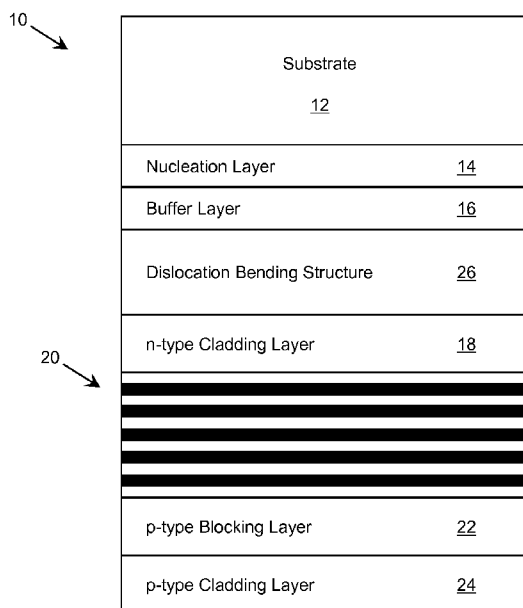




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[Continued on next page]

(54) **Title:** LIGHT EMITTING DEVICE WITH DISLOCATION BENDING STRUCTURE**FIG. 2**

(57) **Abstract:** A solution for reducing a number of dislocations in an active region of an emitting device is provided. A dislocation bending structure can be included in the emitting device between the substrate and the active region. The dislocation bending structure can be configured to cause dislocations to bend and/or annihilate prior to reaching the active region, e.g., due to the presence of a sufficient amount of strain. The dislocation bending structure can include a plurality of layers with adjacent layers being composed of a material, but with molar fractions of an element in the respective material differing between the two layers. The dislocation bending structure can include at least forty pairs of adjacent layers having molar fractions of an element differing by at least five percent between the adjacent layers.



Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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A. CLASSIFICATION OF SUBJECT MATTER***H01L 33/02(2010.01)i***

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L 33/00-H01L 33/64; H01L 29/00; H01L 21/20; H01L 21/205

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: dislocation bending, thickness, superlattice

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2009-0032828 A1 (LINDA T. ROMANO et al.) 05 February 2009 See abstract; paragraphs [0025]-[0035]; claims 1-8,11-12; and figure 1	11,17 1-10,12-16,18-21
A	JP 2002-075873 A (NIPPON TELEGR & TELEPH CORP.) 15 March 2002 See abstract, paragraphs [0018]-[0022], and figure 2	1-21
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A	US 2008-0274574 A1 (FENG YUN) 06 November 2008 See paragraphs [0044]-[0048]; claims 1,4-5; and figure 1	1-21
A	US 2009-0039361 A1 (JIZHONG LI et al.) 12 February 2009 See abstract; paragraphs [0004]-[0006],[0008]-[0010],[0085]; and figures 1,6	1-21



Further documents are listed in the continuation of Box C.



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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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