PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in or relating to Steering Devices for Motor Cars.

We, LANCIA & C. of 99, Via Monginevro, Turin, Italy, an Italian company, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to steering devices for motor cars in which the sides of the front portion of the car approach each other towards the front end, and it has for its object to provide an arrangement of the steering device elements whereby the steering arm moves in a plane parallel with the car side.

On the accompanying drawing an embodiment of the present invention is shown by way of example in a car in which the wheels are carried by a structure constituting both the vehicle frame and its body;

Figure 1 is the plan view of the front end of the car, and

Figure 2 is a side view.

The front wheels 1 are arranged on the sides of a structure comprising bars 2, 3 and 4, of which the bars 2 are connected with the radiator frame while bars 4 are connected with the sides 6. These sides constitute the frame portion in which the engine 7 is arranged and are inclined in such a manner as to approach the car axis as far as they proceed toward the radiator, as shown in Figure 1.

According to the present invention an arm 8 solid with the swivel member of a wheel is connected, by a rod 9, with an arm 10 operated by the steering device and journalled in such a manner as to rotate in a plane parallel with the adjacent side 6. For this purpose the arm 10 is solid with a shaft 11 which is mounted in the box 12 to rotate around an axis inclined with respect to the axis of the end of the steering pillar 13, this pillar being, as usual, arranged to lie in a vertical plane parallel with the central axis of the car.

The drive is transmitted from the steering pillar 13 to the shaft 11 by a worm solid with the pillar 13 and a pinion solid with the spindle 11. It is only necessary that the spiral teeth of the pinion should be suitably inclined to mesh with the worm whose axis is not perpendicular with respect to the axis of rotation of said pinion.

By such an arrangement, when the arm 10 is rotated by the actuation of the steering pillar 13, it lies at any time in a plane parallel with the adjacent side 6 along which is also moved the pivot point between the arm 10 and the arm 9. Therefore in the position of the maximum steering angle the arm 10 and rod 9 leave a larger space free for the wheel than in the case in which the said arm 10 would rotate around an axis perpendicular to the central vehicle plane, as in known constructions.

Said operation is clearly disclosed in Figure 1 where the position of the parts in connection with the maximum steering angle is shown by dotted lines, the wheel rim being in said position adjacent to the side 6 this enabling the maximum possible steering angle to be obtained.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A steering device for motor cars in which the sides approach each other towards the front end, characterised by the fact that the arm driven by the actuation of the steering pillar is pivoted in such a manner as to move in a plane parallel with the adjacent side of the car.

2. A steering device according to Claim 1, characterised by the fact that

the transmission gear between the steering pillar and the steering arm is obtained by means of a gear with non-perpendicular axes, the steering pillar axis lying thus in a vertical plane parallel with the central axis of the vehicle, as usual.

3. The steering device for motor cars substantially as described or substantially as illustrated in the accompanying drawing.

Dated this 31st day of October, 1923.

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[This Drawing is a reproduction of the Original on a reduced scale]

FIG. 1

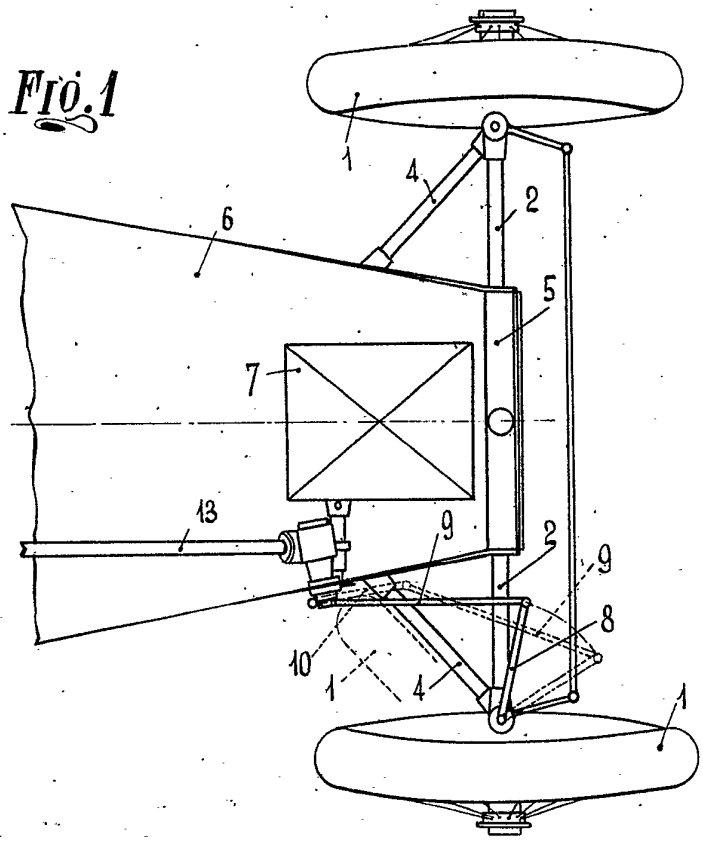
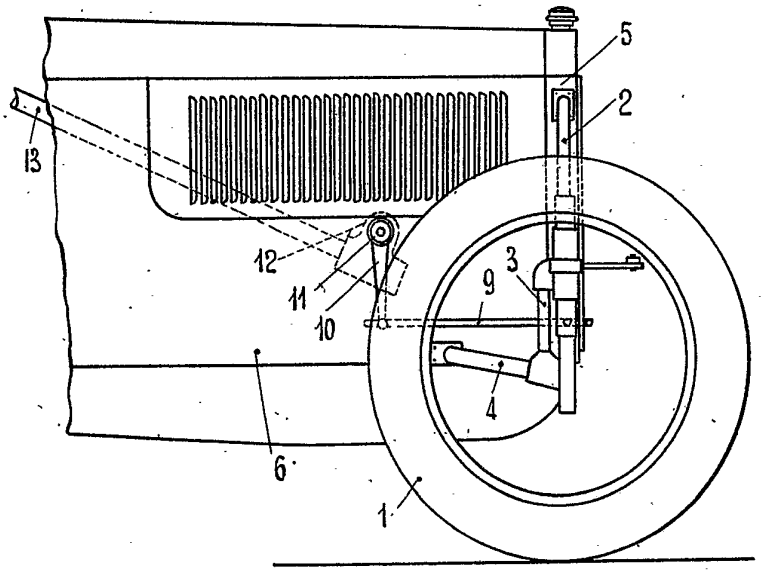


FIG. 2



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