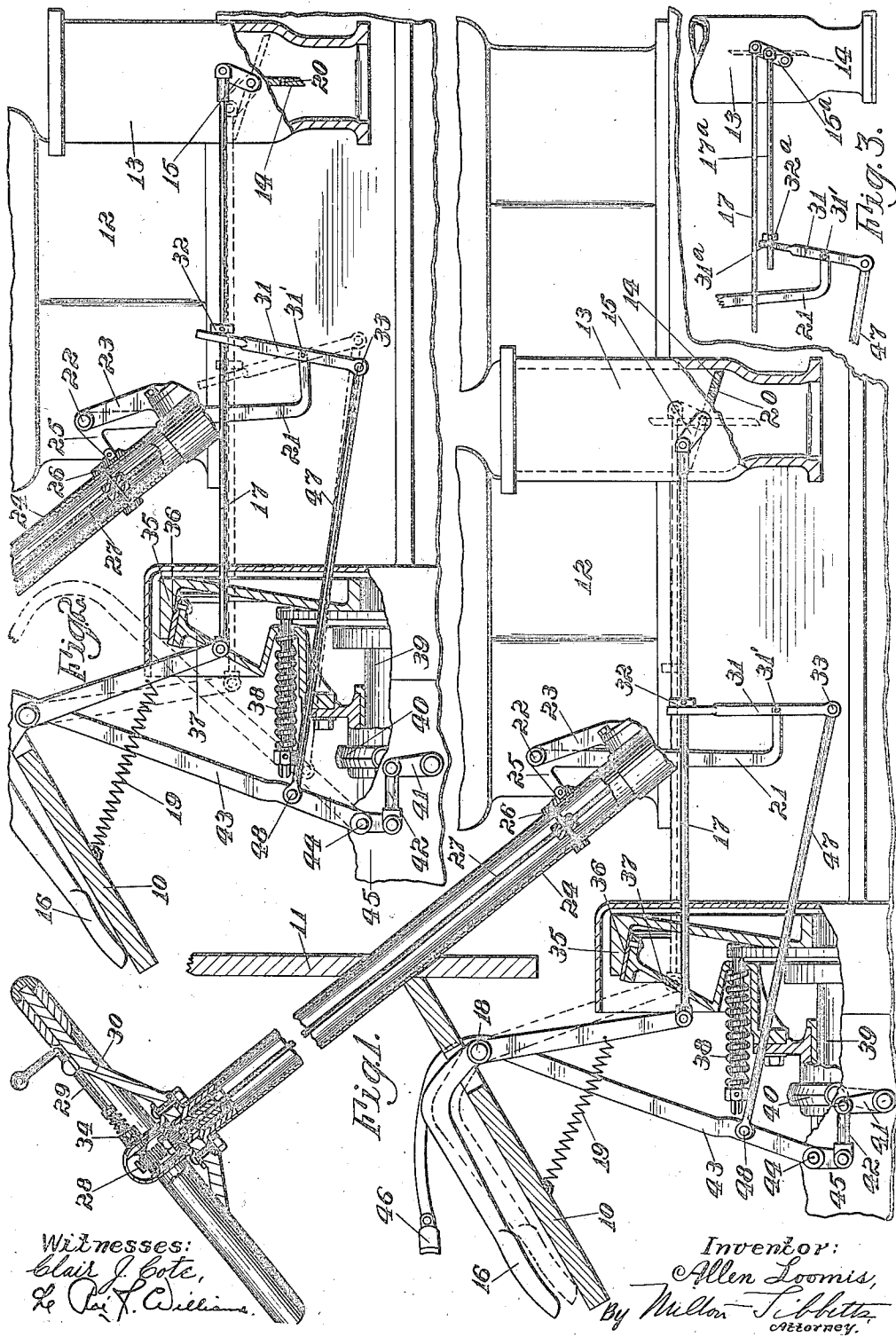


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MOTOR VEHICLE.

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ALLEN LOOMIS, OF DETROIT, MICHIGAN, ASSIGNOR TO PACKARD MOTOR CAR COMPANY,
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MOTOR-VEHICLE.

1,247,299.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALLEN LOOMIS, a citizen of the United States, and resident of Detroit, Wayne county, State of Michigan, have invented certain new and useful Improvements in Motor-Vehicles, of which the following is a specification.

This invention relates to motor vehicles, and particularly to the motor control mechanism thereof.

One of the objects of the invention is to provide a motor control mechanism that will insure the closing of the throttle valve of the motor whenever the clutch is released or thrown out. This and other objects of the invention will appear from the following description taken in connection with the drawings which form a part of this specification, and in which—

Figure 1 is a side elevation and part sectional view of a motor vehicle embodying this invention.

Fig. 2 is a view similar to Fig. 1 with parts in different positions, and

Fig. 3 is a detailed view of a slightly different form of mechanism from that illustrated in Figs. 1 and 2.

Referring to the drawings, the motor vehicle floor board and dash are illustrated at 10 and 11 respectively, and the motor, which is preferably of the hydro-carbon type, is indicated at 12 as mounted forward of the dash in the usual way. The motor intake pipe is shown at 13 and it is provided with the usual throttle valve 14, the one shown being of the butterfly form. This valve is operated by an arm 15, which is directly and positively connected with the accelerator pedal 16 through a link 17. The accelerator pedal 16 is shown as pivotally mounted at 18 on the floor board 10. It is understood that this accelerator pedal or lever 16 is the means normally used for controlling the throttle valve 14, and it is operated by the foot of the driver in the well-known manner. A spring 19 arranged between the lever 16 and the floor board 10 acts as a retracting means for the throttle valve 14 to maintain the latter in closed position. It will be understood that the throttle valve 14 is provided with a small bypass or opening 20 through which a very small amount of mixture may pass when the throttle valve is closed for running the motor idle or without load. It is desirable therefore that the

throttle should always be in closed position when the motor is to be run without load.

In addition to the accelerator pedal hereinabove described, it is desirable to have a hand control for the throttle valve. In this invention, this is provided for in the lever 21, which is pivotally mounted at 22 on a bracket 23 at the lower end of the steering column 24. The lever 21 is provided with an arm 25 which is operated by a sleeve 26, rod 27, gears 28 and rock shaft 29, the latter being mounted for operation by the driver on the steering wheel 30. Thus it will be seen that the movement of the rock shaft 29 will be conveyed through the mechanism above described to the lever 21 for oscillating the latter.

Pivotally mounted upon the lever 21 is a floating link or lever 31, which has a part arranged in the path of movement of a stop 32 mounted upon the connecting rod or link 17.

From the above, it will be seen that if the lower end 33 of the floating link 31 is held stationary, the rod 17 and consequently the throttle valve 14 may be moved by the lever 21 through the mechanism above described operated by the rock shaft 29. It will be understood further that the throttle 14 may be set in any desired position by the rock shaft 29 and may then be temporarily shifted therefrom to a more open position by means of the accelerator pedal 16, and upon the release of the latter, the throttle valve will return to the position in which it was set by the rock shaft 29. That is, the part of the floating link 31, which is arranged in the path of travel of the stop 32, acts as a limiting means for the throttle valve and prevents it from being retracted by the spring 19 beyond a predetermined point. The rock shaft 29 may be yieldingly held in set position by means of a spring-pressed collar 34 as shown in the drawings. The motor 12 has a fly-wheel 35 having an interior clutch face 36, and a movable clutch member 37 is adapted to coöperate with the face 36 for the purpose of connecting the driven shaft of the vehicle with the motor. The clutch is held in engaging position yieldingly by a spring 38 or several of such springs arranged in series symmetrically around the driven shaft 39, and a collar 40 is adapted to move the clutch part 37 against the tension of the spring 38 to thereby release the

clutch from engagement with the fly-wheel 35. The sleeve 40 is shifted by means of an arm 41, link 42 and pedal lever 43, which latter is pivoted at 44 to an extension 45 of the base or supporting portion of the motor 12. The pedal lever 43 extends through the floor board 10 and is provided with a foot pad 46 for convenient operation by the driver.

10 A connection between the lever 43 and the floating link 31, or between some other part of the clutch and said link, is provided in the form of a connecting rod 47, being shown as pivoted to the lever 43 at 48 and to the floating link 31 at its lower end 33. In Fig. 1 the clutch is shown as in normal or engaging position, and so long as it is in this position the point 33 remains stationary and the throttle valve 14 is controlled by the accelerator pedal and hand operated rock shaft 29 as hereinabove described. But if the throttle valve is opened by means of the hand controlled lever 21 as shown in full lines in Fig. 2, then when the clutch is thrown out or disengaged, the clutch lever 43 will take the position shown in dotted lines in Fig. 2 and the floating link 31 will be moved on its intermediate pivot 31' and its upper end will permit the spring 19 to retract the rod 17 and consequently the throttle 14, and close the latter. Thus if the clutch is suddenly thrown out, the throttle valve will be quickly closed and the motor prevented from racing, and thereby doing damage to itself. Of course, if the throttle valve 14 is already closed when the clutch is thrown out or disengaged, the floating link 31 will simply be further withdrawn from its position adjacent the stop 32 and it will operate idly.

Referring to the form shown in Fig. 3, it is evident that instead of having the stop 32 mounted on the rod 17 as in Figs. 1 and 2, the stop 32^A in said Fig. 3 may be mounted on a separate rod 17^A, which is connected to the arm 15^A of the throttle valve 14 and is adapted to slide in an opening 31^A formed in the floating link 31. The mechanism operates exactly the same as in that shown in Figs. 1 and 2.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a motor vehicle, the combination with a motor having a throttling device, of hand and foot controls therefor, a pedal lever for operating another part of the vehicle, and connections from said lever to one of said controls.

2. In a motor vehicle, the combination with a motor having a throttling device, of hand and foot controls therefor, a pedal lever for operating the vehicle clutch, and connections from said lever to one of said controls.

3. In a motor vehicle, the combination with a motor having a throttling device, of a direct connected pedal lever for controlling said device, a hand operated lever and connections for controlling said device, and a clutch pedal connected to said connections.

4. In a motor vehicle, the combination with a motor having a device to be controlled, of a pedal lever connected to control the same, a hand operated lever, a floating link mounted on said hand operated lever and connected to control said device, and another lever under the control of the operator, and connected to said floating link.

5. In a motor vehicle, the combination with a motor having a device to be controlled, of three levers independently operable by the vehicle driver, one of said levers having a positive controlling connection with said device, a floating link having a controlling connection with said device, and said other two levers having a connection with said floating link.

6. In a motor vehicle, the combination with the motor throttle valve, and a manually operated device for setting said valve in any desired position from open to closed, of a clutch and operating lever therefor, and means between said lever and said throttle whereby the throttle is closed as the clutch is released regardless of the position of the manually operated device, and is returned to its former position as the clutch is reengaged.

7. In a motor vehicle, the combination with the motor throttle valve, and a manually operated device for setting said valve in any desired position from open to closed, said device including a floating lever, of a clutch and operating lever therefor, and means connecting said lever with said floating lever.

8. In a motor vehicle, the combination with the motor throttle valve, of an accelerator pedal connected to positively open said valve, a spring retracting said valve, a hand controlled lever having means adapted to limit the retracted position of the valve, a clutch pedal, and means operated by said clutch pedal for changing the adjustment of said limiting means.

9. In a motor vehicle, the combination with the motor throttle valve, of an accelerator pedal connected to positively open said valve, a spring retracting said valve, a hand controlled lever having means adapted to limit the retracted position of the valve, a clutch pedal, and a link connecting the clutch pedal with said limiting means to thereby change the adjustment of the limiting means as the clutch is operated.

10. In a motor vehicle, the combination with the motor throttle valve, of an accelerator pedal connected to positively open said valve, a spring retracting said valve, a hand

controlled lever having a floating link pivoted thereto and adapted to limit the retracting position of the valve, a clutch pedal, and a positive connection from said clutch pedal to said floating link, whereby the operation of the clutch changes the adjustment of the floating link and consequently the retracted position of the throttle valve.

10 11. In a motor vehicle, the combination with the motor throttle valve, an accelerator pedal, and a link connecting said pedal and valve, said link having a stop thereon, of a lever having a floating link pivoted thereto, manually operated connections for said lever, a clutch having an operating lever therefor, and a link connecting said clutch lever with said floating link, said floating link having a part arranged in the path of
15 said stop whereby it is adapted to control the position of said stop through actuation

of either the manually operated or the clutch lever.

12. In a motor vehicle, the combination with a motor throttle valve, yielding means normally tending to close said valve, means for limiting such closing movement, and a manually operated device for setting such means in any desired position, of a clutch and operating lever therefor, and means between said lever and said throttle valve operable regardless of the position of the limiting means for shifting the latter and permitting said throttle closing means to operate.

In testimony whereof I affix my signature in the presence of two witnesses.

ALLEN LOOMIS.

Witnesses:

LE ROI J. WILLIAMS,
CLAIR J. COTE.