

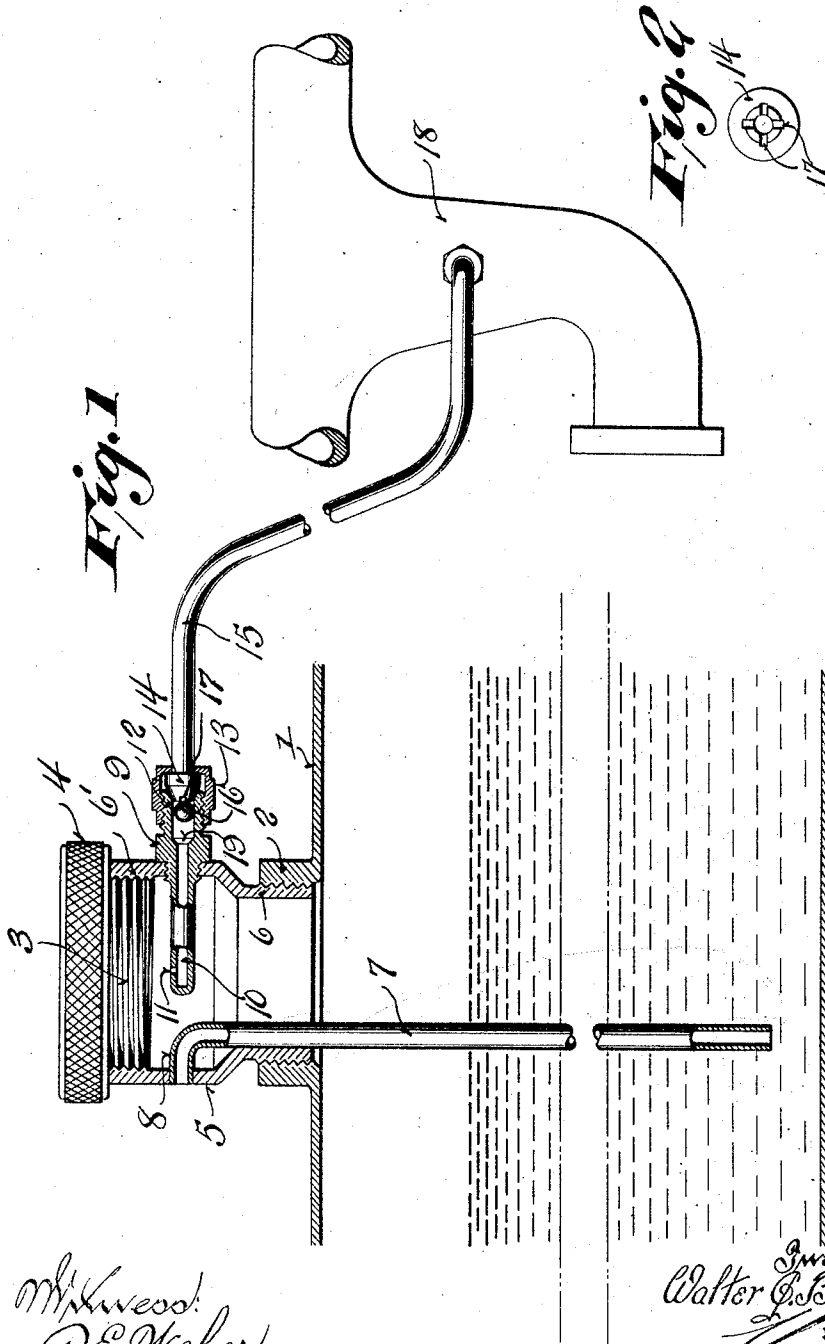
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W. J. BLIFFERT

1,551,130

AUXILIARY SLEEVE FOR GASOLINE TANKS

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UNITED STATES PATENT OFFICE.

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AUXILIARY SLEEVE FOR GASOLINE TANKS.

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To all whom it may concern:

Be it known that I, WALTER J. BLIFFERT, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Auxiliary Sleeves for Gasoline Tanks; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to an attachment for gasoline tanks and internal combustion engines.

Objects of this invention are to provide a device which may be readily applied to existing types of gasoline tanks, which will supply a richer mixture to the engine while it is running at low speed than when it is running at high speed, which will insure the correct mixture for all engine speeds, and which will permit wide adjustment of the speed of the engine without danger of the engine's stalling.

An embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a fragmentary vertical sectional view through the device showing it attached to a gasoline tank, and to the intake manifold of an internal combustion engine.

Figure 2 is a large detail of a portion of the valve mechanism.

The device is adapted to be applied to the usual type of gasoline tank 1 which is provided with a threaded upwardly extending threaded collar 2 which is normally adapted to receive the threaded portion 3 of the closing nut or screw cap 4.

The device comprises a sleeve 5 which has a reduced externally threaded portion 6 adapted to be screwed into the threaded collar 2, and which is provided with an internally threaded portion 6' adapted to receive the threaded portion 3 of the closing cap or nut 4. A tube 7 extends downwardly into the fuel in the tank and has an angular extension 8 which opens through the side wall of the sleeve 5. A fitting 9 is screwed through the opposite side wall of the sleeve 5 and terminates in an inwardly projecting closed tube 10 provided with an aperture 11 through its upper side. This fitting has an outwardly projecting externally threaded portion 12 which receives a union 13 and is suitably beveled to form a gas tight union with the enlarged head 14 of a pipe 15. The interior of the portion 12 of the fitting

has an enlarged bore terminating in a valve seat or tapering portion 19. A shot or ball 16 is loosely positioned within this enlarged portion and is adapted to cooperate with the valve seat 19 to form a check valve to prevent a reverse flow of gas through the pipe to the tank 1.

In order to insure the free outward flow of carbureted air through the pipe 15, the forward face of the enlarged portion 14, (see Figure 2) is provided with radial grooves 17.

The outer end of the pipe 15 opens into the intake manifold 18 and is secured thereto in any suitable manner as by a threaded joint, for instance. It is to be noted that this pipe enters the manifold at a point past the throttle valve and carbureter.

The operation of the apparatus is as follows:

When the engine is in operation suction is transmitted through the pipe 15 and gas is drawn through the opening 11 into the pipe. This reduces the pressure within the tank 1 and causes air to pass downwardly through the pipe 7 and to bubble upwardly through the fuel. This upwardly passing air becomes richly impregnated with the fuel and consequently a very rich mixture is drawn through the pipe 15 into the manifold, thus improving the charge.

It is to be noted that when the engine is running at low speed a richer mixture will be supplied than when the engine is running at high speed, and that the change in richness of the mixture is proportional to the speed of the engine. Thus the engine may be run at a very low speed when necessary without danger of stalling.

In the event of back fire, this sudden increase of pressure is not transmitted to the gasoline tank as the valve closes and prevents reverse flow of carbureted air through the pipe 15. It is to be noted that the attachment is adapted for use on any of the standard types of tanks, as it is merely necessary to remove the screw cap, insert the sleeve 5 and insert the cap in the sleeve, as illustrated in Figure 1. In other words, it is not necessary to have a specially constructed tank in order to practise this invention. It is merely necessary to make the slight alterations noted above and to attach the pipe 15 to the intake manifold.

It will thus be seen that an extremely simple and eminently practical device has

been provided which is effective in automatically varying the richness of the mixture supplied the engine in exact accord with the needs thereof.

5 Although one form of the invention has been described in considerable detail, it is to be understood that the invention may be variously embodied and is, therefore, to be limited only as claimed.

10 I claim:

1. An attachment for a standard fuel supply tank having an internally threaded collar and a threaded cap adapted to co-operate therewith, said attachment comprising
15 a sleeve having an externally threaded lower portion adapted to be screwed into said collar and having an internally threaded upper portion adapted to receive said cap, a pipe carried by said sleeve and opening
20 therethrough at one end and adapted, at its other end, to project downwardly below the fuel level within said tank, a second pipe extending horizontally through said sleeve and having a closed end and an aperture
25 upon its upper side, and a check valve car-

ried by said second pipe to permit outward flow only of gas through said horizontal pipe.

2. The combination of the intake manifold of an internal combustion engine and a main
30 fuel supply tank for such engine, said fuel supply tank having a threaded collar and a threaded cap, and a fitting comprising a sleeve externally threaded to fit said threaded collar, and internally threaded to receive
35 said threaded cap, said sleeve having an aperture opening therethrough to the external air, a pipe leading downwardly through the sleeve from said aperture and into said main fuel tank, and adapted to project
40 below the level of fuel in such tank, a second pipe connected with the intake manifold and projecting into said sleeve, said second pipe having a detachable joint externally of said sleeve.
45

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

WALTER J. BLIFFERT.