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[Continued on next page]

(54) Title: TRANSISTOR INCLUDING TENSILE-STRAINED GERMANIUM CHANNEL

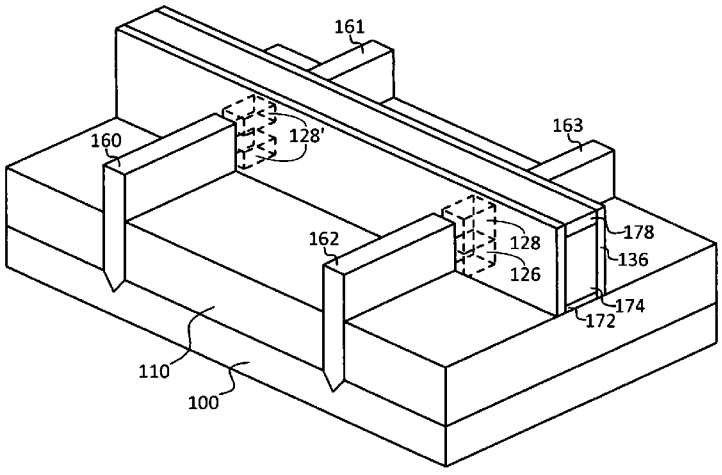

FIG. 3

(57) Abstract: Techniques are disclosed for forming transistor structures including tensile-strained germanium (Ge) channel material. The transistor structures may be used for either or both of n-type and p- type transistor devices, as tensile-strained Ge has very high carrier mobility properties suitable for both types. Thus, a simplified CMOS integration scheme may be achieved by forming n-MOS and p-MOS devices included in the CMOS device using the techniques described herein. In some cases, the tensile-strained Ge may be achieved by epitaxially growing the Ge material on a group III-V material having a lattice constant that is higher than that of Ge and/or by applying a macroscopic 3-point bending to the die on which the transistor is formed. The techniques may be used to form transistors having planar or non-planar configurations, such as finned configurations (e.g., finFET or tri-gate) or gate-all-around (GAA) configurations (including at least one nanowire).

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