METHOD FOR DENTAL RESTORATION

Disclosed is a method of dental restoration and comprising the steps of creating a shell of enamel replacement material, and filling and/or cementing the enamel replacement material to a tooth with dentine replacement material. Also disclosed are enamel shells are produced by this method.
A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. A61C 5/10 (2006.01) A61C 13/08 (2006.01)

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)

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 practicable, search terms used)

eSpace, Google Patent, EPDOC, WPI (IPC: A61C ; KEYWORDS: tooth, teeth, dentition, artificial, false, prothe+, replacement, denture, enamel, shell, dentin+, fill+, cement+)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>X</td>
<td>US 6488503 B1 (LICHKUS et al.) 3 December 2002. See in particular figure 1, column 3 lines 7 to 36, column 5 lines 53 to 60 and column 26 line 63 to column 27 line 8.</td>
<td>1, 2 and 10</td>
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<td>X</td>
<td>US 6063830 A (DEGUCHI et al.) 16 May 2000. See in particular figure 2, column 3 lines 7 to 36 and column 23 lines 36 to 44.</td>
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<td>X</td>
<td>US 5346397 A (BRAIMAN) 13 September 1994. See in particular figures 1 and 2 and column 2 line 49 to column 3 line 15.</td>
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<td>GB 588490 A (LEVY) 22 May 1947. See in particular figures 1 to 8 and page 5 lines 25 to 69.</td>
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</table>

[X] Further documents are listed in the continuation of Box C  [X] 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
  "E" earlier application or patent 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: 04 May 2009

Date of mailing of the international search report: 12 MAY 2009

Name and mailing address of the ISA/AU

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<table>
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<td>X</td>
<td>DE 3604059 A1 (KÖRBER et al.) 13 August 1987 See in particular figures 1 to 6, column 3 lines 25 to 38 and column 4 lines 3 to 22.</td>
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</table>
Supplemental Box
(To be used when the space in any of Boxes I to IV is not sufficient)

Continuation of Box No: III (Observations where unity of invention is lacking)

This International Application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept.

In assessing whether there is more than one invention claimed, I have given consideration to those features which can be considered to potentially distinguish the claimed combination of features from the prior art. Where different claims have different distinguishing features they define different inventions.

This International Searching Authority has found that there are different inventions as follows:

- Claims 1, 2 and 10 are directed to a method of restoring teeth comprising the steps of, and a restored tooth produced by creating a shell of enamel replacement material and filling and/or cementing the enamel replacement material to a tooth with dentine replacement material. It is considered that this procedure comprises a first distinguishing feature set.

- Claims 11 is directed to an enamel shell produced by providing a model of the natural dentition; determining the final restored position of the tooth and generating a model of this final position; and determining enamel thickness of the restoration based on one or more of: anatomical averages of enamel, operator intuition, and restorative material optical and physical properties. It is considered that this procedure comprises a second distinguishing feature set.

PCT Rule 13.2, first sentence, states that unity of invention is only fulfilled when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. PCT Rule 13.2, second sentence, defines a special technical feature as a feature which makes a contribution over the prior art.

Each of the abovementioned groups of claims has a different distinguishing feature and they do not share any feature which could satisfy the requirement for being a special technical feature. Because there is no common special technical feature it follows that there is no technical relationship between the identified inventions. Therefore the claims do not satisfy the requirement of unity of invention a priori.

Claim 3 appends the features of claim 11 to claim 1. Claims 4 to 9 are all appended to claim 3. Because claim 1 lacks novelty in the light of each of the documents cited in this report, claim 3 also lacks unity of invention a posteriori.

Form PCT/ISA/210 (extra sheet)(July 2008)
This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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<td>US 6488503</td>
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<td>DE 3604059</td>
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Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX
Box No. II  Observations where certain claims were found unsearchable (Continuation of item 2 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 No. III  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

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

See Supplemental Box

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 additional fees, this Authority did not invite payment of additional fees.
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 and 10

Remark on Protest

□ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

□ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

□ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (July 2008)