Dec. 27, 1960 E. L. WILTSHIRE ET AL 2,966,150

FUEL DEFLECTOR

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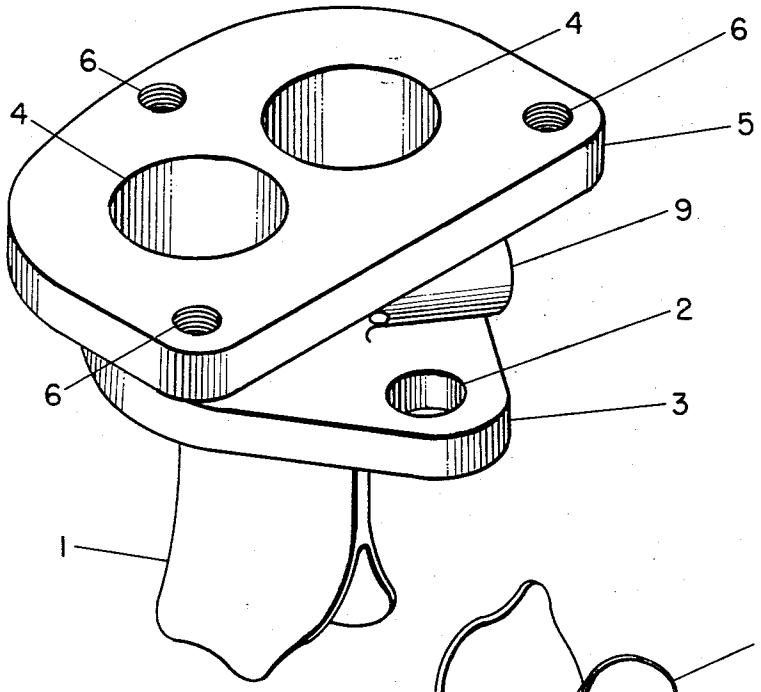


FIG. 1

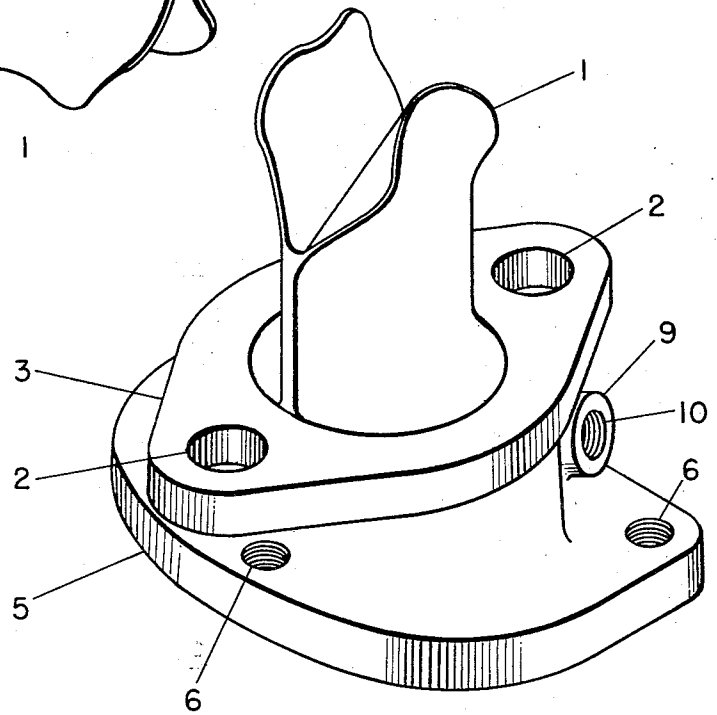


FIG. 2

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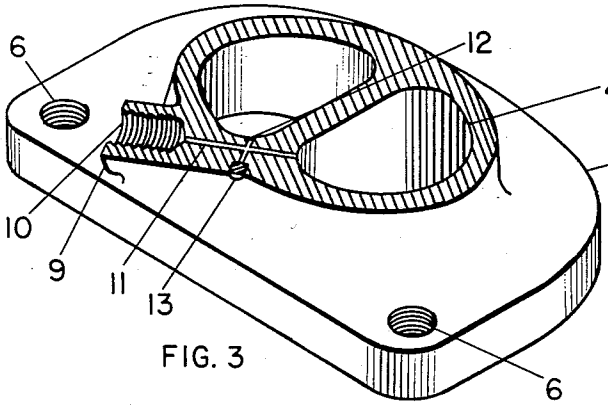


FIG. 3

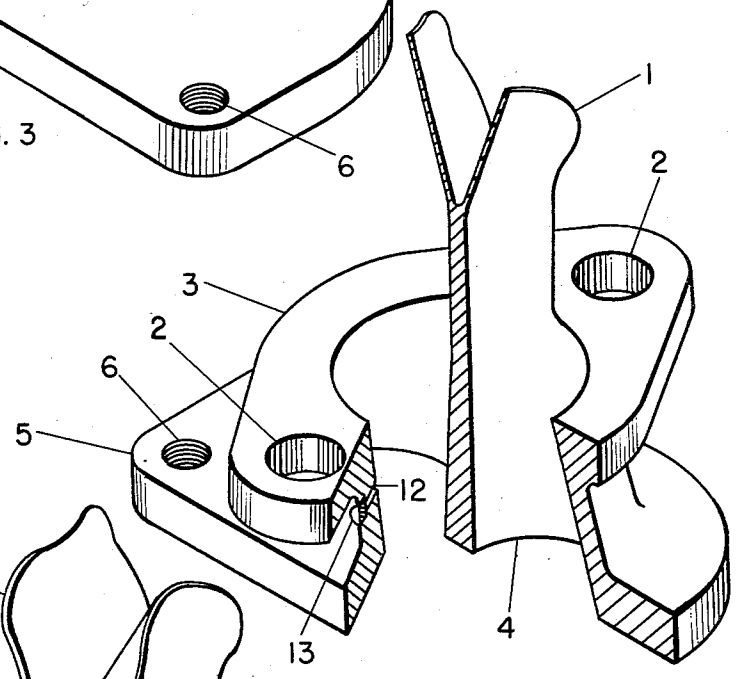


FIG. 4

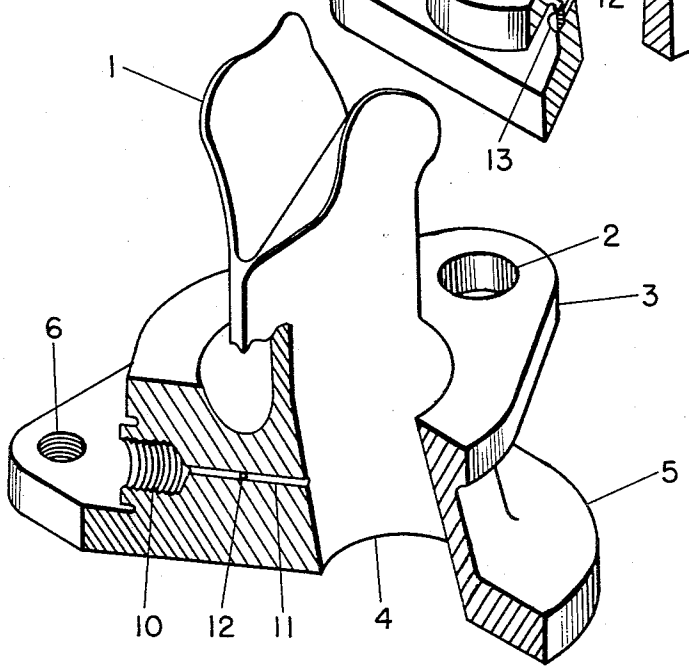


FIG. 5

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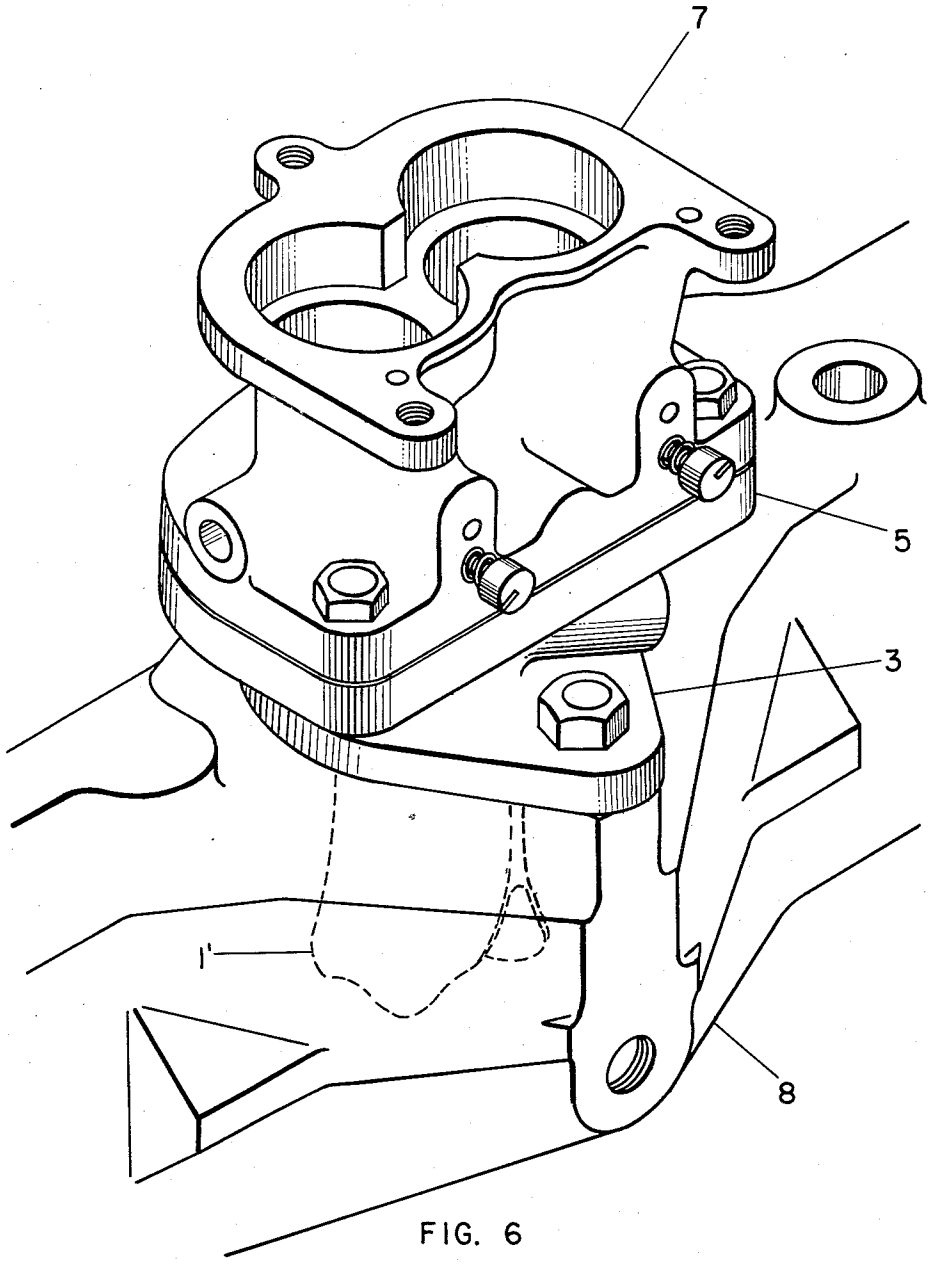


FIG. 6

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2,966,150

FUEL DEFLECTOR

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3 Claims. (Cl. 123—52)

This invention relates to improvements in fuel distribution, in a combustion engine. Converting a single throat manifold to a dual throat carburetor. This adapter permits fuel to flow freely into manifold by use of a deflector.

It is a known fact that fuel entering the manifold, with this invention permits, better vaporization and distribution, from a dual throat carburetor, to a single throat manifold.

With this in view, the invention consists of certain novel features of construction as will be more fully hereinafter described and pointed out, in the claims.

In the drawings:

Figure 1 is a view in perspective of a fuel deflector in accordance with the invention;

Figure 2 is an inverted view of the invention as shown in Figure 1;

Figure 3 is a perspective view of the invention, partly in vertical section and partly broken away to illustrate the internal construction;

Figure 4 is a perspective view of the invention, partly in vertical section, to further illustrate the internal construction;

Figure 5 is a perspective view of the invention, partly in horizontal section, to further illustrate the internal construction; and,

Figure 6 is a perspective view of the invention shown in combination with a carburetor and a manifold, partly broken away to conserve space, illustrating the positioning of the deflector within the manifold by means of hidden lines.

Referring to the drawings, reference numeral 3 is seen to identify a principal casting having, at one extremity, a flange provided with bolt holes 2. The flange of casting 3 is adapted to mate in sealing relation with a similar flange on manifold 8, Figure 6, and be secured thereto by means of bolts, and the like, passing through bolt holes 2 of casting 3 and holes in the mating flange of manifold 8 positioned in alignment with bolt holes 2. At the other extremity, casting 3 is provided with a flange 5 provided with bolt holes 6. Casting 3 has an internal cavity which intersects the surface of flange 5 to form a pair of portholes 4. Flange 5 and portholes 4 are adapted to mate in sealing relation with a similar flange and portholes of a carburetor in carburetor base 7 which portholes are seen to interconnect the internal cavities of the carburetor, casting 3 and in turn the internal cavity of manifold 8.

Deflector 1 is seen to depend from the extremity of casting 3 opposite flange 5 as a continuation of a web intermediate each of the portholes 4 which divides and separates the internal cavity of casting 3 into two halves. One porthole 4 is seen to communicate with one half of the internal cavity of casting 3 to one side of deflector 1 and the other porthole is seen to communicate with the other half of the internal cavity of casting 3 to the other side of deflector 1. The extremity of deflector 1 remote of casting 3 is seen to terminate in a pair of divergent

wings bent outwardly to form a V-shaped portion with the apex thereof connecting the main body of deflector 1 which is a continuation of and in alignment with the web separating the cavities within casting 3 defined at the junction thereof with the surface of flange 5 by portholes 4. The apex of the V-shaped portion is further located and positioned more closely adjacent the principal casting 3 than the divergent wings.

As best illustrated in Figure 6, the deflector 1 and the divergent wings thereof are of a size and shape, when the flange of casting 3 is positioned in sealing relation with the mating flange of manifold 8, to substantially seal off and prevent communication between the internal cavity of manifold 8 to either side of deflector 1. Thus, it is seen that the portion of the internal cavity of the carburetor connected to one porthole 4 of casting 3 will communicate substantially only with the internal cavity of manifold 8 to one side of deflector 1, while the portion of the internal cavity of the carburetor connected to the other porthole of casting 3 will communicate substantially only with the internal cavity of manifold 8 to the other side of deflector 1.

It has been found in practice that the deflector 1 and the positioning thereof, in accordance with the teaching of this invention, in a manifold 8 serves to provide a more efficient and uniform distribution of an air-fuel mixture from a carburetor to the respective cylinders of an internal combustion engine than heretofore possible with prior art devices and arrangements.

Referring to Figures 3, 4 and 5, there is provided in the body of casting 3 a pair of bores communicating an outer surface with the respective halves of the internal cavity of casting 3 to either side of the web intermediate the portholes 4. As best shown in Figure 5, the bores are seen to intersect within a wall portion of casting 3 and terminate at the internal ends in vacuum equalizing ports 11 and 12. The bore communicating with port 12 is closed at the external end by means of a screw plug 13. The bore communicating with port 11 terminates at the external end in a threaded connecting hole 10 within boss 9. Connecting hole 10 is adapted to be connected to a vacuum line interconnecting the internal cavity of casting 3 and a vacuum advance device of conventional design. Where the carburetor is provided with such a vacuum connection connecting hole 10 may be plugged. The bores within casting 3 and ports 11 and 12 provide means for equalizing the vacuum within the two halves of the internal cavity of casting 3.

Various slight changes might be made in the general form of the casting described without departing from our invention and hence we do not limit ourselves to exact details set forth but consider ourselves at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims and necessity for attaching to various carburetors as per the following claims.

We claim:

1. A fuel deflector comprising a casting having an internal cavity, deflector means positioned within the cavity dividing the cavity into at least two equal portions, said deflector means having an extension which terminates beyond the cavity in a plurality of increasingly divergent wings.

2. A fuel deflector according to claim 1, wherein the deflector means bisects the internal cavity of the casting and the deflector means terminates beyond the cavity in a pair of divergent wings of a shape and size sufficient, when the casting is mounted on a manifold with the extension of the deflector means positioned within the internal cavity of such manifold, to substantially completely divide the cavity of such manifold into a portion lying

to one side of the deflector means and a portion lying to the other side of said deflector means.

3. A fuel deflector as set forth in claim 2, wherein the divergent wings of the deflector means are of a shape and size sufficient to substantially seal off that portion of the cavity of such manifold lying to one side of the deflector means from that portion of the cavity of such manifold lying to the other side of said deflector means.

References Cited in the file of this patent

UNITED STATES PATENTS

1,273,845	Funderburk	July 30, 1918
1,278,558	Arndt	Sept. 10, 1918
1,418,100	Simmons	May 30, 1922
1,671,898	Gingerich	May 20, 1928
1,793,509	Purdy	Feb. 24, 1931