Feb. 23, 1943. W. A. COUTCHER 2,312,031

AUTOMATIC ACCELERATOR CONTROL

Filed Sept. 25, 1941

Fig. 1.

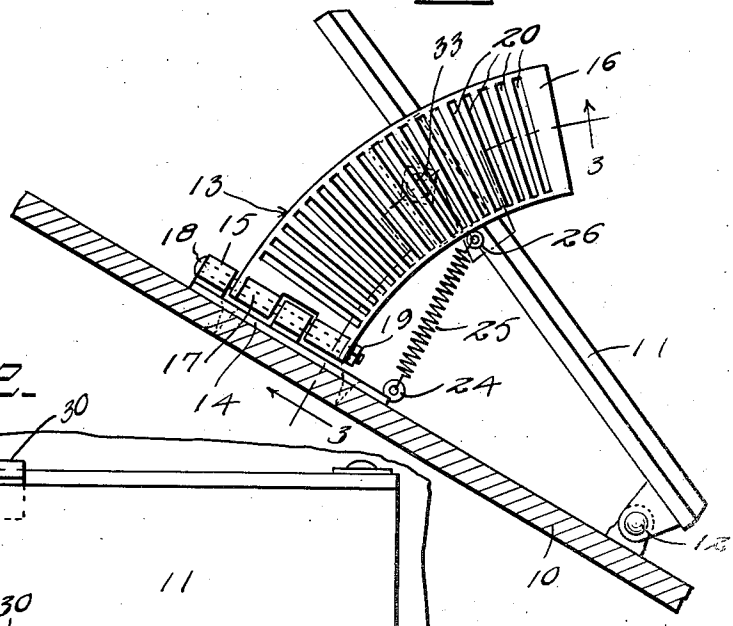


Fig. 2.

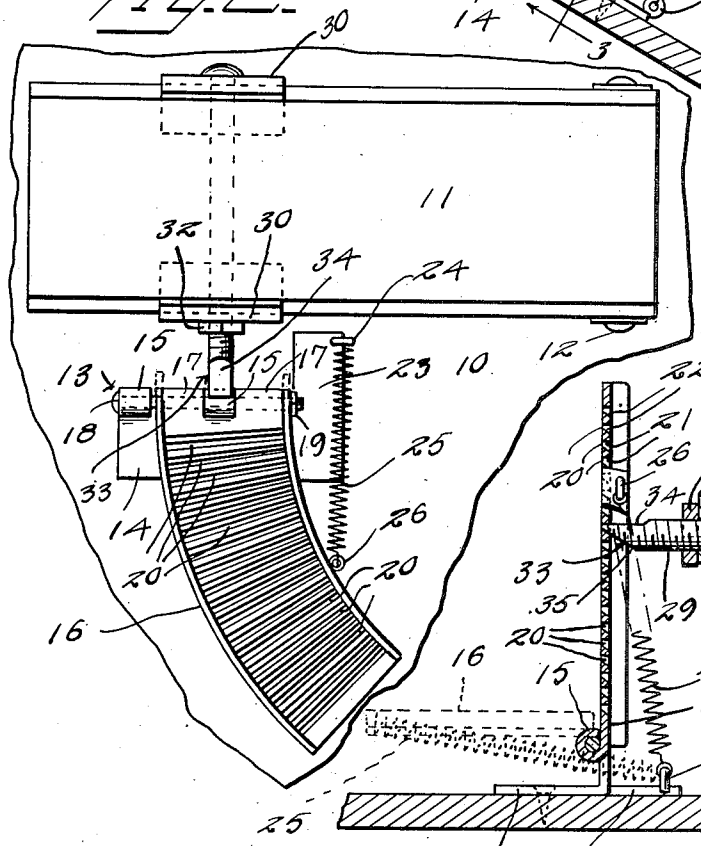
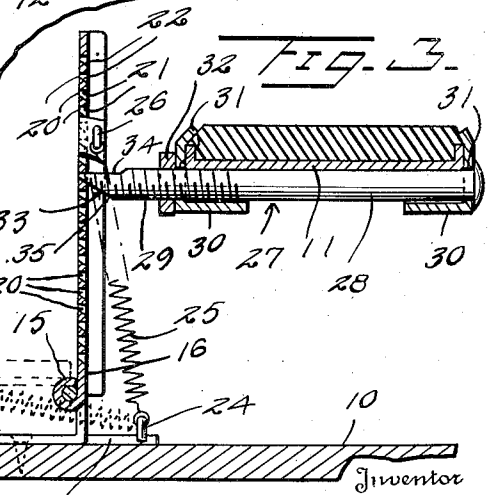


Fig. 3.



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AUTOMATIC ACCELERATOR CONTROL

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Application September 25, 1941, Serial No. 412,326

1 Claim. (Cl. 74—513)

This invention relates to a control attachment for accelerators or throttles which control the flow of fuel to engines, and more particularly to a control attachment for holding an accelerator or throttle in a plurality of depressed positions.

More particularly, it is an aim of the invention to provide a control attachment that will eliminate the necessity of providing more than one throttle for a motor vehicle engine due to the fact that the foot operated throttle can be held, by the control, in any of a plurality of depressed positions.

Still a further aim of the invention is to provide an attachment for holding an accelerator pedal depressed to cause an engine, controlled thereby, to operate at a uniform speed and which can be readily released by striking the control with the foot as in moving the foot from the accelerator pedal to the brake pedal.

Another object of the invention is to provide a control of the above described character of very simple construction capable of being economically manufactured and sold, and which can be quickly and easily applied to throttle pedals of conventional construction and which are already in use.

Still another object of the invention is to provide a control which can be readily moved to an inoperative position when its use is not required.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, which illustrates a preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view showing the throttle control attachment applied and in an operative position relatively to a conventional accelerator pedal,

Figure 2 is a top plan view of the same, and showing the latch member in a folded, inoperative position, and

Figure 3 is a sectional view taken substantially along the plane of the line 3—3 of Figure 1, and showing the spring partly in dotted lines and partly in elevation.

Referring more particularly to the drawing, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally a portion of the floor board of a motor vehicle, and 11 designates generally a conventional accelerator pedal which is hingedly connected at its lower end at 12 to the floor 10. These parts are of conventional construction and are illustrated and described merely to better illustrate the application of the control attachment for the acceleraor 11, and which is designated generally 13.

The control attachment 13 includes a base member 14 which is adapted to be fastened to the floor board 10, to one side of the pedal 11. The base member 14 is provided with spaced upwardly extending portions terminating in alined barrel portions 15, the longitudinal axes of which are substantially parallel to the longitudinal axis of the pedal 11. A latch plate or bar 16 is provided with spaced barrel portions 17, at one end thereof, which are adapted to be arranged in alinement with the barrel portions 15 for receiving a bolt 18 which extends therethrough, and which forms a hinge pin to combine with the barrel portions 15 and 17 to form a hinge for hingedly connecting the latch bar 16, at its lower end, to the base 14. The bolt 18 is preferably provided with a nut 19 at its shank end for retaining the bolt in engagement with the barrel portions 15 and 17.

The latch bar or plate 16 has its longitudinal edges bowed in the same direction, and as best seen in Figure 1, the curvature of the plate 16 substantially corresponds to the arc in which the pedal 11 swings on its hinge 12. The plate 16 is provided with a series of transverse slots 20 which, as a group, are curved to conform to the curvature of the longitudinal edges of the plate 16. The plate or bar 16 is provided with substantially flat downwardly facing shoulders 21, as seen in Figure 3, which define the upper edges of the slots 20, and with downwardly and outwardly inclined upwardly facing shoulders 22 which define the bottom edges of the slots 20.

The base 14 is provided with an extension 23 which projects beyond the barrel portions 15, toward the throttle pedal 11 and to which is attached an upwardly projecting eye 24 to which is anchored one end of a contractile coil spring 25. An eye 26 projects outwardly from the inner longitudinal edge of the plate 16, intermediate of its ends, and is engaged by the opposite end of the spring 25. It will thus be obvious that the spring 25, when the plate 16 is in a raised position, as seen in Figures 1 and 3, will urge the plate toward the pedal 11. However, the plate 16 can be swung downwardly and outwardly to the position as seen in Figure 2, and in dotted lines in Figure 3, and in moving to this folded position, the spring 25 will move across its dead center, namely the bolt 18, so as to urge the free end of the plate 16 downwardly and against the floor board 10 for holding the plate or bar 16 in its folded position, away from the pedal 11.

A detent or pawl, designated generally **27**, is detachably and adjustably mounted on the underside of the throttle pedal **11**, and near the free end thereof. The detent or pawl **27** includes a bolt **28** having a headed end, and a threaded shank end **29**. Two corresponding clamping elements **30** are provided with openings **31** for loosely engaging the bolt **28**. The clamping elements **30** are adapted to engage around corresponding portions of the longitudinal side edges of the pedal **11**, and a nut **32** is carried by the threaded end **29**, and is adapted to be tightened for engaging the outer side of one of the clamping elements **30**, and for drawing the head of the bolt **28** into engagement with the outer side of the other clamping element **30** for moving said clamping elements into tight engagement with the side edges of the pedal **11** for detachably securing the pawl **27** thereto, and transversely thereof. The threaded end **29** of the pawl **27** extends beyond one longitudinal side edge of the pedal **11**, and toward the latch plate **16**, and terminates in a detent portion **33** having a substantially flat and straight upper side **34**, and a beveled underside **35**.

Assuming that the latch plate **16** is in a raised position, as seen in Figures 1 and 3, said latch plate will be engaged by the detent portion **33** and will be held thereby in substantially a vertical position with the tapered end of the detent portion extending into one of the slots **20**. When the pedal **11** is depressed, the tapered underside **35** of the portion **33** will ride over the inclined upwardly facing shoulders **22** to produce a cam action by means of which the latch plate **16** will be forced away from the pedal **11** and against the action of the spring **25** to permit the pedal to be depressed. When the foot is removed from the pedal **11** the upper side **34** will engage a downwardly facing shoulder **21** to hold the pedal **11** in a depressed position. It will thus be readily obvious that the pedal **11** can be depressed to any desired position and held by the control attachment **13** so that the foot can be removed from the throttle pedal and the speed of the engine nevertheless maintained. The latch plate **16** is preferably disposed between the accelerator pedal **11**, and the brake pedal, not shown, of the vehicle, and extends substantially above the accelerator pedal so that in moving the foot, used to depress the accelerator pedal, from said pedal to the brake pedal, the foot will strike the upper portion of the latch plate to swing it away from the accelerator pedal to thereby move the latch plate out of engagement with the detent portion **33** to allow the accelerator to move upwardly to a fully raised and retracted position. In driving in traffic, where it is not desirable to use the control **13**, the latch plate can be swung downwardly and away from the pedal **11**, and to the position as seen in Figure 2, and in dotted lines in Figure 3, to render the control attachment **13** inoperative.

Various modifications and changes are contemplated and may obviously be resorted to, provided they fall within the scope of the invention, as hereinafter defined by the appended claim, as only a preferred embodiment of the invention has been disclosed.

I claim as my invention:

An accelerator control, comprising a latch bar adapted to be disposed adjacent an accelerator pedal and yieldably positioned relatively thereto, said latch bar being provided with a plurality of notches, a detent adapted to be attached to and carried by the accelerator pedal and having an end constructed and arranged for engaging said notches for latching the pedal in depressed positions, said detent and notches being constructed and arranged so that the detent can ride over the notches when the pedal is depressed to retract the latch bar, a base plate having an upstanding portion to which the latch bar is pivotally connected at its lower end, and a contractile spring connected at one end to the base plate and connected at its opposite end to the latch bar for normally urging the latch bar to swing toward the accelerator pedal, or for holding the latch bar in a retracted position away from the accelerator pedal.

WILLIAM A. COUTCHER.