

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 January 2001 (11.01.2001)

PCT

(10) International Publication Number
WO 01/01881 A3

(51) International Patent Classification⁷: A61C 11/08, 9/00

(21) International Application Number: PCT/US00/40326

(22) International Filing Date: 7 July 2000 (07.07.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/349,192 7 July 1999 (07.07.1999) US

(71) Applicant and

(72) Inventor: HUFFMAN, Ronald, E. [US/US]; 725 Country
Wood Way, Sapulpa, OK 74066 (US).

(74) Agent: BRUESS, Steven, C.; Merchant & Gould P.C.,
P.O. Box 2903, Minneapolis, MN 55402-0903 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AT
(utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility

model), DK, DK (utility model), DM, DZ, EE, EE (utility
model), ES, FI, FI (utility model), GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (utility
model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT,
TZ, UA, UG, UZ, VN, YU, ZA, ZW.

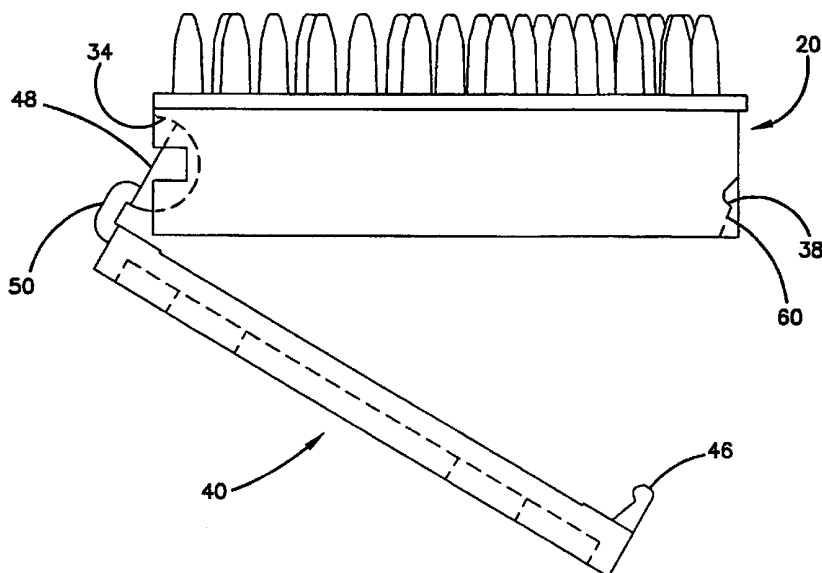
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(88) Date of publication of the international search report:
9 August 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DENTAL MODEL BASE ASSEMBLY



(57) Abstract: A premanufactured dental model base, and method, for supporting a cast dental model. The dental model base may be selectively connected to an articulator attachment plate which is adaptable for connecting the dental model base to a metal articulator. The same dental model base, at a user's option, may also be connected to a disposable articulator through a groove in the base that engages a disposable articulator tongue or by connecting a disposable articulator ball directly to a socket in the base. Thus, the dental model base may be conveniently used with either a metal articulator or a disposable articulator. In one embodiment, a concave socket at one end of the dental model base may engage an articulator ball or may engage the articulator attachment plate such that the attachment plate is detachably connected to the dental model base.



WO 01/01881 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT, JS 00/40326

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61C11/08 A61C9/00

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)

IPC 7 A61C

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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 277 026 A (KV33 CORP) 3 August 1988 (1988-08-03)	1,3,21
A	column 2, line 25 -column 3, line 23 column 5, line 11-53 figures 1-10	2,22
X	FR 2 750 851 A (GRAF ROBERT) 16 January 1998 (1998-01-16) page 2, line 9-33 page 4, line 10-25 figures 1-5	1,3,21
X	US 4 449 930 A (HUFFMAN RONALD E) 22 May 1984 (1984-05-22) column 2, line 1-25; figures 1-8	1,3,21
	-/--	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "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.
- "&" document member of the same patent family

Date of the actual completion of the international search

17 November 2000

Date of mailing of the international search report

19.03.01

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040. Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Salvignol, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT, JS 00/40326

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 769 634 A (CHOI JOHN) 23 June 1998 (1998-06-23) column 2, line 37 -column 3, line 35; figures 1-9 ---	27
A	US 5 766 007 A (HUFFMAN RONALD E) 16 June 1998 (1998-06-16) column 5, line 19-41; figures 1-10 ---	1,2,22
A	US 5 788 489 A (HUFFMAN RONALD E) 4 August 1998 (1998-08-04) cited in the application column 1, line 3-8 column 3, line 16-50 column 5, line 3-36 column 6, line 47 -column 8, line 18 figures 1-16 -----	1-3,21, 22,27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/40326

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 2, 3, 21, 22, 27

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1, 2, 3, 21, 22, 27

Dental model base adapted to be directly connected to an articulator.

2. Claims: 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 26, 28

Dental model kit comprising an attachment plate or an attachment bar to modularly connect the dental model base to an articulator.

3. Claims: 8, 9, 10, 11, 23, 24

Pins for attaching a cast dental model to a model support surface.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PC., JS 00/40326

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0277026	A	03-08-1988	US 4734033 A	29-03-1988
			DE 3865690 A	28-11-1991
			DE 277026 T	26-01-1989
			HK 56793 A	18-06-1993
			JP 1759184 C	20-05-1993
			JP 4050012 B	13-08-1992
			JP 63240852 A	06-10-1988
			SG 36093 G	11-06-1993

FR 2750851	A	16-01-1998	NONE	

US 4449930	A	22-05-1984	US 4382787 A	10-05-1983
			CA 1193122 A	10-09-1985
			DE 3135116 A	02-12-1982
			FR 2505171 A	12-11-1982
			GB 2098070 A, B	17-11-1982
			HK 42685 A	07-06-1985
			JP 1601805 C	27-02-1991
			JP 2025615 B	05-06-1990
			JP 57185854 A	16-11-1982
			SE 450544 B	06-07-1987
			SE 8104995 A	08-11-1982
			US 4533323 A	06-08-1985

US 5769634	A	23-06-1998	AU 7283598 A	21-12-1998
			WO 9855042 A	10-12-1998

US 5766007	A	16-06-1998	AT 195645 T	15-09-2000
			AU 701565 B	04-02-1999
			AU 5794296 A	24-12-1996
			BR 9608400 A	05-01-1999
			CA 2220218 A	12-12-1996
			DE 69609965 D	28-09-2000
			EP 0830103 A	25-03-1998
			ES 2151165 T	16-12-2000
			JP 11506626 T	15-06-1999
			WO 9639094 A	12-12-1996

US 5788489	A	04-08-1998	NONE	
