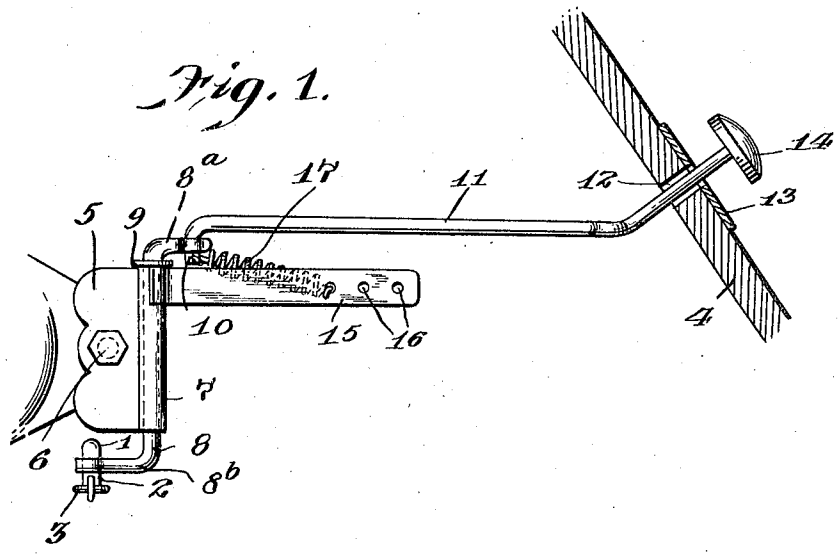
Jan. 13, 1925. 1,523,176

D. CUBBAGE

FOOT ACCELERATOR FOR MOTOR VEHICLES

Filed Nov. 8, 1923

Fig. 1.



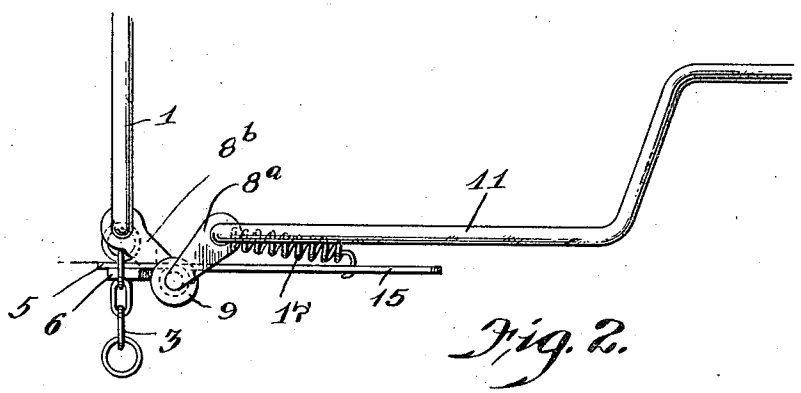


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

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FOOT ACCELERATOR FOR MOTOR VEHICLES.

Application filed November 8, 1923. Serial No. 673,522.

To all whom it may concern:

Be it known that I, DACIL CUBBAGE, a citizen of the United States, and resident of Oxford Junction, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Foot Accelerators for Motor Vehicles, of which the following is a specification.

The invention relates to improvements in accelerators of the type which is adapted when actuated by foot pressure to transmit motion through a bell crank to a rod which is connected with the carbureter of the motor vehicle for the purpose of operating the fuel control means of the carbureter so that the supply of fuel permitted to pass through the carbureter to the cylinders of the engine will be increased, whereby the speed of the engine and of the motor vehicle will be correspondingly increased.

An object of the invention is to provide an accelerator of the character described which is of simplified construction and is adapted to be readily and easily secured in position to actuate the carburetor actuating rod of a motor vehicle of a well known type of construction without any changes being required in the usual carburetor control mechanism of the motor vehicle and without interfering with the operation of the usual carburetor control mechanism of the motor vehicle in an ordinary manner.

A further object of the invention is to provide an accelerator of the character described which is constructed in such manner that a lubricant can be supplied conveniently and easily to the relatively moving parts of the bell crank and the support therefor.

A still further object of the invention is to provide an accelerator of the character described which is adapted to be operated with but relatively little wear on the moving parts thereof and which is not likely to get out of order easily in service.

A further object is to provide an accelerator of the character described which includes spring means tending to return the accelerator to neutral position when foot pressure has been removed therefrom, and means whereby the tension on the spring may be varied to vary the resistance which will be opposed to foot pressure on the accelerator.

Other objects and advantages will be apparent from the following description, considered in conjunction with the accompanying drawings, in which—

Figure 1 is a view showing an accelerator embodying the invention in association with a carburetor actuating rod and the floor board of a motor vehicle, the accelerator being shown in side elevation and a fragmentary portion of the floor board being shown in vertical section.

Figure 2 is a fragmentary plan view of the accelerator and of the carburetor actuating rod.

In the drawings, the numeral 1 designates a rod which is an ordinary part of a motor vehicle of a well known type of construction and is adapted at one end for connection with the usual means of the carburetor for controlling the flow of fuel through the carburetor to the cylinders of the engine of the motor vehicle. The rod 1 will be hereinafter referred to as the carburetor actuating rod.

The rod 1 is provided at its other end with a downwardly turned portion 2 to which one end of a transmission member, such as the chain 3 is attached. The chain 3 is adapted for connection with the usual hand lever (not shown) which ordinarily is supported on a motor vehicle of the type referred to in position to be conveniently operated by the operator of the vehicle for the purpose of transmitting motion to the rod 1.

The numeral 4 designates a portion of the floor board of the vehicle. The parts described so far are ordinary in construction and form no part of my invention except in so far as they cooperate with the parts which will now be described.

In carrying out the invention, I provide a supporting plate 5 having an opening 6 formed therethrough for the reception of a bolt for securing the plate 5 to a convenient support which in actual practice will be a portion of the engine block. The plate 5 has one vertical edge portion thereof bent to provide a vertical bearing sleeve 7 for the shaft portion 8 of a bell-crank. The upper arm of the bell crank, indicated at 8^a, is supported in slightly spaced relation to the plane of the upper end of the bearing sleeve 7 through the agency of a bearing or stop washer 9 which is secured on the shaft of the bell crank adjacent to the juncture of the shaft 8 and upper arm 8^a and which

rests upon the upper end of the tubular bearing 7. The shaft 8 of the bell crank is of greater length than the bearing 7 so that the upper arm of the bell crank may be grasped and the bell crank moved vertically upward in the bearing 7 from the position illustrated in the drawings until the bearing washer 9 has been lifted above the upper end of the bearing 7 a distance sufficient to permit of the introduction of a suitable lubricant between the shaft of the bell crank and the inner wall of the bearing 7 at the upper end of the latter. The lower arm of the bell crank, indicated at 8^b, has the outer end portion thereof flattened and apertured as best seen in Figure 2 to pivotally receive the downturned end portion 2 of the carburetor actuating rod 1, it of course being understood that such downturned end portion of the carburetor actuating rod is projected through the aperture in the arm 8^b before the chain 3 has been engaged with the portion 2 of the carburetor actuating rod.

The upper arm 8^a of the bell crank is provided with a vertical opening in the outer end portion thereof for the reception of the downwardly turned inner end portion of a pedal push rod 11. The pedal push rod 11 extends loosely through an opening 12 in the floor plate 4 and through an opening in a metal escutcheon 13 which is secured to the outer face of the floor plate and is provided at its outer end with a pedal plate 14. The connection of the pedal push rod 11 with the upper arm 8^a of the bell crank is pivotal and the pedal push rod is of such shape that the resultant movement thereof when pressure is applied against the pedal plate 14 will cause the bell crank to be rocked about the axis of the shaft portion thereof. The rocking of the bell crank will of course cause movement of the carburetor actuating rod 1 in the general direction of its length. An arm 15 which preferably lies in the plane of the plate 5 extends outwardly from the upper end of the bearing 7 and may be secured to the plate 5 or to the bearing 7 in any suitable known manner, as by welding. The arm 15 has the outer end portion thereof provided with a series of openings extending longitudinally of the arm. A retractile spring 17 is adapted at its outer end to be detachably engaged in any one of the openings and is attached at its inner end to the extremity of the downwardly turned portion 10 of the pedal push rod. The spring 17 is placed under increased tension when the bell crank is rocked about its axis as a result of inward movement of the pedal push rod and therefore will function to return the bell crank to initial position as soon as the pressure which causes inward movement of the pedal push rod has been removed. The spring 17 also serves to prevent displacement of the downwardly turned end portion 10 of the pedal push rod from engagement with the opening in the upper arm 8^a of the bell crank and tends to resist inward movement of the pedal push rod. The resistance to inward movement of the push rod may be varied by connecting the spring 17 to the various openings 16 selectively.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The device is not likely to get out of order easily and provides a conveniently operable and efficient means for transmitting motion from the foot of the operator of the motor vehicle which is equipped with the device to the carburetor actuating rod of the motor vehicle. When the foot pressure has been removed, the relatively moving parts of the device and therefore the carburetor actuating rod are returned to initial position and are yieldingly held in initial position. The device does not prevent the actuation of the carburetor actuating rod 1 through the agency of the usual hand control lever of the vehicle in the usual manner.

Obviously, my invention is susceptible of embodiment in forms other than that illustrated in the accompanying drawings and I therefore consider as my own all such modifications and adaptations of the form of the device herein described as fairly fall within the scope of the appended claims.

I claim:—

1. A device of the character described comprising a plate having an attaching portion formed at one end to provide a vertically disposed tubular bearing, a bell crank having the shaft portion thereof rotatably and slidably received in said bearing, said bell crank being adapted at its lower end for connection with an axially movable element, a bearing washer carried by the shaft portions of the bell crank for engagement with the upper end of said tubular bearing to limit the axial movement of the bell crank shaft downwardly in the bearing, a pedal push rod pivotally connected at one end to the upper end of said bell crank, an arm carried by said plate and extending in the plane of the latter, said arm having a series of openings formed therein to extend longitudinally thereof, and a retractile spring adjustably engageable at one end with said series of openings and attached at its other end to said end of said push rod.

2. In a device of the character described comprising an attaching plate having a vertically disposed tubular bearing at one end thereof, a bell crank having a shaft portion journalled in the bearing and having a laterally extending arm at the upper end thereof, said laterally extending arm having a flattened outer end portion provided with

a vertical aperture, a push rod having a downturned end portion extending loosely through said vertical aperture, an arm carried by said attaching plate in position to extend laterally of the upper end of the bearing and in the plane of the attaching plate, a retractile spring attached at one end to the outer end portion of said last named arm and at its other end to the extremity of said downturned end portion of the push rod, as and for the purpose described.

DACIL CUBBAGE.