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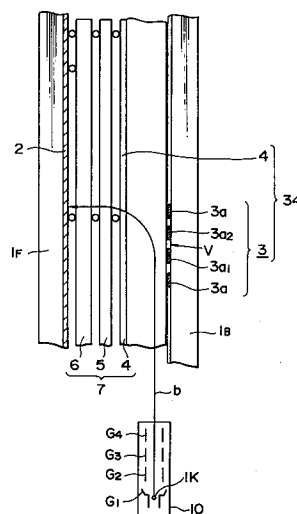
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(54) **Flat display.**

(57) A flat display comprises a flat tube (1) having a front panel (1F) and a back panel (1B) facing the front panel (1F), a fluorescent screen (2) formed on the inner surface of the front panel (1F) of the flat tube (1), an electron gun (10) disposed outside a region extending behind the fluorescent screen (2), a vertical deflecting electrode (3) disposed on the inner surface of the back panel (1B) and comprising a plurality of parallel electrode elements (3a) extending along the horizontal scanning direction, and an electrode structure (7) disposed between the vertical deflecting electrode (3) and the fluorescent screen (2), and comprising at least a counter electrode (4) constituting a vertical deflecting system together with the vertical deflecting electrode (3), a modulating electrode (5) and a horizontal deflecting electrode (6). The electron gun (10) has a back plate (41) and a cathode (1K) having a plurality of field emission cathode elements (K) arranged on a line on the inner surface of the back plate (41), and emits a flat electron beam (b) into the space between the vertical deflecting electrode (3) and the electrode structure (7). Since the flat electron beam (b) is produced by the plurality of field emission cathode elements (K) arranged on a line, the cathode (1K) of the

electron gun (10) does not vibrate and hence the cathode (1K) can be formed in a large length suitable for a large display screen.

**FIG. 3**



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## EUROPEAN SEARCH REPORT

Application Number

**EP 91 10 9734**

### 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)
X	EP-A-0 328 079 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) * column 4, line 10 - line 45; figures 2A,3,7A,8 **** column 4, line 49 - column 5, line 22; figures 10A,11 **	1	H 01 J 31/12
Y	— — —	2	
Y	EP-A-0 288 095 (NV. PHILIPS' GLOEILAMPEN-FABRIEKEN) * abstract; figures 2,3 *** column 2, line 11 - line 17 **	2	
E	EP-A-0 434 054 (SONY CORPORATION) * abstract; figures 1,3-6,12 *** column 2, line 36 - column 3, line 1 **	1	
A	WO-A-8 505 491 (SRI INTERNATIONAL) * abstract; figures 2-4 *** page 5, last paragraph *** page 9, paragraph 1 **	2	
	— — — — —		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H 01 J
Place of search		Date of completion of search	Examiner
The Hague		11 December 91	COLVIN G.G.
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