

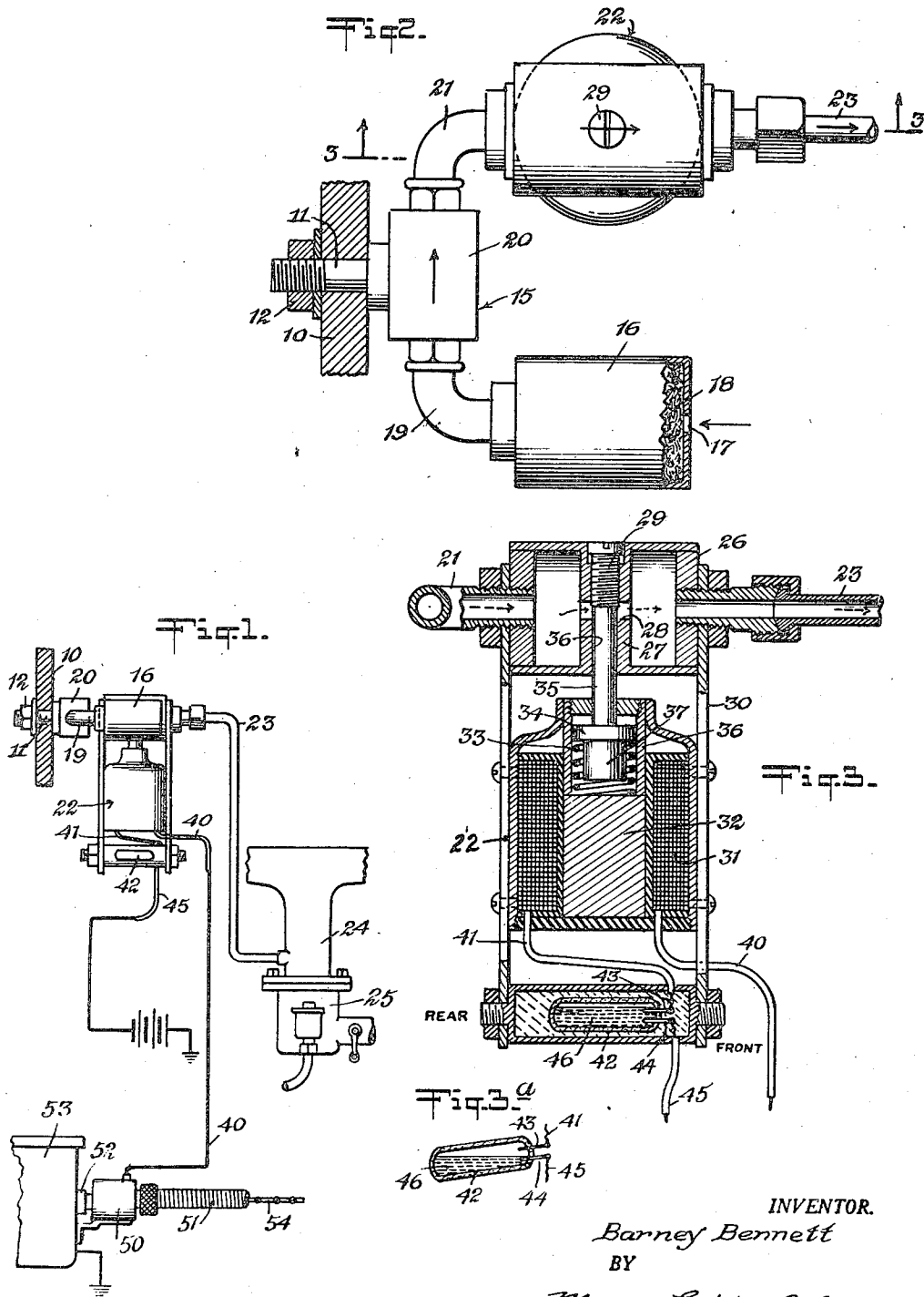
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CARBURETOR ATTACHMENT FOR CONSERVING FUEL

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CARBURETOR ATTACHMENT FOR
CONSERVING FUEL

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2 Claims. (CL 180—82.1)

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This invention relates to automotive vehicles, particularly to a device for conserving fuel under certain conditions. The ordinary internal combustion engine carburetor is usually adjusted to meet a plurality of conditions. The motor needs a richer mixture of gas and air when starting or proceeding at lower speeds. However, when higher speeds are reached a leaner mixture can be efficiently used and there is wastage of gasoline where the mixture is the same as suitable for slower speeds and heavier pulls.

An object of this invention is to provide a device which may be attached to the conventional motor vehicle and which will feed more air into the carburetor or manifold when the engine is operating at higher speeds and on level ground. This results in the conservation of fuel and better mileage. A further object is to provide means to control the operation of the device so that it will only function at higher speeds and will be disconnected when the vehicle is going uphill where the richer mixture may be used. Other objects and advantages of my device will be found in the drawings accompanying the description.

Fig. 1 is a side elevation of my device.

Fig. 2 is a plan view partly in section.

Fig. 3 is a cross sectional view slightly enlarged and

Fig. 3A is a detailed view of a mercury switch. Referring more particularly to my drawings, my device is adapted to be mounted on the front of the dash-board 10 by means of a bolt 11 extending therefrom and a nut 12. The bolt 11 supports a housing 15 which includes an intake filter 16 having an opening 17 therein and containing oil soaked wire mesh 18. A suitable passage comprising the pipes 19, block 20 and the pipe 21 connects the filter with a valve mechanism 22, from which tubing 23 leads to the manifold 24 adjacent to the carburetor 25.

The valve mechanism 22 consists of a casing 26 having a central portion 27 with an opening therein at 28 and a central passage at 36. The top of the passage 36 is closed by an adjustable screw plug 29 which may be raised or lowered to determine the size of the opening 28. The size of the opening 28 is dictated by the size of the engine of the vehicle with which the device is used and it will be appreciated that the larger the bore of the cylinder the greater the amount of air that can be used and therefore the larger the opening 28.

Suspended from the valve portion 26 is a casing 30 in which is mounted a magnet 31 having

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a solid core 32. Supported by the core 32 is a spring 33 which engages an annular flange 34 on a valve rod 35 mounted in the passage 36. The spring 33 tends to push the valve rod 35 upwardly in the passage 36 against the plug 29 to close the passage 28. It will be appreciated that when the magnet is energized the base 37 on the valve shaft 35 will move downwardly against the spring 33 to open the passage 28 and to allow air to pass through the intake through the valve section and into the manifold.

The current flowing to the magnet is controlled by the wires 40 and 41. Wire 41 leads to a mercury switch 42 which has two terminals 43 and 44 at the front end thereof. A wire 45 attached to the terminal 44 leads to a current source. In normal operation on level ground or downhill the terminals 43 and 44 will be covered by the mercury 46 and current will be free to pass through the switch. However, when a vehicle is going uphill and the front end is on a higher plane than the rear, the terminal 41 will be uncovered thus stopping the flow of current to the magnets. The wire 40 leads to a governor operated switch 50, which is interposed between the speedometer cable 51 and the shaft 52 therefore extending from the transmission 53. It will be appreciated that the switch may be positioned at either end of the speedometer cable and work as well. The governor controlled switch may be adjusted or so constructed so as to only close when the vehicle is operating over a predetermined speed, say, for instance, 30 miles an hour, and this may be determined by the revolutions of the speedometer shaft 54 within the cable 51. It will be appreciated that in normal operation at speeds lower than 30 miles an hour the controlled switch 50 will not close, but that when the predetermined speed is reached, the switch will close, thus energizing the magnet 31 if the vehicle is on level ground. This will open the valve passage 28 and allow additional air to pass into the manifold thus furnishing the leaner mixture to the motor. Should the car reach rising ground where the richer mixture is desirable, the mercury switch 42 will open to shut off the extra flow of air.

It will be appreciated in the accompanying drawings and description a preferred form of my invention is shown and that changes in my device may be made without departing from the basic conception which is to furnish additional air under certain heretofore described conditions and to automatically cut off the sup-

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ply of extra air where a richer mixture is desirable.

I claim:

1. In combination with a motor vehicle having a conventional intake manifold through which air is normally supplied, means for supplying additional air to said motor, said means including a valve, an air intake for said valve, means for adjusting the opening of said valve, means for yieldingly holding said valve in closed position, a magnet for opening said valve, a circuit, a centrifugal switch for closing said circuit when said vehicle reaches a predetermined speed and a mercury switch adapted to break said circuit when the front of said vehicle is on a higher plane than the rear thereof.

2. In combination with a motor vehicle having a conventional intake manifold through which air is normally fed, a device for feeding additional air to the fuel mixture, said device including a valve, means for normally maintaining said valve in a closed position, magnetic means for opening said valve, a circuit connected with said magnet, and means in said circuit for deenergizing said magnet when said

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vehicle is moving on an up-grade, said additional means comprising a mercury switch consisting of a casing, a predetermined quantity of mercury and two terminals at forward end thereof, said switch having its longitudinal axis at all times parallel with the ground.

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