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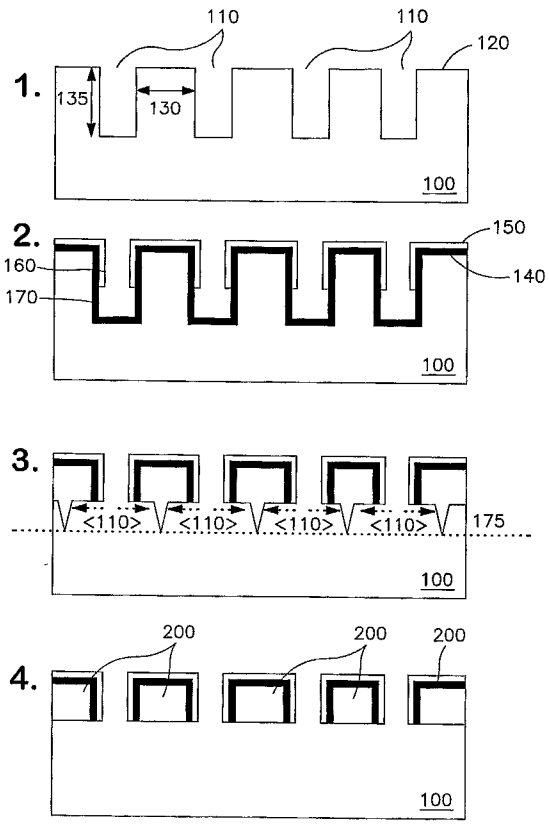
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(54) Title: PRINTABLE SEMICONDUCTOR STRUCTURES AND RELATED METHODS OF MAKING AND ASSEMBLING



(57) Abstract: The present invention provides a high yield pathway for the fabrication, transfer and assembly of high quality printable semiconductor elements having selected physical dimensions, shapes, compositions and spatial orientations. The compositions and methods of the present invention provide high precision registered transfer and integration of arrays of microsized and/or nanosized semiconductor structures onto substrates, including large area substrates and/or flexible substrates. In addition, the present invention provides methods of making printable semiconductor elements from low cost bulk materials, such as bulk silicon wafers, and smart-materials processing strategies that enable a versatile and commercially attractive printing-based fabrication platform for making a broad range of functional semiconductor devices.

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