H. F. ONG.

CARBURETER DEVICE.

APPLICATION FILED SEPT. 22, 1917.

1,311,088.

Patented July 22, 1919.

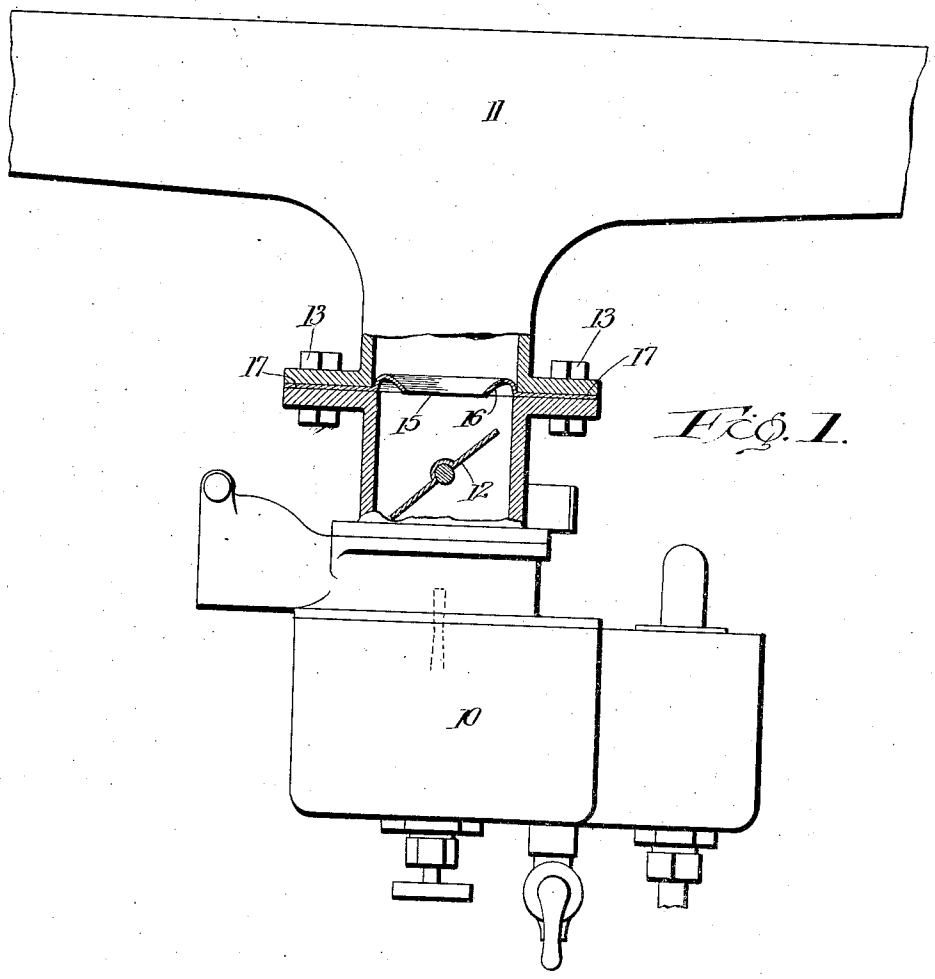


FIG. 1.

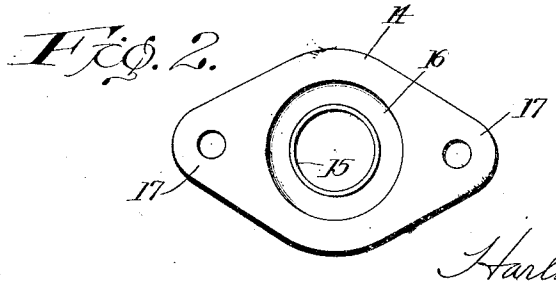


FIG. 2.

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CARBURETER DEVICE.

1,311,088. Specification of Letters Patent. Patented July 22, 1919.

Application filed September 22, 1917. Serial No. 192,707.

To all whom it may concern:

Be it known that I, HARLON F. ONG, a citizen of the United States, and residing at Portland, county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Carbureter Devices, of which the following is a specification.

This invention relates to auxiliary mixing devices for use in connection with carbureters and its object is to provide such a device which is simple and easily attached, or which may form a part of the original intake mechanism of a hydrocarbon engine, and which effectually completes the carburation of the charge whenever the initial mixing is not perfect.

The invention is particularly adapted for use with automobile carbureters and will be described and illustrated in connection with an automobile carbureter and manifold.

In the drawings:—

Figure 1 is an elevation of portions of a carbureter and manifold, part being broken away; and

Fig. 2 is a bottom plan view of the auxiliary mixing device.

The carbureter 10 and manifold 11 may be of any desired construction as my invention may be applied with equal freedom to the various types.

In the drawings I have illustrated a well known type of carbureter having the usual butterfly valve 12 controlling the flow of the mixture into the manifold and cylinders. The carbureter is secured to the manifold by means of two bolts 13 passing through flanges on the lower end of the manifold intake and the upper end of the carbureter offtake. It is often, if not generally the case that the mixing of the liquid fuel and the air by the carbureter is not complete and some supplementary mixing means is necessary in order that a homogeneous charge be sent to the cylinders. In other words, globules of the gasolene or other liquid fuel sometimes pass through the manifold into the cylinders without being broken up into fine particles, which is very undesirable.

My invention consists of a device which is preferably placed in the intake manifold or conduit and which collects the globules of gasolene or other hydrocarbon and subjects them to a second carburation which renders the charge homogeneous and much more efficient. More particularly the invention, as shown, comprises a sheet metal plate 14 having a central opening 15, a concave under surface 16 around the opening and extensions 17 which are adapted to be clamped between the flanges of the manifold intake and carbureter offtake to hold the device in position.

The under surface 16 is downwardly inclined to the central opening and faces the flow of the charge and the globules of fuel striking against it are stopped and then run down to the edge of the central opening 15 or are carried to the edge by the draft and as the liquid travels over this edge it is carbureted by the rapid current of the mixed air and fuel charge passing through the opening 15. When a butterfly valve is used, as shown, the mixture passing up the pipe is directed laterally toward the plate 14 and the particles or globules of fuel caught thereby.

The device is very simple and inexpensive and may be easily and quickly attached, or may be incorporated in the original construction. When used it renders the engine more efficient by improving the quality of the mixture and also saves gasolene.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:—

1. The combination with a carbureter and intake conduit, each having flanges adapted to be secured together, of a plate clamped between said flanges having a portion extending into the bore of the conduit, said portion being formed with an annular groove on its underside bordering a central aperture, the groove being adjacent the inner surface of the conduit and acting to intercept unvaporized globules of the liquid fuel and conduct them to the aperture where they are vaporized by the rapid flow of mixture passing the inner periphery of said plate.

2. As an article of manufacture, an auxiliary mixing device for hydrocarbon motors comprising a plate having suitable openings for connection to a carbureter and formed with a central aperture, the portion of the plate bordering said aperture being formed with an annular groove on its under side, for the purpose of intercepting unvaporized globules of the liquid fuel and conducting them to the aperture where they are vaporized by the rapid flow of mixture passing the inner peripherv of said plate.

In testimony whereof I affix my signature.

HARLON F. ONG.