

UNITED STATES PATENT OFFICE

2,373,032

ELECTROLYTIC DECOMPOSING GAS GENERATOR

Bernard Klein, Baltimore, Md.

Application June 29, 1942, Serial No. 448,991

3 Claims. (Cl. 204—278)

This invention refers to fuels for internal combustion engines and more particularly to a method and device to be used in decomposing or extracting gases from liquids such as water and then arranging them for use as an explosive mixture in engines of the internal combustion type. It has among its objects to provide a device that will separate combustible gases from the liquid compounds having same chemically combined in them, as for example: oxygen and hydrogen from water, through an electrolytic process. Another object is to have the device of such construction as to be readily adaptable for insertion or connection among the parts of a conventional internal combustion engine of the automobile, airplane, boat or other type without requiring radical or complicated arrangements for the purpose and capable of practical employment. A further object is to provide for the operation of the device in a convenient manner with adjustments permitting it to meet varied conditions encountered during operation. A further object is to provide a device that will automatically supply treated water or other liquid medium as needed for the device. A further object is to have the device adaptable for adjustment by remote control or at a distant location remote from the operator or user. It is a particular object of the invention to construct a self contained unit that can be applied to an internal combustion engine; and take relatively small space and be attached thereto in a compact and attractive manner.

Other objects will become apparent as the invention is more fully set forth.

There has been difficulty heretofore in employing the combustible gases of relatively inexpensive liquids, such as water, for power development, due to the cost of equipment, its cumbersome nature, and cost of operation. This invention is intended to relieve this situation by providing a simple manner for manufacturing explosive gases by decomposing same from liquids that are normally harmless and inexplorable.

A typical form of internal combustion engine furnished to propel an automobile, aircraft, boat or the like has fuel tank, carburetor, ignition. The fuel consists of gasoline or other hydrocarbons that runs from the tank to the carburetor, a current of air is drawn over the liquid fuel, and takes up the vapor and mixes with the latter to form the explosive mixture, to operate the internal combustion engine. This system has been found very satisfactory as long as a sufficient supply of gasoline or other fuel oil was

available to meet its needs. Under present conditions the demand has increased and far exceeds the supply. Any additional system of fuel production that will be less costly and can use ingredients that can be found readily at hand and not heretofore used for the purpose herein described affords attractive possibilities. In this invention the fuel tank will be filled with water to which has been added an electrolyte, usually sulphur trioxide or sulphuric acid to increase its conductivity so an electric current will pass through it. The fluid is then passed from the tank to the generating device by a pump, vacuum tank, gravity or whatever system for the fuel supply the vehicle may be equipped with. The device is preferably placed between the fuel tank and engine and used with the existing carburetor. The device can be placed in the system conveniently, as it takes very little room, is of simple form, and has effective arrangement for attachment to the system. An important feature of the device is in the fact that it has arrangements for augmenting the supply of gas generated by the device. Another important feature of the device is that part of the gas generated may be used to replenish its respective auxiliary tube.

In the drawing which indicates a form of this invention:

Figure 1 is a diagrammatic view showing the various parts used to form a complete system embodying this invention,

Figure 2 is a longitudinal view taken through the generator,

Figure 3 is a sectional view taken along line 3—3 of Figure 2, and

Figure 4 is a sectional view taken along line 4—4 of Figure 2.

Similar reference characters refer to similar parts throughout the drawing.

In the drawing which indicates a water generator 1, by way of example, a source of electricity 35 is employed for converting the water into oxygen and hydrogen gases. The generator is preferably of hollow cylindrical form, with its upper wall 2 supporting partitions 3 dividing the interior into two compartments 6 and 7, respectively, and with an intermediate chamber 60. A space 4, is left between the lower portion 50 of the partition and the floor 5 of the generator as indicated in Figure 1. The liquid 8 to be processed is conducted to the bottom wall 5 into the generator through a pipe 9, connected with the liquid reservoir tank 10. The end portions of the generator have screw threaded holes 51 and 52, into which insulators 53 and 54 respectively screw.