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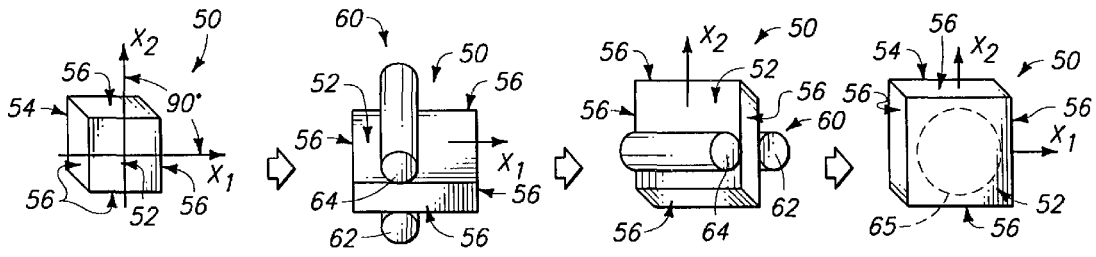

(57) Abstract: The invention includes a physical vapor deposition target composed of a face centered cubic unit cell metal or alloy and having a uniform grain size less than 30 microns, preferably less than 1 micron; and a uniform axial or planar <220> texture. Also described is a method for making sputtering targets. The method can comprise billet preparation; equal channel angular extrusion with a prescribed route and number of passes; and cross-rolling or forging subsequent to the equal channel angular extrusion.

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