or are relatively costly to produce.

It was, therefore, the object of the present invention to provide a lining of a vehicle part which does not have the drawbacks of the prior art.

The object is achieved by a lining of a vehicle part having a main body which comprises a reinforcement, wherein the main body and the reinforcement are made from the same material.

The present invention relates to the lining of a vehicle part. Such linings are located, in particular, in the interior of the vehicle. For example, the invention relates to a vehicle body lining, in particular a door lining. A lining within the meaning of the invention, however, is also the instrument panel.

Such linings are nowadays generally made from plastics and/or a natural fiber material and are formed in a three-dimensional manner. Said forming process may, for example, be implemented by pressing planar material plates. Alternatively, however, it is conceivable to produce the lining in a casting, injection-molding or spraying method.

According to the invention, the main body comprises a reinforcement which is used to reinforce the main body locally. The reinforcement is a separate component. Said reinforcement may, for example, be arranged in the region of the recess, for example, for loud speakers, map cases or the like. Alternatively or additionally it is conceivable that units, in particular electrical units such as for example window lifters or parts of an infotainment system, are arranged on said main body. Preferably, the reinforcements may also be arranged in said regions.

According to the invention, it is thus provided that the main body and the reinforcement are made from the same material. Preferably, the reinforcement is connected non-positively, positively and/or by a material connection to the main body. Quite particularly preferably, the main body and the reinforcement are pressed together, resulting in a positive, non-positive and/or material connection. Most preferably, both the plate for the main body and for the reinforcement are inserted together into a mold and pressed together there into their final shape.

Preferably, the main body comprises recesses which are machined, for example stamped, out of the main body. Quite particularly preferably, said material is used for producing the reinforcements. As a result, the reinforcement consists of material removed from the main body.

Preferably, the reinforcement bears at least partially flat on the main body. Said flat reinforcement, however, preferably comprises structures, in particular three-dimensional structures, which improve the mechanical stability thereof. Such structures may be ribs or the like.

In a further preferred embodiment, the reinforcements are at least partially aligned perpendicular to the main body and also improve locally the mechanical stability of the main body.

A further subject of the present invention is a method for producing a lining of a vehicle part, having a main body which comprises a recess and a reinforcement, in which the recess is incorporated in the main body and the material obtained thereby is used for producing the reinforcement.

The embodiments set forth for the lining according to the invention apply to the method according to the invention and vice versa.

Preferably the reinforcement is connected, preferably pressed, to the main body.

According to a further preferred embodiment of the method according to the invention, the material of the reinforcement is processed, preferably formed, before being connected. Such a forming process may consist of the outer contour of the reinforcement being altered, for example by cutting or other material-removing methods. Forming in the sense of this preferred embodiment, however, also means that the material of the reinforcement is formed, for example by the application of force and/or heat, before being connected.

The invention is described hereinafter with reference to figures 1 to 2. Said descriptions are provided merely by way of example and do not limit the general inventive idea. Said descriptions apply equally to the lining according to the invention and to the method according to the invention.

Figure 1 shows a first embodiment of the lining according to the invention.

Figure 2 shows a further embodiment of the lining according to the invention.

A door lining 1 according to the invention is shown in a first embodiment in figures 1a and 1b. Said lining comprises a main body 2 which is provided with a reinforcement 3. The main body and the reinforcement consist in this case of a natural fiber material. The main body has been formed, for example pressed, into its three-dimensional shape which is shown. The reinforcement 3 is of the same material from which the main body 2 is made. Preferably, the material of the reinforcement 3 is material which has been previously removed from, for example stamped out of, the main body 2. The stamping-out of the material may take place during the forming process. As a result, material may be saved and waste reduced. The person skilled in the art understands that, although the base plate and the reinforcement consist of the same material, the reinforcement may consist of material which has been produced during the manufacture of a previously manufactured lining.

Before the connection of the reinforcement 3 to the main body 2, the structure 4, in this case three reinforcement ribs, are integrally formed therein, in order to increase the mechanical stability, in particular the bending stiffness, thereof.

The part according to figure 1a is shown again in figure 1b. The connection between the main body 2 and the reinforcement 3 is carried out by pressing. As a result, a non-positive, positive or material connection is produced.

In figure 2, a further door lining is shown. Said door lining also comprises recesses 5 and reinforcements 3.

The recesses 5 have been incorporated, in this case stamped, into the main body 2. The reinforcement 3 in the present case is partially flat and comprises a ring which is perpendicular to the plane of the main body 2 so as to increase, in turn, the mechanical stability of the lining according to the invention, in particular against bending.

The person skilled in the art recognizes that the reinforcements may be arranged on both sides of the main body. The person skilled in the art understands, moreover, that after it has been arranged on the main body, the reinforcement may be subjected to a further process, for example a material-removing process.

Moreover, the person skilled in the art recognizes that the lining on the side remote from the passenger compartment may be coated with a water-repellent coating and on the side facing the passenger compartment with a decorative layer. Moreover, foam layers and the like may also be arranged on the lining.

List of reference numerals

- 1 Lining
- 2 Main body
- 3 Reinforcement
- 4 Structure
- 5 Recesses