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ACCELERATOR CONTROL

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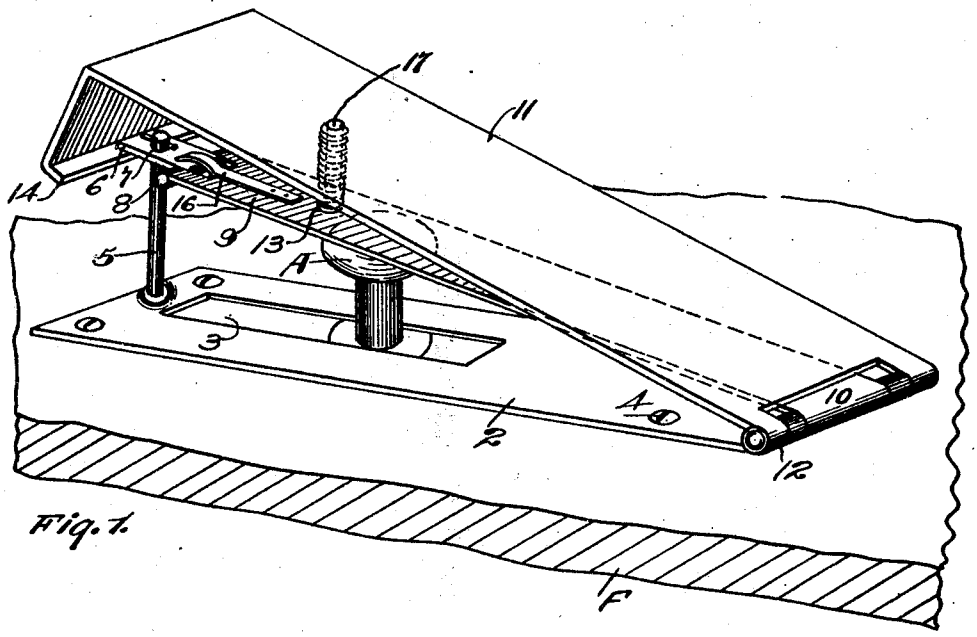
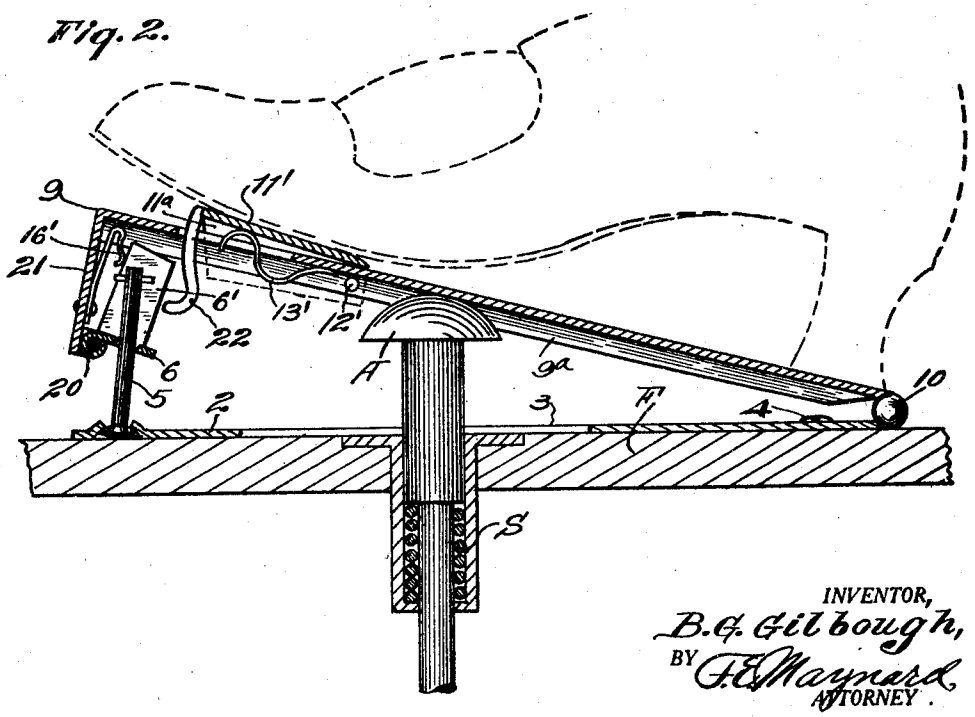


Fig. 1.

Fig. 2.



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ACCELERATOR CONTROL.

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This invention relates to gas motor throttle control means and more especially to a device operative upon the usual automobile foot actuated, so called "accelerator" which works the throttle independently of the usual hand-lever at the steering wheel.

An object is to provide a means for relieving the foot from the constant reaction of the return spring pressure of the accelerator so that fatiguing of the ankle muscles will be practically eliminated. In other words, an object is to provide means for automatically holding the accelerator at any desired degree of depression for any desired period, and at the same time provide for an instantaneous release of the depressed accelerator as in the usual manner by the mere lifting of the foot from the control.

An object is to provide a control which may be readily adapted to various types of car accelerators without in any manner tampering with or altering the standard parts.

And a special object is to provide a simple, practicable, inexpensive, reliable and safe device and which will allow of the operation of the motor throttle in the usual way by the hand-lever.

Additional objects and advantages will be made manifest in the following specification of apparatus incorporating the invention; it being understood that modifications, variations and adaptations may be resorted to within the spirit and scope, and the principle of the invention; as here claimed.

Figure 1 is a perspective of one form as applied, and in free position.

Figure 2 is a longitudinal section of another form; showing the accelerator locked down. The control includes a floor base 2 having a large opening 3 to permit the base to be passed down over the accelerator A and which is normally thrust up by its spring S. The base is fastened down, by screws 4, to the car floor F.

At the forward end of the base 2 is an upstanding anchored post 5 having some freedom so as to tilt a little. Slidable along this post is a friction device here in the form of a hardened plate or leaf 6 apertured at 7 to receive the post. When the plate 6 is inclined in one direction as to the post the edges of the aperture are adapted to clinch or bind upon the post and thus hold a position thereon. If the plate is reversely pressed it will unbind itself and can be shifted along the post. This is an old and well known principle of friction lock but I here use it in a new organization to lock down the accelerator.

In Figure 1 the plate 6 is hinged at 8 to the outer end of a carrier or arm 9 which is hinged at 10 to the rear end of the base 2.

The arm 9 is designed to rest directly upon the accelerator button A and be supported thereby without enough down pressure on it to open the motor throttle.

In this form of the device the arm 9 lies under a treadle 11 which is hinged at 12 to the base; in this case coaxially with the hinge 10.

Interposed between the treadle 11 and the arm 9 is a spreader spring 13 so lifting the treadle that a part thereof, as hook 14, comes up against the free end of plate 6 and lifts it against the effort of a spring 16 whose function is to so press the plate as to make it instantly bind on the post against upward movement therealong.

Spring 13 is stronger than spring 16 and hence pulls up the binding plate 6, and allows the accelerator A to jack up the parts 9—11. A thrust rod 17 is provided between the arm 9 and the treadle 11 and allows the treadle to move down far enough to drop the hook 14 from plate 6. Upon further downward movement of the treadle the bar engages arm 9 and presses it down together with the accelerator.

Now so long as the hook 14 clears the plate 6 this will bind on post 5 and prevent the arm from being pressed up by the accelerator.

It will be seen that the treadle will be held down merely by the weight of the driver's foot after the accelerator has been depressed and is locked by plate 6, and it is not necessary to use muscular energy to hold the throttle down. By lifting the foot, or removing it entirely, the treadle will be pressed up by spring 13 (shown around rod 17) and hook 14 will strike and lift the locking plate 6 which thus unlocks arm 9, all the parts being lifted by the accelerator spring.

In Figure 2 the locking plate 6 is hinged at 20 to a flange 21 on the arm, and a spring 16′ actuates the plate which here has a wing 6′ presenting an edge to a horn 22 bent down from the front end of a modified form

of treadle 11′ which is pivoted at 12′ in the arm 9. The treadle 11′ is thus much shortened and entirely carried by the arm 9. A spring 13′ elevates the treadle 11′ on arm 9 and as it moves up the horn 22 abuts the wing 6′ of plate 6 and this is unlocked against action of its spring 16′.

To facilitate ease of application of the foot to the treadle 11′ it lies close to the arm and has side flange 11ª overhanging the sides of the arm 9 which may have downturned sides or flanges 9ª if desired.

The invention claimed is:

1. A foot actuated, throttle control operative upon an accelerator and comprising an anchored part and a movable device having means to slide freely in one direction along said part and to automatically lock thereon upon a reverse movement of said device, and a medium for unlocking the said means to allow such reverse movement.

2. A foot actuated, throttle control operative upon an accelerator member and comprising an anchored part, an element to actuate the said member and having means to automatically grip on the said upon a reverse movement of said element and to hold said part element depressed, and a medium for automatically releasing the gripping means to permit said reverse movement.

3. A foot actuated, throttle control operative upon an accelerator member and comprising an anchor part, pedal means engageable with said member to open the throttle, a device acting therewith in said opening action and sliding freely on said part and locking thereon on reverse action, and a manually controlled medium automatically movable into engagement with said device to unlock it from the anchor and to release the said pedal means when said medium is released by the operator.

4. A foot actuated, throttle control operative upon an accelerator member and comprising an anchor part, means automatically attaching itself to said part when said means is moved against and with said member, and a foot controlled releasing medium for said means including an arm carrying a friction member to bind on said part, and said medium including a portion to engage said friction member in a releasing action.

5. A foot actuated, throttle control operative upon an accelerator member and comprising an anchor part, means automatically attaching itself to said part when said means is depressed against and with said member, and a foot controlled releasing medium for said means said medium including an element mounted upon said means.

6. A foot actuated, throttle control operative upon an accelerator member and comprising an anchor part, means automatically attaching itself to said part when said means is depressed against and with said member, and a foot controlled releasing medium including an element yieldably mounted upon said means.

7. A foot actuated, throttle control operative upon an accelerator member and comprising an anchor part, a treadle to operate said member, a movable arm carrying a friction device to bind on the said part when tending to move in one direction, said treadle being operatively engageable with said device to release it from the anchor part.

8. A foot actuated throttle including a foot-operated treadle, an anchored part, means shiftable by the treadle freely along said part in one direction and automatically locking thereon upon a reverse movement, and means for automatically unlocking the first named means to permit such reverse movement when the treadle is released.

9. A foot actuated throttle control including a treadle for operating a spring thrust throttle member, means to automatically lock the treadle depressed against spring reaction, and automatic means for releasing the locking means when the treadle is released.

10. A throttle control mechanism including manually thrust means to actuate a treadle member, a lock to automatically hold the said member in shifted position, and means to automatically render the lock ineffective when the manually thrust means is relieved.

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