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44 Avenue de la République
F-75011 Paris (FR)(54) **The use of ozone as a supporter of combustion.**

(57) This invention is about a new process to obtain combustion, through the newest way of use of an existing element in our nature. We refer to OZONE, to improve the combustion chemical reactions on any kind of material, reducing the contaminating elements achieving the optimal process, reducing the combustion materials volume.

Up to the present, the general idea of combustion in a mathematical model is as follows:

COMBUSTIBLE + OXIGEN + HEAT

It is changed the mathematical model of combustion

COMBUSTIBLE + OZONE + HEAT

Synthesis is a new combustion process for use of ozone as a comburent (as a supporter of combustion); the ozone application for the emulsion of combustibles and the ozone for the violent oxidation of chemical reactions on combustion.

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SUMARY

This invention is about a new process to obtain combustion, through the newest way of use of an existing element in our nature. We refer to Ozone, to improve the combustion chemical reactions on any kind of material, reducing the contaminating elements achieving the optimal process, reducing the combustion materials volume.

DESCRIPTION OF THE INVENTION

I.- THE ESTATE OF THE ART (PRIOR ART).

Energy is produced by humanbeing through combustion. This is an ancient matter and with a fundamental importance for the technology and it is still a matter of investigation up to this date. Combustion is still a matter of research for technicians on this subject. Regardless all the devices conceived, they have not arrived to burn every combustible and that left not completely burned is discharged to our atmosphere, producing part of our contamination. With the available processes to obtain combustion, toxic substances or materials are generated.

The results on present combustion are the defiances of researchers to diminish or eventually eradicate contamination produced as a result of combustion. On the other hand, combustibles are too expensive and difficult to obtain and we already know we have a high percentage of waste during the combustion process.

We can assure that our present world is in crisis: Energy crisis, crisis combustion and the crisis caused by resultant effects on our atmosphere, it is contamination.

Up to the present, the general idea of combustion in a mathematical model is as follows:

COMBUSTIBLE + OXIGEN + HEAT

Combustion is widely known in our industry, through combustible material: Solid, Liquified or Gassed in the presence of Oxygen and Heat.

Example:

CARBON in electric plant to generate steam.

OIL as a source of energy for motored vehicles.

GAS for turbines, motors and burners.

I believe it is not necessary to say more about combustion and its industrial application and on the present basic principles mentioned before; so it is my desire to make reference to the invention I want to have patented, pointing out its Industrial character, Novelty and Inventive step (non-obvious subject matter).

II.- NOVELTY.

In first place, it is changed the mathematical model of combustion:

COMBUSTIBLE + OZONE + HEAT

The above mentioned formula is considered the newest process in the production of industrial result, that is Combustion, as one of essential elements in it is changed in order to be produced, regarding the new application of an already existing element in nature, which has never been used before not even imagined by humanbeing for this process to be used.

The use of Ozone involves a whole technical problematic, as even it is in the atmosphere it is an instable element, but this problem is now solved as it can be produced through a technical mechanism already existing in science.

ADVANTAGES OF INVENTION.

Through the tests runned by the inventor, the use of the Ozone as a comburent (a supporter) in the combustion has been found to improve chemical reaction with any kind of combustible, sensibly reducing the contaminating elements production, in virtue of the modification of combustion products, reducing the combustible materials to achieve the same goal.

Among the tests runned, it was observed the elimination of CARBON MONOXIDE, a 90% reduction of CARBON DIOXIDE, a reduction of RESIDUAL COMBUSTIBLES not burned and the generation of OXYGEN due to the chemical reaction of the different elements involved in COMBUSTION.

III.- INDUSTRIAL CHARACTER.

APPLICATION TO INDUSTRY.

The industrial application of the present invention can be done on any industry where combustion is an essential element.

A concrete use is that on the automobile industry, where the tests runned have led to a benefit, as mentioned above, besides a 50% reduction on combustible use, due to the improvement of combustion which obtains a maximum of it.

MANUFACTURING OF INVENTION.

It is already proved that the manufacturing of this invention can be demonstrated by any technician on this subject, regardless the technical difficulties in using the adequate devices to obtain the - Ozone production and the adequate combination with the other elements (Combustible and heat) to get combustion. Due to instability men-

tioned, it is necessary to use an ozone generator in situ (just in the place), and the adequate combination of devices to combine the required elements.

Regarding the present subject, the reunion of elements in combustion is not granted by nature, neither due to ozone instability. So it can only be done through the adequate devices and its exact combination. 5

IV. - INVENTIVE STEP (NON-OBVIOUS SUBJECT MATTER). 10

The inventive step (activity) of this new process does exist, as it can not be deduced from the technical estate (prior art) in evident way by a technician on this subject. 15

This can be demonstrated in the way that combustion is still a present concern among the world investigation process, in the search of constant chemical combustion improvement and the development of devices for an optimum profit. Schools, Universities and Investigation Institutions on Engineering have evidently not considered the integration of the OZONE element in the process of combustion, perhaps due to its instability and the difficulty to generate it. 20 25

V.- CONCLUSION.

Regarding the present invention, we make the proposal of a new formula to obtain combustion. Which is considered an industrial result by itself; besides its obvious application in industry in which case it complies with all the legal regulations required for the Industrial Property Rights in use at present. 30 35

This invention becomes a new process for industrial application and contributes to the immediate satisfaction of a present and concrete necessity, as another condition considered by the law on any invention. 40

Claims

1. New combustion process for the use of Ozone as a comburent. (as a supporter of combustion). 45
2. The ozone application for to emulsify combustibles. (for the emulsion of combustibles). 50
3. The use of ozone for the violent oxidation of chemical reaction on combustion.

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EUROPEAN SEARCH REPORT

Application Number

EP 93 10 7601

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	GB-A-191 137 (MCBLAIN) * the whole document * ---	1-3	F23L7/00 F23K5/12
X	BE-A-531 492 (MARECHAL) * the whole document * ---	1,3	
X	BE-A-759 067 (LECOCQ) * page 3, paragraph 2 -paragraph 6 * * claim 1 * ---	1,3	
X	FR-A-354 598 (HARRIS) * the whole document * ---	1	
X	PATENT ABSTRACTS OF JAPAN vol. 14, no. 478 (M-1036)18 October 1990 & JP-A-02 191 858 (TAKESHI TACHIBANA) 27 July 1990 * abstract * ---	1,3	
X	PATENT ABSTRACTS OF JAPAN vol. 10, no. 103 (C-340)18 April 1986 & JP-A-60 231 794 (MAKOTO OGOSE) 18 November 1985 * abstract * ---	2	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
X	PATENT ABSTRACTS OF JAPAN vol. 9, no. 226 (M-412)12 September 1985 & JP-A-60 082 706 (FUJITA KOGYO) 10 May 1985 * abstract * -----	1,2	F23L F23K F02M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 06 OCTOBER 1993	Examiner LEITNER J.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			