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(54) **Title:** A METHOD OF FABRICATING EPITAXIALLY GROWN LAYERS ON A COMPOSITE STRUCTURE

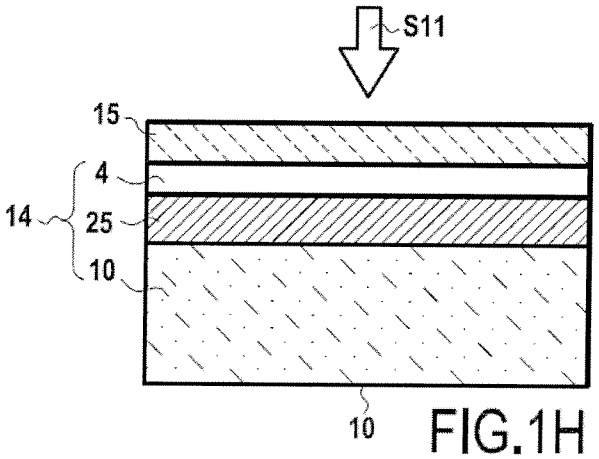


FIG.1H

(57) **Abstract:** The invention relates to a method of fabricating materials by epitaxy, comprising a step of epitaxial growth of at least one layer (15) of a material on a composite structure (14). The composite structure comprises at least one thin film (4) bonded to a support substrate (10), a bonding layer (25) being formed by deposition between the support substrate (10) and the thin film (4), the thin film (4) and the support substrate (10) having a mean thermal expansion coefficient of 7 x 10^{-6} K^{-1} or more. The bonding layer of oxide (25) is formed by low pressure chemical vapor deposition (LPCVD) of a layer of oxide of silicon on the bonding face of the support substrate (10) and/or on the bonding face of the thin film (4). The thickness of the thin film (4) is less than or equal to the thickness of the oxide layer. The method also includes a heat treatment carried out at a temperature that is higher than the temperature for deposition of the layer of oxide of silicon and for a predetermined period.

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