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1,557,362

O. HARRIS

MIXING DEVICE

Filed June 3, 1924

Fig. 1.

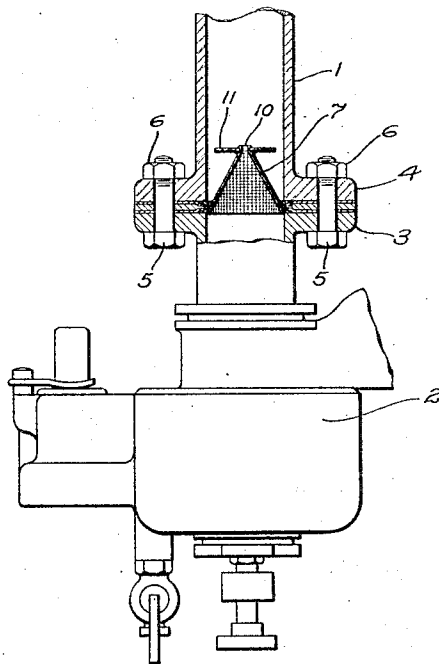
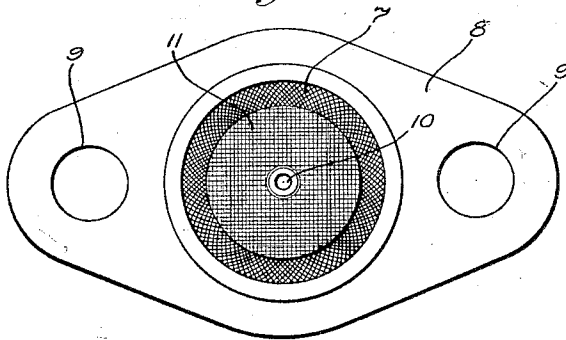


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

OSCAR HARRIS, OF HACKENSACK, NEW JERSEY, ASSIGNOR TO THE PERFECT GASOLINE VAPORIZER COMPANY, OF PATERSON, NEW JERSEY, A FIRM.

MIXING DEVICE.

Application filed June 3, 1924. Serial No. 717,623.

To all whom it may concern:

Be it known that I, OSCAR HARRIS, a citizen of the United States, and a resident of Hackensack, in the county of Bergen and State of New Jersey, have invented a new and Improved Mixing Device, of which the following is a full, clear, and exact description.

This invention relates to mixing devices and more particularly to a mixing device for use in connection with internal combustion engines, an object of the invention being to provide a device located at the inlet end of the intake manifold and so constructed as to thoroughly break up, filter or screen and gasify the combustible mixture as it leaves the carburetor and enters the intake manifold.

A further object is to provide a device of this character which insures a more perfect gas than otherwise so as to provide a better mixture and result in greater efficiency of the engine and in economy of fuel consumption.

A further object is to provide a device of this character which can be manufactured and sold at a reasonably low price, which can be installed without change in the structure of carburetor and manifold such as commonly employed and which will most efficiently perform the functions for which it is intended.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts which will be more fully hereinafter described and pointed out in the claim.

In the accompanying drawings—

Figure 1 is a view, partly in elevation and partly in longitudinal section, illustrating my improved mixing device in operative position;

Figure 2 is a plan view on an enlarged scale of the device.

1 represents the intake manifold of an internal combustion engine, and 2 a carburetor with which the manifold communicates. The carburetor and the manifold have flanges 3 and 4, respectively, for the reception of coupling bolts 5 which are projected therethrough and secured by nuts 6. The above description is intended to apply to any ordinary arrangement such as com-

monly found on the market, and it is to be understood that my invention is not limited to any particular construction of carburetor or engine but is adaptable for use in connection with any.

My improved device comprises a truncated conical screen 7 supported at its larger end by a gasket 8, said gasket being of the shape to conform to the shape of the flanges 3 and 4 and having bolt-receiving openings 9 therein so that said gasket can be readily coupled between the flanges 3 and 4 and secured by the ordinary bolts 5. This gasket 8 may be made of various materials but is preferably of a combination metal and fibrous substance so as to render it more or less compressible to effect a gastight juncture between the manifold and the carburetor when the mixer is in position.

As above stated, the screen 7 is of conical form but its apex is cut off so that an opening 10 relatively small yet of sufficient size is provided at the apex of the screen to allow a certain percentage of mixture to pass therethrough without passing through the mesh of the screen. This allows a sufficient mixture to pass when priming, particularly in starting the engine, and I believe it is desirable under all conditions as the opening insures a suction sufficient to compel the greater portion of the mixture to pass through the mesh of the screen 7.

At the smaller end of the screen 7 I locate a disk 11 and this disk 11 and the screen 7 are preferably of a fine wire mesh. The function of the disk 11 is to deflect as well as screen the gas or mixture so that, by reason of the operation of the engine, the suction induced will not only draw the mixture through the screen and through the disk but will cause a swirling action of the mixture so as to thoroughly break up the particles of liquid and insure a properly commingled gas so that a greater efficiency in the engine and economy of fuel is had.

Various slight changes and alterations might be made in the general form of the parts described without departing from my invention, and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claim.

I claim:

As a new article of manufacture, a mixing device adapted to be inserted in the intake manifold of an engine, and comprising a conical screen having its apex cut off 5
whereby an opening is formed, a gasket constituting the support of the screen and adapted to be clamped between pipe sections, and a circular screened deflector having a central opening receiving the open 10
smaller end of the conical screen and fixed thereto and of less diameter than the larger end of the screen.

OSCAR HARRIS.