March 21, 1933. C. A. BORGESON 1,902,275

GAS SAVER

Filed Aug. 31, 1931

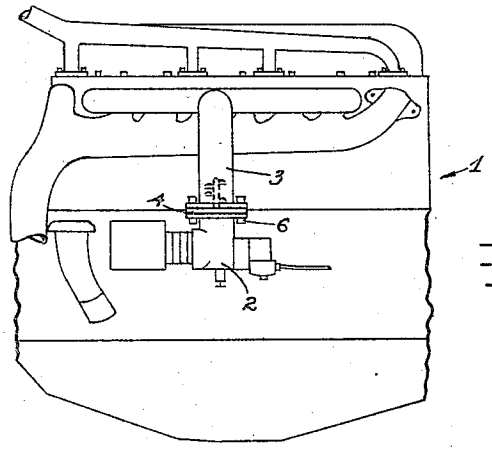
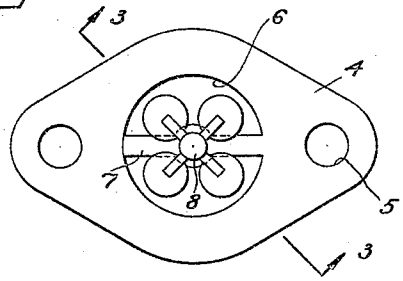


Fig. 1.

Fig. 2.



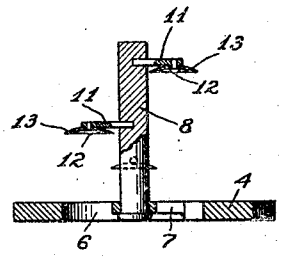


Fig. 4.

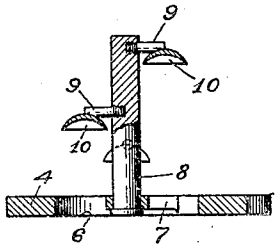


Fig. 3.

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UNITED STATES PATENT OFFICE

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GAS SAVER

Application filed August 31, 1931. Serial No. 560,473.

My invention relates to improvements in gas savers, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide a gas saver which acts as an additional atomizer upon the fuel just as it leaves the carburetor. The mixture of air and gasoline is made uniform and the mixture is agitated sufficiently as it passes the device to cause the air to keep the minute particles of gasoline in suspension until the mixture is admitted to the cylinders. This results in a saving of gasoline and further results in a cooler operating engine and a more efficient engine.

A further object of my invention is to provide a device of the type described which is extremely simple in construction and which may be quickly attached to an intake manifold and be disposed between the manifold and the carburetor without the necessity of making any alterations.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming a part of this application, in which

Figure 1 is a side elevation of the device shown operatively applied in an intake manifold;

Figure 2 is a top plan view of the device;

Figure 3 is a vertical section through the device; and

Figure 4 shows a modified form of the invention.

In carrying out my invention I make use of an automobile engine indicated generally at 1, having a carburetor 2 and an intake manifold 3. Between the carburetor 2 and the intake manifold 3 I dispose my device.

My device comprises a base 4 having openings 5 that are designed to receive bolts 6 that secure the carburetor 2 to the intake manifold 3. The base 4 has a large opening 6 which registers with the intake manifold and a bar 7 extends diametrically across the opening 6 and carries an upright 8. Arms 9 extend radially from the upright 8 and carry deflectors 10. The arms are arranged equal distances around the upright 8, four of these being shown in the present construction. The arms are also arranged at approximately equal distances along the length of the upright starting from the bar 7.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

In securing the device in place the carburetor is temporarily disconnected from the intake manifold and then the upright 8 is inserted in the manifold and the openings 5 are aligned with the openings in the carburetor and intake flanges. The bolts 6 now secure the assembly together.

The air is properly mixed with the gasoline as it passes through the carburetor 2 and this mixture is agitated as it passes the deflectors 10. The result is a more perfect mixture of air with the minute particles of gasoline and the gasoline particles are kept in suspension in the air until the mixture is fed into the cylinders. A more perfect firing mixture is thus delivered to the cylinders and the result is a saving in gasoline and a more efficient operation of the engine.

The device has actually been tested on an automobile using a carburetor which was giving 16.3 miles to the gallon. After the device was used the mileage was increased to 25 miles to the gallon.

In Figure 4 I show a slight modification of the invention. In this form of the device the upright 8 carries arms 11 which are forced into openings in the upright rather than screwed into threaded openings in the form shown in Figure 3. Rivets 12 are used for securing deflectors 13 to the arms 11 and it should be noted that the deflectors 13 are less cup-shaped than the deflectors 10. This type of device does not give quite as high gas mileage as the form shown in Figure 3, but there is a marked increase in the power of the engine. The modified form of the device gives 24.1 miles to the gallon of gasoline.

It should also be noted that the more perfect burning of the gas results in a cooler op-

erating engine. The edges of the deflectors are sharp, as shown in Figures 3 and 4.

While I have shown only two forms of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. An article of manufacture comprising a base having an opening therein, a bar extending diametrically across the opening, a support carried by the bar and being axially aligned with the short axis of the opening, pins extending radially from the support and being disposed equal distances around the support and equal distances along the support so as to form a spiral, and cup-shaped deflectors carried by the pins and facing toward the opening.

2. An agitator comprising a base, a longitudinal supporting member carried by the base, and a plurality of dish-shaped deflectors arranged spirally around the supporting member and facing toward the base.

3. An article of manufacture comprising a base having an opening therein, a support carried by the base and extending from the center of the opening, said support having radially extending threaded openings arranged spirally therearound, screw pins mounted in the openings, and cup-shaped members secured to the outer ends of the screw pins and facing toward the base.

4. An article of manufacture comprising a base having an opening therein, a support carried by the base and extending from the center of the opening, said support having radially extending openings arranged spirally therearound, pins mounted in the openings, and fastening means securing dish-shaped members to the outer ends of the pins the members facing the base opening.

CHARLES A. BORGESON.