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Reactor for prepn. of synthesis gas - provides complete combustion of carbon remaining in slag and preheating of oxygen-contg. gas

D/S: E(DE GB NL)

A vertical reactor for the prepn. of synthesis gas by the partial combustion of finely divided carbonaceous fuel has an axial supply line for O<sub>2</sub>-contg. gas and sidewall passages for feeding of the fuel. The supply line is located in the bottom of the reactor and the passages are arranged at an angle of 90 ± 15° with the reactor centreline. Synthesis gas is discharged from the top of the reactor.

**ADVANTAGES**

The fuel is fed in a thin layer and forms a rectangle within the stream of oxygen-contg. gas so that the fuel particles are more likely to reach the centre of the stream. Sprayers are used to feed the fuel and enable the reactor height to be limited.

**EMBODIMENT**

A reactor has a cylindrical sidewall (3) with a discharge (2) for synthesis gas and fly ash, a discharge (6) for slag,

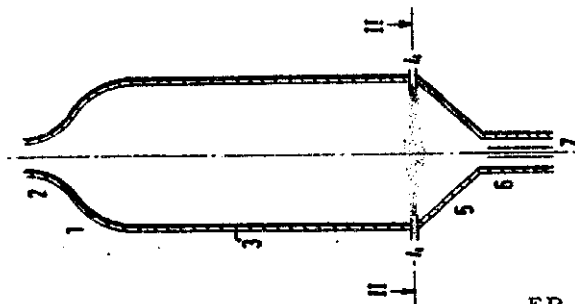
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an oxygen supply line (7) and fuel feed passages (4). The passages are located at regular intervals in the side wall and the sprayers have an orifice angle of about 90°.

The oxygen-contg. gas contacts the descending hot fuel and slag particles on its passage through the reactor and so becomes preheated while simultaneously cooling the slag. (12pp1044).

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