

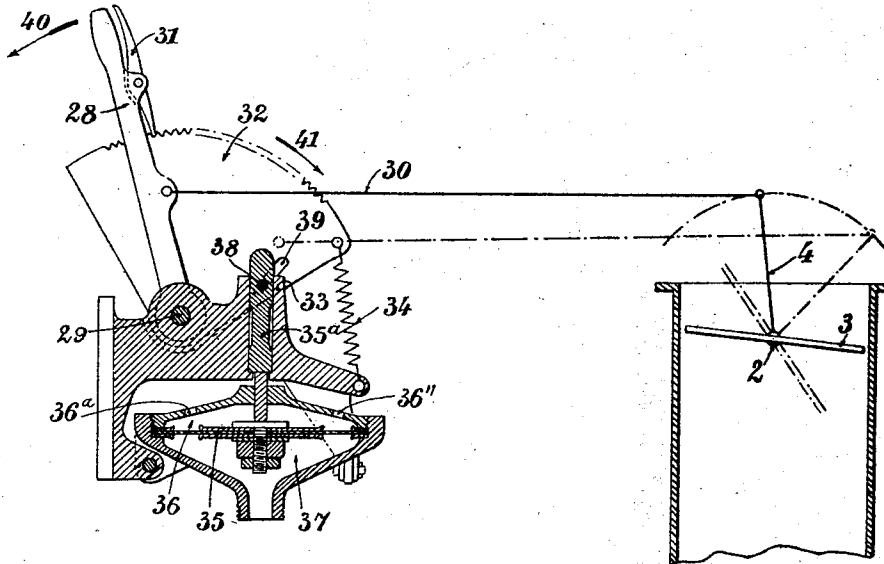
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CONTROL OF CARBURETORS

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UNITED STATES PATENT OFFICE.

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CONTROL OF CARBURETORS.

Original application filed February 23, 1924, Serial No. 694,805. Divided and this application filed June 10, 1925. Serial No. 36,237.

To all whom it may concern:

Be it known that I, MARIUS JEAN-BAPTISTE BARBAROU, citizen of the French Republic, residing at Paris, in the French Republic, have invented new and useful Improvements in the Control of Carburetors, of which the following is a specification.

The invention relates to a control device for the automatic regulation of the maximum opening of the throttle of the carburetor of an internal combustion engine, according to the altitude at which the engine is working, and is a division of my application Serial No. 694,805, filed Feb. 23, 1924. The device is especially designed for engines actuating vehicles or aircraft and particularly when the vehicle has but one engine and when the automatic control of the carburetor can be placed within the reach of the pilot.

According to the invention the control gear connecting the control member actuated by the pilot to the carburetor throttle, comprises a pivoting member, means for removably locking said control member in position upon the pivoting member, an elastic membrane subjected on one face to a predetermined constant pressure and on the other face to the surrounding atmospheric pressure, means for operatively connecting said pivoting member to said elastic membrane and yielding means for constantly urging said pivoting member towards its position corresponding to the highest atmospheric pressure.

The appended drawing shows by way of example a preferred embodiment of the control device according to the invention.

In the construction shown in the drawing, the pipe 1, which supplies to the engine the gases coming from the carburetor, carries a shaft 2 on which is movable the throttle 3. The throttle 3 is secured to a lever 4 to which is attached one end of a control rod 30 connected at its other end with the control lever 28, pivoted at 29 on a fixed axle.

This lever 28 carries a pawl 31 which can engage the teeth of a toothed quadrant 32 movable about the same fixed axle 29 and constantly urged by the spring 34 against the stop-piece 33. The quadrant 32 is on the other hand subjected to the action of a rod 35^a secured to an elastic diaphragm 35. At 36 is a chamber in which prevails the sur-

rounding atmospheric pressure, and at 37 is a chamber having therein a predetermined constant pressure; the rod 35^a carries a stud 38 engaged in a slot 39 formed in the quadrant 32.

It will be readily understood that if the engine is working on the ground, the quadrant 32 is urged by the spring 34 upon the stop-piece 33, and the toothed part of this quadrant determines the amplitude of oscillation provided for the lever 28. If the outer air pressure diminishes, the diaphragm 35 will rise and will drive the rod 35^a upwardly. This rod 35^a causes the quadrant 32 and the lever 28 to oscillate on the shaft 29 in opposition to the action of the spring 34. In these conditions the lever 28 rotates to a greater extent than heretofore in the direction of the arrow 40, and if this direction corresponds to the direction of opening of the carburetor throttle, it will be feasible to open the said throttle to a greater degree. Should the outer pressure again increase, the rod 35^a will descend and the spring 34 will bring back the quadrant in the direction of the arrow 41; the maximum opening of the carburetor throttle will thus be reduced according to the increase of pressure of the outer air.

Various constructional modifications may obviously be brought to the above described device without departing from the spirit of the invention.

Having now described my invention what I claim new and desire to secure by Letters Patent is:

A control gear for the carburetor of an internal combustion engine comprising in combination a control member operated by the operator and operatively connected to the carburetor throttle, a pivoting sector, means for removably locking said control member in position upon said sector, an elastic membrane subjected on one face to a predetermined constant pressure and on the other face to the surrounding atmospheric pressure, means for operatively connecting said sector to said elastic membrane and yielding means for constantly urging said sector towards its position corresponding to the highest atmospheric pressure.

In testimony whereof I have signed my name to this specification.

MARIUS JEAN-BAPTISTE BARBAROU.