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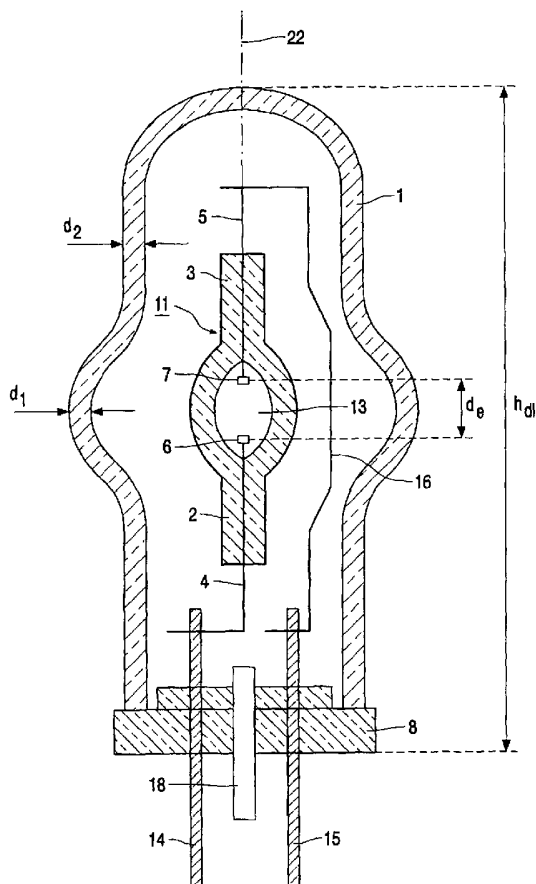
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(54) Title: HIGH-PRESSURE DISCHARGE LAMP



(57) Abstract: The invention relates to a high-pressure discharge lamp with an outer envelope (1) in which a discharge vessel (11) is arranged around a longitudinal axis (22). The discharge vessel encloses, in a gastight manner, a discharge space (13) provided with an ionizable filling. The discharge vessel has a first (2) and a second (3) mutually opposed neck-shaped portion through which a first (4) and a second (5) current-supply conductor, respectively, extend to a pair of electrodes (6, 7) arranged in the discharge space (13). The outer envelope (1) has a bulb-shaped portion (2) adjacent the discharge space with a wall thickness d_1 . The remainder of the outer envelope has a wall thickness d_2 . The ratio of d_1 and d_2 is in the range: Formula (I). Preferably, Formula (II), the bulb-shaped portion is formed in a mold. A simplified and compact high-pressure discharge lamp is provided by the invention.

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BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 533 325 A (HAMAMATSU PHOTONICS K.K) 24 March 1993 (1993-03-24) the whole document	1
A	US 4 888 517 A (KEEFFE ET AL) 19 December 1989 (1989-12-19) cited in the application	

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Information on patent family members

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0533325	A	24-03-1993		JP 5343031 A	24-12-1993
				JP 5028964 A	05-02-1993
				DE 69207530 D1	22-02-1996
				DE 69207530 T2	13-06-1996
				EP 0533325 A1	24-03-1993
				US 5359255 A	25-10-1994
US 4888517	A	19-12-1989		AU 2165288 A	02-03-1989
				CA 1305995 C	04-08-1992
				DE 3855637 D1	05-12-1996
				DE 3855637 T2	22-05-1997
				EP 0306269 A2	08-03-1989
				JP 1071054 A	16-03-1989