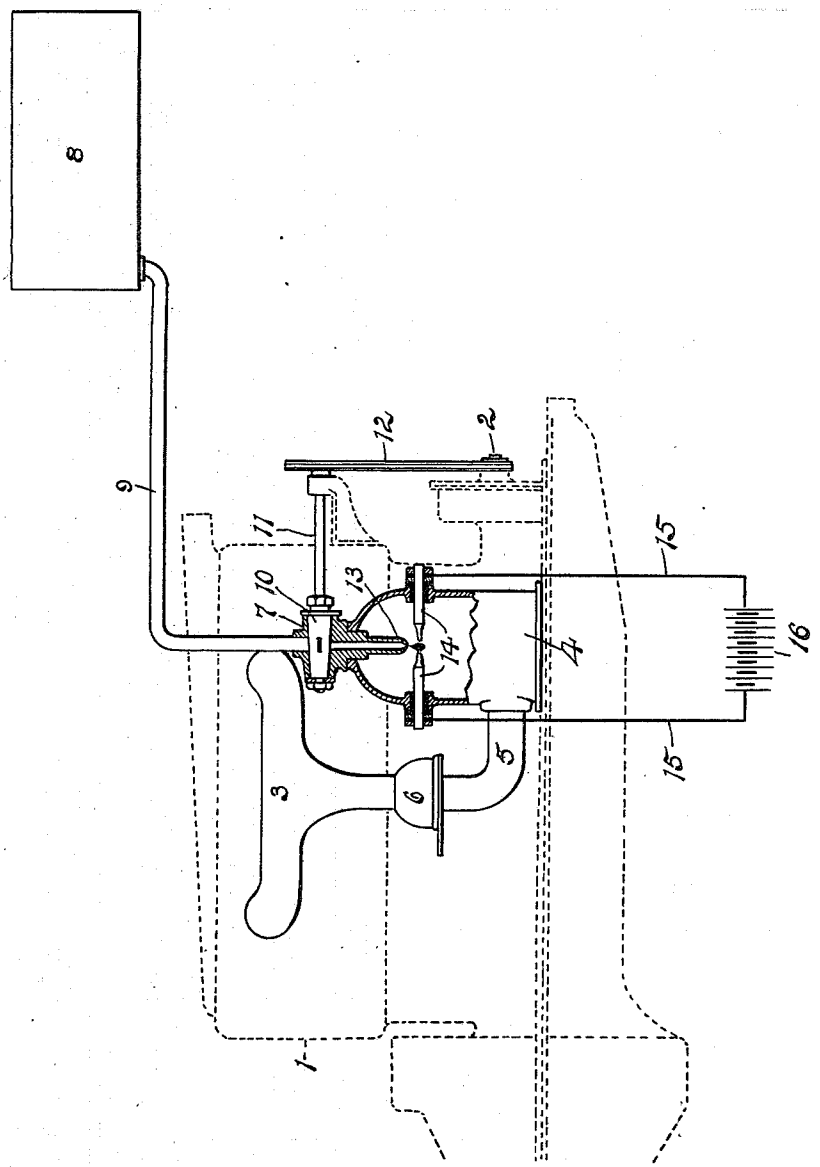
F. A. OSOWSKI.

PROCESS OF MAKING GAS.

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1,259,898. Patented Mar. 19, 1918.



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FELIX A. OSOWSKI, OF DETROIT, MICHIGAN.

PROCESS OF MAKING GAS.

1,259,898. Specification of Letters Patent. Patented Mar. 19, 1918.

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To all whom it may concern:

Be it known that I, FELIX A. OSOWSKI, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Processes of Making Gases, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a process for separating fluids into their constituent gases electrically, and its object is to provide a process which may be employed in connection with an internal combustion engine to supply the gaseous fuel thereto as it is consumed in the engine, and further, to provide a process which may be conveniently controlled or regulated to produce just the amount of gas required, and in which a maximum of gas is produced with the consumption of a minimum of electrical current.

With these and other ends in view, the invention consists in introducing small quantities of matter which may be separated into its constituent gases by means of an electric current, between spaced electrodes within an electric circuit in such a manner that said quantities will each bridge the gap and close the circuits, causing the current to pass through each quantity and separate or transform the same instantly into its constituent gases. The invention further consists in the regulation of the volume or frequency of introduction of the matter between the electrodes to control the amount of gas produced, and in providing certain other new and useful features, all as hereinafter more fully described and particularly set forth in the appended claims, reference being had to the accompanying drawing which is a diagrammatic view illustrating a method of and means for carrying out the invention.

While a specific arrangement and construction is shown in the drawing, it will be understood that the same is merely illustrative of one form and arrangement of apparatus for carrying out my process and that I do not limit myself to any particular apparatus or arrangement thereof for performing my invention.

In the drawing 1 indicates an internal combustion engine, 2 the usual cam shaft thereof and 3 the intake manifold. A gas chamber 4 of any suitable form or construction is located adjacent the manifold and is connected thereto by a pipe 5, an air inlet valve 6 of any suitable form being interposed between this pipe and the inlet end of the manifold to admit air for admixture with the ingoing gases. At the top of the chamber 4 is a valve 7 for controlling the feeding of water or other liquid into the chamber from a suitable source of supply, such as the tank 8 through a pipe 9. The valve may be operated from the cam shaft or other moving part of the engine in timed relation to the engine in any suitable manner as by providing the rotary plug 10 of the valve with a shaft 11 which is driven by a sprocket and chain connection 12 with the cam shaft 2, to feed the fluid in measured quantities and at regular intervals into the chamber 4 through a discharge nozzle 13 extending downwardly in the chamber from the valve. Mounted in the sides of the chamber 4 and electrically insulated therefrom are electrodes 14 with their inner ends opposed and spaced apart to form a gap which is located directly below and adjacent to the discharge end of the nozzle 13. These electrodes are connected within an electrical circuit 15 connected to a suitable source of current indicated at 16.

The tank 8 is filled with acidulated water or other liquid having electrical conductivity and this fluid is fed into the chamber 4 in very small quantities so that it will issue from the nozzle 13, preferably drop by drop and as this nozzle is located adjacent to and directly above the gap between the electrodes 14, each drop as it enters the gap closes the same and the electrical current instantly passes through the drop and in doing so instantly decomposes the liquid, changing the same into its constituent gases which are confined in the chamber, and upon inspiration of the engine are drawn therefrom through the pipe 5 and manifold 3 and in passing therethrough are mixed with the proper amount of air drawn in through the air inlet 6 to form combustible charges. By regulating the size and frequency of the water charges by means of the valve 7, the necessary volume of gas to supply the engine will be made just as it is used, each drop of liquid being converted into gas instantly so that none will remain in the chamber and the gas so made being immediately drawn from the chamber and consumed in the engine.

The electrodes are spaced just far enough apart to prevent the current from jumping across and so that each charge of liquid when it drops between them will complete the circuit by closing the gap. The circuit is therefore normally open and current is consumed only during those intervals in which the gap is closed by the drops or small quantities of liquid. A minimum of current is therefore required and as the volume of liquid is so very small and the current is concentrated therein, each charge or drop is instantly decomposed or converted into gas by a current of comparatively low voltage and amperage.

Obviously any desired number of pairs of electrodes and water feeds may be employed if it be found that a sufficient volume of gas to supply the particular engine is not produced by one pair of electrodes.

This process of separating liquids or other matter into constituent gases, comprises the introduction of small quantities of matter between spaced terminals of an electric circuit, to close the circuit and cause decomposition and liberation of the gases by the momentary passage of the current therethrough, and it is not limited to any particular means for carrying out the process or any particular construction or arrangement of apparatus.

What I claim is:—

1. The process of making gases which consists in introducing limited quantities of matter between the spaced terminals of an electric circuit to cause current to pass through and instantly liberate the gases of each quantity introduced.

2. The process of converting matter into its constituent gases which consists in causing a limited quantity of the matter to form the electrical connection between the terminals of a normally open electric circuit.

3. The process of converting liquids into their constituent gases which consists in causing the liquid in separate small amounts to intermittently pass into the gap between spaced terminals of an electric circuit and form the conductor for the current therebetween.

4. The process of making gas electrolytically which consists in intermittently feeding limited quantities of matter between spaced terminals of a normally open circuit to cause each quantity of matter to be converted into its constituent gases by the momentary passage of the current.

5. The process of making gas by electrolytically changing liquids into their constituent gases which consists in providing an electric circuit with terminals spaced to provide a gap in the circuit and feeding small bodies of the liquid into the gap.

6. The process of making gas by electrolytically changing liquids into their constituent gases which consists in providing an electric circuit with spaced terminals and feeding liquid drop by drop into the space between the terminals, each drop forming a conductor for the current between the terminals.

7. The process of making gas by electrolytically changing liquids into their constituent gases which consists in feeding the liquid in small bodies intermittently, into a gap between terminals of an electric circuit to momentarily close the circuit by each body of liquid and cause the body to be instantly decomposed by the passage of current therethrough.

8. The process of making gas by electrolytically decomposing liquid, which consists in providing an electric circuit with terminals spaced to form a gap in the circuit and provide a normally open circuit, and intermittently feeding liquid into the gap in bodies of sufficient size to bridge the gap.

9. The process of electrolytically producing gas from water which consists in providing a normally open circuit having a gap between terminals thereof and feeding acidulated water intermittently, drop by drop into the gap within a chamber.

10. The process of electrically producing gas from water which consists in providing an electric circuit having spaced terminals forming a gap, acidulating water, and measuring and intermittently feeding the water, drop by drop, between the terminals to bridge the gap and cause the current to flow through and decompose each drop separately.

In testimony whereof I affix my signature in the presence of two witnesses.

FELIX A. OSOWSKI.

Witnesses:

ANNA M. DORR,

KARL H. BUTLER.