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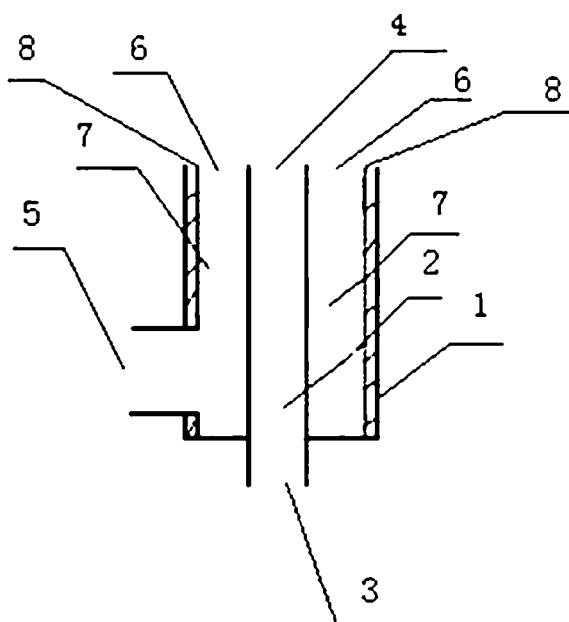
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(54) **BURNER NOZZLE**

(57) A burner nozzle, comprised by a fuel passage (7) and combustion supporting agent passage (2), where the combustion supporting agent passage (2) is inside fuel passage (7), the inner wall of the outer annual ring

of nozzle outlet (8) and the outer wall of the combustion supporting agent passage outlet (4) comprise annular ring outlet is the fuel outlet (6). The burner nozzle can create favorable conditions for combustion.

[Fig. 1]



Description**TECHNICAL FIELD**

[0001] The invention relates to burner nozzles.

Background Art

[0002] Currently fuel burner nozzles are devices for fuel supply.

Summary of Invention**Technical Problem**

[0003] But their functions can not supply very favorable conditions for burning.

Solution to Problem

[0004] The present invention is used to provide a burner nozzle, which is achieved by the following technical scheme: the nozzle body has a combustion supporting agent passage and a fuel passage. The fuel passage is inside the combustion supporting agent passage. One end of the combustion supporting agent passage is the combustion supporting agent inlet, the other end of the combustion supporting agent passage is the combustion supporting agent outlet. The nozzle has a fuel inlet, the outlet of nozzle comprised by combustion supporting agent passage outlet and fuel passage outlet, of which the inner wall of the outer annular ring of nozzle outlet and outer wall of the combustion supporting agent passage outlet comprise the annular ring outlet is the fuel outlet.

Advantageous Effects of Invention

[0005] The nozzle can create favorable conditions for combustion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Figure 1 is a schematic diagram.

[0007]

Of which: 1, nozzle body 2, combustion supporting agent passage 3, combustion supporting agent inlet 4, combustion supporting agent outlet 5, fuel passage inlet 6, fuel passage outlet 7, fuel passage 8, outer annular ring of the nozzle outlet.

Description of Embodiments

[0008] As shown in Figure 1, the combustion supporting agent flow through the combustion supporting agent inlet 3 into the combustion supporting agent passage 2 which is inside the nozzle body 1 and flow out from the

combustion supporting agent outlet 4. The fuel flow through fuel passage inlet 5 into fuel passage 7 which is inside the nozzle body 1 and flow out from fuel passage outlet 6. The fuel passage outlet 6 is an annular ring outlet comprised by inner wall of the outer annular ring of nozzle outlet 8 and outer wall of the combustion supporting agent passage outlet 4.

Examples

[0009] As shown in Figure 1, the combustion supporting agent flow through the combustion supporting agent inlet 3 into the combustion supporting agent passage 2 which is inside the nozzle body 1 and flow out from the combustion supporting agent outlet 4. The fuel flow through fuel passage inlet 5 into fuel passage 7 which is inside the nozzle body 1 and flow out from fuel passage outlet 6. The fuel passage outlet 6 is an annular ring outlet comprised by inner wall of the outer annular ring of nozzle outlet 8 and outer wall of the combustion supporting agent passage outlet 4. The thickness and radius of the annular ring orifice are adjustable.

[0010] The above is only a preferred embodiment of the present invention, but the scope of the present invention is not limited to this, the equivalent replacement or change according to the present invention and the inventive concept should be encompassed by the present invention within the scope of protection.

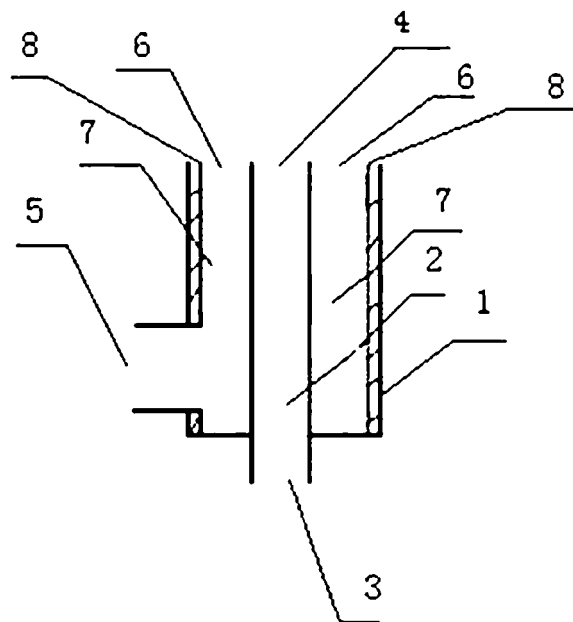
Industrial Applicability

[0011] The present invention can improve combustion efficiency, while industrial application is very easy to install and maintain.

Claims

1. A burner nozzle, comprised by a fuel passage (7) and combustion supporting agent passage (2), where the combustion supporting agent passage (2) is inside fuel passage (7), the inner wall of the outer annular ring of nozzle outlet (8) and the outer wall of the combustion supporting agent passage outlet (4) comprise annular ring outlet is the fuel outlet (6).

[Fig. 1]



INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2014/082835

A. CLASSIFICATION OF SUBJECT MATTER

F23D 14/48 (2006.01) i; F23D 14/22 (2006.01) i; F23D 11/38 (2006.01) i
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F23D 14; F23D 11; F23D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, CNPAT, CNKI: fuel, gas, air, adjuvant, oxygen, steam, inside, outside, nozzle, burner

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 203442826 U (YU, Liang) 19 February 2014 (19.02.2014) claim 1, description, paragraphs [0004]-[0007], and figure 1	1
X	JP 2004301372 A (OSAKA GAS CO LTD) 28 October 2004 (28.10.2004) description, paragraphs [0013]-[0015], and figures 1 and 2	1
X	CN 102399593 A (DONGFANG STEAM TURBINE CO LTD) 04 April 2012 (04.04.2012) description, paragraphs [0066]-[0068], and figure 4	1
X	CN 202494101 U (GUANGXI NONFERROUS RECYCLE METALS CO LTD) 17 October 2012 (17.10.2012) description, paragraphs [0005]-[0030], and figures 1-4	1
X	CN 102712468 A (LURGI GMBH) 03 October 2012 (03.10.2012) description, paragraphs [0009]-[0058], and figure 1	1

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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Name and mailing address of the ISA State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	Authorized officer XIE, Lei Telephone No. (86-10) 62085006

INTERNATIONAL SEARCH REPORT
 Information on patent family members

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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 203442826 U	19 February 2014	None	
JP 2004301372 A	28 October 2004	None	
CN 102399593 A	04 April 2012	CN 102399593 B	02 April 2014
CN 202494101 U	17 October 2012	None	
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		EP 2523899 A1	21 November 2012
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