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(71) Applicant: **Hewlett-Packard Company**
Mail Stop 20 B-O, 3000 Hanover Street
Palo Alto, California 94304(US)

(72) Inventor: **Sullivan, James J.**
1115 Maple Field Road
Newark, DE 19711(US)

(74) Representative: **Liesegang, Roland, Dr.-Ing. et al**
FORRESTER & BOEHMERT
Widenmayerstrasse 4
W-8000 München 22(DE)

(54) Microwave resonant cavity.

(57) A microwave resonant cavity (10) for a spectroscopic light source includes a housing (12) having therein a chamber (26) formed by side walls (14,16) and a cylindrical outer wall (18). The side walls having aligned openings (22,24) therethrough which are on the longitudinal axis of the outer wall (18). A refractory tube (34) which is adapted to contain a gaseous plasma extends through the aligned openings (22,24) and across the chamber (26) in the housing. The portion of the side walls (14,16) of the chamber (26) adjacent the openings (22,24) are closer together than the remaining portions of the side walls (14,16) so that the chamber (26) has a first portion (30) around the refractory tube (34) which is narrower than a second portion (32) of the chamber around the first portion. A coupling loop is electrically coupled to a side wall (16) of the chamber (26) within the second portion (32) of the chamber (26) and is connected to a coaxial connector (67,70) which extends through the outer wall (18) of the housing (12) to deliver microwave power to the chamber (26). This provides a resonant cavity (10) in which the plasma formed in the refractory tube (34) is very short for increased power and greater brightness of the plasma. This also provides a resonant cavity which requires no tuning and is more stable.

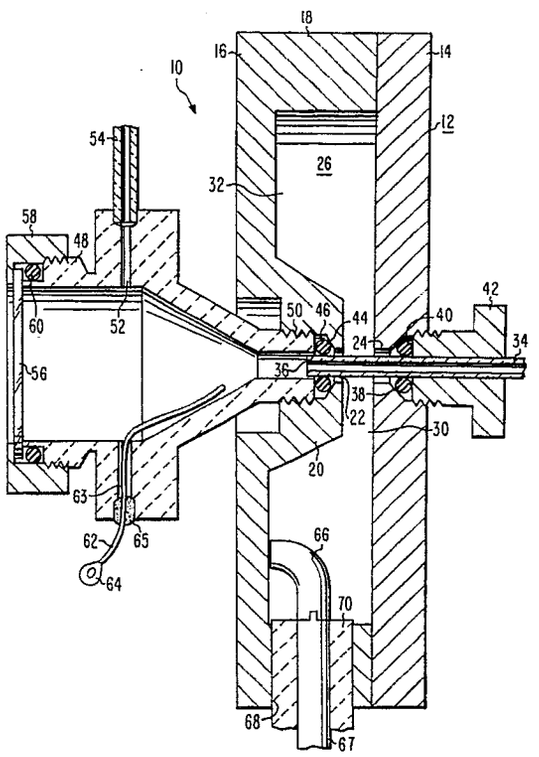

Fig. 1

EP 0 321 792 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 88 12 0527

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
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The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	24 January 91	HULNE S.L.

CATEGORY OF CITED DOCUMENTS

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	JOURNAL OF PHYSICS E. SCIENTIFIC INSTRUMENTS. vol. 4, no. 4, April 1971, ISHING, BRISTOL GB pages 280 - 282; S HATTORI: "HIGH POWER MICROWAVE DISCHARGE AS AN EXCITATION SOURCE FOR SPECTROSCOPIC EXPERIMENTS" * figure 1 *	19	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

The present search report has been drawn up for all claims

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The Hague	24 January 91	HULNE S.L.

CATEGORY OF CITED DOCUMENTS

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Y: particularly relevant if combined with another document of the same catagory
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