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(54) **ULTRALIGHT SWAP BODY**

(57) The subject matter of the invention is the ultra-light swap body placed on a driving surface with four support units (1) located on the outside of the floor for placing the body on the legs constituting its part and two longitudinals (2) preventing the body floor from deformation when it is placed on the legs. The support units (1) form support legs attached to a sleeve placed in the leg body and is rotatable. The support units are fixed to the profiles forming the floor and the longitudinals (2) by means of a support structure. In addition, they are equipped with a strut connecting the support leg to the support structure in order to prevent accidental turning of the support leg during loading or unloading. Moreover,

the body is equipped with longitudinal profiles (3), permanently fixed to the longer horizontal edge of the floor, in a cross-section similar to the inverted Y with oval trapezoidal holes in the leg for attaching tensioning straps to the tarpaulin in order to protect the load and secured to the floor so that the upper part protrudes about 35 mm above the floor surface as an additional lateral protection for the transported load. The support units (1) allow the body to be lifted on the driving surface, using known lifting systems to ensure a safe load distribution from the loaded goods to the ground and to secure the clearance between the body and the ground, allowing the body to exit when unloaded or to enter when loaded.

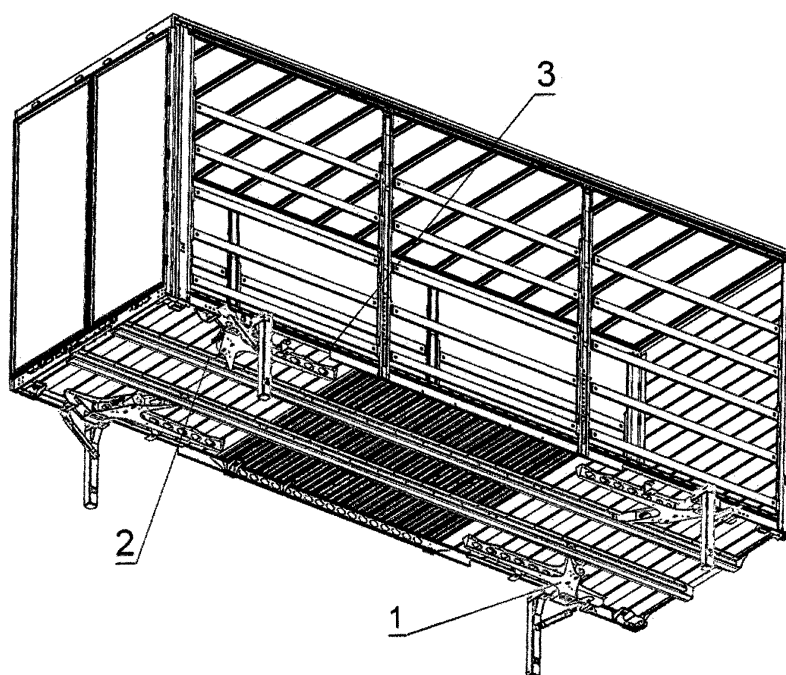


fig. 1

Description

[0001] The subject matter of the invention is the ultra-light swap body.

[0002] It is known from the descriptions of utility model No. 69881 for the transport of goods body (bodywork) placed on a driving surface, which is a cuboidal structure composed of vertical columns and horizontal slats connected with each other, horizontal floor and roof, and vertical side walls - front and rear ones. In the known body, the horizontal floor is connected to the two vertical rear columns between which the rear wall is mounted and two vertical front columns between which the front wall is mounted. The horizontal roof slats are attached to the rear and front columns and are also to the roof.

[0003] Currently, the bodies and heavy vehicle sets are used on the market. Vehicles are usually three-axle vehicles with a gross vehicle weight (GVW) of 26 tons or two-axle vehicles with a GVW of 18 tons. Trailers are usually two-axle vehicles with a GVW of 18 tons or single-axle vehicles with a GVW of 11 tons. Both vehicles and trailers carry heavy swap bodies made of steel with an unladen weight of approx. 3000 kg. These bodies have a GVW of up to 16 tonnes (technical capacity approx. 13 tonnes)

[0004] The ultra-light swap body according to the invention is equipped with four support units in the corners of the floor, located on the outside of the floor, made up of longitudinal and transverse floor profiles, and two longitudinals arranged parallel to the longer edges of the floor. Supporting units are support legs mounted at right angles on a sleeve placed rotationally in the leg body, the leg body and sleeve are placed in the support structure fixed to the profiles forming the floor and to the longitudinals. The support units have a strut that connects the support leg to the support structure. The longitudinals have the shape of an I-bar in the cross-section. The body is also equipped with protecting longitudinal profiles of a cross-section similar to an inverted Y with oval and trapezoidal holes in the leg which are permanently fixed to the longer horizontal edges of the floor.

[0005] Equipping the known body with four support units allows the body, once the legs of the body have been placed in the place intended for leaving the load, to be raised on the driving surface by means of known lifting systems. Moreover, the support assembly is equipped with struts connecting the support leg to the support structure to prevent the leg from accidentally turning during loading or unloading. The design of the support assembly allows for a safe transfer of the load from the loaded goods to the ground, ensuring at the same time the clearance between the body and the driving surface, allowing its exit in the case of unloading or entry in the case of loading. The use of two longitudinals provides protection of the body floor against deformation after it is placed on the legs. Whereas, equipping the body is with protective longitudinal profiles with oval and trapezoidal openings for attaching tensioning straps to

the tarpaulin protecting the load, after they have been secured to the floor so that their upper part protrudes approximately 35 mm above the floor surface providing additional lateral protection of the transported load. The construction of the ultra-light swap body allows to obtain the internal width of the body in the range from 2500 mm to 2504 mm, while maintaining the permissible external width of 2550 mm. The body is designed for customers who drive transport light but bulky items. The body curb weight does not exceed 2 tons and the load capacity 5 tons.

[0006] The object of the invention has been shown as a sample in the drawing in which in fig. 1 the body is shown in an axonometric view from below in fig. 2 the view of the support assembly, fig. 3 longitudinal section of the protecting profile, fig. 4 transverse section of the protecting profile, fig. 5 longitudinal section of the crossbar, fig. 6 transverse section of the crossbar.

[0007] The ultra-light swap body placed on a driving surface is a cuboidal structure composed of vertical columns and horizontal slats connected with each other, horizontal floor and roof, and vertical side walls, front and rear ones. The horizontal floor is connected to two vertical rear columns between which the rear wall is mounted and two vertical front columns between which the front wall is mounted. The horizontal roof slats are attached to the rear and front columns and are also attached to the roof. The body has four support units (1) located on the outside of the floor made of longitudinal and transverse profiles and located in the corners of the floor. The support units (1) form the support legs (4) mounted at right angles to the sleeve (5) located rotationally in the leg body (6) allowing the leg (1) to be rotated. The leg body (6) and sleeve (5) of the support unit are located in the supporting structure (7) attached to the profiles forming the floor and to the longitudinals (2) attached to the floor parallel to its longer edges. In addition, the support unit has a strut (8) which connects the support leg (4) to the support structure (7) so as to prevent the leg from accidental turn (4). Attached to the outside of the floor, the two longitudinal longitudinals (2) are I-bar-shaped and prevent the floor from deformation when placed on the legs (4). The body is also equipped with protecting longitudinal profiles (3) permanently fixed to the longer horizontal edges of the floor with a cross-section similar to an inverted Y with oval and trapezoidal holes in the leg where the tarpaulin tensioning straps are to be placed in order to protect the load. The longitudinal profiles (3) reinforce the body structure and their upper part protrudes about 35 mm above the floor surface, thus providing additional lateral protection of the transported load.

Claims

1. The ultra-light swap body is a cuboidal structure made up of vertical columns and horizontal slats, a horizontal floor made up of longitudinal and trans-

verse profiles, a roof and a vertical side, front and rear walls, in which the horizontal floor is connected with two vertical rear columns between which the rear wall is fixed and two vertical front columns between which the front wall is fixed, the horizontal roof slats are fixed to the abovementioned rear and front columns **characterised in that** it is equipped with four support units (1) located on the outside of the floor in the corners of the floor and two longitudinals (2) located parallel to the longer edges of the floor and having the shape of an I-bar in the cross-section, where the support units (1) form support legs (4) fixed at right angles on the sleeve (5) placed rotationally in the leg body (6), the said leg body (6) and sleeve (5) are placed in the support structure (7) fixed to the profiles forming the floor and to the longitudinals (2), and additionally have a strut (8) connecting the support leg (4) with the support structure (7).

2. Ultra-light swap body according to the claim 1, **characterised in that** it is equipped with securing longitudinal profiles fixed to the longer horizontal edges of the floor (3) of a cross-section similar to an inverted Y with oval and trapezoidal holes in the leg.

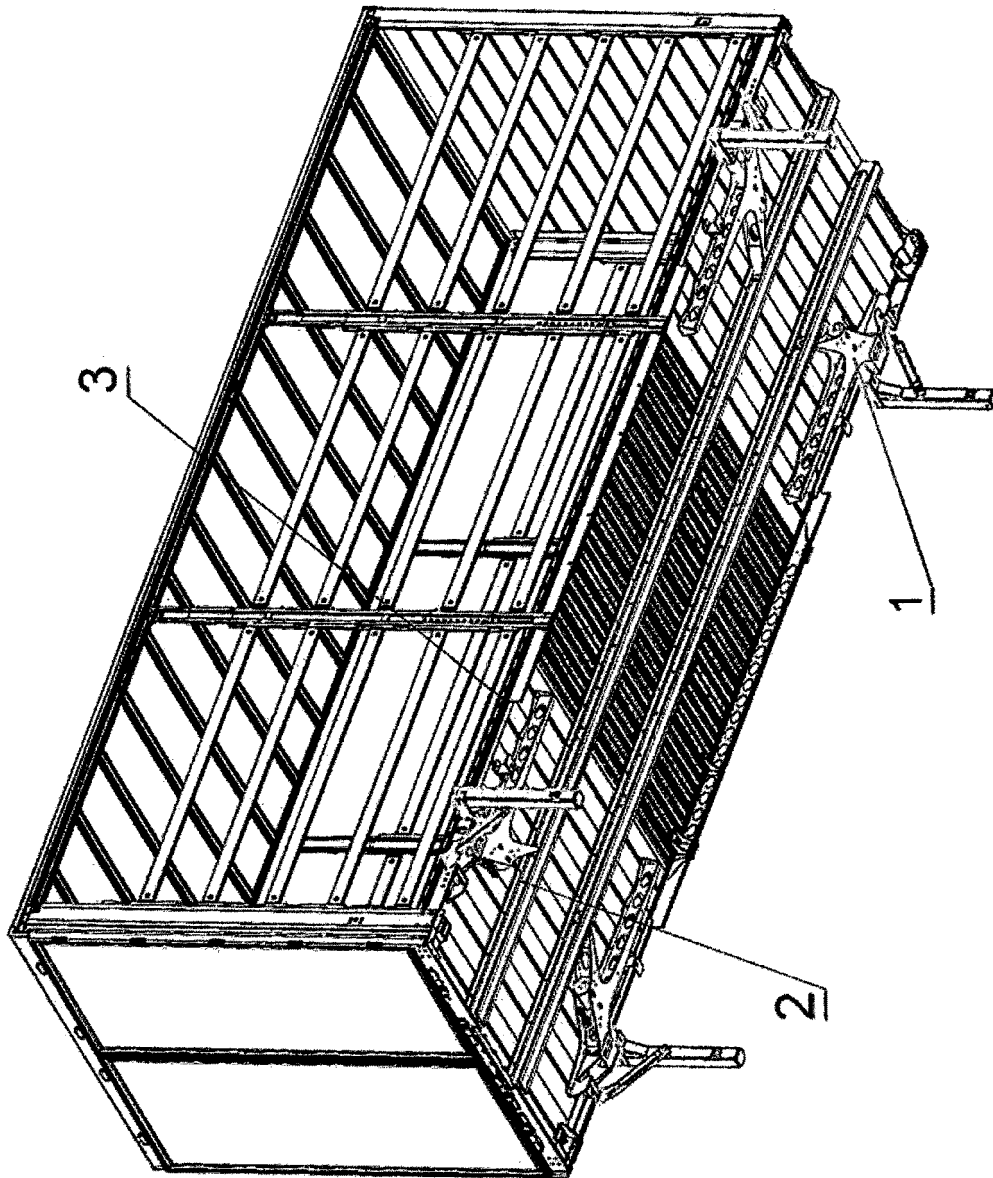


fig. 1

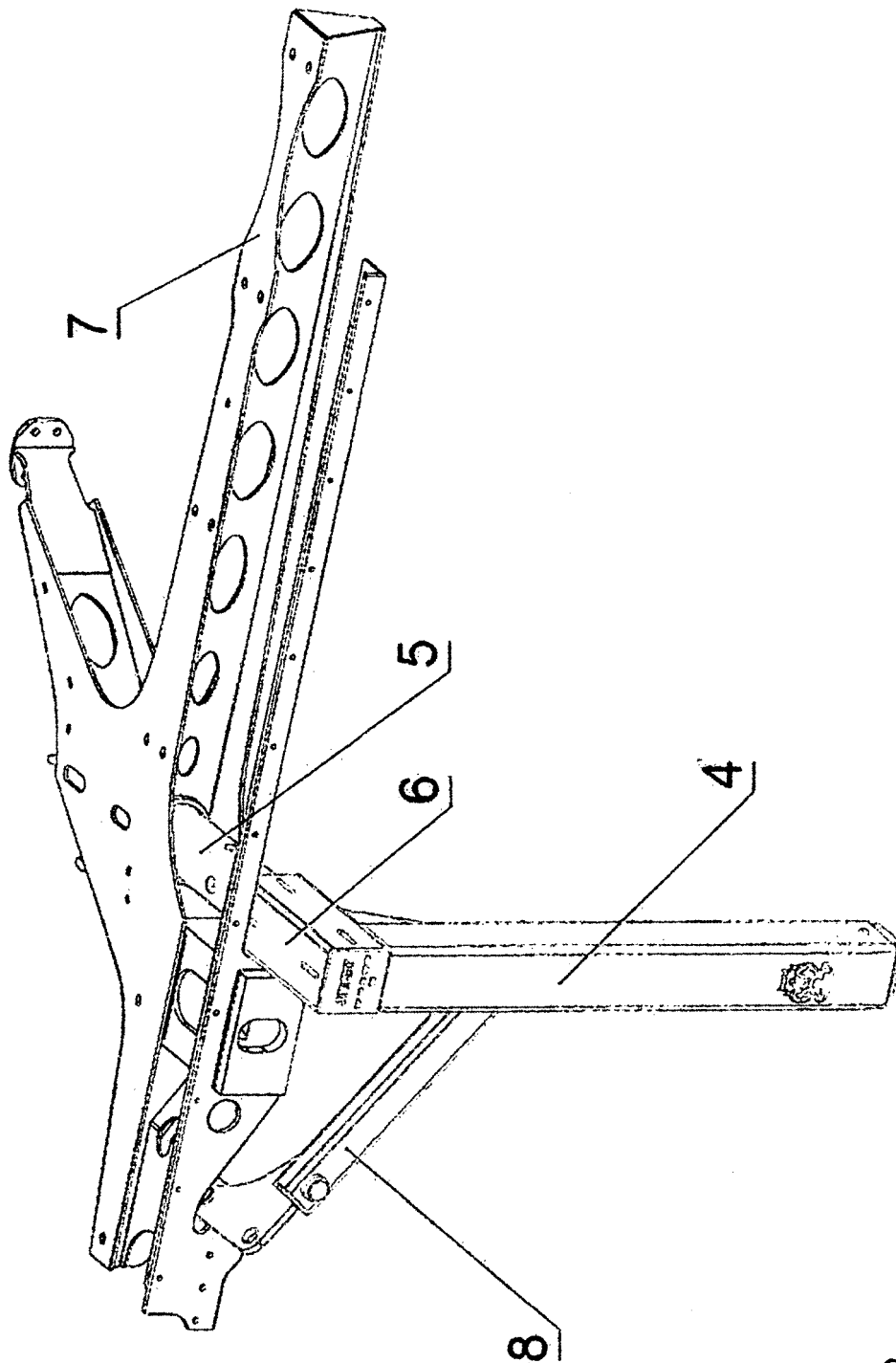


fig. 2

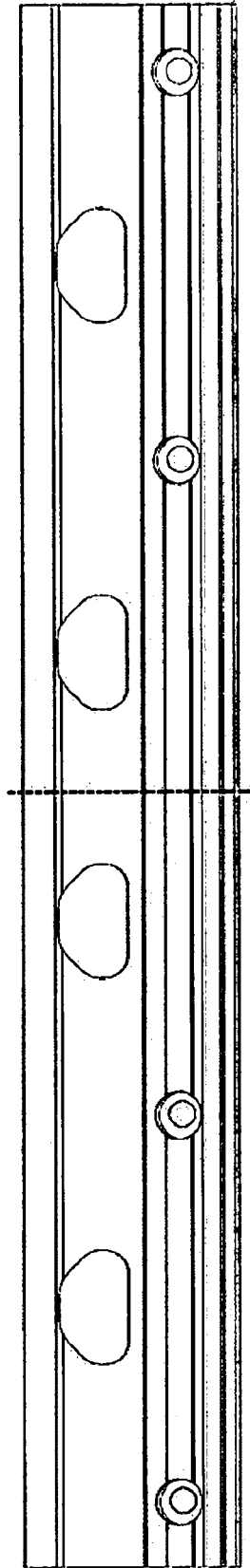


fig. 3

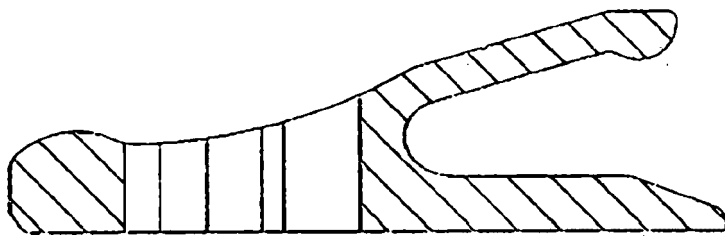


fig. 4.

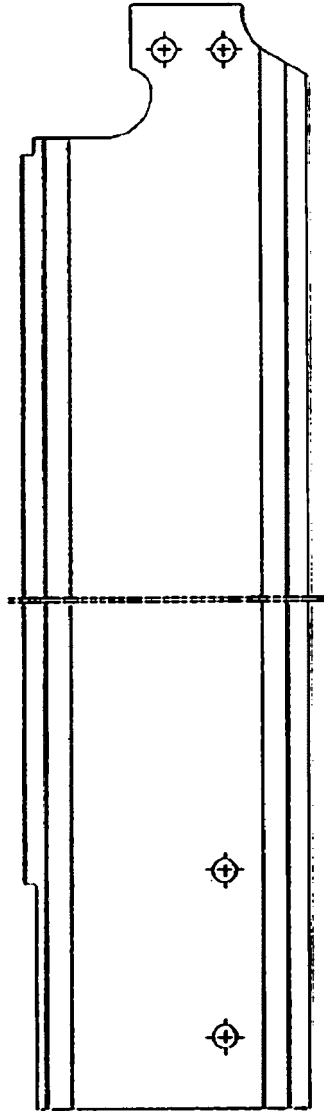


fig. 5

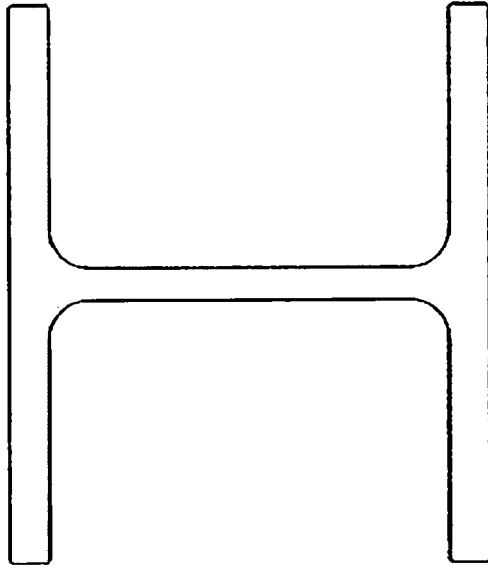


fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 18 46 0054

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			B65D B60J B60P
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 September 2019	Examiner Piolat, Olivier
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 18 46 0054

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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16-09-2019

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