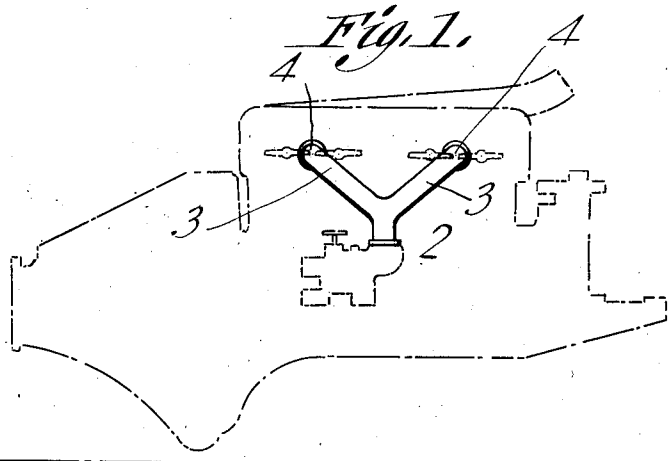
T. ULMER.

INTAKE MANIFOLD.

APPLICATION FILED APR. 9, 1919.

1,333,142. Patented Mar. 9, 1920.

Fig. 1.



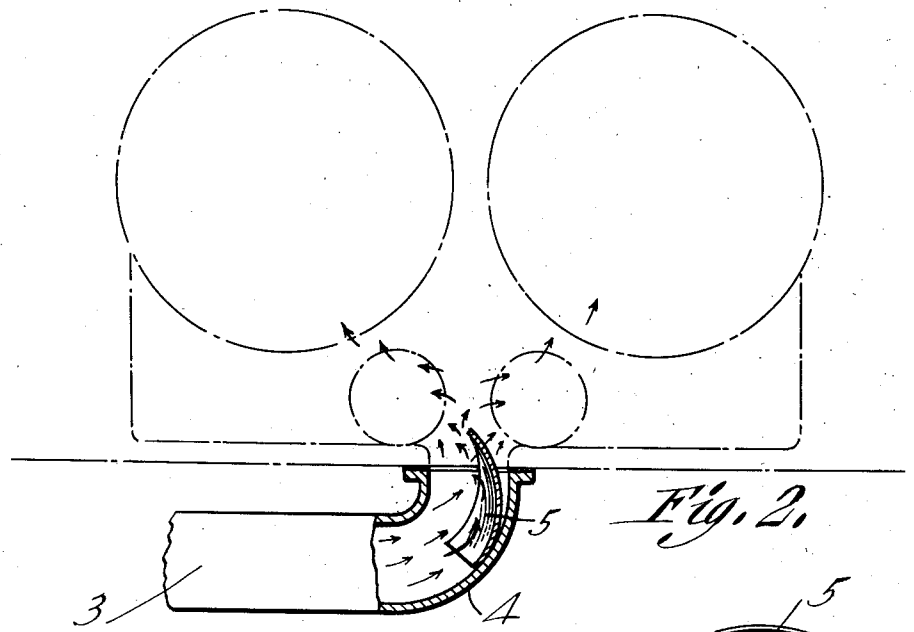


Fig. 2.

Fig. 3.

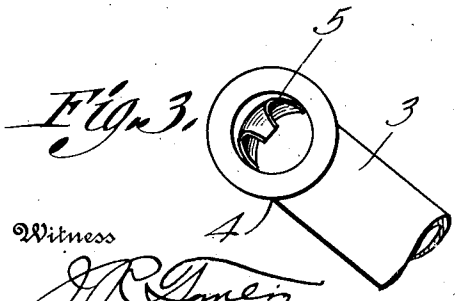
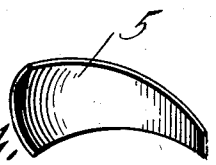


Fig. 4.



Witness

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UNITED STATES PATENT OFFICE.

THEODORE ULMER, OF SCOTLAND, SOUTH DAKOTA.

INTAKE-MANIFOLD.

1,333,142. Specification of Letters Patent. Patented Mar. 9, 1920.

Application filed April 9, 1919. Serial No. 288,768.

To all whom it may concern:

Be it known that I, THEODORE ULMER, a citizen of the United States, residing at Scotland, in the county of Bonhomme and State of South Dakota, have invented a new and useful Intake-Manifold, of which the following is a specification.

This invention relates to improvements in intake manifolds for internal combustion engines, the object of the invention being to provide an improved manifold whereby an equal distribution of the gas from the carbureter will be made to all of the cylinders.

A further object of the invention is to provide an improved manifold which will result in a considerable saving of gas, and which is comparatively simple in construction, economical to manufacture and very efficient in use.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention consists in the novel features of construction and combination of parts which will be more fully described hereinafter and particularly pointed out in the claims.

In the drawings accompanying and forming part of this specification,

Figure 1 is a side view in dot and dash lines of a conventional form of gas engine, showing the intake manifold connected with the carbureter and the cylinder housing;

Fig. 2 is a diagrammatic view illustrating the manner in which gas is delivered to the cylinders by means of my improved manifold, the manifold being shown broken away and partly in section;

Fig. 3 is a view of the delivery end of the manifold, showing my improved baffle in position therein; and

Fig. 4 is a perspective view of the baffle.

The same characters of reference designate the same parts in the different figures of the drawings.

In the practical operation of automobiles considerable difficulty is experienced by reason of the corrosion of the spark plugs, especially in the front cylinder. After extended study and experiment, I have found that the principal cause of this trouble is the fact that in order to give all of the cylinders sufficient gas the front cylinder gets an excess of "raw" gas which cannot be entirely consumed, this excess of gas remaining in the cylinder and carbonizing the spark plug. The cause of this excess of gas going into the front cylinder is the fact that the manifold as usually provided has a Y-tube, each branch of which supplies gas to two cylinders, and since the front cylinder is located more directly in the line of travel of the gas it naturally follows that more gas will enter the front cylinder than the rear. The object of this invention therefore, is to overcome this difficulty, and tests with automobiles of different makes have fully demonstrated that with the use of the device hereinafter described, not only is this trouble entirely eliminated, but that a considerable saving in gas is thereby effected.

In the embodiment herein illustrated, my improved intake manifold comprises the usual Y-tube having a stem 2 adapted to be connected to the carbureter for leading the explosive mixture therefrom to the explosion chambers of the cylinders, the branches 3 each leading to a pair of cylinders, and where there are more than four cylinders each branch 3 is itself provided with an additional branch or branches for supplying the additional cylinders. At the end of each of the branches 3, where it connects with the cylinder housing, an elbow 4 is interposed between the tube and the housing, which elbow is preferably solid cast and is of somewhat larger diameter than the remainder of the tube or pipe. Within each of the elbows 4 I provide a baffle member 5 of approximately triangular shape and secured along one of its sides to the interior of the elbow, with the vertex opposite said side extending outwardly at the end of the elbow and curved inwardly toward the axial center thereof, as clearly shown in Fig. 2. It will thus be seen that the so-called raw gas passing through the elbow is directed away from the front cylinder and toward the center of the elbow, whereby the gas is caused to flow freely toward the second cylinder and is thus equally distributed in all of the cylinders.

While I have described in detail the structure herein illustrated, it is to be understood that I do not thereby limit my invention to the precise features of construction shown, as I am aware that many mechanical

changes may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus described my invention, what I claim is:

1. A device of the class described, comprising a tube adapted for the passage of an explosive mixture, and a curved plate secured within said tube at the delivery end thereof and extending longitudinally of the tube for deflecting the said mixture toward the axial center of said tube.

2. A device of the class described, comprising a tube adapted for the passage of an explosive mixture, an elbow secured to said tube, and a curved baffle plate secured within said elbow and extending longitudinally thereof and adapted to deflect the mixture toward the axial center of the elbow.

3. A device of the class described, comprising a tube adapted for the passage of an explosive mixture, an elbow secured to said tube, and a triangular baffle plate secured along one side thereof within said tube and having the vertex opposite said side curved toward the axial center of said elbow.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THEODORE ULMER.

Witnesses:
G. F. WILD,
JOHN PIKAS.