

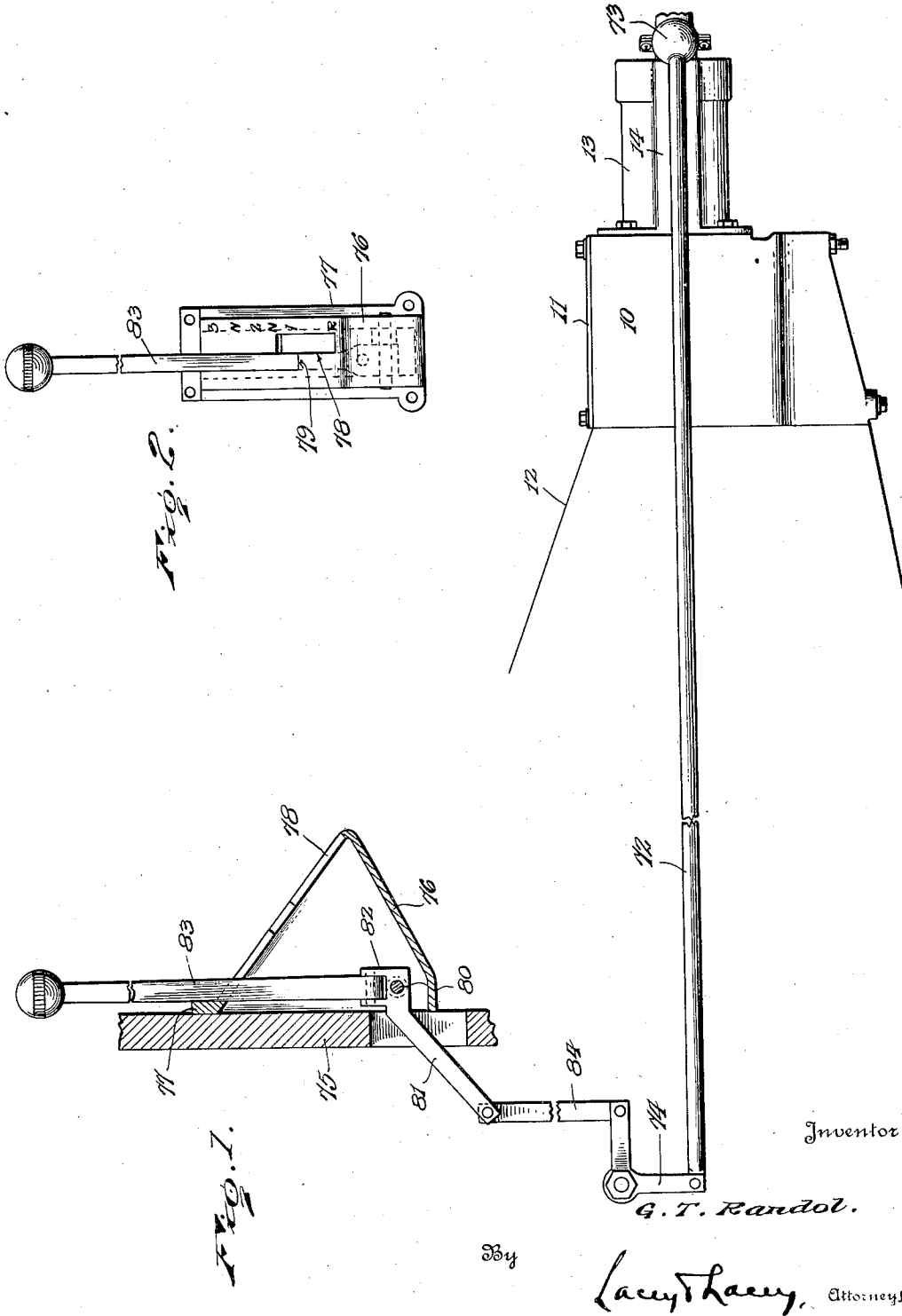
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SPEED CHANGING MECHANISM

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SPEED-CHANGING MECHANISM

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This invention relates to an improved speed changing mechanism and seeks, among other objects, to provide a mechanism wherein the control of the different speeds is placed at the finger tips of the operator and wherein the different speeds are made active directly by said control.

Other objects of the invention not specifically mentioned in the foregoing will appear during the course of the following description.

In the drawings,

Figure 1 is a view partly in elevation and partly in section showing the present mechanism in connection with a motor vehicle transmission.

Figure 2 is a detail elevation of the hand lever and supporting casing.

Referring more particularly to the drawings, I have shown: a transmission casing 10 normally closed by a cover plate 11 and extending from the forward end wall of the casing is a flange 12 which, when the transmission is installed upon a motor vehicle at the rear of the vehicle engine, is bolted, in the usual manner, to the customary flange at the rear end of the engine to provide a housing for the clutch of the vehicle. Bolted to the rear end wall of the casing is a cylindrical housing 13 provided at one side, as particularly shown in Figure 3 of the drawings, with a longitudinally extending enlargement 14.

Extending forwardly from the housing 13 is a rod 72 provided at its rear end with a socket 73 connecting the rod with a suitable shifter reciprocable within the enlargement 14 of the housing 13 for selecting the different speeds of the transmission. At its forward end the rod 72 is, as shown in Figure 1, connected to one arm of a bell crank 74. This bell crank may be mounted upon any suitably located part of the vehicle. Fixed to the steering post of the vehicle, or, if preferred, to the instrument board, as conventionally shown at 75, is a substantially triangular shaped casing 76 having base flanges 77 which are apertured to accommodate screws or other suitable fastening devices for connecting the casing with the instru-

ment board. As shown in Figure 2, the outwardly and rearwardly sloping front wall of this casing is provided with a longitudinally extending slot 78 having an offset therein which defines a shoulder 79 at the junction between the lower and upper end portions of the slot. Extending transversely of the casing through the side walls thereof is a cross pin 80 and pivoted near its inner end upon said rod is a lever 81 provided at its inner terminal with an upstanding yoke 82, it being observed that the instrument board is slotted to freely accommodate the lever therethrough. Pivoted upon the yoke 82 to rock in a plane at a right angle to the plane of movement of the lever 81, is an upstanding hand lever 83 which is freely received through the slot 78 in the front wall of the casing and preferably provided at its upper end with a ball knob. Connecting the forward end of the lever 81 with the adjacent arm of the bell crank 74 is a link 84.

As will now be seen, when the hand lever 83 is swung rearwardly in the slot 78, the rod 72 will be moved rearwardly, so that said rod is thus under the direct manual control of the hand lever. As shown in Figure 2, the front wall of the casing 76 is preferably provided with suitably located indicia indicating the proper position of the lever for the different speeds as well as the neutral positions between the first and second speeds and between second and high speeds. Since the neutral position between first speed and reverse will be little used, it is not indicated. When the lever is in its foremost position, at the forward end of the slot 78 as shown in Figure 1, the high speed is, of course, rendered active while when the lever is swung rearwardly to abut the shoulder 79 at the offset in the slot, the first speed is rendered active. A definite position of the lever is thus provided for high speed and by forming the slot with the offset therein, a definite position is provided for first speed. Furthermore, when the lever is swung rearwardly to the rear end of the slot, the reverse is rendered active so that in all, definite positions are defined for high, first and reverse, high, first and reverse being the most used. Fur-

thermore, the presence of the shoulder 79 in the slot 77 will prevent unintentional rearward movement of the lever 83 until the reverse is rendered active. However, as will be appreciated, the lever may be readily 5 rocked on the yoke 82 and thus shifted through the offset in the slot 78 so that, when desired, the lever may be easily moved to its rearmost position.

10 Having thus described the invention, what I claim is:

Speed changing mechanism including speed changing means, a substantially triangular shaped casing having spaced side 15 walls connected by an inclined front wall and provided on the side walls thereof with base flanges for attaching the casing to a support, the front wall being formed with a slot having an offset therein, a lever extending 20 into the casing and provided at its upper terminal with a yoke, a pivot pin extending between the side walls of the casing through said lever at the base of said yoke and supporting the lever for rocking movement, an 25 operative connection between said lever and said means, a second lever freely received through said slot into said yoke, and a pivot pin connecting the latter lever with said yoke and extending at a right angle to said first- 30 mentioned pin for supporting the latter lever for rocking movement in a plane at a right angle to the plane of movement of the former lever, the latter lever being shiftable in said slot for actuating said means.

35 In testimony whereof I affix my signature.
GLENN T. RANDOL.

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