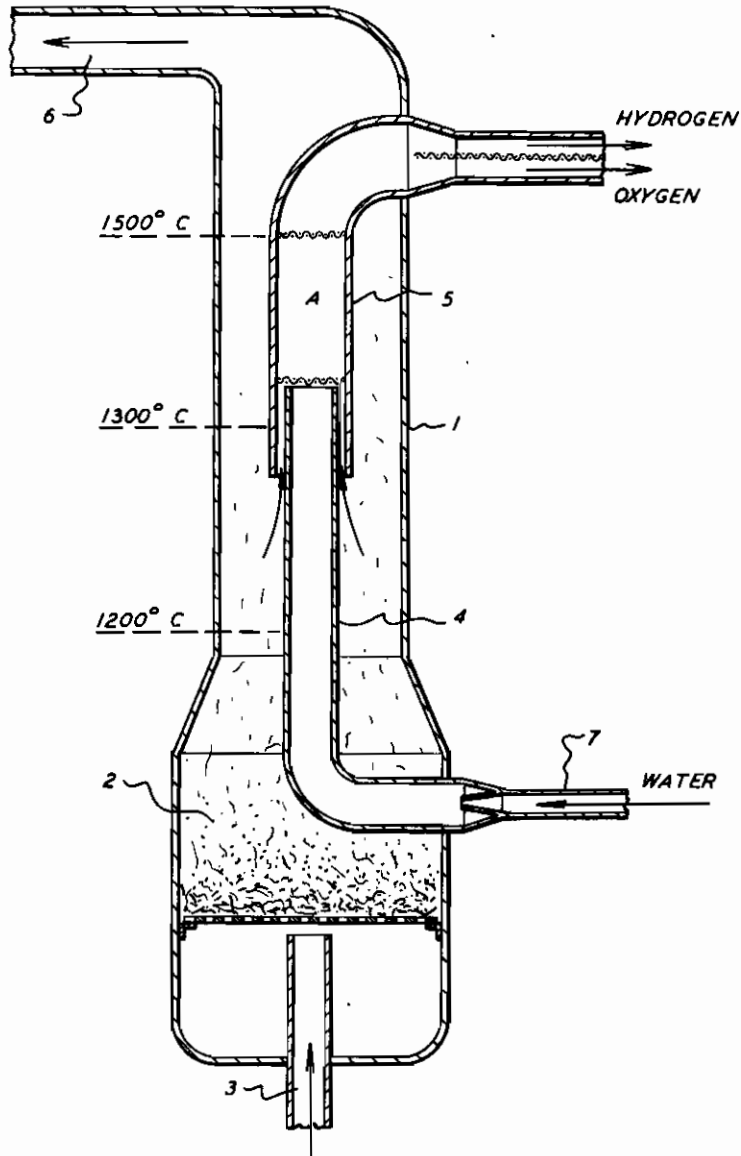


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INDUSTRIALLY A GASEOUS FUEL EXTREMELY
RICH IN CALORIES
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ECONOMICAL OBTENTION OF HYDROGEN AND OF OXYGEN BY DISSOCIATION OF WATER IN ORDER TO REALIZE INDUSTRIALLY A GASEOUS FUEL EXTREMELY RICH IN CALORIES

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Fire necessary for industrial and home heating is one of the most important elements of life.

Until now coal or its underproducts have assured the maintenance of heat.

But as consequence of economic circumstances, resulting of political events the possibility of shortness in coal as fuel must be taken into consideration and it must be looked for simple and practical means in order to replace coal.

A great number of solutions have certainly been proposed which try to replace coal by gaseous or liquid fuel, but under actual circumstances even the possibility of coal missing for transports or fabrication must be considered, as well as efficiency in calories and way of utilisation.

Taking all these possibilities into consideration the object of the present invention consists in taking up again the dissociation of water under an essentially new and industrial form—in order to obtain very economically hydrogen and oxygen and to obtain by the mixture of these two gases extracted from water (element which can be found everywhere) a gaseous fuel of first value suitable for all industries where heating is necessary, for the powerful steam boiler as well as for the modest kitchen-stove.

It is essentially the practical realization of the well known principle of the dissociation of water, but obtained in a simpler way by means of a new principle which characterizes this invention.

This new principle and its means of realization are represented in a schematic way in the annexed drawing, which can be used as well as explanation for the working of the new apparatus and as basis of the practical execution of the apparatus of production.

In preference this apparatus is composed by a cylindrical body I in its lower part is disposed a furnace 2 and a towel 3 of air admission.

Concentrically and in the interior of body is disposed a pipe 4 which forms the first catalysator, forming an elbow in its lower part and in which enters water pressure. The upper part of pipe 4 emerges in the interior of a second cylindrical body forming the second catalysator too and through which passes a part of the carbonic gas produced by furnace 2. The upper part and forming elbow of body 5 gathers and leads the gases hydrogen and oxygen ready for use. The gases of combustion escape through a drain 6 formed by the upper part of body I.

These being the principal parts of the apparatus based on an essential new principle it is working in the following way:

As soon as furnace 2 which uses only a minimum of fuel is in action, pipe 4 is very much heated and now the water under pressure is sent into this pipe—under the action of its high temperature of about 1200° the water under pressure (about 50 grammes) is injected into the pipe 4 of pulverization: under the action of the high temperature the water is dissociated and the hydrogen and the oxygen can be found in pipe 4, but as soon as they leave this pipe 4 they come into contact with a part of the carbon arising from furnace 2.

This admission of carbon characterizes the invention because it determines in zone A the fixation of oxygen and as oxygen is heavier than hydrogen these two gases separate. It is this separation which characterizes essentially the present invention because their separation makes it possible to gather them separately, to mix them again and by combining them a very hot gaseous fuel is obtained which will be used with a maximum of efficiency, practically above 50% and which can arrive to 80 or 90%, according to the way of utilisation and according to the quality of fuel used for the heating of pipe 4.

Experience has already proved that by mixing two volumes of gas hydrogen with one volume of gas oxygen an extremely hot gaseous fuel can be obtained, which can be used in many different ways and applied in all heating apparatuses working exactly like coal-gas.

The quantity of fuel used on the grill of furnace 2 is reduced to a minimum. This fuel can be: acetylen gas, wood, fuel oil, briquettes of every kind, they all do produce carbonic gas. Electricity too could be used for this heating, in this case it would be necessary to let in carbonic gas in body 5 by some mechanic means.

The industrial result obtained by this principle may be considered as new, by admission of a small quantity of carbon the fixation of the gas oxygen is obtained which allows to separate oxygen and hydrogen, to mix them afterwards again in order to obtain a gaseous fuel extremely rich in calories, and to use them according to suitable dosings as well for explosion motors, as for heating of boilers, as to inflate balloons.

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