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(54) **AN IGNITION SYSTEM OF A COMBUSTION ENGINE**

(57) An ignition system of an internal combustion engine comprising ignition electrodes positioned in a bottom part of the engine head, characterized in that the ignition

electrodes (2, 3) are mounted on a periphery of a combustion chamber (4) in head cavities (5), which are arranged around a cylinder (6) of an engine block (7).

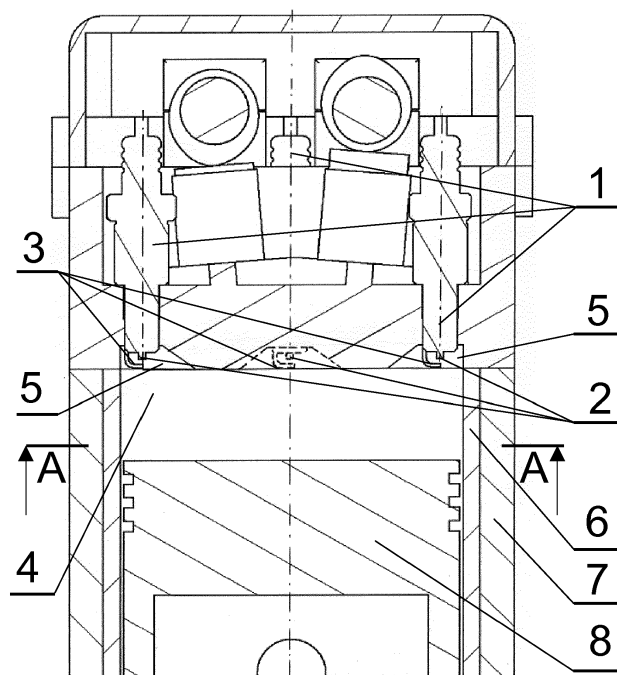


Fig. 1

Description

TECHNICAL FIELD

[0001] The present invention relates to an ignition system of a combustion engine, designed to ignite the fuel-air mixture in its cylinder.

BACKGROUND

[0002] Ignition systems of a combustion engine, as disclosed herein, have not been described in professional publications so far.

SUMMARY

[0003] In the ignition system presented herein, ignition electrodes are mounted on a periphery of a combustion chamber in head cavities that are arranged around a cylinder of an engine block.

BRIEF DESCRIPTION OF DRAWINGS

[0004] Further details and features of the present invention, its nature and various advantages will become more apparent from the following detailed description of the preferred embodiments shown in a drawing, in which:

Fig. 1 shows a longitudinal section of an internal combustion engine,
Fig. 2 shows an internal combustion engine in the section A-A of Fig. 1.

DETAILED DESCRIPTION

[0005] An ignition system of an internal combustion engine has ignition elements 1 equipped with ignition electrodes 2, 3, which are mounted on a periphery of a combustion chamber 4 in cavities of a head 5. These cavities are arranged around a cylinder 6 of an engine block 7. A piston 8 is located in the cylinder.

[0006] The operation of the ignition device of the internal combustion engine consists in that at the end of the compression stroke of the fuel-air mixture in the cylinder 6 by the piston 8, a spark-over between the ignition electrodes 2, 3 occurs at the same time. This causes the circumferential ignition of the fuel-air mixture and the movement of the flame from the periphery of the combustion chamber 4 and the cylinder 6 towards its axis in the direction of the piston 8.

[0007] The advantage of the presented ignition system is a peripheral ignition of fuel-air mixture which causes orientation of the exhaust gas energy towards the centre of the cylinder, towards the piston's surface. This results in a uniform and rapid burning of the mixture within the volume of the combustion chamber, which results in a uniform impact of exhaust gases onto the surface of the piston. Another advantage is a reduction of wear of the

cylinder wall by propagation of the combustion process toward the surface of the piston, as well as a reduction of the thermal load of the ignition elements by distributing the ignition to many ignition elements (by spreading the plurality of ignition plugs).

Claims

1. An ignition system of an internal combustion engine comprising ignition electrodes positioned in a bottom part of the engine head, **characterized in that** the ignition electrodes (2, 3) are mounted on a periphery of a combustion chamber (4) in head cavities (5), which are arranged around a cylinder (6) of an engine block (7).

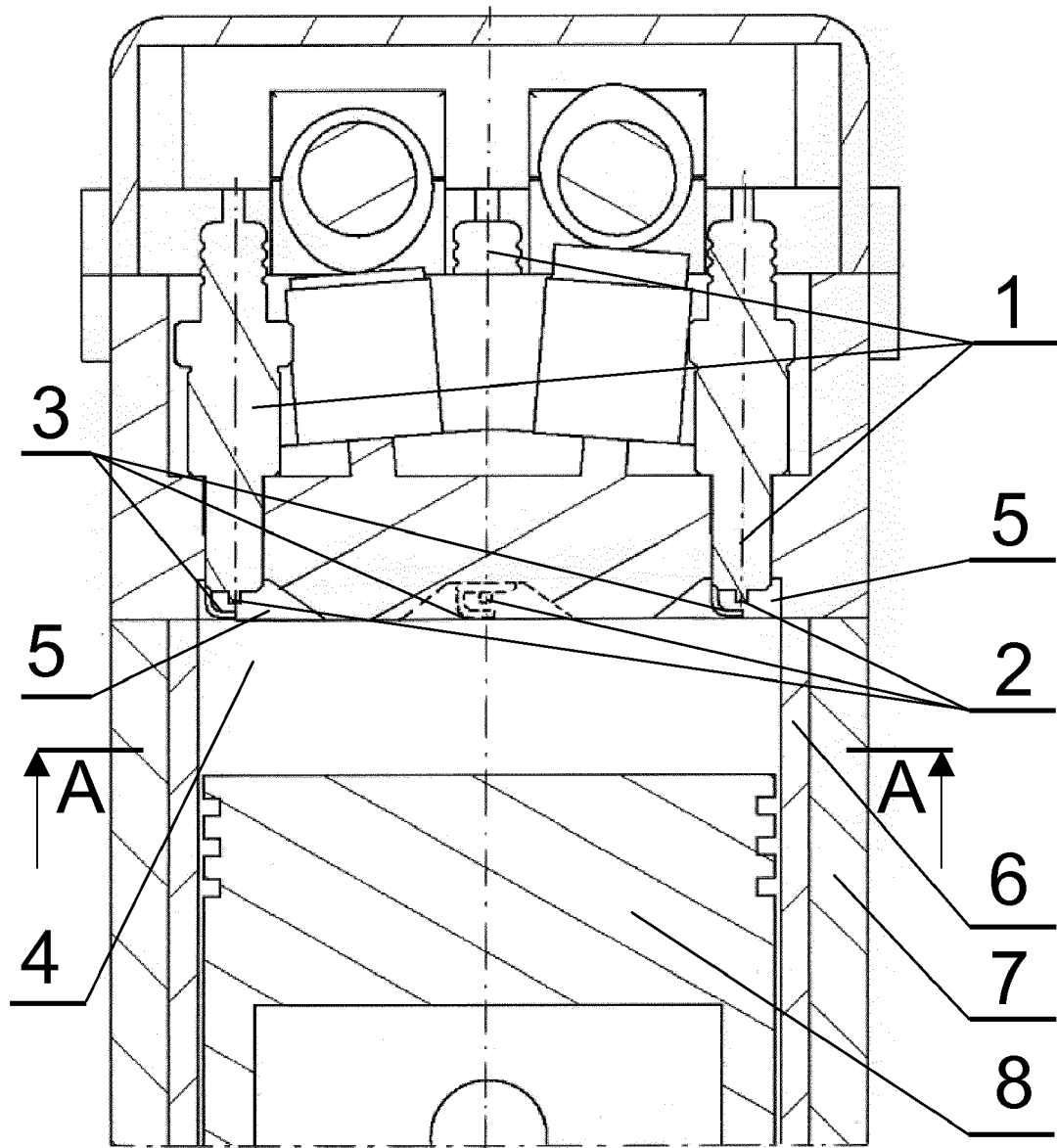


Fig. 1

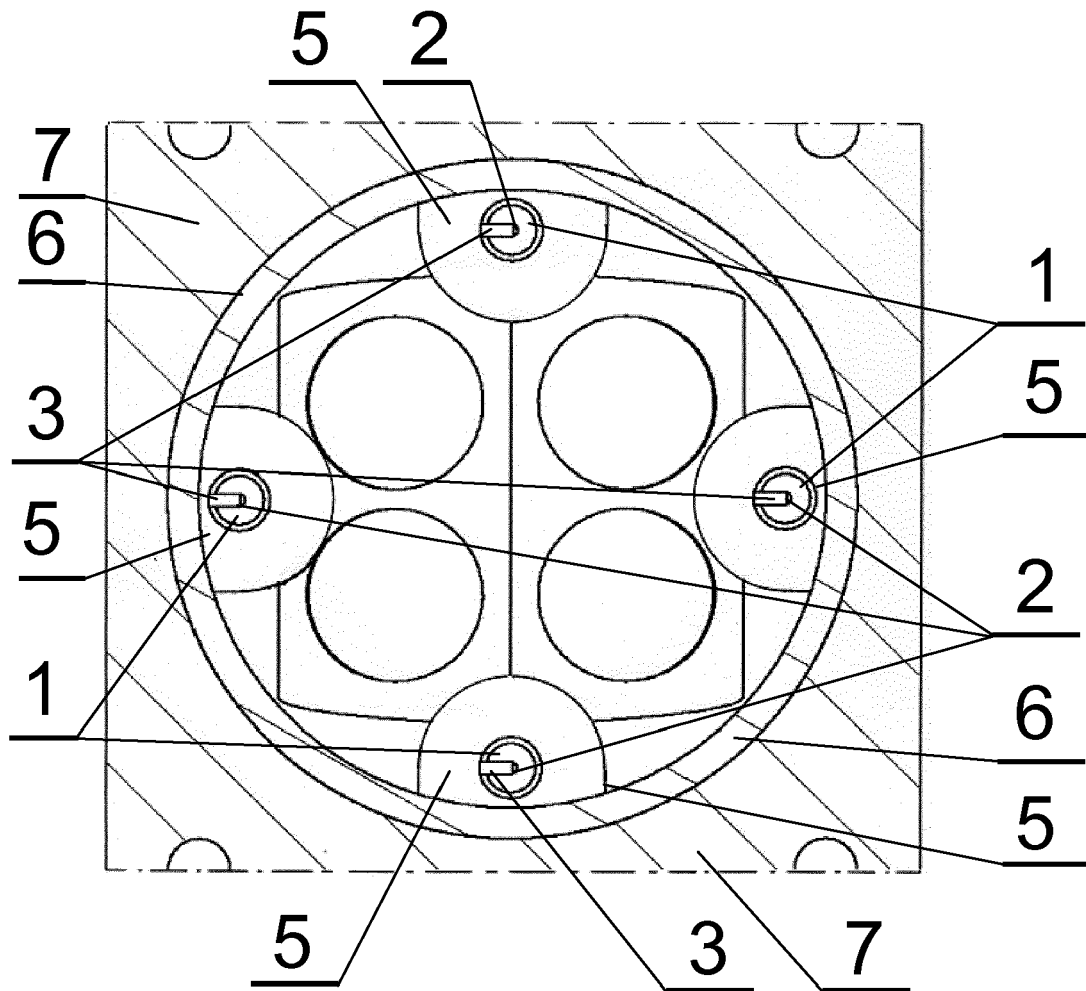


Fig. 2



EUROPEAN SEARCH REPORT

Application Number
EP 15 16 9294

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 October 2015	Examiner Ulivieri, Enrico
CATEGORY OF CITED DOCUMENTS		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	
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 15 16 9294

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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21-10-2015

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