July 22, 1924.

1,502,594

G. F. SPIVA

SPEED CONTROL

Filed Jan. 20, 1922

2 Sheets-Sheet 1

FIG. 1.

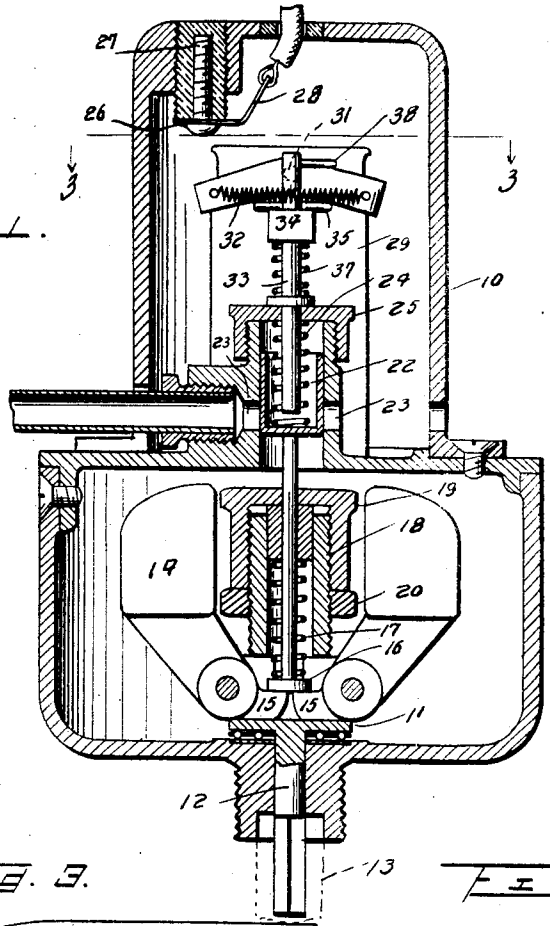


FIG. 3.

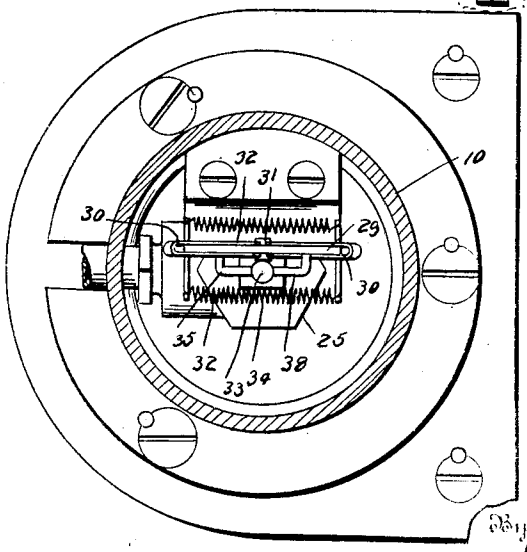
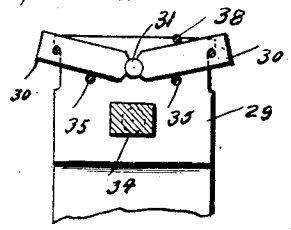


FIG. 6.



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Fig. 3.

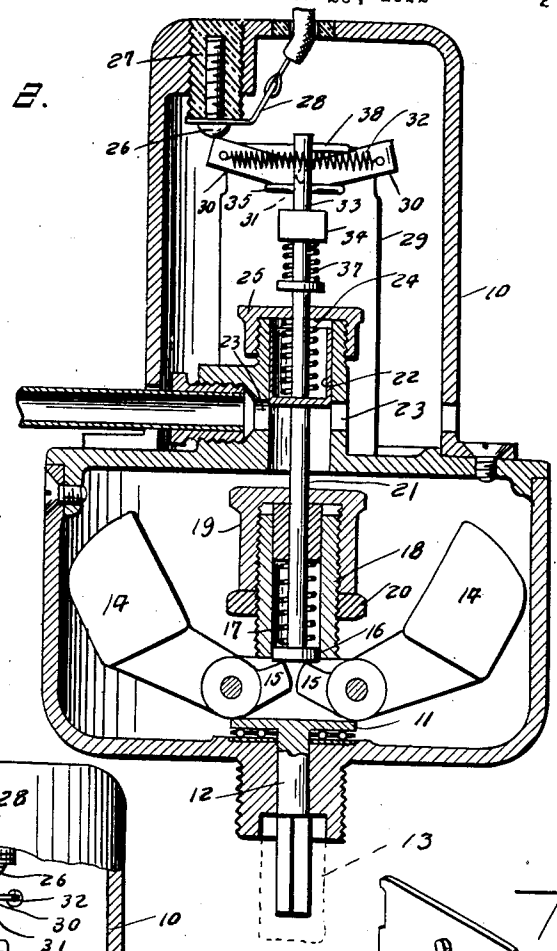


Fig. 4.

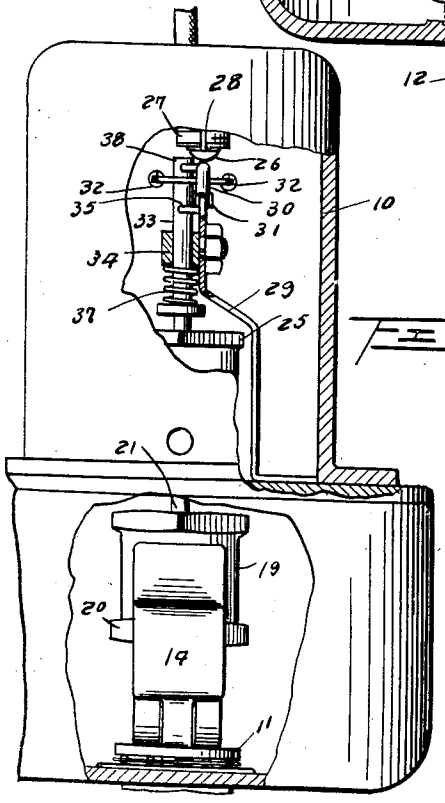
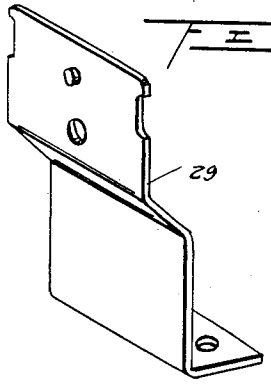


Fig. 5.



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Patented July 22, 1924. 1,502,594

UNITED STATES PATENT OFFICE.

GILES F. SPIVA, OF SPOKANE, WASHINGTON, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO IDEAL SPEED CONTROL, INC., OF SPOKANE, WASHINGTON, A CORPORATION.

SPEED CONTROL.

Application filed January 20, 1922. Serial No. 530,584.

To all whom it may concern:

Be it known that I, GILES F. SPIVA, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in a Speed Control; 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.

The object of the invention is to provide a speed control mechanism for use in connection with motor driven vehicles as a means primarily of preventing the vehicle from being operated in excess of a predetermined speed limit, and in the second place of effecting an economy in the consumption of fuel as the speed of the vehicle increases, by admitting an increasingly greater supply of air to the cylinders and thereby reducing the suction on the carburetor or fuel supply line; and furthermore to provide a device for the purpose indicated which will act to automatically reduce the richness of the mixture and eventually cut out the ignition system when the vehicle reaches the predetermined speed, and which will restore the parts to their normal operative condition when the speed is reduced within the limit provided; and with these objects in view the invention consists in a construction, combination and relation of parts of which a preferred embodiment is illustrated in the accompanying drawings, wherein:

Figures 1 and 2 are sectional views of an apparatus embodying the invention showing the parts respectively in the normal and cut out positions.

Figure 3 is a transverse sectional view on the plane indicated by the line 3—3 of Figure 1.

Figure 4 is a side view with the casing broken away.

Figure 5 is a detail view of the brackets by which the circuit breakers are carried, and

Figure 6 is a detail view illustrating the manner in which the circuit breaker arms are pivotally mounted.

To protect the mechanism from dust and tampering there is employed a casing 10 within which is mounted a revoluble head 11 having a spindle 12 adapted for connection by a flexible shift 13 with a rotary element of the vehicle, such as one of the front wheels, through the intervention of gearing, similar, for example, to that which is employed in connection with the operation of a speedometer, and carried by and pivotally mounted upon said head are the centrifugal governor elements 14 having fingers 15 in the path of which is arranged a plunger 16 yieldingly held in its normal position by a spring 17 arranged in a suitable guide 18. The spring in its normal condition, as when the head is not rotating, holds the governor arms or elements in the folded position indicated in Figure 1, and the speed of rotation necessary to affect, to a greater or less extent, the position of said arms or elements may be controlled by regulating the tension of the spring by means of a cap 19 threaded upon the guide 16 and secured at a predetermined adjustment by means of a lock nut 20.

The plunger stem 21 carries a valve 22 for controlling an air inlet port 23 whereby air may be admitted to the intake manifold of engine as the speed thereof increases, to reduce the richness of the mixture and economize the consumption of fuel by reducing the suction of the feed line from the carburetor or other source of supply, said valve being of cup shape as indicated to form a seat for a supplemental spring 24 bearing at its upper end against a screw cap 25.

A terminal of the magneto or generator circuit is indicated at 26, consisting of a binding screw engaged with an insulating block 27 fitted in the casing and engaging an extremity 28 of said magneto conductor, and pivotally mounted upon a suitable bracket 29 is a circuit breaker consisting of a pair of arms 30, pivoted as at 31 for swinging movement, said terminal 26 being in the path of movement of one of the arms. The arms of the circuit breaker are yieldingly held in their normal position, indicated in Figure 1 with the active arm thereof out of engagement with the contact or terminal 26, by means of a spring 32 which is terminally attached to the arms at points remote from their pivot and which is adapted to occupy a position on a line either above or below or in other words at either side of the plane of the pivot to hold the arms in either the inoperative or the operative position, (the latter being shown in

Figure 2) with one of the arms in contact with the terminal 26 so as to ground the ignition circuit and thereby cause discontinuance of explosions in the engine.

The means for shifting the circuit breaker elements from the normal position shown in Figure 1, in which as above noted they are held by the tension of the spring 32, is effected by means of a follower having a pin 33 extending through a guide 34 on the brackets 29 and provided with lateral arms 35 extending under the arms of the circuit breaker. The follower pin is provided with a collar 36 between which and the guide 34 is arranged a spring 37, and the lower or inner terminal of the follower pin is normally spaced from the valve 17 but is arranged in the path thereof, so that when the plunger has been moved to a certain extent by the expansive movement of the governor arms or elements the valve will come in contact with the extremity of the follower pin and will advance it in opposition to the resistance of the spring 37 until the arms 35 of the follower pin push the circuit breaker elements outward to a point sufficient to enable the spring 32 to swing them to the position indicated in Figure 2, whereupon engagement will be made with the terminal 26 and the ignition circuit will be grounded. The follower pin also carries a replacing arm 38 arranged above one of the circuit breaker elements so that as the speed of the vehicle diminishes and the elements of the governor move inward, the action of the spring 33 to restore the follower pin to its normal position will reverse the position of the circuit breaker arms and thus again close the ignition circuit. Meanwhile the admission of air to the manifold is being gradually cut off by the movement of the valve to close the inlet port. Thus without any action on the part of the driver of the car or possibility of any interference with the operation of the same either by the driver or anyone else, the apparatus will operate to maintain the speed of a car within a predetermined limit which may be fixed by the adjustment of the tensioning nut 19, and having exceeded the predetermined speed the parts will be restored to the normal condition as soon as the rapidity of movement has diminished to a speed within the prescribed limit.

Having thus described the invention, what I claim is:—

1. A speed control for motor vehicles having a centrifugal governor, a circuit breaker movable to ground the ignition circuit, a plunger operable by the governor to operate the circuit breaker, and means operable by the plunger having a limited movement relatively to the circuit breaker to admit air to the engine fuel line.

2. A speed control for motor vehicles having an air inlet, means operable to open said inlet for the passage of air therethrough to the engine fuel line, means operable by the first mentioned means to render the ignition circuit inoperative, and the first mentioned means having a limited movement relatively to the second mentioned means to effect the opening of said inlet.

3. A speed control mechanism for motor vehicles consisting of a plunger member, centrifugally operable means to actuate the plunger member, a pin member to control an electric circuit, air inlet means for communication with a fuel line including a valve on one of said members, the other member being operable by and extending into the valve and having a limited movement relatively thereto.

4. A speed control mechanism for motor vehicles consisting of a plunger member, centrifugally operable means to actuate the plunger member, a pin member operable by the plunger member to control an electric circuit, air inlet means for communication with a fuel line including a valve on one of said members, the other member extending into the valve and having a limited movement relatively thereto, and a spring extending into said valve to urge the plunger to normal position.

5. A speed control for motor vehicles including a casing, means whereby air may be supplied to the fuel line including a port through the casing, a control valve for the port slidably disposed in the casing, a cap on the casing, a plunger carrying said valve, centrifugally operable means to actuate the plunger, means to control the ignition circuit including a pin slidably disposed through said cap, a spring within the valve abutting the same at one end and said cap at the other end and normally maintaining the pin spaced from the adjacent wall of the valve and the plunger to its seat and the pin being operable by the engagement of said wall therewith.

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

GILES F. SPIVA.

Witnesses:
R. W. WATSON,
H. A. ARNOLD.