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A. BOONE

AUXILIARY AIR SUPPLY

Filed July 21, 1922

Fig. 1.

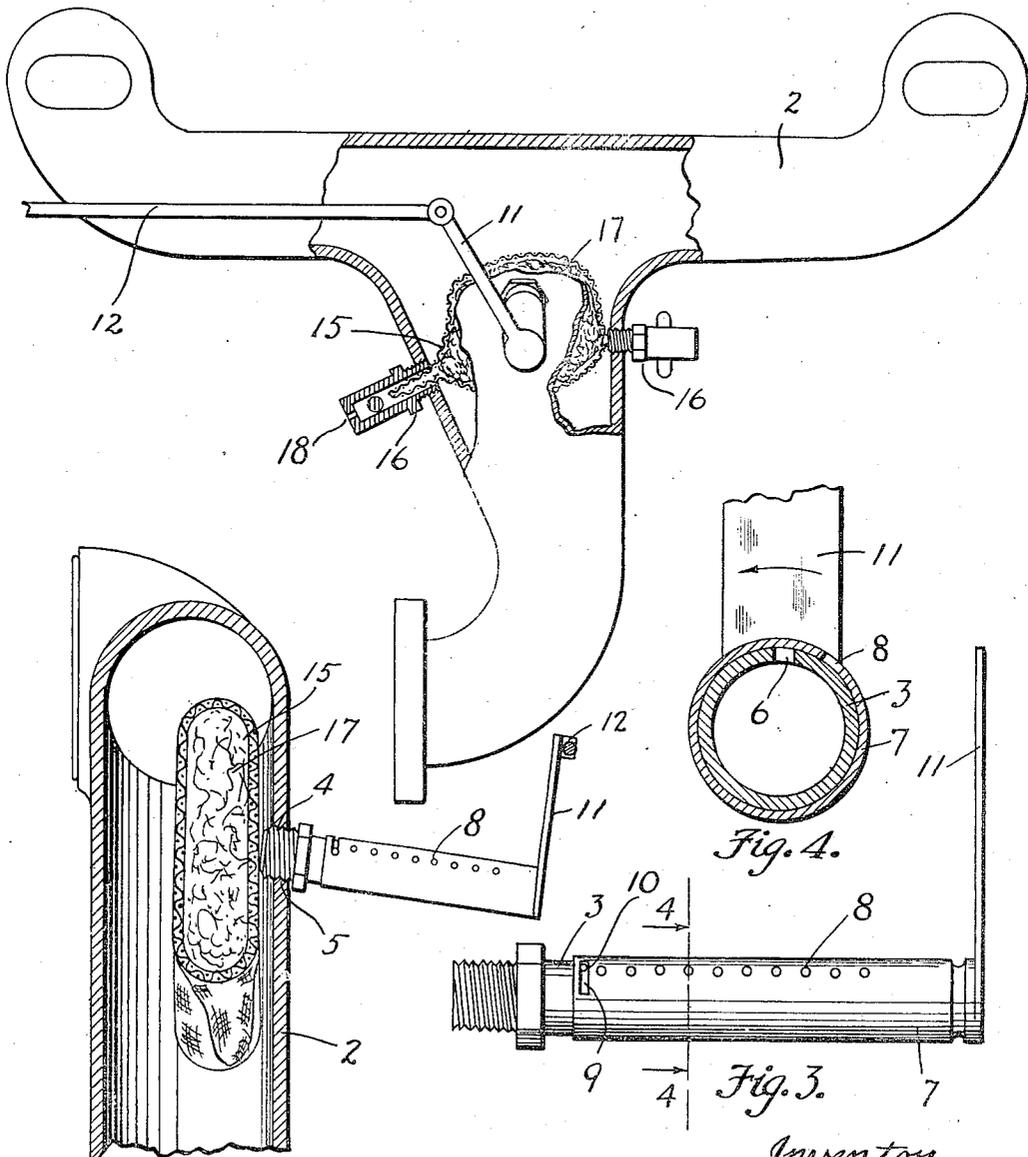


Fig. 2

Fig. 4.

Fig. 3.

Inventor,
Albert Boone
by Shepard & Miller
Att'ys.

UNITED STATES PATENT OFFICE.

ALBERT BOONE, OF SAWTELLE, CALIFORNIA.

AUXILIARY AIR SUPPLY.

Application filed July 21, 1922. Serial No. 576,501.

To all whom it may concern:

Be it known that I, ALBERT BOONE, a citizen of the United States, residing at Sawtelle, in the county of Los Angeles and State of California, have invented new and useful Improvements in Auxiliary Air Supplies, of which the following is a specification.

This invention relates to internal combustion engines and more particularly to an auxiliary air supply for the intake manifold thereof.

It is an object of the present invention to provide for the admission of an additional supply of air to the fuel mixture as it passes into the manifold of the engine after the mixture has come from the usual carburetor. To that end, the invention consists of a valved attachment readily applicable to the manifold of an engine and includes a screen for catching such dust as may be carried in the air into the manifold pipe.

Other objects of the invention will be made manifest in the following specification of an embodiment of the invention illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of the manifold partly broken away and showing the invention applied.

Figure 2 is a vertical transverse section from front to back of the upper part of the manifold showing the device applied.

Figure 3 is a side elevation of the detached air valve.

Figure 4 is a transverse section on line 4-4 of Figure 3.

The invention is shown as embodied in an intake manifold 2 which is tapped or otherwise suitably adapted for attachment of an air tube 3 which may be provided with a threaded nipple 4 to enter the tapped hole 5 in the front of the manifold. The air tube 3 is of suitable dimensions and is provided with a longitudinal row of small apertures 6.

Upon the tube there is rotatably mounted a valve sleeve 7 which is provided with a longitudinal row of apertures 8 designed to be rotated into register with the apertures 6, therefore opening the same and controlling the flow of air into the air tube 3. The sleeve 7 is shown as slotted at 9 to receive a fastening pin 10 provided in the air tube 3 and which limits the degree of rotation and prevents longitudinal movement of the air valve 7 on the tube 3. The air valve is provided with a lever arm 11 to which may be

connected any suitable operating device as a link 12 which may extend rearwardly to the dash board or instrument panel of a vehicle and whereby the opening and closing of the valve sleeve 7 may be determined.

During the operation of the motor to which the manifold 2 is attached, air will be drawn in through the registered air ports 6 and 8, the amount of air being determined by the degree of opening of the ports.

Within the manifold and adjacent to the end of the nipple 4 there is provided a screen device which may consist of a wire or other reticulated basket 15, preferably flattened to extend across the manifold. It is mounted in thimbles 16 which may be screwed on to the sides of the manifold and will receive ears or lugs 15' of the screen basket. Within this basket may be a lining or filling of fibrous material 17. Air may flow through the thimbles which are shown as provided with apertures 18 for that purpose.

From the above it will be seen that I have provided an extremely simple, inexpensive and reliable form of auxiliary air supply device that may be readily attached to, or incorporated in, various types of intake manifolds.

By this apparatus it is possible to obtain very closely the maximum mixture of gas vapor and air which has been found to be about fourteen parts of air to one part of gas. By merely adjusting the air controlling sleeve it is possible to very carefully proportion the gas to the air. This is obtained entirely independent of the operation of the carburetor.

Further embodiments, modifications and changes may be resorted to within the spirit of the invention as here claimed.

What is claimed is:

1. In combination with the intake manifold of an internal combustion engine, an exterior auxiliary air supply device, and a disc-shaped reticulated basket arranged in the manifold and against which the air entering through the supply device impinges, and a fibrous filling in the basket.

2. In combination with the intake manifold of a combustion engine, a flattened basket of gauze material disposed in upright position in the manifold, a fibrous filling in the basket, and means for discharging fresh air from without the manifold against the near face of the basket in which the air is generally dispersed by the filling.

3. In combination with the intake manifold of a combustion engine, a flattened basket of gauze material disposed in upright position in the manifold, and toward one side thereof, a fibrous filling in the basket, and means for discharging fresh air from without the manifold against the near face of the basket in which the air is generally dispersed by the filling.
4. Air diffusing means for intake manifolds of combustion engines, comprising a flattened basket of gauze, a fibrous filling therein, lateral lugs extending from the basket, and air inlet thimbles adapted to be mounted in the manifold for receiving the lugs.
5. Air diffusing means for intake manifolds of combustion engines, comprising a flattened basket of gauze, a fibrous filling therein, lateral lugs extending from the basket, air inlet thimbles adapted to be mounted in the manifold for receiving the lugs, and means for discharging fresh air against a near face of the basket when installed.
- In testimony whereof I have signed my name to this specification.

ALBERT BOONE.