

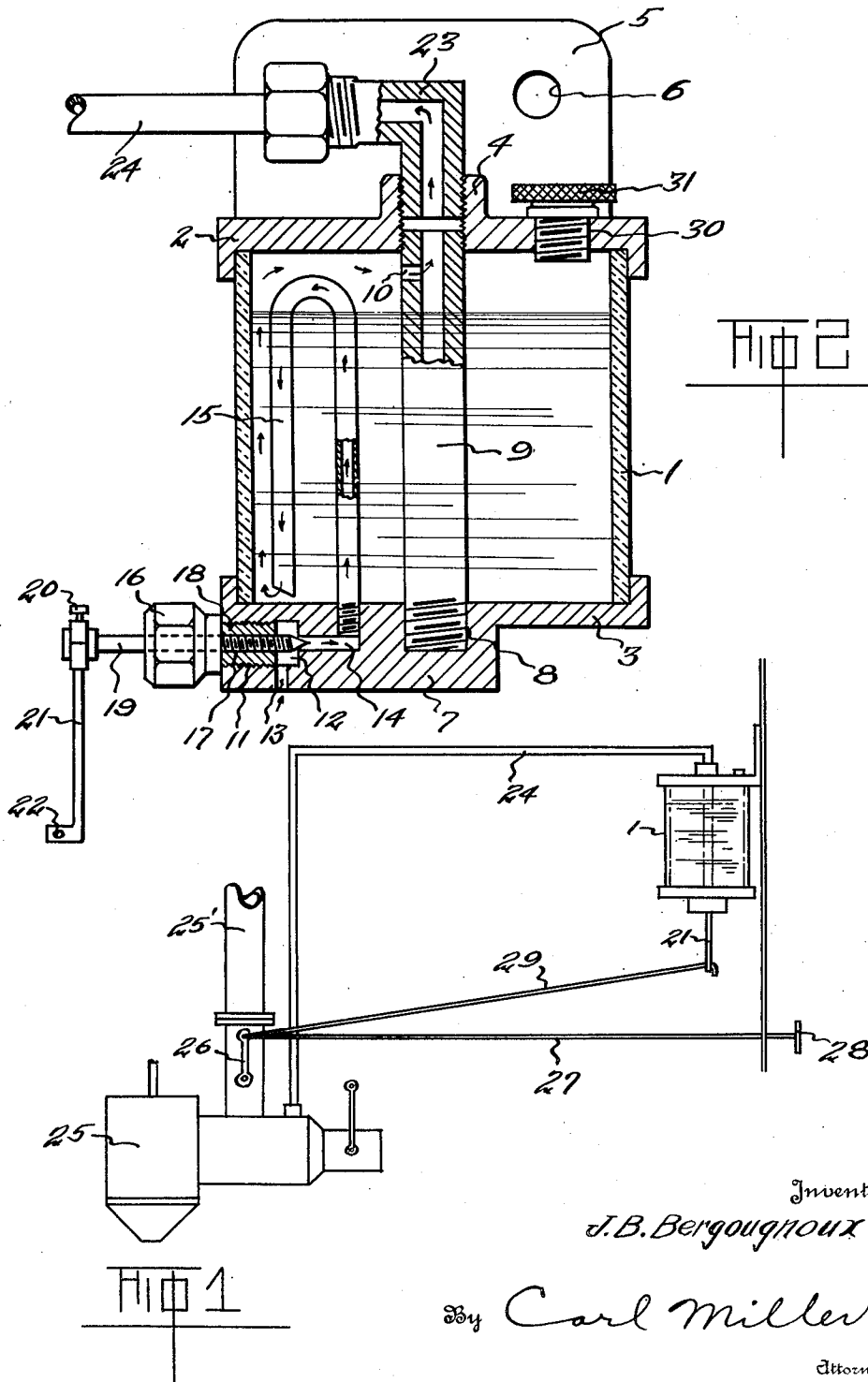
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AUXILIARY FEEDING DEVICE FOR INTERNAL COMBUSTION ENGINES

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AUXILIARY FEEDING DEVICE FOR INTERNAL-COMBUSTION ENGINES

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This invention is an improvement on my prior Patent #1,299,817, patented April 8, 1919, for an "Auxiliary feeding device for internal combustion engines" and relates to the feeding of engines of the internal combustion type and more particularly to an auxiliary device that is connected to and discharges a suitable vapor into the intake manifold of a gasoline engine. The objects I have in view are to provide a feeding device of this character that is both simple in construction and easy to manipulate and is also one that comprises few parts so that it may be economically manufactured and can be sold for a moderate price. It is also an object of my invention to provide suitable means whereby the quantity of vapor discharged from the device may be regulated or adjusted to a nicety and may be turned on or cut off whenever desired. Owing to the construction and arrangement of the parts of my device, I am enabled to attain divers results from its operation. For example, the vapor discharged into the manifold by my device may be charged with water or gasoline for the purpose of modifying the gaseous mixture from the carbureter, or for the purpose of cleaning the pistons and cylinders, etc., the vapor may be charged with kerosene or a carbon removing compound,—in fact, any suitable liquid may be placed in the reservoir of my device and the vaporized mixture fed to the manifold.

The improvement consists in attaching a valve to the original device which valve is operated by the foot throttle or accelerator on the automobile so that the flow and volume of the mixture is controlled thereby, and the air is fed through the oil or other liquid in such amounts and volume as will produce the most efficient mixture of the liquid and air at all speeds. Heretofore at high engine speeds the oil or other liquid used was not properly fed in the original device and other devices of a similar nature, the above improvement obviating said mentioned disadvantage.

Reference is now had to the accompanying drawing wherein:

Figure 1 is a diagrammatic view showing

the device operatively connected to the carbureter and accelerator.

Figure 2 is a sectional view of said device.

My invention comprises a cylindrical chamber or reservoir 1 of glass or other suitable material which has fitted thereto in fluid tight engagement upper and lower flanged caps 2 and 3. The upper cap 2 is provided with a central boss 4, interiorly threaded, and an integral bracket 5 provided with holes 6 whereby the device may be attached to a vehicle part adjacent the engine. The lower cap 3 is provided with a radially extending enlargement 7 and a centrally positioned threaded opening 8. A tube 9 threaded at both ends, is threaded into the boss 4 and opening 8 serving to tightly hold the caps in place relative to the chamber 1, said tube being provided with a transverse bore 10 adjacent its upper edge, for a purpose to be hereinafter described.

The enlargement 7 of the cap 3 has formed therein at the outer end thereof, a threaded opening 11, in communication with a transverse chamber 12 having a passage 13 open to the atmosphere. On the other side of the chamber 12 is a passage 14, terminating in a threaded portion opening into the reservoir 1. Fitted into said threaded portion is one end of a U-shaped tube 15, the other end being open and spaced a short distance from the bottom of the reservoir 1, the bight portion of the U-tube being positioned a distance above the normal level of the fluid in the reservoir. A plug 16 provided with a threaded bore 17 and a threaded portion 18 of reduced diameter is fitted into the opening 11, and has positioned in said bore 17 the stem of a needle valve 19, the tapered portion of which is adapted to abut or close in varying degrees the entrance to the passage 14 as clearly shown in Figure 2. The other end of the needle valve 19 has rigidly secured thereto by means of the set screw 20, a lever 21 provided with an opening 22 for the reception of a link therein.

Threaded in the upper portion of the boss 4 is an elbow 23 which has attached at its other end, one end of a pipe line 24, the other

end of which is attached to the air intake portion of a carbureter 25, see Figure 1.

Attached to the lever 26 of the throttle in the intake manifold 25' is a link 27 operated by the accelerator 28. An additional link 29 connects the lever 26 with the lever 21 operating the needle valve 19, the reservoir 1 being mounted in any suitable position, as shown.

The linkage connections and position of the needle valve 19 are such that the position of the throttle governs the opening controlled by the needle valve 19, and consequently the quality of the mixture, i. e., at high engine speeds, the throttle is wide open, the needle valve would be moved back and the maximum amount of air allowed to flow through the passage 14 into the tube 15 and through the liquid in the reservoir, as indicated by the arrows in Figure 2, vaporizing the same into an efficient mixture and then passed through the pipe line 24 to the intake portion of the carbureter.

The cap 2 is additionally provided with a threaded opening 30 receiving therein a filler plug 31.

It is apparent that the above described device is susceptible of various changes within the scope of the appended claims and while the device shown is a preferred embodiment thereof, I do not desire to be limited thereto.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. An auxiliary feeding device for internal combustion engines comprising a cylindrical fluid receiving reservoir, upper and lower cap plates fitted thereon, a hollow interiorly threaded boss centrally formed on said upper cap plate, a threaded recess in said lower cap plate, a tubular member interconnecting said cap plates and fitted within said boss and said recess and formed with a transverse port adjacent its upper end, a chamber open to the atmosphere formed in said lower cap plate, an air passage connecting said chamber with the interior of said reservoir, said air passage forming means to eject air at the bottom of the reservoir so that the same may rise through the liquid, and means to vary the amount of air entering said reservoir.

2. The structure specified in claim 1, said first mentioned means comprising a U-shaped tube having one end thereof fitting into said passage and the other end terminating short of the bottom of said reservoir, the bight portion of the U-tube being positioned a distance above the normal level of the fluid in the reservoir.

3. The structure specified in claim 1, said last mentioned means comprising a needle valve fitted in said lower cap plate the tapered portion of which extends into said chamber therein and which is adapted to vary the opening of said passage, a lever rigidly con-

nected to said needle valve exteriorly of said cap plate, a link connecting said lever to the throttle lever in the intake manifold of the engine, whereby movement of said throttle by a foot accelerator causes a corresponding movement of said needle valve to vary the amount of air entering said reservoir.

In testimony whereof I affix my signature.

JEAN B. BERGOUGNOUX.