July 12, 1932. O. F. WELLING 1,866,829

GASOLINE VAPORIZER

Filed Oct. 27, 1930

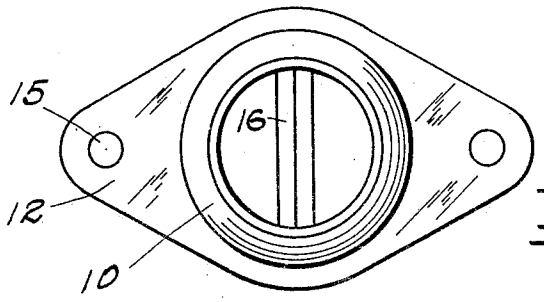


Fig. 2.

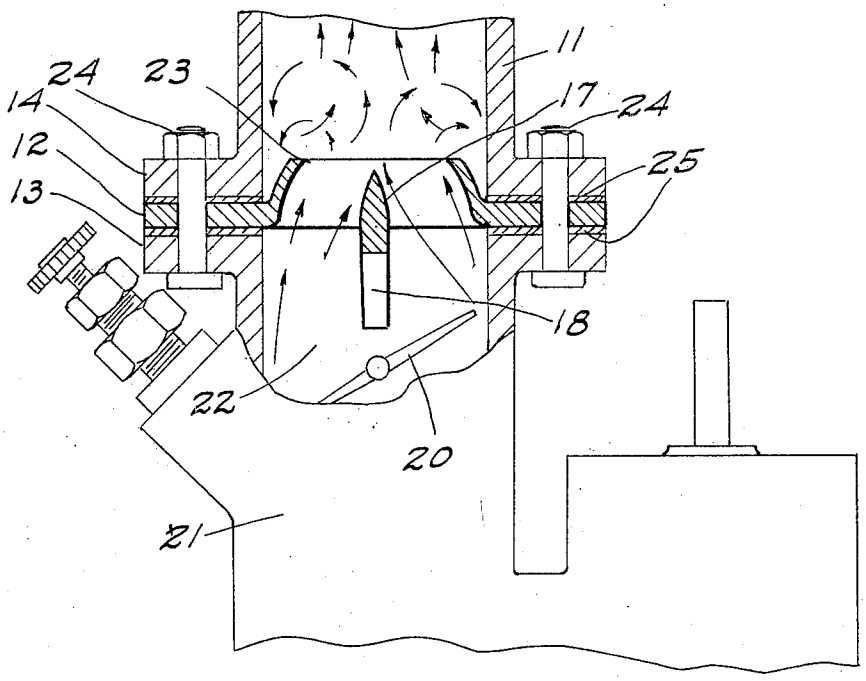


Fig. 1.

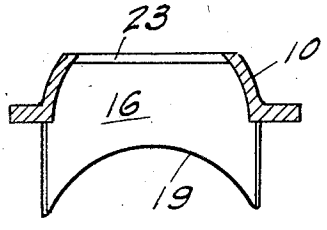


Fig. 3.

Orville F. Welling INVENTOR.

BY Harry Q. Schroeder

ATTORNEY.

Patented July 12, 1932 1,866,829

UNITED STATES PATENT OFFICE

ORVILLE F. WELLING, OF OAKLAND, CALIFORNIA

GASOLINE VAPORIZER

Application filed October 27, 1930. Serial No. 491,508.

This invention is for a gasoline vaporizer adapted to be interposed in the intake circuit of an internal combustion engine, and has for its main object, the interposition of a device between the carburetor and the intake manifold adapted to create eddy currents, whereby a more complete vaporization of the fuel is obtained.

Another object of the invention is to provide a device as outlined, which, due to the more complete vaporization of the fuel, results in fuel economy and increased power of the engine.

Other objects and advantages of the invention will be apparent as the description is read on the drawing forming a part of this specification.

The invention consists substantially of a Venturi tube, having a transverse wall of inverted V form, the wall extending downwardly adjacent the open butterfly valve of the carburetor, and the tube having a flange conforming to the carburetor flange.

The invention is adequately illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary sectional view of the intake manifold and carburetor, with the invention interposed;

Fig. 2 is a top plan view of the invention; and

Fig. 3 is a longitudinal sectional elevation through the invention indicating the transverse wall.

Similar reference characters are used to designate similar parts throughout the several views.

The invention consists of a frusto-spherical member 10, adapted to fit within the intake manifold 11 of an internal combustion motor, and provided with a flange 12 adapted to mate with the carburetor flange 13 and the intake manifold flange 14, bolt holes 15 being provided to register with the bolt holes in flanges 13 and 14. Centrally disposed and extending adjacent the top of the frusto-spherical member 10 is an integral transverse wall 16, the top being formed to inverted V shape 17 to a point adjacent the bottom of the flange 12, then continuing downwardly into a straight wall 18 extending below the bottom of flange 12 the straight wall having an arcuate relief 19 to clear the butterfly valve 20 of the carburetor 21, the wall substantially fitting transversely within the carburetor outlet 22.

The operation of the device is as follows: A mixture of air, gasoline vapor and gasoline mist is drawn through the carburetor outlet 22 and through the restricted aperture 23 where its velocity is increased, passing into the intake manifold where due to the enlarged area, the velocity is again decreased, causing eddy currents as indicated by the arrows, and causing thereby a thorough scrubbing action of the air and vapor with the mist, causing the mist to vaporize before being drawn into the combustion chamber. The transverse wall with the upper knife edge aids in intensifying the eddies, and also collects unvaporized gasoline on the surface which is immediately exposed to the action of air and vapors and thereby vaporized.

The thoroughly vaporized and intermixed gas provided by the invention results in increased power and gasoline economy.

The device is installed by removing the bolts 24 which secure the carburetor to the intake manifold, placing the invention between the flanges, with the Venturi-tube extending upwardly into the intake manifold, and replacing the bolts 24. Gaskets 25 are preferably placed between both flanges and the invention, as shown.

Having described an operative method of constructing and using the device, it will be understood that variations in construction and arrangement, which are consistent with the appended claims, may be resorted to without detracting from the spirit or scope of the invention, or sacrificing any of the advantages thereof.

I claim:

1. A gaseous fuel mixing device adapted to be inserted between a carburetor and an intake manifold comprising a frusto-spherical Venturi tube provided with a flange extending outwardly from the base thereof, and a transverse, centrally disposed wall extending from a point adjacent the top, and

downwardly beyond the base, said wall having a concavity formed at the lower end on a transverse axis.

2. A gaseous fuel mixing device comprising a frusto-spherical Venturi tube having a radial flange extending from the base thereof adapted to be interposed between the flanges of a carburetor and intake manifold, apertures in said flange in registry with the bolt apertures in the carburetor and intake manifold flanges, a vertical wall centrally disposed in said Venturi tube extending from adjacent the top thereof to a point below said flange, the upper end of said wall converging to an inverted V shape edge, the lower end of said wall having an arcuate recess extending from one edge to the other, said wall substantially spanning the outlet of the carburetor.

In testimony whereof I have affixed my signature.

ORVILLE F. WELLING.