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K. SCHRÖTER ET AL
WHEELED UNDERFRAMES, ESPECIALLY FOR TRAILERS OF MOTOR CARS
Filed Jan. 13, 1941

Serial No.
374,216
2 Sheets-Sheet 1

Fig. 1

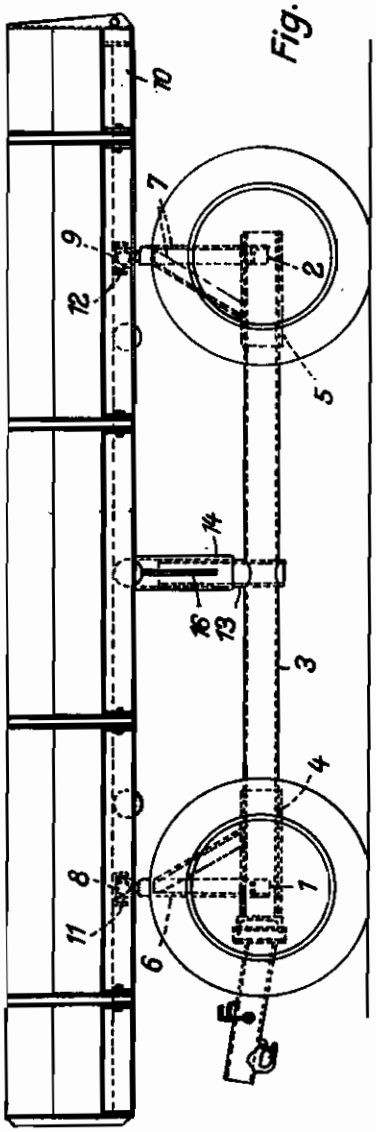
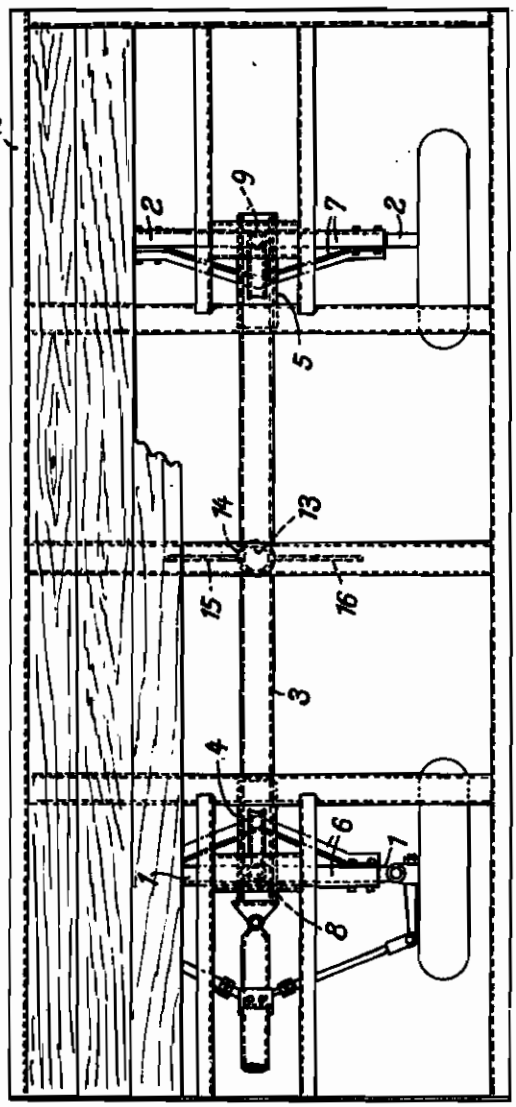


Fig. 3



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By
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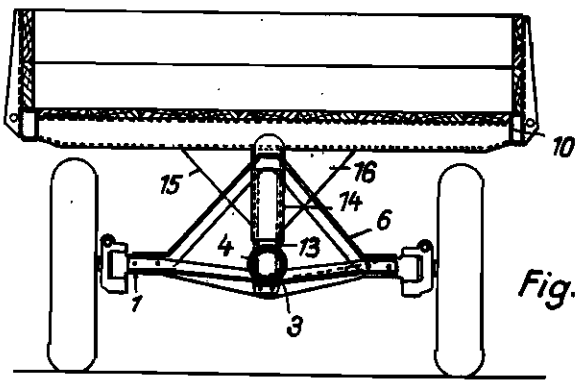

Fig.2

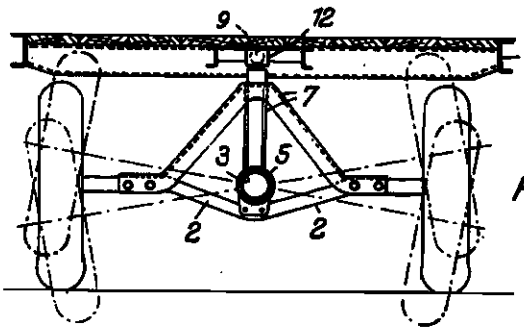

Fig.4

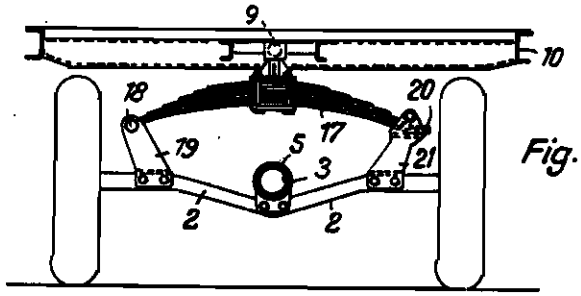

Fig.5

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ALIEN PROPERTY CUSTODIAN

WHEELED UNDERFRAMES, ESPECIALLY FOR TRAILERS OF MOTOR CARS

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Application filed January 13, 1941

This invention relates to wheeled underframes, especially such suited for trailers of motor cars and having the wheel axis supported on the longitudinal middle carrier of the underframe in such a manner as to be able to oscillate thereon, the thus arranged axles being connected with one another by a compensating member.

The present improved construction is distinguished from the known wheeled motor car underfame in which a separate compensating lever is used which connects the axles that are oscillatable, counter to one another by the feature that the compensating member is formed by the body itself of the car, the body being supported in the vertical longitudinal middle plane of the car on supports firmly connected with the wheel axles in such a manner as to be articulable to all sides, the body being, furthermore, rotatably supported on a vertical pivot firmly secured to the longitudinal middle carrier. By utilising the body itself as compensating member and doing away, therefore, with separate compensating members the manufacture of the cars is simplified and renders less expensive, as well as less sensitive, the more, as separate joints requisite when separate compensating members are saved; finally, the weight of the cars is reduced.

The invention is illustrated diagrammatically and by way of examples on the accompanying drawings, on which Figure 1 is a side-view of a car designed according to our invention; Figure 2 is a front view of the same car; Figure 3 is a plane thereof; Figure 4 shows a rear view, and Figure 5 is a view similar to Fig. 3 or 4 and shows a somewhat modified constructional form in which the axles are provided with springs.

On the drawings 1 denotes the front axle and 2 the rear axle which both are suspended in the manner of pendulums and may for this purpose be firmly connected with sleeves 4, 5 supported turnably upon the longitudinal middle carrier 3. Said axles are, furthermore, equipped with supporting struts 6 and 7 carrying at their upper ends globular pivots 8 and 9, situated within correspondingly shaped sockets 11 and 12 which are rigidly connected with the body of the car, so that the body rests upon the axles 1 and 2 by the intermediary of the ball-joints 8, 9, 11 and 12, formed by said pivots and sockets.

The longitudinal carrier 3 is equipped between the axles 1 and 2 with an upwardly directed pivot 13 upon which is shoved a hollow cylindrical lug 14 having a somewhat larger diameter and being rigidly connected with the body 10. Said lug may, besides, be connected with the body by gusset plates 15 and 18. The body can, therefore, be turned in the horizontal plane on the pivot 13, whereas it is held in the vertical plane by said pivot, as well as by the longitudinal carrier 3 and the axles 1 and 2. It assumes, therefore, compulsorily a middle portion between said axles when these are turned around the carrier 3.

The axles 1 and 2 which are shoved upon the carrier 3 by the intermediaary of their sleeves 4 and 5 are prevented from being withdrawn from said carrier by the ball-joints 8, 9, 11 and 12 which constitute the connection between the said axles and the body 10. When this latter is lifted off from the ball-joints 8 and 9, the axles, or their sleeves 4 and 5 respectively, can be freely shifted along the longitudinal carrier 3 and easily be withdrawn therefrom which fact appears that a car designed according to this invention can be assembled and taken to pieces in an extraordinarily convenient manner.

One of the two surfaces of the cylinder parts 13 and 14 which slide upon one another can be provided in known manner with a covering of asbestos, compressed peat, a braking material or any equivalent material able to obviate metallic friction at this place, as well as wear and tear of the parts 14 and 15 and rendering at the same time movement of the body 10, or of the axles 1 and 2 respectively, difficult. In order to increase this effect the sleeve 14 which is situated upon the vertical pivot 13 and is firmly connected with the body, or with the longitudinal middle carrier respectively, is slotted and so designed as to permit re-tensioning.

The modification illustrated in Fig. 5 differs from the above described construction by the feature that at least one leaf-spring 17, may be, however, a plurality of such springs, is, or are, inserted between the axle 2 and the ball-pivot 9. Said spring is secured at its end 18 to the sleeve 19, whereas its end 20 is shiftable upon the support 21 transversely to the direction of motion of the car. Owing to the insertion of said springs 17 the body 10 which constitutes the compensation member is spring-supported with respect to the axles and the car is, therefore, rendered suitable also for higher speeds.

The springing between the axles 2 and the body can be designed also in another manner, for instance, in this way that instead of the rigid axle 2 oscillating semi-axles and instead of leaf-springs for instance helical springs are used, the gist of the invention and its scope being not in the least changed thereby.

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