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S. P. GREVAS

2,535,410

GASEOUS FLUID VAPORIZER AND MIXING DEVICE

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Fig. 1.

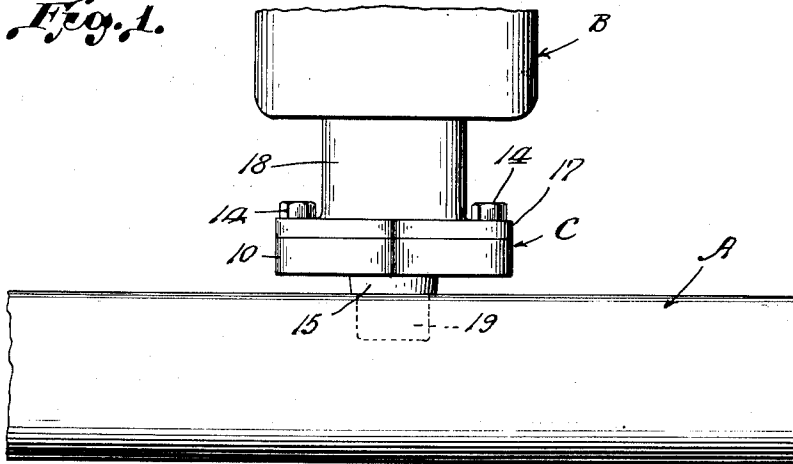


Fig. 4.

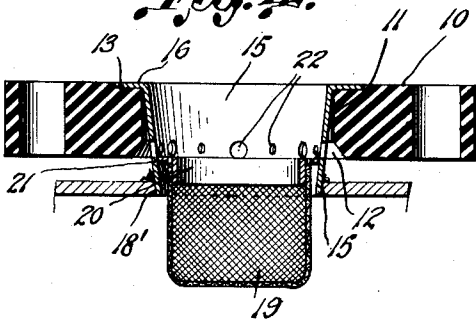


Fig. 5.

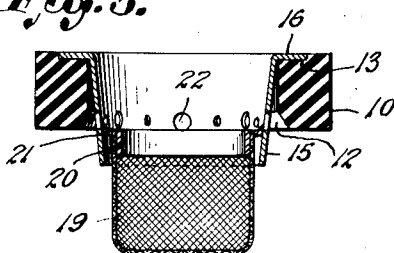


Fig. 2.

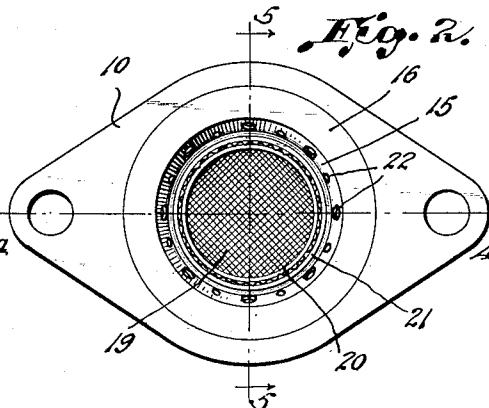
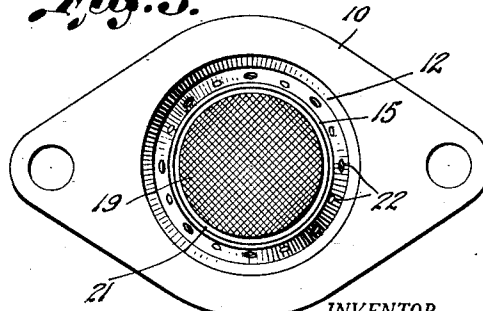


Fig. 3.



INVENTOR.
Steve P. Grevas

BY
Paul J. Parker
ATTORNEY.

UNITED STATES PATENT OFFICE

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GASEOUS FLUID VAPORIZER AND MIXING DEVICE

Steve P. Grevas, Nameoki, Ill.

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1 Claim. (Cl. 48—180)

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The invention relates to a fuel saving attachment for motor vehicles operated from internal combustion engines, and more especially to a gaseous fluid vaporizer and mixing device for internal combustion engines or the like.

The primary object of the invention is the provision of a device of this character, wherein it involves a screen venture in association with a mounting gasket of special design, these being assembled and set in position between an intake manifold and a carburetor, so that on operation of the engine outside air will be admitted to the fuel for thorough vaporization thereof and air mixture had therewith, resultant in a saving of fuel consumption and increasing the efficiency of the engine operation from a better mixture.

Another object of the invention is the provision of a device of this character, wherein it is novel in construction and mounting and additionally is unique in the assembly of its components, it being possessed of few parts, and requires no attention or repairs thereto for the successful working of the same.

A further object of the invention is the provision of a device of this character, which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, readily and easily applied and removed, conveniently accessible, automatic in the working thereof, and inexpensive to manufacture and install.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawing:

Figure 1 is a fragmentary side elevation of the intake manifold of an internal combustion engine and a carburetor, showing the device constructed in accordance with the invention installed therewith.

Figure 2 is a top plan view of the device detached.

Figure 3 is a bottom plan view of the same.

Figure 4 is a sectional view taken approximately on the line 4—4 of Figure 2 looking in the direction of the arrows.

Figure 5 is a sectional view taken on the line 5—5 of Figure 2 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

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Referring to the drawing in detail, A designates generally a portion of an intake manifold of an internal combustion engine conventional in kind, while B denotes generally a portion of a carburetor, which may be of any ordinary well known type or as employed on motor vehicles operated from an internal combustion engine, not shown.

Located between the manifold A and the carburetor B is the device constituting the present invention, which is identified generally at C in the drawing, and comprises in this instance a hard rubber gasket 10, although the latter may be made from any other suitable material of the size and shape required, having centrally thereof a substantially circular shaped hole 11, which next to one face of the gasket 10 has an outwardly beveled annular wall or flared marginal area 12, while next to the other opposite face of such gasket concentric to the hole 11 and created in said gasket is an annular countersunk seat 13. The gasket 10 uppermost thereto has mounted thereon for detachment therefrom the carburetor B, the mounting being had in the ordinary well known manner, as for example, the fasteners 14.

Within the hole 11 is positioned an inverted substantially conical shaped truncated nipple or thimble of tubiform, as at 15, which at the larger end is provided with an outturned annular seating flange 16, snugly resting in the seat 13 and held therein by the attaching flange 17 of the coupling connection 18 from the carburetor B to the gasket 10, as should be apparent from Figure 1 of the drawing. The nipple or thimble 15 extends beyond gasket B at the flared marginal area 12, this being the smaller end of such nipple or thimble 15, while the flange 16 is located at the larger end of the said nipple or thimble, as will be apparent.

The nipple or thimble 15 at the smaller end, which is a continuation of the tapered formation of such nipple or thimble, is counterseated in an opening 18, as provided in the intake manifold A and held fast thereto with the gasket 10 spaced removed from the said manifold and at the same time free fluid flow is had from the carburetor B into the latter through the nipple or nozzle created by the thimble before described.

Depending from within the smaller end of the nipple or thimble 15 into the manifold A is a cup-shaped screening element 19, preferably made from wire mesh fabric or other reticulated material, the diameter of the element being less than the diameter of the nipple or thimble 15 at

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its smaller end, while the uppermost open end of this element is joined externally to a hanger or suspension ring or collar 20, which at the upper outturned angular flange 21 thereof has union with the nipple or thimble 15, as best seen in Figures 4 and 5 of the drawing, the union being a seal between the flange 21 and the said nipple or thimble.

The nipple or thimble 15 above and next to the flange 21 has provided therein spaced air inlet apertures or openings 22, these confronting the gap created by the outwardly beveled wall or area 12 provided in the gasket C, so that outside air from the atmosphere will be drawn in to the nipple or thimble 15 when the internal combustion engine is in operation through a suction stroke of such engine, and this action is concurrent with the fuel flow from the carburetor B to the latter through its intake manifold A. Thus, it can be seen by the operation of the device constituting the present invention there is a thorough vaporization of the fuel supply and an outside air mixing therewith, resulting in the saving of fuel consumption, as well as the assurance of the efficient working of the engine.

What is claimed is:

A gaseous fluid vaporizer and mixing device

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adapted to be interposed between a carburetor and an intake manifold, comprising: a tube connected to the carburetor and the manifold, a flange on one end of said tube, a screen attached to said tube, an annular row of holes being provided in said tube intermediate said flange and said screen, a plate adapted to be secured to said carburetor and spaced from said manifold, whereby said tube is held in position, and a beveled portion on said plate adjacent to the holes, so that air is admitted to said holes from the space between the plate and the intake manifold.

STEVE P. GREVAS.

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