W. E. MORGAN.

THROTTLE CONTROL FOR AUTOMOBILES.

APPLICATION FILED NOV. 25, 1913.

1,151,031.

Patented Aug.

Fig. 1.

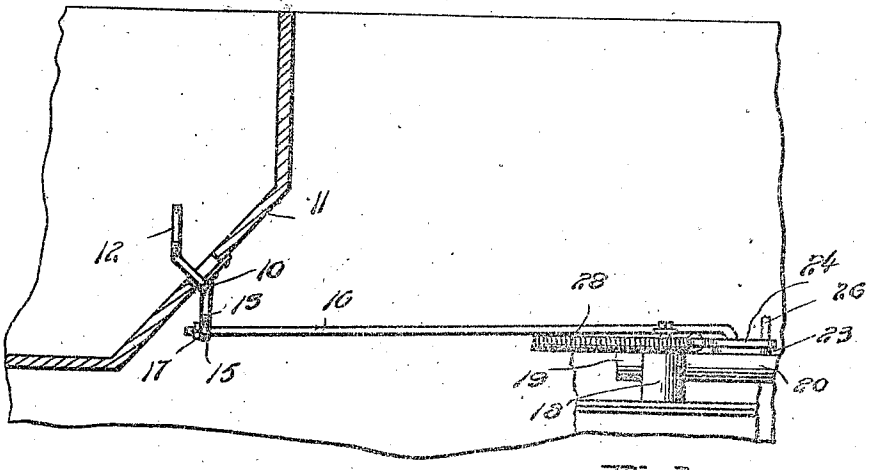


Fig. 2.

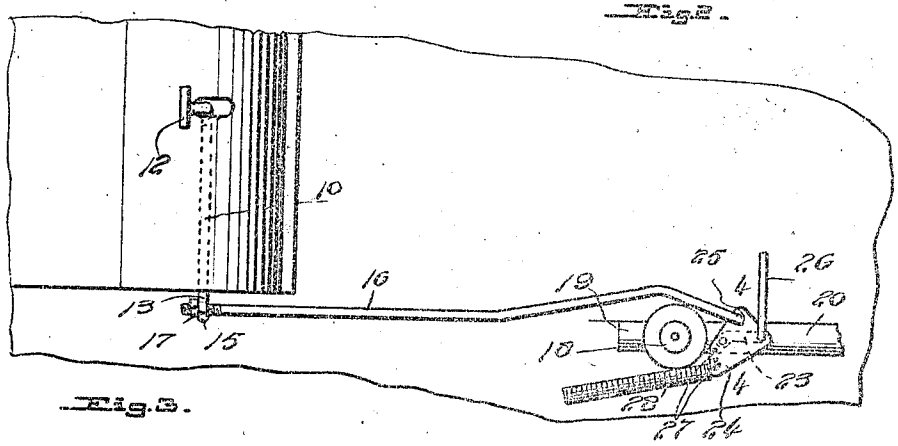


Fig. 3.

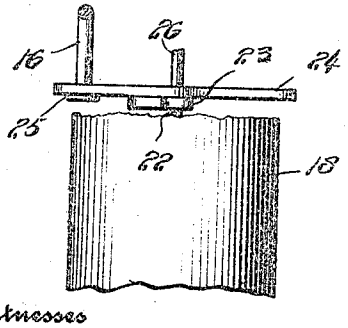
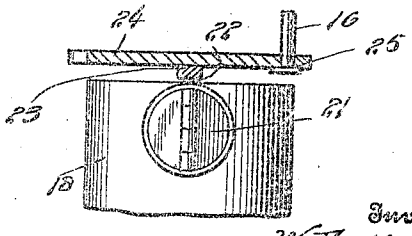


Fig. 4.



Witnesses

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THROTTLE CONTROL FOR AUTOMOBILES.

1,151,031. Specification of Letters Patent. Patented Aug. 24, 1915.

Application filed November 25, 1913. Serial No. 803,002.

To all whom it may concern:

Be it known that I, WALLACE E. MORGAN, a citizen of the United States, residing at Geneseo, in the county of Henry, State of Illinois, have invented certain new and useful Improvements in Throttle Control for Automobiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in gas engines, and particularly gas engines used on automobiles.

The principal object of the invention is to provide a throttle or intake valve which can be operated independently by the foot or hand of the driver of the car.

Another object is to provide hand and foot actuated means for moving the throttle valve each of which can be operated without interference of the other.

Other objects and advantages will be apparent from the following description, when taken in connection with the accompanying drawings.

In the drawings: Figure 1 is a fragmentary section of an automobile showing my invention in elevation. Fig. 2 is a top plan view of the device. Fig. 3 is a rear elevation of the parts of my invention in their proper relative positions but detached from the automobile. Fig. 4 is a vertical section on the line 4—4 of Fig. 2.

Referring particularly to the accompanying drawings, 10 represents a transverse shaft suitably mounted below the inclined floor board 11 of the automobile. Carried by one end of the shaft 10 is a vertical extending pedal blade 12 which projects through an opening 14 in said floor board. At the opposite end of the shaft is a downturned arm 13, the lower end of which has an apertured head 15 which receives slidably therethrough one end of a connecting rod 16, to which further reference will be made hereinafter. The rear end of this connecting rod is threaded and carries an adjusting nut 17 which is arranged to limit the forward sliding movement of the rod through the head 15.

The carbureter 18 is located at the proper point and has the air intake pipe 19 at one side, and a pipe 20 at the other side which leads to the manifold of the engine cylinder not shown. In this pipe 20 is mounted the usual throttle gate or butterfly valve 21, and carried by the outer end of one of the trunnions 22 of said gate or valve is an arm 23. Secured to this arm is an irregularly shaped plate 24, this plate having the forward end of the beforementioned connecting rod 16 connected to an intermediate portion thereof, as indicated at 25. Connected to the forward portion of the plate and to the outer end of the arm 23 is a wire cable 26 which leads to the hand throttle lever on the steering wheel not shown. This connection of the wire 26 with the throttle lever is of the usual arrangement, and it is not thought necessary to illustrate the same. In the rear lower portion of the plate 24 are formed a series of openings 27, and engaged in one of these openings is one end of a coiled spring 28, the other end of this spring being suitably anchored to any convenient point on the car. The forward end of this spring is arranged for interchangeable engagement in the openings 27, so that the tension of said spring can be regulated.

When the wire 26 is pulled by the hand throttle lever, the plate 24 will rotate the valve 21 against the tension of the spring 28, and open the said valve. When tension is released from the wire 26, the spring 28 will draw the plate back into normal position to close the valve.

To adapt the device for operation by the foot, I provide the pedal 12. Upon forward pressure of this pedal, the shaft 10 will be rocked so that the arm 14 will be thrown rearwardly. The head 15 will then engage against the adjusting nut 17 and pull the connecting rod 16 rearwardly, thus rocking the plate 24 and operating the valve 21 as before described in connection with the wire 26. By arranging the rod 16 to slide through the head 15 permits of the moving of the valve by the wire 26 without disturbing the position of the pedal 12 or rocking the shaft 10, as the said rod will slide idly through the head.

From the foregoing, it will readily be seen that I have provided a simple, cheap, and efficient device whereby the intake valve or throttle can be readily operated by either the foot or hand of the driver of the car, without interference of one operating mechanism to that of the other. It will also be noted that by means of the adjusting nut 17, the throw of the connecting rod can be regulated so that the valve 21 can be opened to

greater or lesser degrees. Also, by providing means for adjusting the forward end of the spring 28, the valve 21 can be made to close more or less rapidly.

What is claimed is:

1. The combination in a device of the character described including an intake pipe, of a gate within said pipe having a projecting trunnion, a plate secured to said trunnion, a foot-operated shaft having a crank arm, a connection extending from said arm to said plate having its end secured to said plate at a point in advance of said trunnion and a spring to normally close said gate, said shaft adapted to actuate said plate, and means to impart a movement to said plate independent of said shaft.

2. The combination with a carbureter air intake pipe and an air valve mounted therein, of an approximately triangular operating crank plate, having its side connected to the valve outwardly of the pipe, operating rods pivoted to the crank plate at opposite ends of the base thereof and extending in directions therefrom approximately at right angles to each other, a pedal connected with one of said rods and having lost motion connection therewith whereby it may move independently, longitudinally thereof in one direction only, and a spring connected to the crank plate at the apex thereof arranged to return and hold the plate normally in position to close the valve.

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

WALLACE E. MORGAN.

Witnesses:
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