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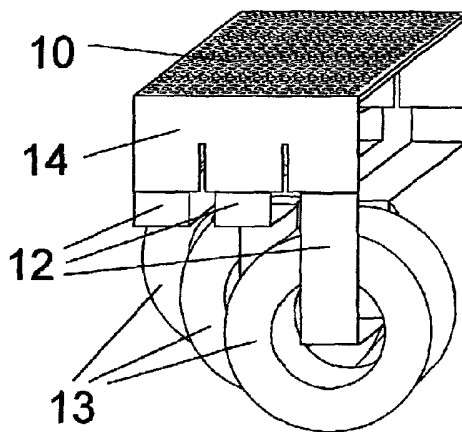
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(54) Title: ZONE HEATING OF SPECIMEN CARRIERS



(57) Abstract: The present invention relates to heating of samples in specimen carriers, and more particularly to the heating of zones of a specimen carrier for differential heating of samples in a specimen carrier. According to one aspect of the present invention there is provided apparatus for heating samples, the apparatus comprising: a specimen carrier in the form of a metallic sheet, in which sheet a matrix of sample wells is incorporated, means for applying electrical heating current through the carrier, characterised by a plurality of electrical current sources, each connected in series across the carrier and together providing a variety of different possible current flow paths whereby localised regions of the carrier may be selectively heated. In one embodiment of the current applied is alternating current. In another aspect of the invention the current provided by the sources is direct current.



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A. CLASSIFICATION OF SUBJECT MATTER
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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)
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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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/019704 A1 (GUNTER IAN ALAN) 6 September 2001 (2001-09-06) paragraphs '0001!', '0012!', '0013!', '0018!', '0023!'-'0025!', '0041!', '0042!', '0054!', '0057!', '0058!', '0074!' ---	1, 17
A	WO 97 26993 A (BJS COMPANY LTD ;GUNTER IAN ALAN (GB)) 31 July 1997 (1997-07-31) cited in the application claim 1 ---	1, 17
A	WO 01 62389 A (MJ RES INC) 30 August 2001 (2001-08-30) page 2, line 9 - line 13 page 7, line 13 - line 16 page 7, line 27 -page 8, line 7 figure 4 claim 1 ---	1, 14, 17
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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PCT/GB 02/04080

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 602 756 A (ATWOOD JOHN G ET AL) 11 February 1997 (1997-02-11) column 9, line 11 - line 22; figures 9,13 column 9, line 52 - line 65 column 11, line 58 - line 60 column 12, line 12 - line 32 column 17, line 5 - line 62 column 23, line 35 - line 48 column 25, line 50 - column 26, line 21 column 48, line 47 - line 59 -----	1,17
A	WO 00 32312 A (HYBAID LTD) 8 June 2000 (2000-06-08) page 2, line 3 - line 6 claim 1 figure 2 page 3, line 1 - line 15 page 4, line 4 - line 11 -----	1,17

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/GB 02/04080

Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
US 2001019704 A1	06-09-2001	AT 197129 T	15-11-2000		
		AU 1451097 A	20-08-1997		
		DE 69703381 D1	30-11-2000		
		DE 69703381 T2	12-04-2001		
		DK 876218 T3	08-01-2001		
		EP 0876218 A1	11-11-1998		
		ES 2151241 T3	16-12-2000		
		WO 9726993 A1	31-07-1997		
		GR 3034671 T3	31-01-2001		
		JP 2000505889 T	16-05-2000		
		PT 876218 T	30-03-2001		
		AU 3942601 A	08-10-2001		
		EP 1265712 A1	18-12-2002		
		WO 0172424 A1	04-10-2001		

		WO 9726993 A	31-07-1997	AT 197129 T	15-11-2000
AU 1451097 A	20-08-1997				
DE 69703381 D1	30-11-2000				
DE 69703381 T2	12-04-2001				
DK 876218 T3	08-01-2001				
EP 0876218 A1	11-11-1998				
ES 2151241 T3	16-12-2000				
WO 9726993 A1	31-07-1997				
GR 3034671 T3	31-01-2001				
JP 2000505889 T	16-05-2000				
PT 876218 T	30-03-2001				
US 2001019704 A1	06-09-2001				

WO 0162389 A	30-08-2001			AU 3863801 A	03-09-2001
				WO 0162389 A2	30-08-2001
				US 2002006619 A1	17-01-2002

US 5602756 A	11-02-1997	US 5475610 A	12-12-1995		
		US 5282543 A	01-02-1994		
		US 5710381 A	20-01-1998		
		US 6015534 A	18-01-2000		
		AT 165621 T	15-05-1998		
		AT 216284 T	15-05-2002		
		AU 696482 B2	10-09-1998		
		AU 2493495 A	07-12-1995		
		AU 662494 B2	07-09-1995		
		AU 8832791 A	04-06-1992		
		AU 9700298 A	04-03-1999		
		CA 2056743 A1	30-05-1992		
		DE 69129325 D1	04-06-1998		
		DE 69129325 T2	10-09-1998		
		DE 69132992 D1	23-05-2002		
		DE 69132992 T2	30-01-2003		
		DE 488769 T1	17-12-1992		
		DE 812621 T1	13-08-1998		
		DE 810030 T1	24-09-1998		
		DK 488769 T3	07-10-1998		
		EP 1157744 A1	28-11-2001		
		EP 1275438 A2	15-01-2003		
		EP 0488769 A2	03-06-1992		
		EP 0812621 A1	17-12-1997		
		EP 0810030 A1	03-12-1997		
		ES 2033640 T1	01-04-1993		

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/GB 02/04080

Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
US 5602756	A	GR 92300125	T1 16-03-1993		
		IE 914170	A1 03-06-1992		
		IL 100209	A 15-03-1995		
		IL 111091	A 31-12-1995		
		IL 111092	A 18-06-1996		
		JP 6233670	A 23-08-1994		
		KR 236506	B1 15-01-2000		
		NZ 240800	A 26-10-1995		
		NZ 270628	A 26-10-1995		
		NZ 270629	A 26-10-1995		
		US 2002072112	A1 13-06-2002		

		WO 0032312	A	08-06-2000	US 6372486
AT 231742	T 15-02-2003				
EP 1135211	A1 26-09-2001				
WO 0032312	A1 08-06-2000				
JP 2002531803	T 24-09-2002				
