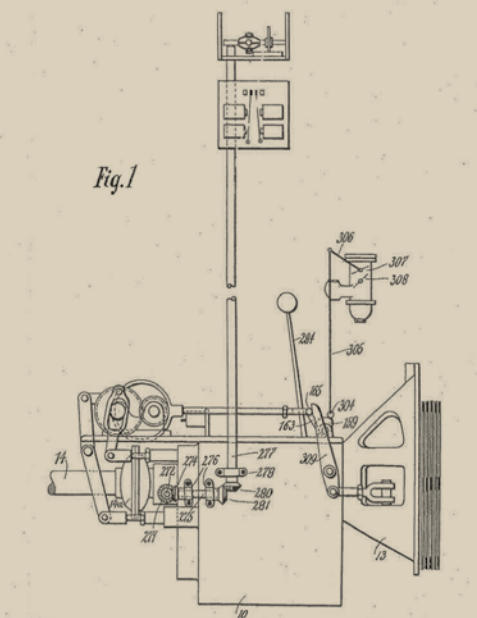


THE ORIGINS OF THE CLASSIC ERA AUTOMATIC TRANSMISSION

Background and material provided by PAUL GINSBURG

SoCal member Paul Ginsburg recently shared an interesting piece of family history, something with an automotive slant and something of interest to the CCCA members. His grandfather, while living in the Chicago area in the early 1930s sustained a leg injury that led to an automotive invention. Read on ...

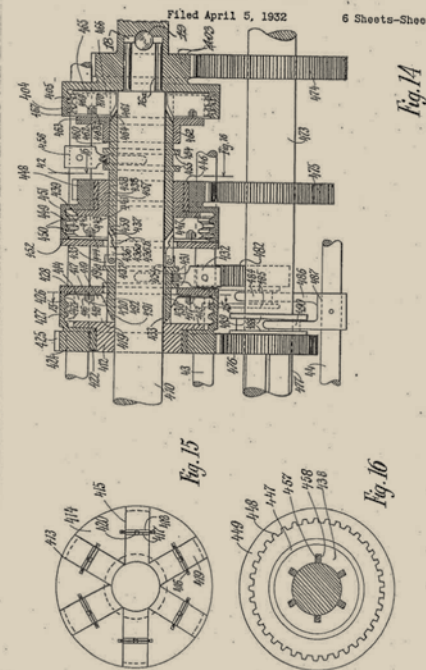
April 25, 1933. F. GINSBURG 1,905,635
GEAR SHIFTING MECHANISM
Filed April 5, 1932 6 Sheets-Sheet 1



Witnesses:
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Alfred S. Muegg

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By his Attorney:
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April 25, 1933. F. GINSBURG 1,905,635
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PATENTED
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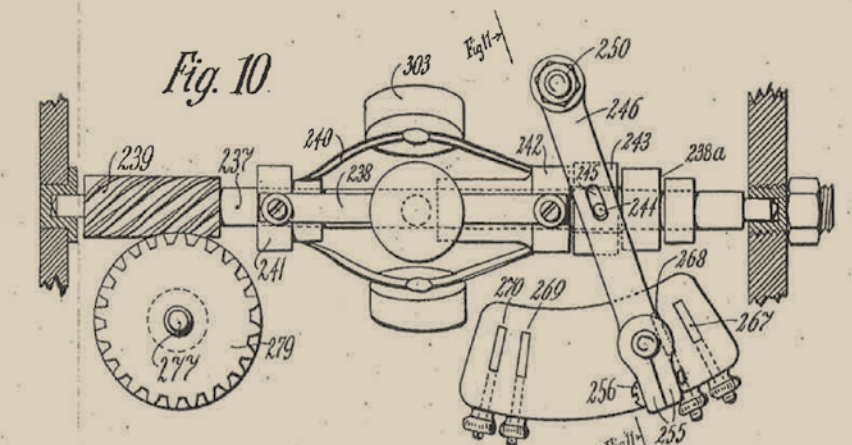


Fig. 10

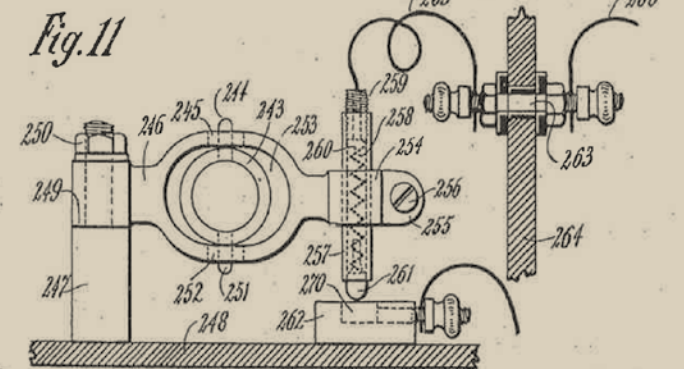
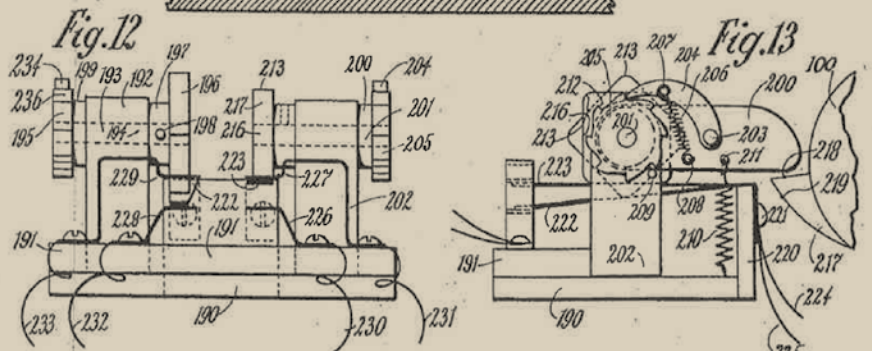


Fig. 11



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“The weakness in his left leg prompted one of his best ideas. In the early 1930s, he invented what he called a clutchless “Gear Shifting Mechanism” to obtain different speeds in the automobile—in other words, an automatic transmission. It took more than a year to design, engineer, and painstakingly build the unwieldy mechanism. He even went to night school to learn how to render mechanical drawings. He outfitted his own car with the electrically powered automobile shift, taking the three-speed gearbox out of his Hudson Terraplane. On the first test drive the transmission broke down ten blocks from home. Never one to give up, he fixed the defect and was soon proudly driving around Chicago without using his left foot. On April 5, 1932, he filed for his first patent.”

– Harvard Business School Press

Shown here and on the next page are illustrations that accompanied patent #1,905,635, with the opening text stating:

“This invention relates to a means for the shifting of driving and driven gears and has to do more particularly with a mechanical arrangement for automatically engaging and disengaging the gears for obtaining different speeds in the propulsion of a motor car.” >>>

The text of the patent is 17 pages long and the next time you see Paul, be sure to ask him about it.

UNITED STATES PATENT OFFICE

FRED GINSBURG, OF CHICAGO, ILLINOIS

GEAR SHIFTING MECHANISM

Application filed April 8, 1932. Serial No. 603,298.

This invention relates to a means for the shifting of driving and driven gears and has to do more particularly with a mechanical arrangement for automatically engaging and disengaging the gears for obtaining different speeds in the propulsion of a motor car.

Those familiar with a motor car, and especially those who have operated one, are well aware of the advantages to be gained through an automatic apparatus for efficaciously shifting speed transmission gears.

In order to shift gears into or out of operative mesh without injury thereto, it is first necessary to eliminate any driving force that otherwise might be transmitted thereto at the time of the shifting of the gears. The contemporary method of making a shift in gears is to release a clutch connecting the driving gears to the motor by means of a foot pedal. This release is anterior to actuation of a hand lever for shifting the gears. This cumbersome method of manipulating an automobile, but to which the public has become generally accustomed, requires skilled cooperative employment of one hand and both feet, for the accelerator must also be controlled. One foot is used to operate the clutch pedal, the other foot actuates the accelerator, and the one hand (generally the right) controls the gear shift lever. As one hand is engaged to manipulate the gear shift lever, one hand steering is necessary at all times when changing speed.

After a motor car has gotten under way, such gear shifting procedure must be executed twice, e. g., the shift from low to intermediate speed, and the shift from intermediate to high speed, before the car is fully under way.

Similarly, when it becomes necessary to go from a higher speed to a lower speed arrangement, the operation of gear shifting is performed in the identical cumbersome manner.

It is an object of the present invention to provide, for the transmission gears of a motor car, a mechanism adapted to simultaneously release the power from the transmission and rearrange the gears therein.

Another object of the present invention is to provide, for the transmission gears of a motor car, a mechanism for automatically and progressively shifting the gears to correspond with the rate of speed of the car.

Another object of the present invention is to provide for a motor car a gear shifting mechanism adapted to shift the gears into their consecutive arrangements from low to high corresponding to selected speeds of the car, and to make reverse shifts at a slower speed when the car is accelerating negatively than when it is accelerating positively.

Still another object of the present invention is to provide a mechanism for automatically and progressively shifting the speed transmission gears of a motor car and in which a slight manipulation admits of changing the mechanism so that the shifting occurs at a different speed.

Another object of the present invention is to provide a mechanism for automatically and progressively shifting the speed transmission gears of a motor car, the device being coactuated by the motor and the electrical storage unit in said car.

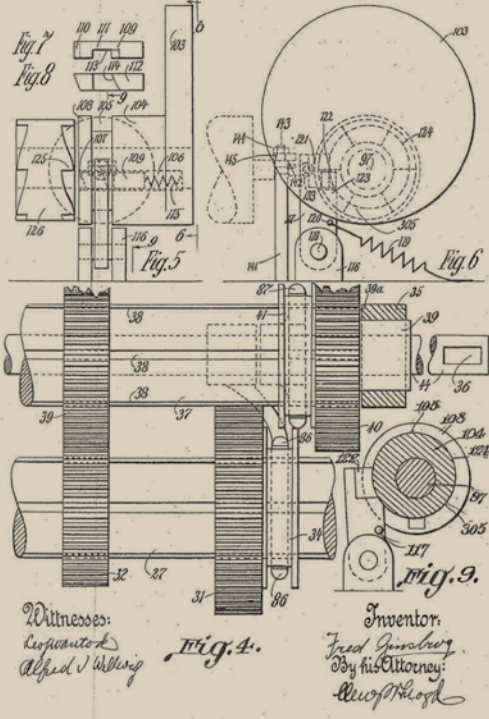
Another object of the present invention is to provide a mechanism for automatically and progressively shifting the speed transmission gears of a motor car which device is controlled by a governor depending upon the speed of the drive shaft of the car for its operation.

Another object of the present invention is to provide, for a motor car, a gear transmission box which is a slight modification from the conventional gear transmission box and which is to be employed in combination with the automatic gear shifting mechanism herein described.

Another object of the present invention is to provide in a gear transmission of a motor car a gear train connecting the driving parts to the driven parts, the gears being constantly in mesh and made operative or inoperative by the coupling and uncoupling of one of said gears from the driven part.

Still another object of the present invention is to provide a means whereby the relative speeds of driving and driven elements in a motor car transmission may be changed in

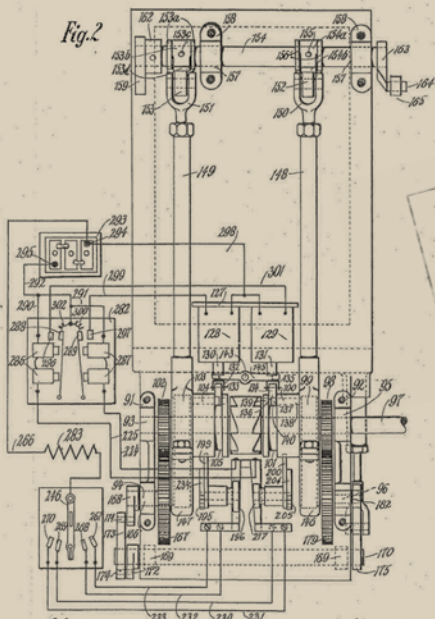
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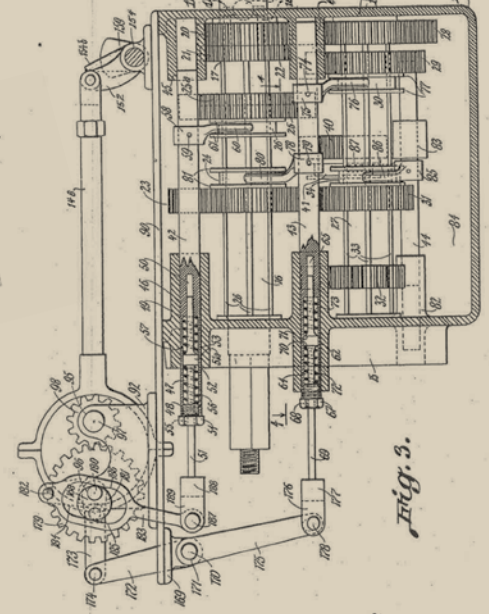


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PATENTED
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