

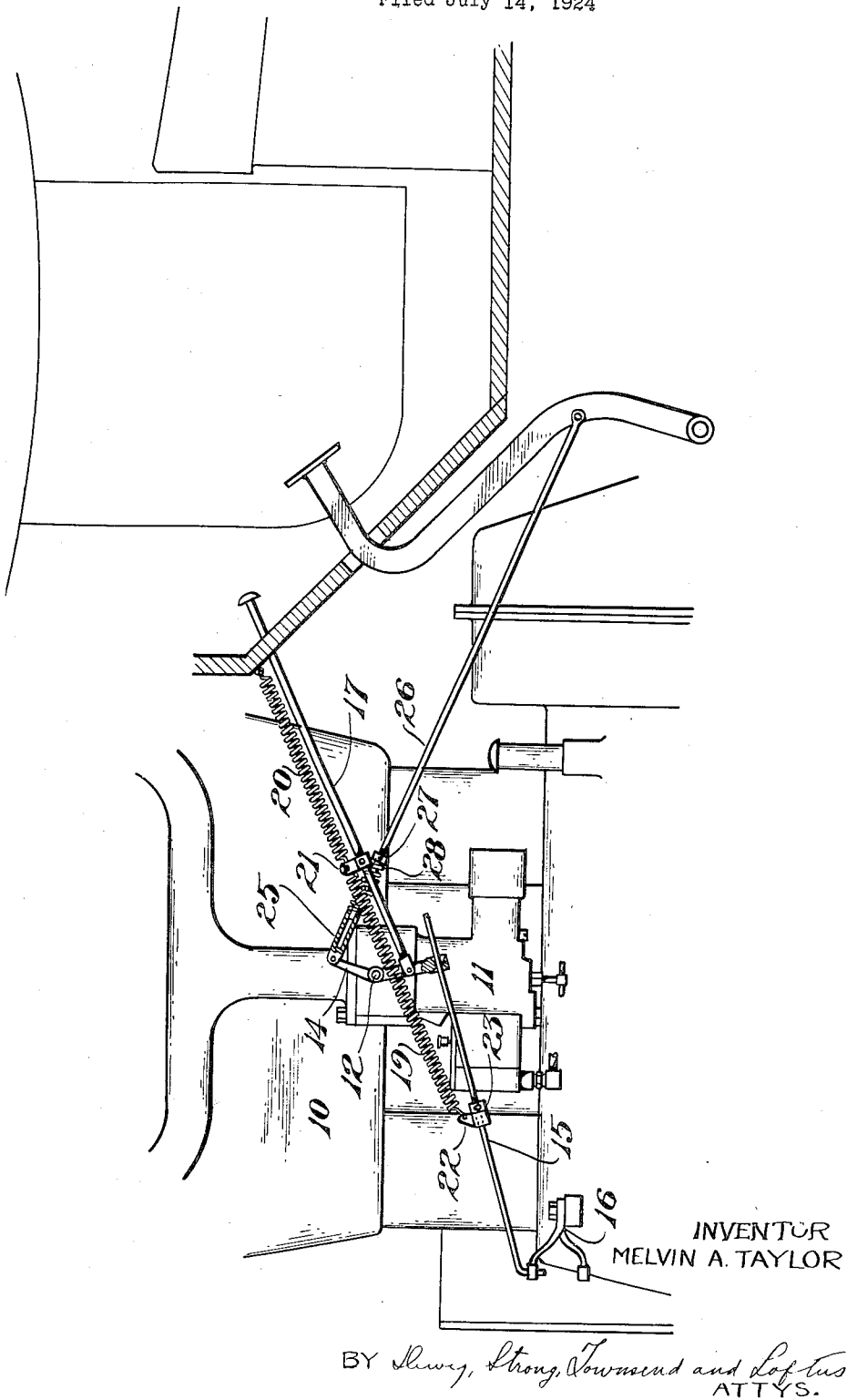
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M. A. TAYLOR

FOOT BRAKE THROTTLE CONTROL

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FOOT-BRAKE THROTTLE CONTROL.

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To all whom it may concern:

Be it known that I, MELVIN A. TAYLOR, a citizen of the United States, residing at Oakland, county of Alameda, and State of California, have invented new and useful Improvements in Foot-Brake Throttle Controls, of which the following is a specification.

This invention relates to throttle control mechanism for automobiles.

It is the principal object of the present invention to generally improve devices of the character referred to, whereby to provide an efficient throttle controlling mechanism for automobiles, which will render the vehicle easier to control than heretofore, and will insure smoothness of operation of the motor.

In carrying out this object the throttle valve is controlled through the medium of springs in opposition and under tension, so as to prevent vibration and minor shocks from being transmitted to the throttle valve. This insures smooth operation of the motor. The mechanism also includes a connection between the brake lever and the throttle valve. This connection is designed to close the throttle upon movement of the brake lever and prior to setting the brakes of the vehicle.

By my invention several advantageous results are obtained, namely, reducing the number of operations to control the machine, evenness of speed obtained by preventing vibration of the car from being transmitted to the throttle lever, and ease of operation of the gear shifting mechanism.

One form of which the invention may assume is exemplified in the following description and illustrated by way of example in the accompanying drawing in which:

The figure is a schematic view of a portion of the mechanism of an automobile, disclosing my improved throttle controlling mechanism arranged thereon.

Referring more particularly to the accompanying drawings, 10 indicates an internal combustion motor of an automotive vehicle. This motor is shown as equipped with a carbureter 11, the throat of which is connected with the intake manifold of the motor and controlled by a butterfly valve secured on a pivot shaft 12. At the exterior of the carbureter this pivot shaft

is fitted with a throttle lever 14 which may be operated to control the position of the throttle valve and thereby regulate the amount of fuel admitted to the intake manifold of the motor. The lower end of the throttle lever 14 is connected with the rear end of a push rod 15. The forward end of this rod is connected to one arm of a bell crank lever 16. The other arm of this bell crank lever 16 is operatively connected with the usual gas control lever on the steering wheel of the vehicle through the usual mechanism. As this mechanism and gas control lever are standard on practically all automobiles for the sake of simplicity they are not illustrated.

The push rod 15 is slidable in the end of the throttle lever 14 as this connection serves only as a support for the end of the push rod 15.

I have provided a mechanism for preventing all vibration and minor road shocks from being transmitted to the throttle lever 14. This mechanism includes a pair of tension springs 19 and 20, the adjacent ends of which are connected with a collar 21 which is fixed on a foot accelerator rod 17. The rod 17 is connected to the lower end of the throttle lever 14 and extends up through the foot boards of the vehicle so that it may be depressed to open the throttle valve and feed the desired amount of gas to the intake manifold of the motor. The spring 19 extends from the collar 21 to a slip collar 22 mounted on the push rod 15. This collar 22 is adapted to bear against a set collar 23 fixed on the rod 15. The collar 23 as shown in the drawings is positioned on the rod 15 to maintain the spring 19 under tension. By adjusting the position of the collar 23 the tension of the spring 19 may be regulated.

The spring 20 extends from the collar 21 to a fixed point on the vehicle frame. This spring is also maintained under tension greater than that of the spring 19 so that it will constantly tend to maintain the throttle closed, except when the gas lever on the steering wheel of the vehicle is moved to place the throttle valve in open position. It is seen that when this is done both the springs 19 and 20 will be placed under tension and act as a resilient connection between the push rod 15 and the throttle lever, so as to absorb all vibration of the car and minor road shocks, and prevent them

from being transmitted to the throttle lever 14. This is advantageous as an even speed will be obtained, due to the fact that an even amount of gas will be fed to the intake manifold from the carbureter.

For closing the throttle I have provided a connection between the upper end of the throttle lever 14 and the foot brake pedal of the automobile. This connection comprises a sleeve 25 which is pivoted at one end to the upper end of the throttle lever. The end of a push rod 26 is telescoped within the sleeve 25. The other end of this rod is pivotally attached to the foot brake pedal. A set collar 27 is fixed on the push rod 26 and a compression spring 28 is interposed between this set collar and the end of the sleeve 25. This spring is of sufficient tension to impart the first movement of the foot pedal to the throttle lever 14 to close the throttle valve. When the throttle valve has been closed further movement of the foot brake pedal will merely compress the spring 28 and will not affect the position of the throttle lever 14, but will set the brakes.

From the foregoing description of the mechanism it is believed obvious that the control of the motor of the vehicle on which it is mounted may be efficiently effected through the gas control lever on the steering wheel and the foot brake. Such operation would be as follows:

For the purpose of illustration it will be assumed that the driver of the car wishes to travel at an even speed of twenty miles an hour. After starting the car at a slower speed the gas control lever on the steering wheel is moved to feed sufficient gas to the motor so that the latter will drive the car at the given speed. When driving at this speed or any other speed the springs 19 and 20 will serve to absorb any shocks or vibration and prevent them from being transmitted to the throttle lever 14. By this means an even flow of gas will be delivered from the carbureter to the intake manifold of the motor and will cause smooth running of the latter and insure even speed of the vehicle.

Should it be desired to go faster than the given speed without changing the position of the hand control lever, the foot accelerator rod may be depressed to further open the throttle valve. When the foot accelerator is released the car will again assume the given speed of twenty miles an hour, or the speed for which the hand control lever is set.

If the driver is desirous of turning a corner, shift gears, or for any other reason wishes to arrest the motion of the car, he merely depresses the foot brake pedal. This operation through the rod 26 and the spring thereon will move the throttle lever 14 to close the throttle valve. If he desires to

stop the car he further depresses the foot brake pedal to set the brakes.

After stopping, if the car is again to be set into motion, the proper gear reduction is selected and the clutch and brake pedal are released simultaneously. The car will then gradually accelerate to the speed desired, which it will maintain unless the foot accelerator is operated to accelerate it momentarily for maneuvering the car, or for any other purpose.

Among the advantages obtained by my improved throttle control are ease of speed control, saving in gasoline by preventing vibration and minor road shocks from being imparted to the throttle valve, and even speed when the car is in motion. Also it minimizes the operations necessary to the control of a car; for instance, when stopping the driver does not have to shift his foot from the accelerator pedal to the foot brake pedal. It is only necessary to keep his foot in close proximity to the brake pedal, and when desiring to bring the car to a stop he merely depresses the clutch and brake pedal simultaneously.

It will be understood that various other arrangements of mechanism may be substituted for that which I have shown and described, without departing from the spirit of the invention as set forth in the appended claims.

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

1. In combination with a brake pedal lever and the throttle valve of an automobile, a control lever for operating said throttle valve, a push rod pivotally connected at one end to the brake lever, a sleeve pivotally connected at one end to the control lever, and slidably receiving the other end of the push rod, an abutment on the push rod, and a compression spring interposed between said abutment and the sleeve whereby initial movement of the brake lever will close the throttle valve through the push rod spring and sleeve, and further movement of the brake lever will set the brakes of the vehicle without affecting the throttle valve.

2. A throttle control mechanism for an automobile having a throttle valve, a throttle lever for operating said throttle valve, an axially movable member for operating said throttle lever, and a pair of springs under tension connected at adjacent ends to said axially movable member and set in opposition to each other to absorb vibration and shocks transmitted to said axially movable member.

3. A throttle control mechanism for automobiles including a lever for controlling the throttle valve, a movable member connected with said control lever for operating the throttle valve from a remote point, said

member moving in substantially an axial path and adapted to reciprocate to open and close the throttle valve, a pair of springs under tension connected at their adjacent ends to said movable member, and being disposed substantially parallel thereto and connected at their other ends to substantially fixed points in opposition to each other, whereby they will yieldingly resist movement of the movable member in either direction, and will act to absorb vibration and minor shocks imparted to said movable member and to the control lever.

4. A throttle control mechanism for automobiles, including a fulcrum lever for controlling the throttle valve of the automobile, a push rod slidably connected at one end to one end of said control lever, the other end of said push rod being connected with an inclined gas control lever of the automobile, a foot accelerator rod slidably connected at its lower end to said control lever at a point adjacent the push rod, a pair of tension springs under tension attached at their adjacent ends to said foot accelerator rod and placed in opposition to each other, one of said springs being connected with said push rod and the other with a stationary point on the automobile, whereby movement of said push rod will be transmitted through the medium of said springs and said accelerator rod to said control lever, the movement of said foot accelerator rod being resisted by said springs whereby vibration and minor shocks transmitted to said accelerator rod will be absorbed by said springs.

5. A throttle control mechanism for automobiles, including a fulcrum lever for controlling the throttle valve of the automobile, a push rod slidably connected at one end to one end of said control lever, the other end of said push rod being connected with an inclined gas control lever of the automobile, a foot accelerator rod slidably connected at its lower end to said control lever at a point adjacent the push rod, a pair of tension springs under tension attached at their adjacent ends to said foot accelerator rod and placed in opposition to each other, one of said

springs being connected with said push rod and the other with a stationary point on the automobile, whereby movement of said push rod will be transmitted through the medium of said springs and said accelerator rod to said control lever, the movement of said foot accelerator rod being resisted by said springs, whereby vibration and minor shocks transmitted to said accelerator rod will be absorbed by said springs, and a connection between the other end of the control lever and the brake lever of the automobile, whereby initial movement of said brake lever in one direction will close said throttle valve.

6. A throttle control mechanism for automobiles, including a fulcrum lever for controlling the throttle valve of the automobile, a push rod slidably connected at one end to one end of said control lever, the other end of said push rod being connected with an inclined gas control lever of the automobile, a foot accelerator rod slidably connected at its lower end to said control lever at a point adjacent the push rod, a pair of tension springs under tension attached at their adjacent ends to said foot accelerator rod and placed in opposition to each other, one of said springs being connected with said push rod and the other with a stationary point on the automobile whereby movement of said push rod will be transmitted through the medium of said springs and said accelerator rod to said control lever, the movement of said foot accelerator rod being resisted by said springs whereby vibration and minor shocks transmitted to said accelerator rod will be absorbed by said springs, and a connection between the other end of the control lever and the brake lever of the automobile, whereby the initial movement of said brake lever in one direction will close said throttle valve, said connection comprising a push rod pivotally attached at one end to said brake lever and slidably connected with the control lever at the other end, an abutment on the push rod, and a compression spring interposed between said control lever and said abutment.

MELVIN A. TAYLOR.