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**Declarations under Rule 4.17**:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

*[Continued on next page]*

(54) Title: METHODS FOR FORMING NARROW VERTICAL PILLARS AND INTEGRATED CIRCUIT DEVICES HAVING THE SAME

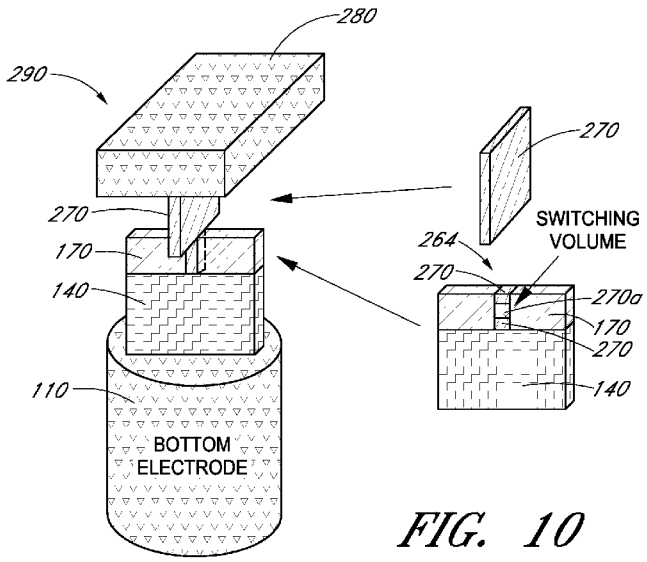



FIG. 10

(57) Abstract: In some embodiments, an integrated circuit includes narrow, vertically-extending pillars that fill openings formed in the integrated circuit. In some embodiments, the openings can contain phase change material to form a phase change memory cell. The openings occupied by the pillars can be defined using crossing lines of sacrificial material, e.g., spacers, that are formed on different vertical levels. The lines of material can be formed by deposition processes that allow the formation of very thin lines. Exposed material at the intersection of the lines is selectively removed to form the openings, which have dimensions determined by the widths of the lines. The openings can be filled, for example, with phase change material.

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