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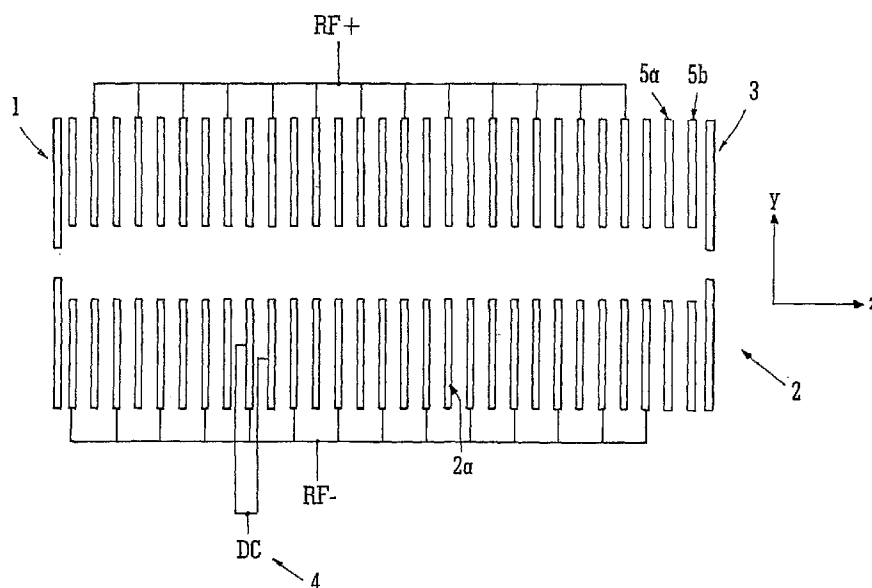
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[Continued on next page]

(54) Title: MASS SPECTROMETER



(57) Abstract: An ion guide or mass analyser (2) is disclosed comprising a plurality of electrodes (2a) having apertures through which ions are transmitted in use. A pseudo-potential barrier is created at the exit of the ion guide or mass analyser (2). The amplitude or depth of the pseudo-potential barrier is inversely proportional to the mass to charge ratio of an ion. One or more transient DC voltages (4) are applied to the electrodes (2a) of the ion guide or mass analyser (2) in order to urge ions along the length of the ion guides or mass analyser (2). The amplitude of the transient DC voltage (4) applied to the electrode (2a) may be increased with time so that ions are caused to be emitted from the ion guide or mass analyser (2) in reverse order of their mass to charge ratio.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01J

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, WPI Data, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 206 506 A (KIRCHNER NICHOLAS J [US]) 27 April 1993 (1993-04-27)	1-19, 22-24, 34-85, 87-146, 148, 150, 151, 153-155, 157, 160-162, 164-173
Y	column 5, line 31 - line 42 column 9, line 62 - line 68 column 10, line 1 - line 2 column 11, line 22 - line 25 -/--	20, 21, 25-33, 86, 147, 156, 158 159, 163

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

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L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	<p>column 12, line 51 - line 68 column 14, line 42 - line 48 column 18, line 41 - line 68 column 19, line 1 - line 9 column 21, line 28 - line 31 column 22, line 1 - line 58 column 23, line 32 - line 38 column 23, line 59 - line 62 column 24, line 1 - line 7 figures 1,4-13c</p> <p style="text-align: center;">-----</p>	
Y	US 6 111 250 A (THOMSON BRUCE A [CA] ET AL) 29 August 2000 (2000-08-29)	20,21
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Y	US 6 483 109 B1 (REINHOLD BRUCE B [US] ET AL) 19 November 2002 (2002-11-19)	25-27, 86,147
A	<p>figures 1,3a,3b column 8, line 41 - line 64</p> <p style="text-align: center;">-----</p>	1-173
Y	US 2004/124354 A1 (BATEMAN ROBERT HAROLD [GB] ET AL) 1 July 2004 (2004-07-01)	28-33, 156,158, 159,163
A	<p>abstract figures 2-6 page 1, paragraph 11 - paragraph 13 page 3, paragraph 35 page 3, paragraph 36 page 4, paragraph 50</p> <p style="text-align: center;">-----</p>	1-173

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Information on patent family members

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