

12 **EUROPEAN PATENT APPLICATION**

21 Application number: 78200074.9

51 Int. Cl.²: H 01 S 3/19

22 Date of filing: 03.07.78

30 Priority: 12.07.77 NL 7707720

43 Date of publication of application:
24.01.79 Bulletin 79/2

86 Date of deferred publication of search report:
07.02.79

84 Designated contracting states:
DE FR GB NL SE

71 Applicant: N.V. Philips'
Gloeilampenfabrieken Emmasingel 29
NL-5611 Eindhoven. (NL)

72 Inventor: Rozzi, Tullio Ernesto
c/o INTERNATIONAAL OCTROOIBUREAU B.V.
6, Prof. Holstlaan
NL-5600 Eindhoven. (NL)

72 Inventor: Van Heuven, Johannes Hendrik Cornelis
c/o INTERNATIONAAL OCTROOIBUREAU B.V.
6, Prof. Holstlaan
NL-5600 Eindhoven. (NL)

74 Representative: Voorrips, Hugo Carel et al
INTERNATIONAAL OCTROOIBUREAU. B. V.
Prof. Holstlaan 6
NL-5600 Eindhoven. (NL)

54 Junction laser.

57 A semiconductor laser or traveling wave intensifier having an active layer between two passive semiconductor layers, and a strip-shaped electrode geometry. According to the invention the active layer is uniform in thickness, while at least one of the passive layers within the strip-shaped geometry comprises a strip-shaped zone of deviating construction and is built up from portions having different refractive indices n_1 and n_2 . According to the invention it holds that

$$(n_1 - n_2) (d_1 - d_2) > 0,$$

wherein n_1 is the refractive index of the portion which at least within said strip-shaped zone adjoins the active layer, d_1 is the thickness thereof within the strip-shaped zone, and d_2 is the thickness thereof beside the strip-shaped zone.

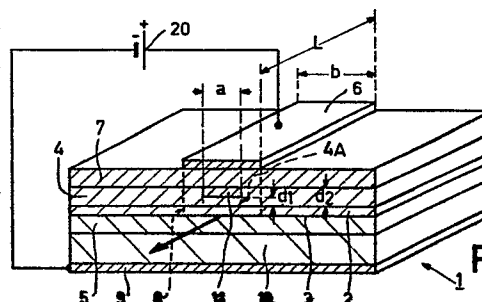


Fig. 1



European Patent
Office

0000412

EUROPEAN SEARCH REPORT

Application number
EP 78 20 0074

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ²)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US - A - 3 916 339 (IVAN LADANY et al.) * Column 1, lines 9-11; column 2, lines 38-47; column 3, lines 15-18; figure 2 * ---	1	H 01 S 3/19
A	US - A - 3 978 428 (R.D. BURNHAM et al.) * Column 3, lines 14-25; column 4, lines 4-11; column 6, lines 26-28; figures 1,2 * ---	1	
A	APPLIED PHYSICS LETTERS, vol. 30, nr. 12, 15 June 1977, K.AIKI et al. "Channeled-substrate planar structure (AlGa)As injection lasers", pages 649-651 * Page 649, column 2, end of the first paragraph; figure 1 * -----	1	TECHNICAL FIELDS SEARCHED (Int.Cl. ²) H 01 S 3/19 H 01 S 3/06 H 01 L 33/00
			CATEGORY OF CITED DOCUMENTS X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			& member of the same patent family. corresponding document
The present search report has been drawn up for all claims			
Place of search The Hague	Date of completion of the search 20-10-1978	Examiner ARMJ TANO-GRIVEL	