

July 20, 1937.

J. L. JOHNSON

2,087,688

MOTOR ATTACHMENT

Filed Feb. 8, 1934

Fig. 1.

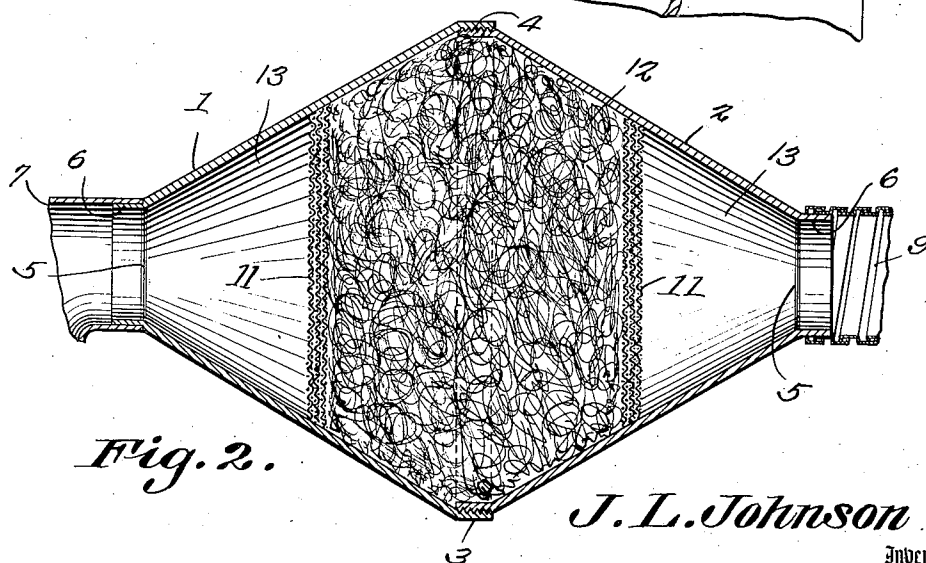
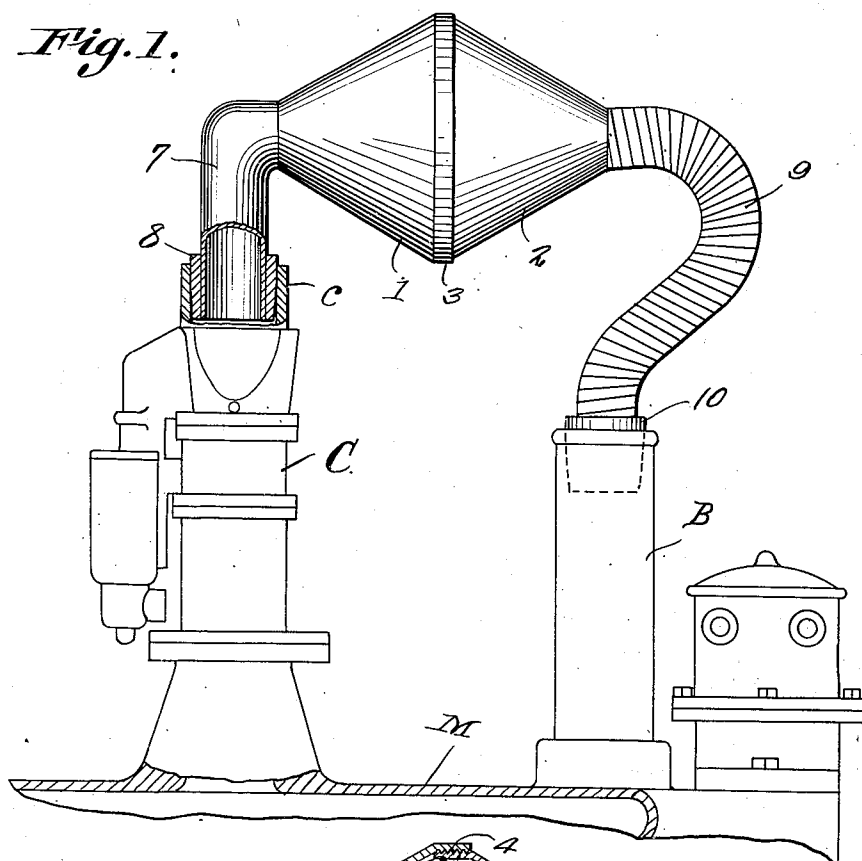


Fig. 2.

J. L. Johnson

Inventor

By *Chas. H. Snow & Co.*
Attorneys.

UNITED STATES PATENT OFFICE

2,087,688

MOTOR ATTACHMENT

Johnnie L. Johnson, Dania, Fla.

Application February 8, 1934, Serial No. 710,354

1 Claim. (Cl. 183—49)

This invention relates to an attachment for use in connection with internal combustion engines such as used in automobiles.

Considerable discomfort and danger to automobile drivers result from the escape of carbon monoxide gas and other fumes from the breather of automobile engines, these fumes flowing back into the vehicle body.

It is an object of the present invention to provide a simple and efficient attachment adapted to be placed between the breather and the carburetor whereby all gases and fumes released within the crank case will be directed into the carburetor, thus supplying a lubricant to the fuel and preventing the escape of noxious fumes into the car body.

Another object is to provide an attachment of this character which can be applied readily to different makes of motors, is simple in construction, will not easily get out of order, and can be readily separated for the purpose of cleaning or renewing its contents.

A further object is to provide an attachment which will act to clean the fumes sucked from the crank case so that no objectionable impurities will enter the carburetor.

Another object is to provide an attachment which will effect a considerable saving of fuel and oil through the use of vapors drawn from the crank case.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is an elevation of the attachment applied to an internal combustion engine a portion of which is shown, a part of the structure being shown in section.

Figure 2 is an enlarged section through the expansion and filtering chamber.

Referring to the figures by characters or reference 1 and 2 designate opposed members preferably conical, the large ends of these members being interfitted as shown at 3. These interfitted ends are screw-threaded or otherwise formed as shown at 4 so as to permit the members 1 and 2 to be readily connected and disconnected.

The small end or apex portion of each member has an opening 5 surrounded by flanges 6. To one of these flanges is connected a pipe 7 which can be rigid or flexible and of any preferred material. In the present instance pipe 7 is rigid and is provided with a tapered sleeve 8 adapted to be wedged into the intake c of the carburetor C.

A flange 6 at the other opening 5 is adapted to be connected by a pipe 9 to the breather B of motor M and is also provided with a tapered sleeve 10 for wedging engagement with the open end of the breather. Pipe 9 can be flexible or rigid, according to the requirement. In the present instance it is shown flexible.

Arranged within each of the members 1 and 2 at a point between its ends is a partition 11 formed preferably of three layers of wire netting of a fine mesh so that an efficient screen is thus produced. The space between the screen in the two members 1 and 2 constitutes a filtering chamber and is filled with steel wool indicated at 12. The unfilled spaces between the openings 5 and the screens 11 constitute expansion chambers 13.

In practice pipe 7 is attached to the intake of a carburetor C as shown and will support the parts 1 and 2. Pipe 9 can then be extended to the breather B into which the tapered sleeve 10 can be forced to form a tight connection.

It will be obvious that when the engine is operating a suction will be set up from the breather B through pipe 9, members 2 and 1 and pipe 7 to the carburetor with the result that carbon monoxide gas and various fumes released within the crank case of the motor will be drawn into the carburetor, there to be mixed with fresh fuel to be supplied to the motor. The lubricant fumes will mix with the fuel and assist materially in lubricating the pistons of the motor. Objectionable gases will also be conveyed into the motor and consumed or carried through and delivered through the exhaust.

When the fumes enter the member 2 they will expand in chamber 13 and while still expanding will flow through the mass of steel wool then be sucked therefrom through the other chamber 13 and pipe 7. The screens 11 act to break up the fumes and to remove some impurities therefrom. Other impurities will be removed by the wool. As the fumes pass through the second screens 11 toward pipe 7 said screens will prevent any of the wool or other foreign substances from being sucked into the carburetor. It will be noted

- that the area of the filtering material 12 increases away from the screens 11 at the intake to points in line with the joint indicated at 3-4. Thus the gas to be filtered will enter the filtering material at a point of relatively small area and then be allowed to expand within said material until it reaches the center of the filter. Therefore any foreign substances carried by the gas will be freed therefrom more readily than would be possible should the gases be held against expansion while within the filtering material. Consequently the gases, as they gradually contract and emerge from the filtering material, will be cleaner than otherwise would be possible.
- Should it be desired to clean the wool or to renew the supply, the member 2 can be detached from member 1, and after the necessary replacement has been made these parts can be reassembled easily.
- Obviously the pipes 7 and 9 can be of any suitable lengths and sizes to permit the attachment to be applied to various makes of motors.
- It has been found in practice that by using an attachment such as described it has not only been possible to prevent objectionable fumes from

flowing back into the vehicle body from the breather but it has also been possible to increase the mileage obtainable with a given amount of gas and oil. It is to be understood that air can be supplied to the attachment from any suitable point.

What is claimed is:

An attachment for insertion between the breather and the carbureter of an internal combustion engine, including separate opposed imperforate substantially conical members having interfitting screw-threaded portions at their large ends constituting detachable connections between the members, there being an opening in the apex of each member, a flexible pipe joined to the apex portion of one member, a rigid tubular support joined to the apex portion of the other member, a partition in each member comprising a plurality of contacting screens, and a filtering material filling the space between the partitions, the transverse area of the filtering material gradually increasing from the screens inwardly to the center of the space between the screens.

JOHNNIE L. JOHNSON.