N° 12,493 A.D. 1912

Date of Application, 25th May, 1912—Accepted, 5th Sept., 1912

COMPLETE SPECIFICATION.

Improvements in or relating to Transmission Gears for Motors.

I, VINCENZO LANCIA, Engineer, of 99, Via Monginevro, Turin, Italy, 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:—

This invention relates to an improvement in the fitting of the transmission gear in motor cars, more particularly those in which the change speed gear is arranged on the rear axle, and consists in the said rear axle being rigidly connected, without any joint making oscillations possible, to the clutch which in that way is forced to oscillate with the rear axle.

A construction of the invention is illustrated in the accompanying drawing in which—

Figure 1 shows diagrammatically a plan of the chassis of a car,

Figure 2 is a side elevation on a reduced scale,

Figure 3 a front elevation of the fitting of the clutch and

Figures 4 and 5 are cross-sections of Figure 3 respectively on lines X—X and Y—Y.

As will be seen in Figures 1 and 2, the rear axle 1 on which is mounted the change speed gear 2, is provided as usual with the tube 3 called the "radius rod" which at its opposite ends is provided with a fork 4.

This fork is pivoted at the sides on transverse pivots 5 secured to the frame of the engine, and consequently to the chassis of the car.

The clutch 6 which may be of any desired type, is pivoted so as to be able to oscillate on the axis common to the two pivots 5 on which is mounted the fork 4.

To that end a clutch is adopted the outer casing of which is connected to the driving shaft, for instance to the fly wheel, by means of springs so as to form at the same time a universal joint, or of the type shown in Figures 3—5, in which 7 indicates the fly wheel keyed to the driving shaft and provided at two diametrically opposite points with two pivot pins 8 on which is pivoted a ring 9.

To the said ring is in its turn pivoted by means of pins 10 arranged at an angle of 90° relatively to the pins 8, the casing or box 11 of the clutch which, in case of a disc clutch, comprises a series of discs 12 keyed to its inner wall, whilst the other series of the discs 13 are keyed to the hub 14 secured to the driven shaft 15 concentric with the tube 3 and transmitting the rotation to the change speed gear.

It will be readily understood from the foregoing that, when the rear axle 1 is forced to oscillate relatively to the chassis owing to irregularities of the ground or variations of the weight, the driven shaft with the clutch 6 mounted on the same, will oscillate with the tube 3 about the axis of the pivots 5.

In that way, the driven shaft is rigid and in a single piece between the change speed gear and the clutch which need merely be mounted with an elastic or cardan joint, so as to be able to oscillate in any direction and to follow the oscillations of the rear axle during the rotation of the shaft.

[*Price* 8*d*.]

Lancia's Improvements in or relating to Transmission Gears for Motors.

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

1. In a transmission gear for motor cars, a rear axle, a change speed-gear casing rigidly connected thereto, a radius rod rigidly connected to said casing, and supported pivotally at its forward end, a driving shaft within said radius rod, a clutch member carried by the forward end of said shaft, an outer clutch member, and means comprising a universal joint concentric with the pivots of the radius rod for driving said outer clutch member.

2. The transmission gear arrangement for motor cars substantially as described or as illustrated in the accompanying drawings.

Dated this 24th day of May, 1912.

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111 & 112, Hatton Garden, London, E.C.,
Chartered Patent Agents.

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LANCIA'S Complete Specification.

[1 SHEET]

Fig. 1

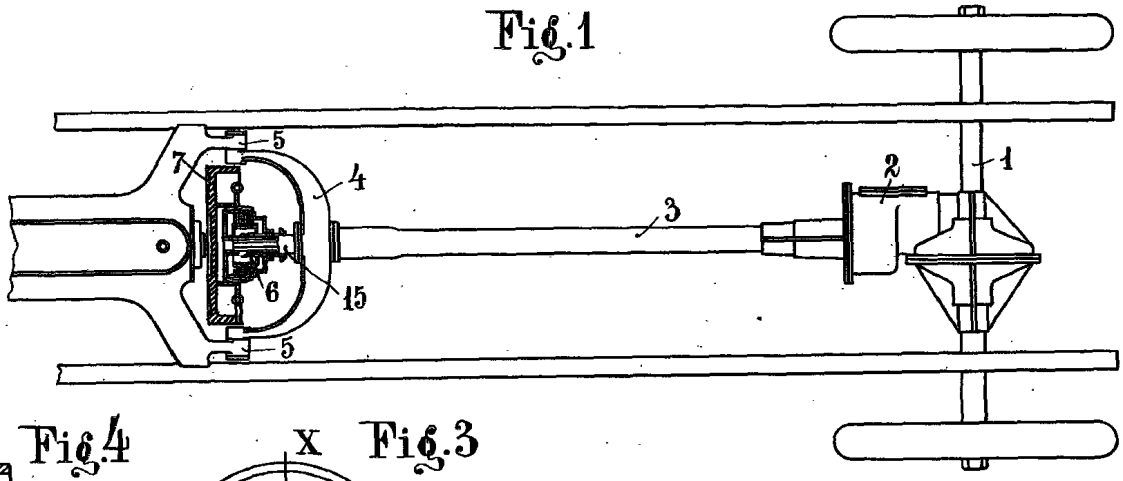

Fig. 4

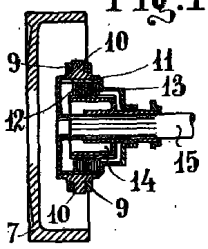

Fig. 3

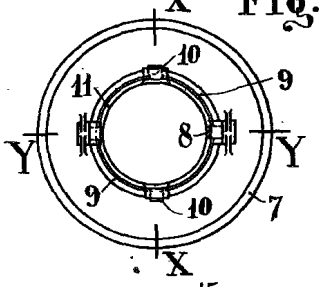

Fig. 5

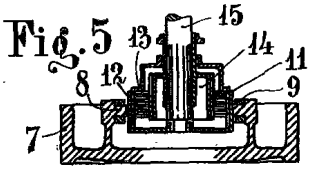

Fig. 2

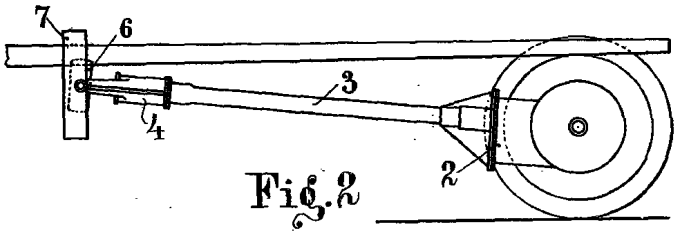

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Fig. 1

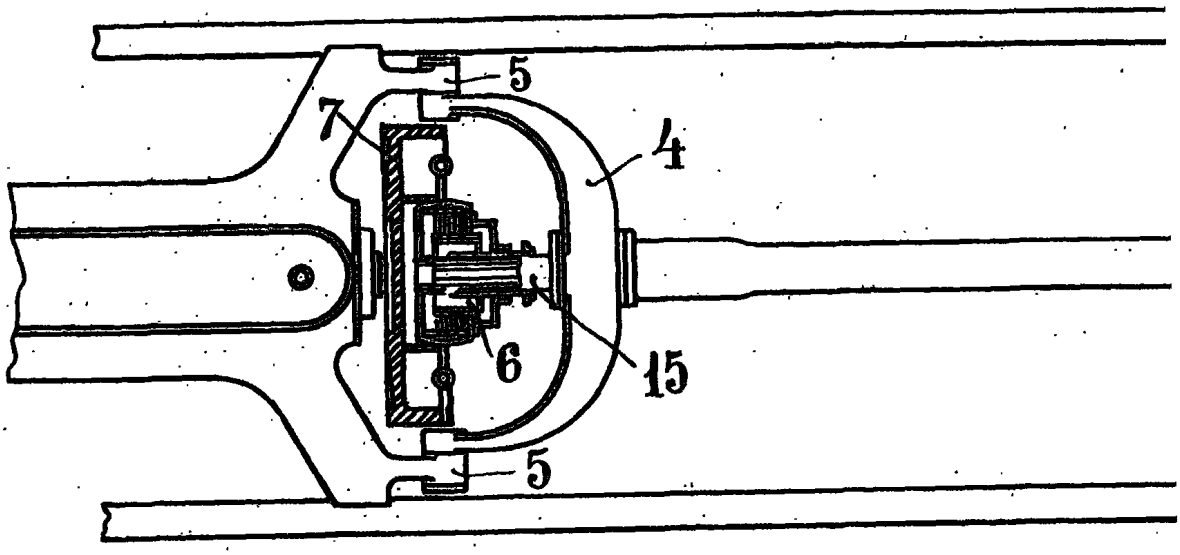


Fig. 4

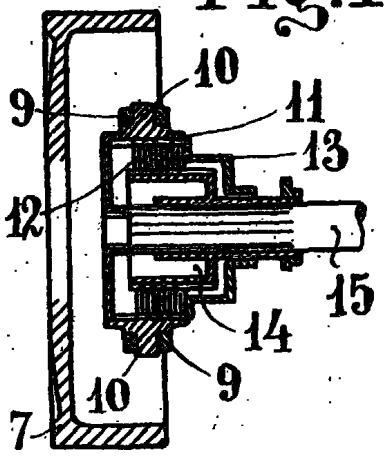
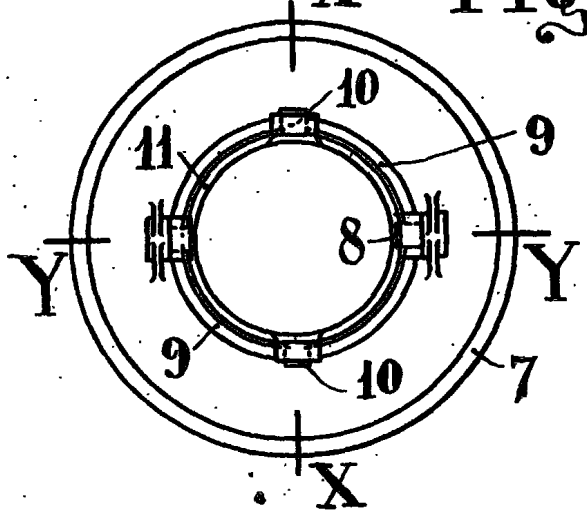


Fig. 3



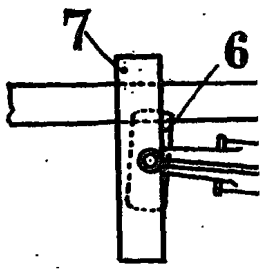
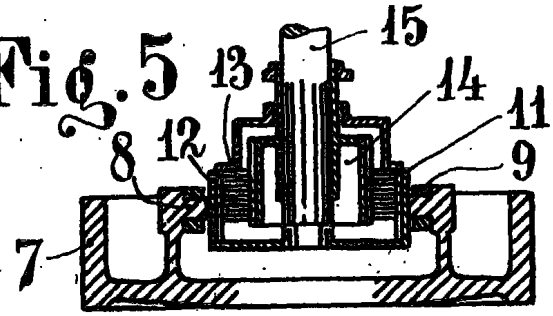
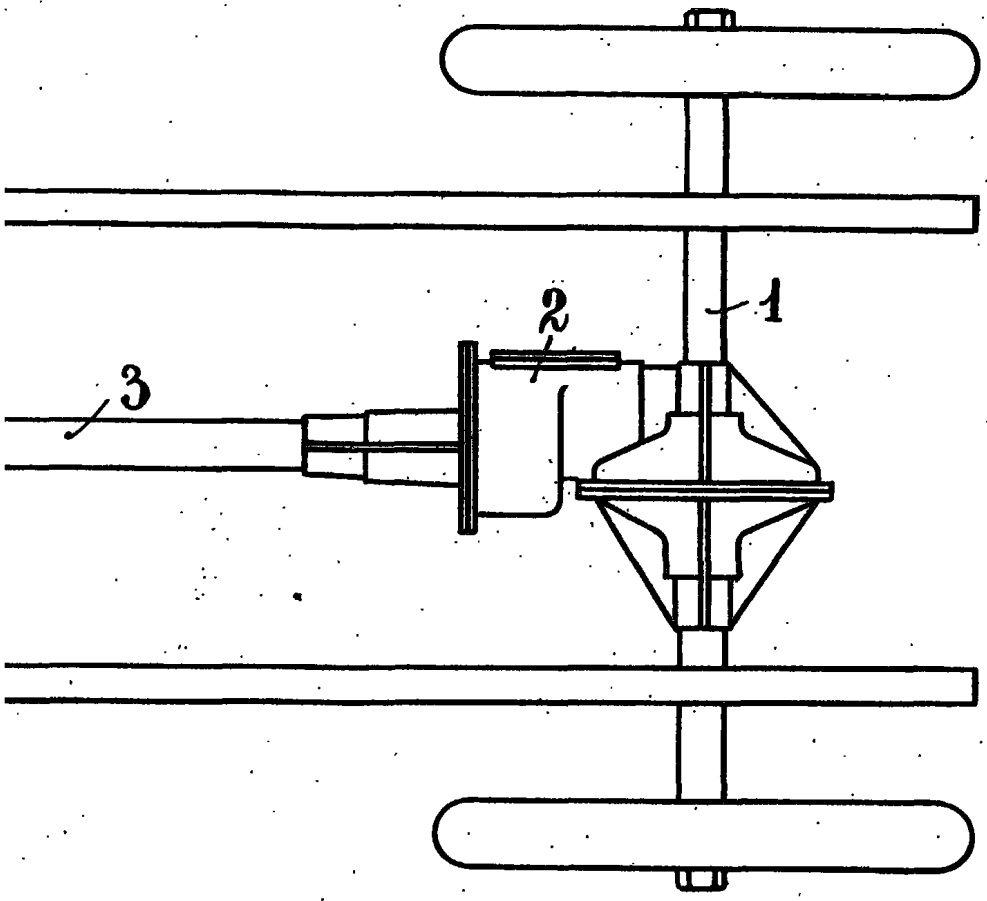


Fig. 5





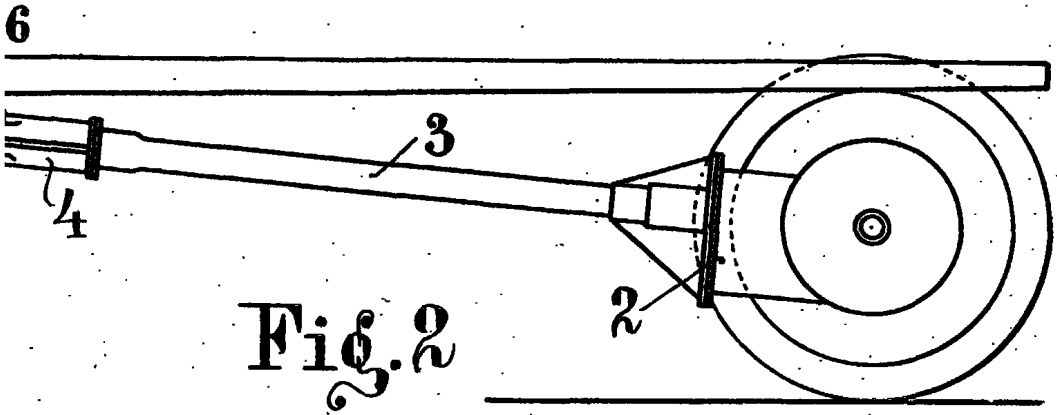


Fig. 2

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