P. BAXTER.

VAPORIZER FOR PETROLEUM OR SIMILAR OILS.

APPLICATION FILED JULY 29, 1913.

1,094,416.

Patented Apr. 28, 1914.

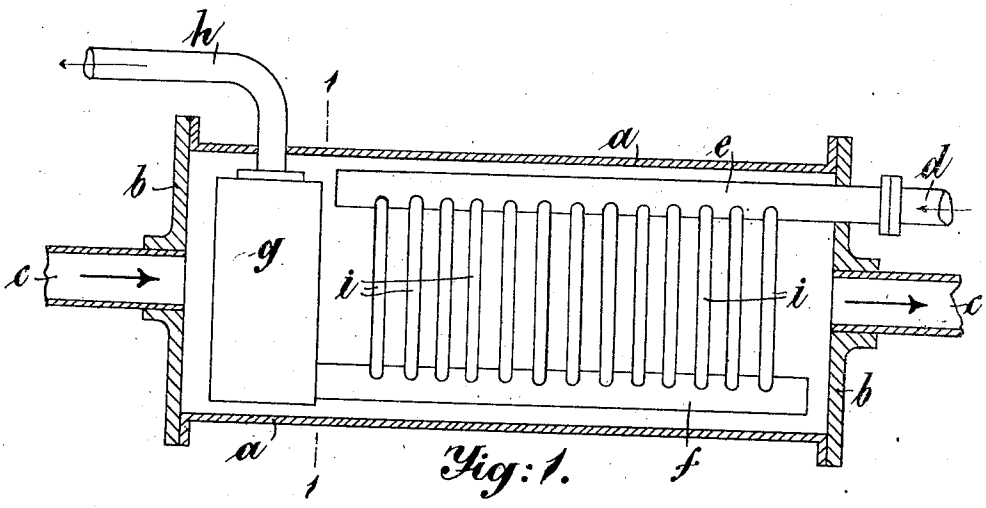


Fig: 1.

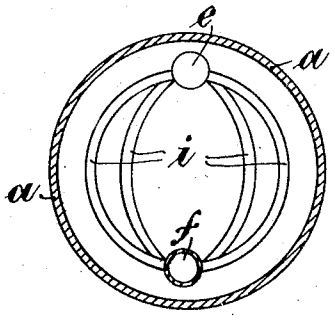


Fig: 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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VAPORIZER FOR PETROLEUM OR SIMILAR OILS.

1,094,416. Specification of Letters Patent. Patented Apr. 28, 1914.

Application filed July 29, 1913. Serial No. 781,715.

To all whom it may concern:

Be it known that I, PAGET BAXTER, a subject of the King of Great Britain and Ireland, residing at 6ª Tudor street, London, England, have invented new and useful Improvements in Vaporizers for Petroleum or Similar Oils, of which the following is a specification.

This invention relates to vaporizers for dealing with mixtures of air and atomized petroleum or other similar oil and treating them by heat to form substantially fixed gas for use as a fuel in internal combustion engines and has for its object the construction and arrangement of such a device whereby a supply of gas of uniform character under varying conditions can be obtained such as occur in the running of a motor car owing to the wide range through which the power has to cope with the ever changing resistance to traction on the road.

When the power factor is substantially constant there is practically no difficulty in maintaining a supply of gas from petroleum or similar oil to give an economical result but when the conditions vary as hereinbefore described special arrangements are necessary to insure a good uniform set of working conditions and it is the purpose of this invention to obtain such.

The invention consists in a special form of vaporizer in which a mixture of air and atomized petroleum or other similar oil is allowed to pass comparatively slowly through a number of heated passages of comparatively small cross sectional area so as to thoroughly subdivide the mixture during the heating and subsequently to deliver the heated mixture into a reservoir maintained at a high temperature so that the engine has always a considerable reserve supply of heated gas of a substantially fixed character to draw upon.

In order that the invention may be the better understood I will now proceed to describe the same in relation to the accompanying drawing reference being had to the letters and figures marked thereon.

Figure 1 is a sectional elevation of a vaporizer constructed in accordance with my invention. Fig. 2 is a transverse section of the same on the line 1—1 of Fig. 1.

The vaporizer consists of a casing *a* preferably circular in shape and having detachable ends *b* to each of which is connected the exhaust pipe *c*, of the internal combustion engine the direction of the exhaust gases being as indicated by the arrows.

Within the casing *a* and at the upper part thereof is arranged a tube *e* connected by a pipe *d* with the usual carbureting device not shown, and at the lower part is another tube *f* which is connected with a reservoir *g* of comparatively considerable volume situated within the casing *a* at the left hand end where the exhaust gases enter the casing *a*. Between the two tubes *e* and *f* are arranged a number of small connecting tubes *i* so disposed as to break up and absorb the heat from the exhaust gases on their passage through the casing the heating of the mixture in the tubes taking place when the gases are thoroughly sub divided and traveling at a comparatively slow rate. When the mixture reaches the reservoir *g* it is maintained therein at a high temperature and with a considerable reserve amount to insure uniform working conditions. The mixture is withdrawn from the reservoir by the suction of the engine through the induction pipe *h* in the usual way. It will be seen that by treating the mixture in the manner described it is thoroughly heated and rendered stable of condition before use.

What I claim is:—

A vaporizer for treating a mixture of air and atomized petroleum or other similar oil for use as a fuel for internal combustion engines comprising in combination a casing, means for passing the exhaust products of combustion from engine through said casing, a supply conduit disposed in said casing and exposed to the exhaust products and connected to the petroleum and air mixing device, a delivery conduit disposed within said casing in a position complementary to the said supply conduit, a series of conduits of relatively small cross sectional area trans-

versely disposed between said supply and delivery, conduits to break up the stream of mixture into a number of streams of comparatively slow velocity and cause the heat of the exhaust gases to be absorbed thereby, and a reservoir of comparatively large volume within said casing connected with said supply conduit and disposed in the path of the hot exhaust gases on their passage through the casing, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAGET BAXTER.

Witnesses:
W. CARVEL,
H. D. JAMESON.