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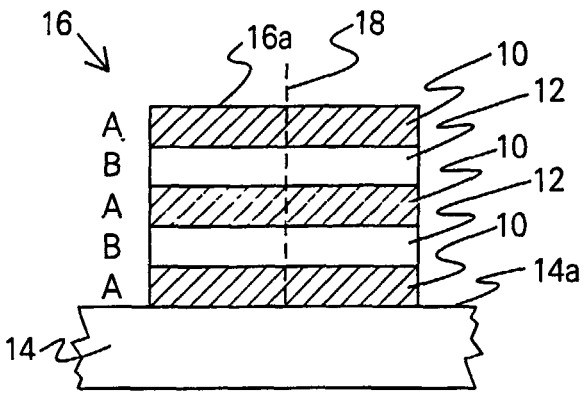
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(54) Title: NANOSCALE PATTERNING FOR THE FORMATION OF EXTENSIVE WIRES



(57) Abstract: A method for forming a platen useful for forming nanoscale wires for device applications comprises: (a) providing a substrate having a major surface; (b) forming a plurality of alternating layers of two dissimilar materials on the substrate to form a stack having a major surface parallel to that of the substrate; (c) cleaving the stack normal to its major surface to expose the plurality of alternating layers; and (d) etching the exposed plurality of alternating layers to a chosen depth using an etchant that etches one material at a different rate than the other material to thereby provide the surface with extensive strips of indentations and form the platen useful for molding masters for nano-imprinting technology. The pattern of the platen is then imprinted into a substrate comprising a softer material to form a negative of the pattern, which is then used in further processing to form nanowires. The nanoscale platen thus comprises a plurality of alternating layers of the two dissimilar materials, with the layers of one material etched relative the layers of the other material to form indentations of the one material. The platen is then oriented such that the indentations are parallel to a surface to be imprinted.

WO 01/65600 A2