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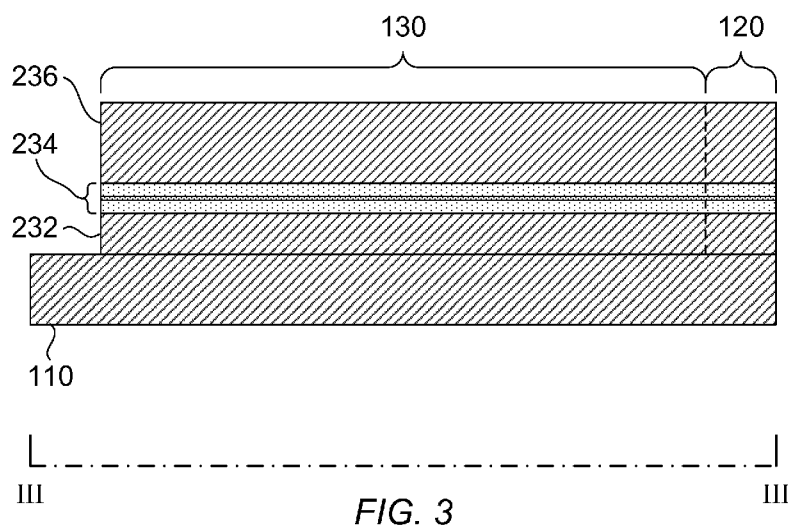


FIG. 3

(57) Abstract: A device for guiding and absorbing electromagnetic radiation, the device comprising: absorbing means for absorbing the electromagnetic radiation; and a coupled to the absorbing means for guiding the electromagnetic radiation to the absorbing means, wherein the waveguide and the absorbing means are formed from a structure comprising a first cladding layer, a second cladding layer over the first cladding layer, and a quantum-well layer between the first and second cladding layers, the quantum-well layer being formed of a material having a different composition to the first and second cladding layers, wherein the thickness and the composition of the quantum-well layer is optimised to provide an acceptable level of absorption of electromagnetic radiation in the waveguide while providing an appropriate band gap for absorption of the electromagnetic radiation in the absorbing means.



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