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[Continued on next page]

(54) Title: PUMP CHAMBER INTEGRATED LAMPS

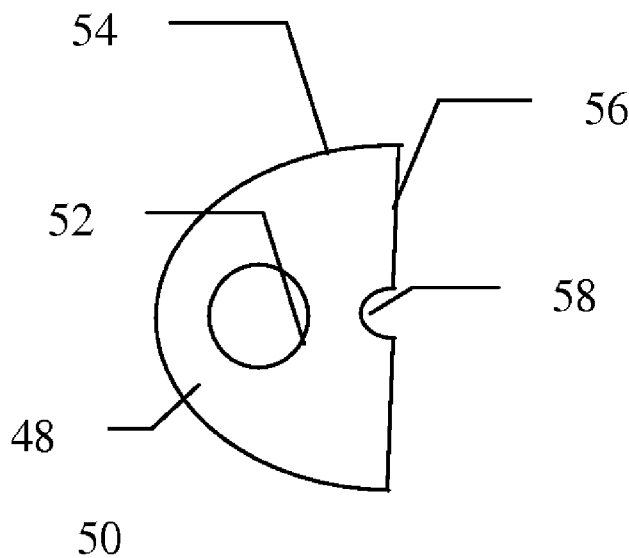


FIG. 4

(57) Abstract: A flash-lamp envelope for a solid state flash lamp pumped laser in which the flash-lamp envelope is an extrusion-shaped optically transparent housing designed to act both as a glass sealing envelope and an optical coupler, efficiently transferring radiation from the flash lamp to a solid lasing rod.



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5 November 2009

**A. CLASSIFICATION OF SUBJECT MATTER***H01S 5/00(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC H01S 5/ , H01S 3/

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 since 1975.  
Japanese Utility models and applications for Utility models since 1975.

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

e-KOMPASS (KIPO internal); laser, pump, flash lamp

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,933,946 A (Kuper et al.) 12 June 1990	1 ~ 5
Y	see abstract, Claims 1~9, Figs. 1~6	1 ~ 11
Y	US 5,828,690 A (Unternahrer et al.) 27 October 1998 see abstract, Claims 1~22, Figs. 1~10	1 ~ 11
Y	US 5,012,481 A (Casteleiro et al.) 30 April 1991 see abstract, Claims 1~21, Figs. 1~5	1 ~ 11
Y	US 5,490,161 A (Tanuma) 06 February 1996 see abstract, Claims 1~4, Figs. 1~4	1 ~ 11
Y	US 4,563,763 A (Kuhn) 07 January 1986 see abstract, Claims 1~12, Figs. 1~4	1 ~ 11
Y	US 4,993,038 A (Nakano et al.) 12 February 1991 see abstract, Claims 1~46, Figs. 1~34	1 ~ 11

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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"&" document member of the same patent family

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4933946 A	12.06.1990	None	
US 5828690 A	27.10.1998	None	
US 5012481 A	30.04.1991	None	
US 05490161 A	06.02.1996	JP 06-350171 A JP 2002-237635 A US 05581573 A US 05617442 A	22.12.1994 23.08.2002 03.12.1996 01.04.1997
US 4563763 A	07.01.1986	None	
US 04993038 A	12.02.1991	EP 0358464 A3 EP 0358464 A2 EP 0358464 B1 JP 03-087083 A JP 02-168685 A	02.05.1990 14.03.1990 15.06.1994 11.04.1991 28.06.1990