No. 889,897. PATENTED JUNE 9, 1908.

S. BRAMLEY-MOORE.

MECHANISM FOR OPERATING VARIABLE RATIO GEARING.

APPLICATION FILED DEC. 8, 1906. 2 SHEETS—SHEET 1.

FIG. 1.

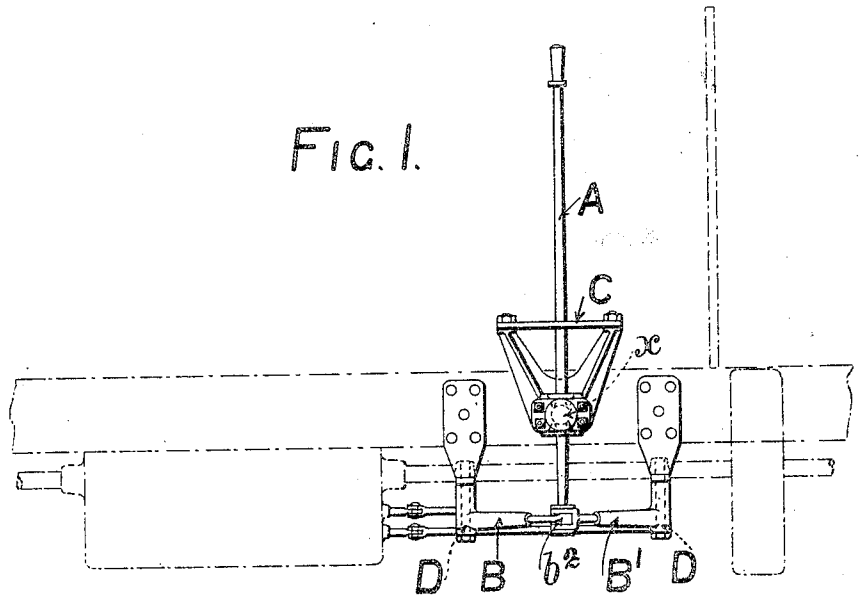
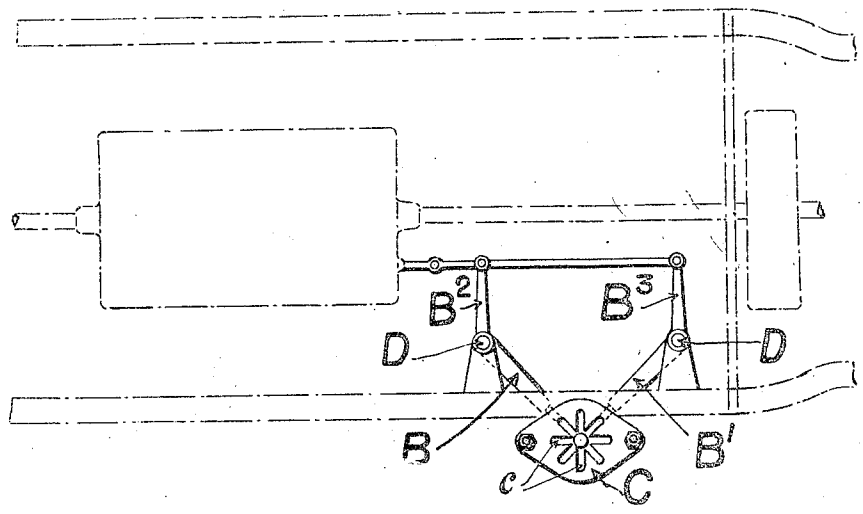


FIG. 2.



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FIG. 3.

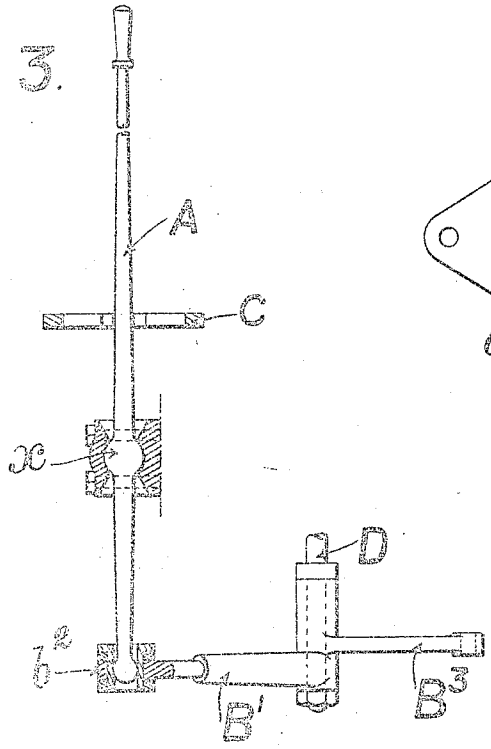


FIG. 5.

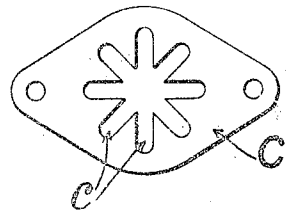
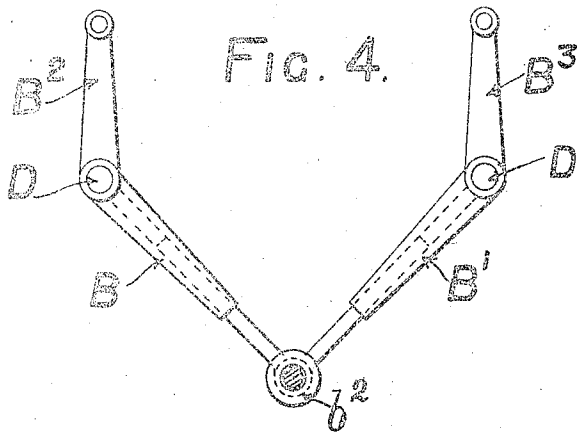


FIG. 4.



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UNITED STATES PATENT OFFICE.

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MECHANISM FOR OPERATING VARIABLE RATIO-GEARING.

No. 889,897. Specification of Letters Patent. Patented June 9, 1908.

Application filed December 8, 1906. Serial No. 346,928.

To all whom it may concern:

Be it known that I, SWINFEN BRAMLEY-MOORE, a subject of the King of Great Britain and Ireland, residing at 26 Russell Square, Bloombury, in the county of London, England, have invented a new and useful Mechanism for Operating Variable Ratio-Gearing, of which the following is a specification.

This invention relates to mechanism for operating velocity ratio gears employed in motor road vehicles in which the various trains of gear wheels are brought into driving operation either by sliding the wheels on their shafts or connecting them to said shafts by means of sliding clutches, and it has for its object obtaining a plurality of changes by means of a single lever which has a fixed and limited movement for each change and avoiding what is known as "passing through the gears."

According to the present invention, two bars are pivoted so as to swing in the horizontal plane and to be capable of moving at any given angle to one another independently of each other, and at any other angle than said angle in unison with one another. Pivoted either below or above these bars is a lever which engages both of the said bars. Movement of this lever—hereinafter called the "operating lever"—in a direction corresponding to the direction of the longitudinal axis of either of the bars while imparting no movement to the said bar imparts a rocking movement to the other bar, and if the operating lever is moved in any other direction it moves both bars simultaneously. A suitably shaped guide is employed to direct the paths of the operating lever.

In the accompanying drawings which illustrate this invention:—Figures 1 & 2, Sheet No. 1, are views in side elevation and plan respectively. Figs. 3 & 4, Sheet No. 2, are views in elevation and plan respectively—on an enlarged scale—of the mechanism shown in Figs. 1 & 2, and Fig. 5 is a view in plan of the guide for the operating lever.

Throughout the views similar parts are marked with like letters of reference.

Referring to Figs. 1, 2, 3, 4 & 5. The two bars B and B^1 are mounted to rock in the horizontal plane on suitably arranged pivots D and their free ends are fitted with eyes b^2 with which the operating lever A engages, the said lever being pivoted at x in any convenient position above the two bars. To enable the one bar to be rocked on its pivot without moving the other the ends of the bars with which the lever A engages are so constructed as to permit said lever being moved in the direction of the longitudinal axis of either of the bars without transmitting any movement to the other of the two bars. A convenient method of doing this is to make the bars B and B^1 telescopic in length as shown, so that when the lever A is moved, say, in the direction of the longitudinal axis of the bar B it imparts practically no movement to said bar and at the same time causes the bar B^1 to swing on its pivot, and if said lever is moved in a direction which does not correspond with the longitudinal axis of either of the bars, such for instance as diagonally with respect to the two bars, it causes both said bars to swing on their respective pivots. The motion may be taken off the bars B and B^1 either directly or from extensions such as B^2 and B^3 as shown.

The guide for the operating lever consists of a plate C in which are slots c arranged according to the number of movements required. Figs. 2 and 5 show a guide-plate with eight radial slots for allowing eight movements of the operating lever. It will be understood that when simultaneous motion of two selective striking rods is required the direction of the path of the operating lever will not coincide with the longitudinal axis of either of the bars, and that the relative amount of movement imparted to each of the bars will depend on the angle the path of the operating lever makes with reference to the paths of the moving bars.

The operating lever is retained in its central or neutral position and in its operative positions by any suitable device, such for instance as that now commonly used in velocity ratio gears of the type to which this invention relates, viz. by spring controlled fingers carried by the gear box which engage notches in the selective striking rods.

The movements of the two bars B & B^1 are imparted to the selective striking rods of a velocity ratio gear either directly or indirectly by means of suitable coupling devices.

What I claim and desire to secure by Letters Patent of the United States is:—

1. Mechanism for operating the velocity ratio gearing of motor road vehicles comprising two bars pivoted so as to swing in the same plane, extensions of said bars sliding in fixed relation to the said bars, a pivoted op-

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erating lever engaging the free ends of the said extensions, and a slotted plate adapted to act as a guide for the operating lever as set forth.

2. In operating mechanism for velocity ratio gearing of motor road vehicles the combination of two bars pivoted so as to swing in the same plane, telescopic extensions of said bars, a pivoted operating lever engaging the free ends of said telescopic extensions, rigid extensions of said bars to transmit the movement thereof, and a slotted plate adapted to act as a guide for the operating lever as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SWINFEN BRAMLEY-MOORE.

Witnesses:
ROBERT E. PHILLIPS.
G. V. SYMES.