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(71) Applicants: **CERES INTELLECTUAL PROPERTY COMPANY LIMITED** [GB/GB]; Viking House, Foundry Lane, Horsham, West Sussex RH13 5PX (GB). **WEICHAI POWER CO., LTD.** [CN/CN]; 197 A East Fushou Street, High-Tech Development Zone, Weifang, Shandong 261061 (CN).

(72) Inventors: **WANG, Yang**; Weichai Power Co., Ltd., 197 A East Fushou Street, High-Tech Development Zone, Weifang, Shandong 261061 (CN). **ZHANG, Yi**; Weichai Power Co., Ltd., 197 A East Fushou Street, High-Tech Development Zone, Weifang, Shandong 261061 (CN).

(74) Agent: **WYNNE-JONES IP LIMITED**; 2nd Floor, 5210 Valiant Court, Gloucester Business Park, Gloucester, Gloucestershire GL3 4FE (GB).

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(54) Title: COMBUSTION AND HEAT EXCHANGE ASSEMBLY AND SOFC SYSTEM

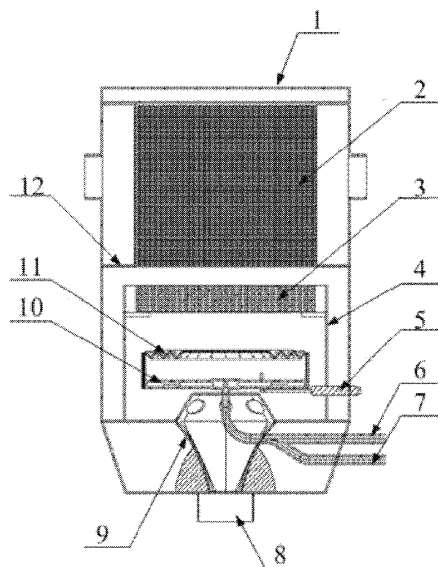


Fig. 1

(57) Abstract: The invention discloses a combustion and heat exchange assembly and a solid oxide fuel cell (SOFC) system. The combustion and heat exchange assembly of an SOFC system comprises a casing and a partition arranged inside the casing, wherein the partition divides the interior of the casing into a combustion chamber and a heat exchange chamber; a combustion unit arranged inside the combustion chamber, wherein the combustion unit comprises an igniter, a combustion nozzle, a fuel gas supply pipe and an air director, the combustion nozzle comprises a central cavity and a plurality of flame channels in communication with the central cavity, a plurality of through holes for spurting of flames are arranged on a side of the flame channels adjacent to the partition, and the air director is used for directing air into the central cavity; and a heat exchange unit arranged inside the heat exchange chamber, wherein the heat exchange unit comprises a cold channel and a hot channel, which are independent of each other, and a gas flow port in communication with the hot channel is arranged on the partition. The combustion and heat exchange assembly can effectively solve the problem of a large volume of the burner and the air heat exchanger, which is not conducive to arrangement in a vehicle.

[Continued on next page]

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