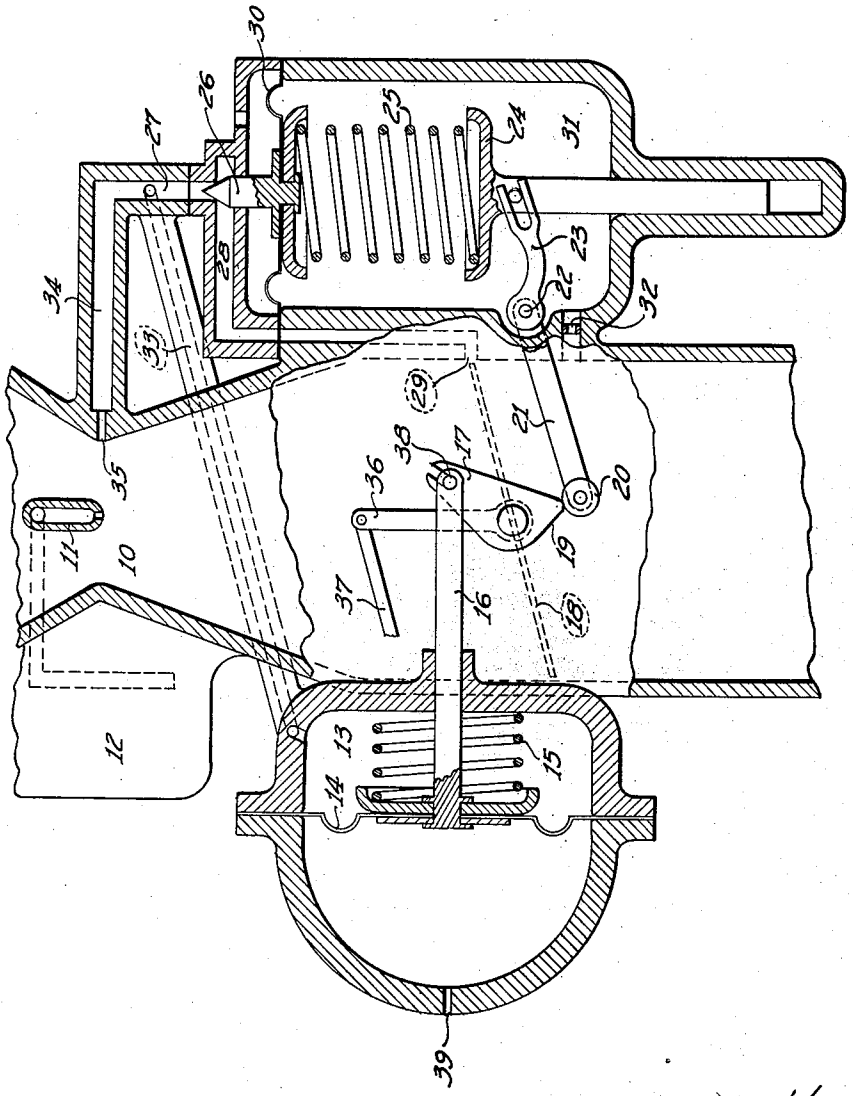
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GOVERNOR

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GOVERNOR

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1 Claim. (Cl. 123—103)

The object of this invention is to control the speed of an internal combustion engine.

The figure shows diagrammatically my invention.

In the figure, 10 is the venturi of an ordinary plain tube carburetor, into the throat of which a nozzle 11 discharges. The nozzle 11 is supplied with fuel from a constant level chamber 12. The depression in the throat of the venturi 10 is transmitted through a passage 33 to a chamber 13 located on the right hand side of a diaphragm 14. A spring 15 engages with the diaphragm 14 and pushes a rod 16 to the left, causing the throttle lever 17 to rotate counterclockwise. The throttle 18 thus rotates counterclockwise, carrying with it the cam 19 which engages with the roller 20. The roller 20 is located on the left hand side of the lever 21 which is connected to a shaft 22, which carries the lever 23. The lever 23 engages with the spring support 24 which compresses the spring 25 which seats the valve 26 and closes a passage 27. A passage 28 communicates with an opening 29 located opposite the lip of the throttle 18 when the throttle 18 is in the closed position.

The diaphragm 30 is exposed on its upper face to the atmospheric pressure and is connected to the valve 26 and is engaged by the spring 25. The chamber 31 being the chamber below the diaphragm 30, communicates through a restricted opening 32 with the mixture outlet on the engine side of the throttle 18. The passage 27 communicates with the passage 33 and also with the passage 34 which communicates with a restriction 35 in the throat of the venturi 10.

The throttle lever 36 connected to the throttle control rod 37 engages with a pin 38 on the end of the rod 16 so that when the throttle lever 36 is manually pushed to the right the lever 36 engages with the pin 38 and positively closes the throttle 18.

When the lever 36 moves to the left, it merely permits the throttle to open. From then on the throttle 18 is under the control of the governor. Assuming that the throttle 18 is wide open, the engine increases in speed until the depression in the throat of the venturi 10 is sufficiently great to overcome the pressure of the spring 15 when the rod 16 moves to the right and the pin 38 engages with the lever 17, and thus closes the throttle.

As the throttle 18 closes a suction is built up both in the passage 28 and in the chamber 31, and as the suction increases the diaphragm 30 is deflected downwardly, the valve 26 moves downwardly, and the suction is admitted from the passage 28 to the passage 27 and thus to the back side of the diaphragm 14 through the passage 33. At every position of the throttle 18, there is a definite compression of the spring 25, at which the valve 26 unseats. In other words, there is a definite suction in the mixture outlet corresponding to every position of the throttle 18. This relationship is determined by the contour of the cam 19 so that as the throttle closes the speed drops, being controlled by the cam contour 19. The function of the restriction 32 is to prevent hunting. For a similar purpose a small opening 39 will prevent the diaphragm 14 hunting back and forth.

What I claim is:

In a governor for an internal combustion engine of the type in which the suction in the venturi in the air entrance to the engine is utilized to control the maximum speed by closing a throttle valve located in the air entrance on the engine side of the venturi, means for utilizing the suction on the engine side of the throttle to augment the suction in the venturi comprising a chamber, a movable wall in said chamber, said chamber communicating with the engine suction, a valve carried by the moving wall, a passage connecting the engine suction with the throat of the venturi, a valve therein, said valve being connected to the moving wall, a spring engaging in the moving wall so as to close said valve, a movable cam adapted to be moved by said throttle, said cam being also adapted to engage with said spring to vary the pressure on said movable wall, whereby the engine suction which unseats the valve has a specific value at every specific position of the throttle valve.

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