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FUEL MIXER FOR INTERNAL COMBUSTION ENGINES

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Fig. 1.

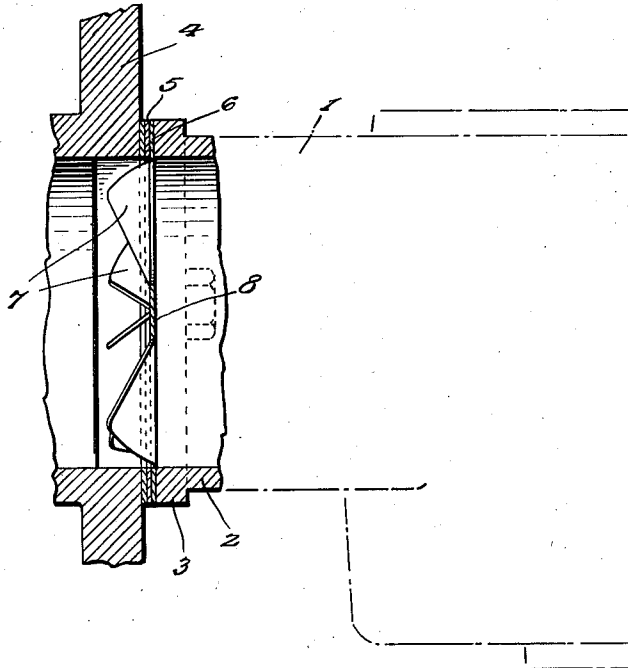
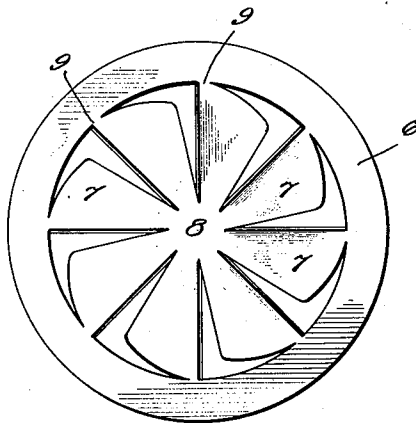


Fig. 2.



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FUEL MIXER FOR INTERNAL-COMBUSTION ENGINES.

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This invention relates to internal combustion engines and more particularly to a fuel mixer, by means of which a charge of fuel passing from a carbureter to the cylinders of the engine may be broken up and gasoline or other liquid fuel which has not been thoroughly vaporized in the carbureter converted into a gaseous form before it reaches the cylinders.

Another object of the invention is to so form the gas mixer that when in use it will cause the charge passing through the fuel conduit from the carbureter to the cylinders of the motor to have a swirling motion imparted to it so that free gasoline contained in the charge will be quickly converted into a gaseous state and thoroughly mixed with the remainder of the charge.

Another object of the invention is to so form the fuel mixer that it will be of a very simple construction and permitted of being clamped in place between the carbureter and a conduit leading to the cylinder of the motor.

Another object of the invention is to permit of the fuel mixer being stamped from sheet metal and, therefore, very cheaply produced.

This invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a sectional view showing a fragment of an engine block with a carbureter mounted in operative relation to the inlet of the block and the attachment in place between the carbureter and fuel inlet of the block;

Fig. 2 is a view showing the attachment in front elevation.

The carbureter which has been indicated by dotted lines and designated in general by the numeral 1 is of a conventional construction and provided with a discharge neck 2 having a flange 3 provided about its free end so that the carbureter may be connected with the block 4 of an internal combustion engine or to the inlet end of a manifold in the usual manner. When in place, the neck 2 of the carbureter encloses the outer end of the fuel inlet of the block 4 and a gasket 5 is clamped between the neck of the carbureter and outer face of the block so that a tight joint is formed. The fuel mixer which forms the subject-matter of this invention is mounted, as shown in Fig. 1, at the connection of the carbureter with the block or intake manifold of the motor, and it will be readily seen that the charge of fuel passing from the carbureter to the block or manifold must pass the attachment and will, therefore, be acted upon by the attachment.

Referring to Fig. 2, it will be seen that the attachment, which is preferably stamped from sheet metal but could be cast, includes an annular rim 6 of such external diameter that it will conform to the outer diameter of the discharge neck of the carbureter at its flanged end and, therefore, the rim 6 of the attachment will fit between the neck of the carbureter and the gasket 5 and will be firmly gripped when the fastener bolts for the carbureter are tightened. The blades 7 of the mixer extend radially from the hub 8 with their inner ends entirely connected with the hub. The blades increase in width towards their outer ends and are free from the rim for almost their entire widths. One extreme side portion of the outer end of each blade is, however, joined to the rim, as shown at 9, so that the blades are firmly anchored to the rim and the blades and hub held stationary when the rim is clamped between the gasket and neck of the carbureter. In the preferred form, the device is stamped from sheet metal and after being stamped to form the rim, blades and hub, the blade-forming portions are bent so that they extend from the rim and hub at an incline, as shown in Fig. 1. Therefore, when the attachment is in place, the blades extend into the block or manifold at an incline to cause the charge of fuel to be deflected when it engages the blades and a swirling motion imparted to the charge. The charge of fuel will, therefore, be thoroughly agitated as it passes the attachment and any gasoline which has not been entirely vaporized will be converted into a vapor and the entire charge thoroughly mixed. This device can be very easily and quickly put in place as it is merely necessary to remove the bolts which secure the carbureter to the engine block or manifold and after inserting the attachment, as shown in Fig. 1, again tighten the bolts so that the rim of the device is firmly clamped between the gasket and neck of the carbureter.

Having thus described the invention, I claim:

A gas mixer comprising a circular sheet metal disc cut to provide a rim of an even width throughout its circumference and blades radiating from an imperforate hub forming a center baffle, said blades increasing in width towards their outer ends and each being free from the rim for the greater portion of its width and having an outer corner portion integrally joined to the rim, and said blades being pitched at a transverse incline and projecting beyond the plane of one side face of the rim and adapted to impart whirling motion to fluid passed through the mixer.

In testimony whereof I affix my signature.

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