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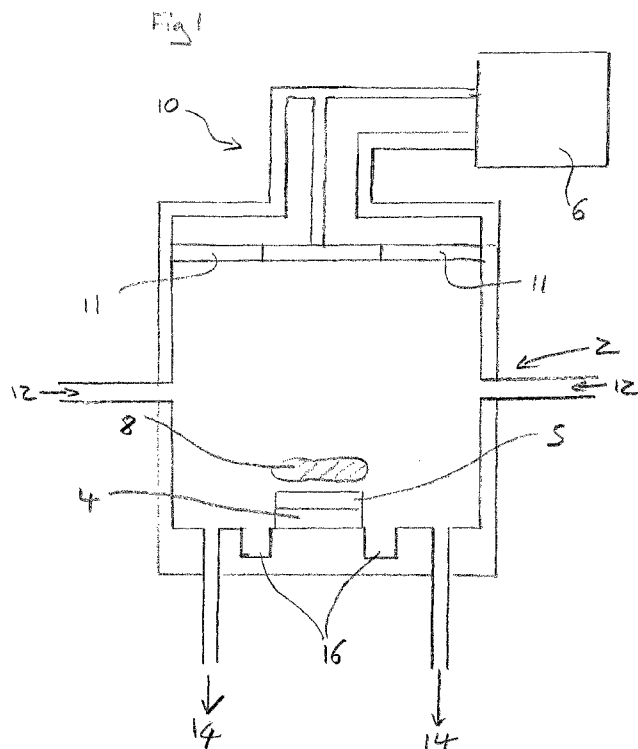
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(54) Title: A MICROWAVE PLASMA REACTOR FOR MANUFACTURING SYNTHETIC DIAMOND MATERIAL



(57) Abstract: A microwave plasma reactor for manufacturing synthetic diamond material via chemical vapour deposition, the microwave plasma reactor comprising: a plasma chamber; a substrate holder disposed in the plasma chamber and comprising a supporting surface for supporting a substrate on which the synthetic diamond material is to be deposited in use; a microwave coupling configuration for feeding microwaves from a microwave generator into the plasma chamber; and a gas flow system for feeding process gases into the plasma chamber and removing them therefrom; wherein the microwave plasma reactor further comprises an electrically conductive plasma stabilizing annulus disposed around the substrate holder within the plasma chamber.



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