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Declarations under Rule 4.17:

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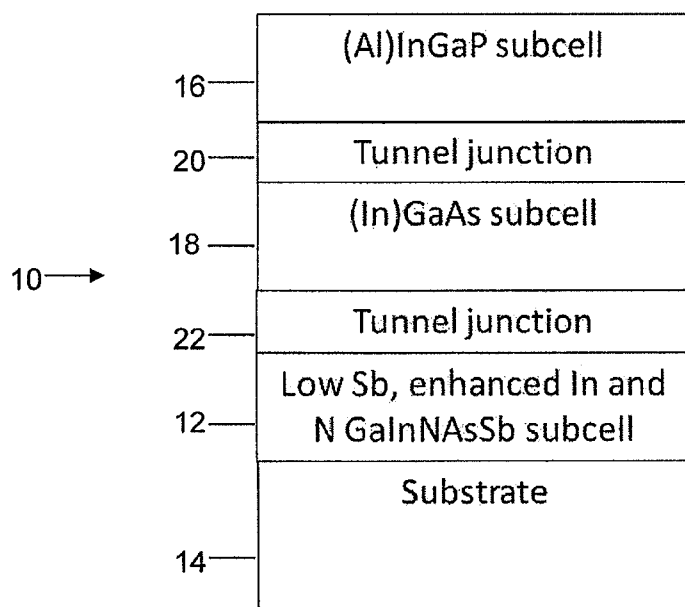
(54) **Title:** LATTICE MATCHABLE ALLOY FOR SOLAR CELLS

FIG. 1A

(57) **Abstract:** An alloy composition for a subcell of a solar cell is provided that has a bandgap of at least 0.9 eV, namely, $\text{Ga}_{1-x}\text{In}_x\text{N}_y\text{As}_{1-y-z}\text{Sb}_z$ with a low antimony (Sb) content and with enhanced indium (In) content and enhanced nitrogen (N) content, achieving substantial lattice matching to GaAs and Ge substrates and providing both high short circuit currents and high open circuit voltages in GaInNAsSb subcells for multi-junction solar cells. The composition ranges for $\text{Ga}_{1-x}\text{In}_x\text{N}_y\text{As}_{1-y-z}\text{Sb}_z$ are $0.07 \leq x \leq 0.18$, $0.025 \leq y \leq 0.04$ and $0.001 \leq z \leq 0.03$.



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