

[0023] FIG. 10 shows a perspective view looking at an angle from the rear left of the vehicle with the roof open as in FIG. 9;

[0024] FIG. 11 shows a view of the roof looking in the direction of arrow XI in FIG. 10;

[0025] FIG. 12 shows a view similar to that of FIG. 9 after the roof has been completely opened;

[0026] FIG. 13 shows a perspective view of the roof area of the vehicle in the completely opened position according to FIG. 12;

[0027] FIG. 14 shows a view looking in the direction of arrow XIV in FIG. 13.

[0028] The convertible vehicle 1 according to FIG. 1 is designed as a so-called pickup; that is, a driver's compartment 2 is provided in forward area of the vehicle, which can be provided with one or more rows or seats. In the rear part of the vehicle, an open, load-carrying surface 3 is provided.

[0029] In the present exemplary embodiment, the convertible vehicle 1 has a roof 4 with two solid roof parts 5, 6. With respect to the direction of travel F, the roof part 5 is located in front of the roof part 6, which is at the rear and which also includes the rear window. Instead of two solid roof parts 5, 6 as shown here, it is also possible to provide a different number of parts. Nor is it mandatory for a roof design such as that shown here to be used in a pickup truck.

[0030] Behind the closed roof 4, according to the exemplary embodiment illustrated here, there is a pivoting canopy box cover 8, the middle part of the forward edge 9 of which adjoins the rear area of the rear roof part 6 and can be opened when the roof 4 is to be closed. The sidepieces 10 of the canopy box cover 8 at the sides extend farther forward than the forward edge 9 in the middle.

[0031] In the closed position (FIGS. 1-6) of the roof 4, the rear roof part 6 is essentially upright, whereas the forward roof part 5 is essentially horizontal and extends the roof 4 in the direction of travel F toward the frame of the windscreen.

[0032] The roof 4 is held overall with freedom of movement by a main support 12, which is attached firmly to the car body. For this purpose, the main support 12 on each side of the vehicle includes a support bracket 13, attached solidly to the car body, on which a drive element 14, designed here as a hydraulic cylinder, is mounted.

[0033] In this case exactly one drive is provided for each side of the vehicle, by means of which both the rear roof part 6 and the roof part 5 in front can be moved jointly.

[0034] For this purpose, the drive 14 in question is in working connection by way of a multi-joint linkage 15 with the rear roof part 6 and also with the roof part 5 in front. For the connection with the rear roof part 6, a plate body 16 is provided, which is attached to the multi-joint linkage 15. To establish the connection with the roof part 5 in front, an angled plate body 17 is provided. The plate bodies 16, 17 can be welded, for example, or bonded, or screwed to the roof parts 6, 5. Other fastening methods can also be considered. Nor is it mandatory that plate bodies be used. Thus other types of connecting elements for the roof parts 5, 6 are also possible.

[0035] It is not mandatory that both roof parts 5, 6 be in working connection with the drive 14 by way of a common multi-joint linkage 15. Instead, it is also possible for only the rear roof part 6 to be in working connection with the drive 14 by means of interconnected connecting rods 15.

[0036] In the exemplary embodiment, the multi-joint linkage 15 couples the movements of the roof parts 5 and 6; both parts are attached to this multi-joint linkage 15.

[0037] The multi-joint linkage 15 comprises, in detail, a lower four-bar linkage A, an upper four-bar linkage B, and a synchronizing linkage C, which connects the two four-bar linkages A and B together. It is not mandatory for the multi-bar linkages A and B to be designed as four-bar linkages, as shown in the present case. In any case, however, the linkages consist of multiple bars.

[0038] The four-bar linkage A, which connects the rear roof part 6 to the drive 14, is formed by a part A1 of the support bracket 13 and an opposite connecting rod A2, which is firmly connected to the connecting plate 16 attached to the rear roof part 6 or is designed as an integral part of the connecting plate. Parts A1 and A2 are connected to each other by connecting rods A3 and A4, and work together to form overall a linkage parallelogram with the swivel axes AS1, AS2, AS3, and AS4.

[0039] The upper four-bar linkage B, which connects the forward roof part 5 to the synchronizing linkage C, is formed by a first connecting rod B1, which is permanently connected to the angled connecting plate 17, which is attached to the forward roof part 5 or is made as an integral part of the connecting plate. Opposite this rod is another connecting rod B2. Connecting rods B1 and B2 are connected to each other by additional rods B3 and B4 to form a four-bar linkage and work together to form overall a linkage parallelogram with the swivel axes BS1, BS2, BS3, and BS4.

[0040] The four-bar linkages A and B are connected to each other by a synchronizing linkage C, so that the force applied by the drive element 14 to the connecting rod A4 can be transmitted to the overall linkage 15 and thus to the roof parts 5, 6 attached to it.

[0041] The synchronizing linkage C comprises a lower main lever C1 and an upper main lever C2, which, when the roof 4 is closed, are almost parallel to each other, and both are attached in swiveling fashion to extensions of the connecting plate 16 at the bearing points CS1 and CS2.

[0042] The lower main lever is connected by a push-pull lever C3, which is supported in a swiveling manner at the support point CS3, to an extension of the rod A3 assigned to the lower four-bar linkage A. The pull lever C3 acts on the main lever C1 via the joint CS4 of the main lever C1, which is a certain distance away from the other joint CS1 of the main lever C1. Introducing a force via the rod C3 can therefore cause the main lever C1 to swivel around its joint CS1.

[0043] At the free end of the main connecting rod C1 pointing away from the joint CS1, this rod is connected by way of a swivel joint CS5 to another push-pull lever C4, which for its own part extends from this joint CS5 all the way to the angled rod B3 of the upper four-bar linkage and acts on this rod at the joint CS6.