Sept. 27, 1932. O. O. SKREEN 1,879,557

VAPOR SUPPLY DEVICE FOR ENGINES

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Fig. 1.

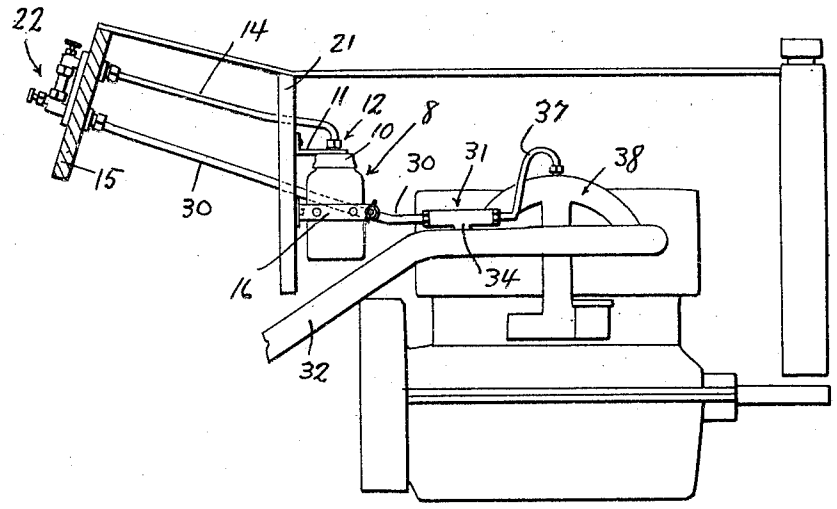


Fig. 2.

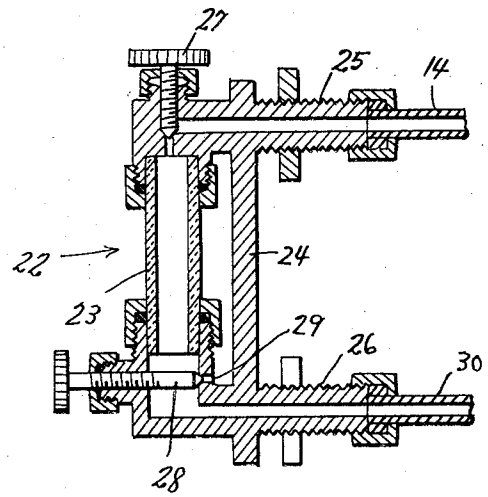
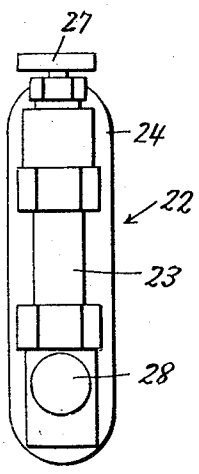


Fig. 3.



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Fig. 4.

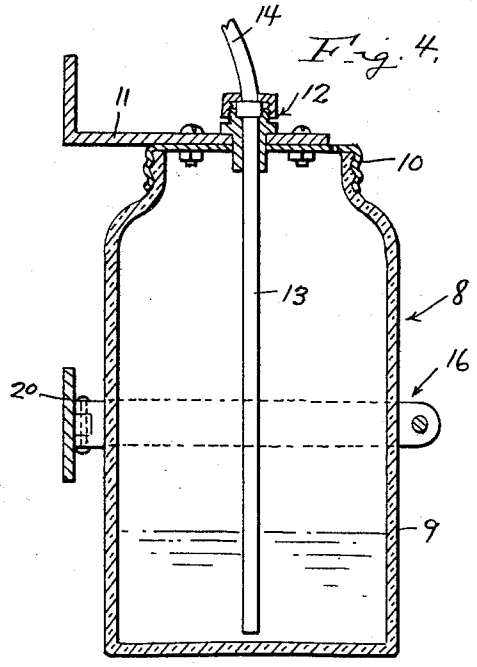


Fig. 5.

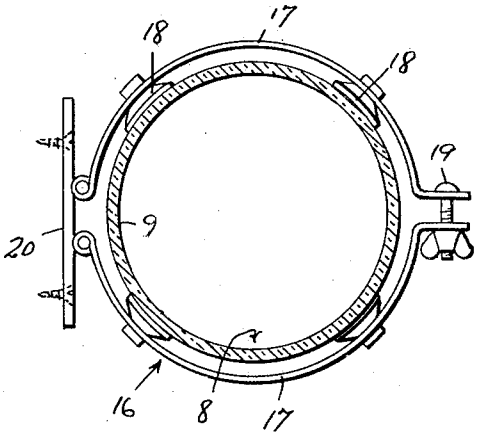
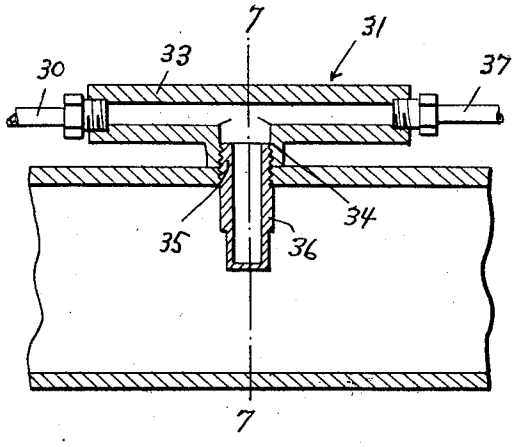


Fig. 6.



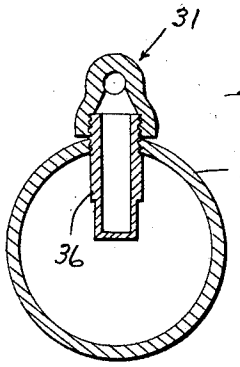


Fig. 7.

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UNITED STATES PATENT OFFICE

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VAPOR SUPPLY DEVICE FOR ENGINES

Application filed March 7, 1930. Serial No. 434,012.

This invention relates to what may be designated as an automotive appliance, and is in the nature of a supplemental structure, which is devised for supplying moisture and air to the intake manifold for mingling with the gaseous charge to promote more efficient combustion, and to reduce carbonizing in an internal combustion motor.

Briefly stated, the inventive novelty is predicated upon a simplified and economical structural arrangement which includes a water container, a sight gage within convenient operating distance of the driver, together with a pipe line for conveying the moistened charge from the gage to the exhaust manifold and from the exhaust manifold to the intake manifold to be introduced into the incoming carburetor charge.

The improvements and refinements which distinguish this invention as a comparatively new contribution to the art, will become more readily apparent as the description develops.

In the drawings:

Figure 1 is an elevational view of the invention, associated with an internal combustion engine or motor.

Figure 2 is a sectional view of the pipe gage.

Figure 3 is a front view thereof.

Figure 4 is a sectional view through the water containing jar.

Figure 5 is a horizontal section through the jar showing the clamping and attaching means therefor.

Figure 6 is an enlarged fragmentary sectional view, showing the vaporizing attachment for the exhaust manifold.

Figure 7 is a section on the line 7—7 of Figure 6.

The general assembly may be seen in Figure 1. Starting with the source of supply, it will be observed that the numerals 8 designate a container for water or the like, as seen in Figure 4, and this is in the nature of a glass jar 9, having the removable screw cap 10, and provided with an attaching and supporting bracket 11, and a stuffing box or coupling 12. The stuffing box or coupling carries a depending tube or pipe 13, which extends into the water in the jar. The moisture collecting pipe 14 connected with this stuffing box or coupling extends in the direction of the dash board 15, as seen in Figure 1. It is to be noted that the numeral 16 designates an attaching flange, which is here shown composed of companion sections 17, which embrace the jar and which serve to connect the jar in supporting position, through the medium of rubber pads and the like 18. The numeral 19 represents clamping screws or bolts for the sections and 20 indicates an attaching plate which is fastened to the dash board 21 as shown in Figure 1.

On the instrument board is a sight gage generally represented by the numeral 22. As seen in Figure 2, this gage includes a vision glass tube 23, having suitable heads at its upper and lower ends, and including an attaching plate 24 having attaching nipples 25 and 26 respectively. The pipe 14 connects with the spoke 25. The numeral 27 designates a regulating valve for controlling the entrance of the moisture.

At the bottom, and in the head, is provided an additional air controlling valve 28. This regulates the entrance of air through the port 29. Fastened to the nipples 26 through the medium of the suitable union is a pipe 30, for conveying the air and water.

The pipe 30 leads to and is connected with an especial fixture or fitting 31 which is attached to the exhaust manifold 32. This fixture is in the nature of a suitably shaped hollow attachment 33, having an attaching neck 34 fastened to the screw threaded upper end 35, of a vaporizing receptacle or cup 36. This fitting depends into the exhaust manifold in the path of the hot circulating and discharging gases. Leading from the casing 31 is a vapor conducting pipe section 37, which extends to and is suitably connected with the intake manifold 38 as shown in Figure 1.

In operation, it is understood that the suction developed in the manifold 38 serves to draw water from the container 8 and cause it to circulate through the pipe 14. This water is regulated in its passage through the pipe gauge 22, through the medium of the control valve 27. Air is permitted to enter, when desired, through the port 29 to co-mingle with

the dripping water. The suction continues to draw the air and water in co-mingled fashion through the pipe 30. It is then deposited in the heater casting 33. In fact, it passes into the cup 36 which extends into the exhaust manifold 32. The heated cup serves to vaporize the water and produce a comparatively hot vapor charge, which is drawn through the pipe section 37 into the intake manifold 38 to co-mingle with the incoming gaseous charge from the carburetor.

I am aware of the fact that additional air or moisture and humidifying devices are used in association with automotive motors and are broadly old. The features and advantages embodied in this improvement, however, constitute a novel reorganization of detail, which are structurally co-related in a manner to provide a structure which is highly efficient, and which, it is believed, serves to produce a novel contribution to the art, and a structure which is distinguished for better accomplishing the purposes of an invention of this class.

It is thought that from the foregoing description, taken in connection with the accompanying drawings, a clear understanding of the operation, construction, utility and advantages of an invention of this character will be had by those skilled in the art, without a more detailed description.

Even though I have herein shown and described the preferred embodiment of my invention, it is to be understood that the same is susceptible to changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

What is claimed is:

In combination with the inlet and exhaust manifolds of an internal combustion engine, a T-coupling, a cup-shaped member connected with the central part thereof and extending into the exhaust manifold, a pipe connecting one end of the coupling to the inlet manifold, a sight tube including a pair of tubular members, a transparent tubular member formed between them, a tube connecting one of the first-mentioned tubular members to the T-coupling, a water tank, a tube passing into the same adjacent the bottom thereof, a second tube connecting the last-mentioned tube with the second one of the pair of tubular members, a valve in the last-mentioned tubular member for controlling the flow of fluid therethrough into the transparent tubular member, the other tubular member of the pair having an air vent therein, and a valve for controlling the same.

In testimony whereof I affix my signature.

ORLANDO O. SKREEN.