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[Continued on next page]

(54) **Title:** A DENTAL ABUTMENT WITH A FLAT CONNECTION

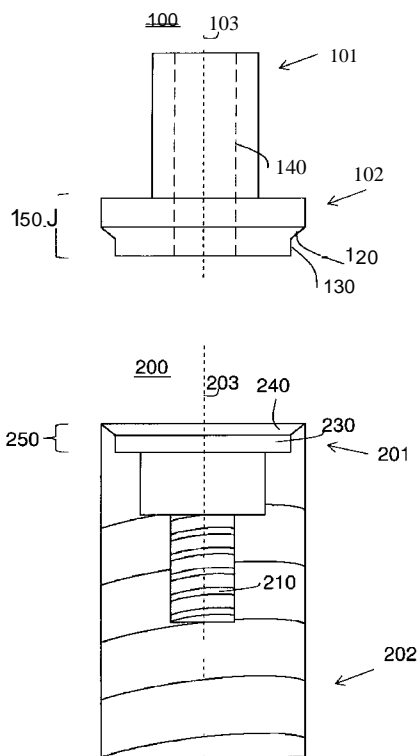


Fig. 1

(57) **Abstract:** A system, an abutment, a dental implant, kits and a method for implanting a prosthesis onto a jaw of a patient. The proximal end of the abutments is a flat connection of a predefined shape that is circularly symmetrical with a proximal decreasing radius. The prosthesis is attached to the distal ends of the abutments, and each abutment corresponds to a dental implant in the jaw. The dental implants are not all parallel to each other and may form any angle between them. The flat connection allows substantial tolerance in attaching the prosthesis to the dental implants. The predefined form may be a proximal disc connected to a distal truncated cone, wherein the proximal disc is congruent to the proximal face of the truncated cone. One system comprises abutments, dental implants, elastic supporting elements and extension elements.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))* (88) Date of **Publication of the international search report** 3 December 2009

# INTERNATIONAL SEARCH REPORT

International application No

PCT/IL2009/000229

**A. CLASSIFICATION OF SUBJECT MATTER**  
**INV. A61C8/00**

According to International Patent Classification (IPC) or to both national classification and IPC.

**B. FIELDSSEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
**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**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2001/044095 A1 (RIZZO ROSARIO [IT] ET AL) 22 November 2001 (2001-11-22) the whole document	18-29
X	US 5 169 309 A (STAUBLI PETER E [US] ET AL) 8 December 1992 (1992-12-08) figures 3-5 the whole document	18-29
X	DE 42 38 383 A1 (FATH STEPHAN DIPL ING [DE]) 14 July 1994 (1994-07-14) the whole document	18-29
X	FR 2 863 478 A (REYNAUD PIERRE LUC [FR]; CHU MANH QUYNH [FR]) 17 June 2005 (2005-06-17) figures 4,5 the whole document	18,19, 23-26, 28,29
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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

"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

**31 July 2009**

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Name and mailing address of the ISA/

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**Salvatore, Cl audio**

INTERNATIONAL SEARCH REPORT

International application No  
PCT/IL2009/000229

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/075783 A (DIRO INC [US]) 18 September 2003 (2003-09-18) figure 2 the whole document	18-23
X	WO 01/97706 A (NOBEL BIOCARE AB [SE]; HURSON STEVEN M [US]) 27 December 2001 (2001-12-27) figures 2a-2d,4,5a the whole document	18-23
X	US 5 674 072 A (MOSER WALTER [CH] ET AL) 7 October 1997 (1997-10-07)  the whole document	18, 23-26, 28,29
X	US 2007/099153 A1 (FROMVICH OPHIR [IL]) 3 May 2007 (2007-05-03) figures 2-4 the whole document	24-26, 28,29
X	US 5 073 111 A (DAFTARY FEREIDOUN [US]) 17 December 1991 (1991-12-17) the whole document	18-23

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL2009/000229

**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.: 1-17,39-47,48-53  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
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 additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
  
2.  As all searchable claims could be searched without effort justifying an 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.:

"see additional sheet(s)"

**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.

## FURTHER INFORMATION CONTINUED FROM PCTASA/ 210

Continuation of Box II. 1

Claims Nos.: 1-17,39-47,48-53

Independent claims 1 and 39 are unclear because they attempts to claim the "system/kit for implanting a prosthesis" by directly referring to the fact that the implants are already implanted in the jaw and are not all parallel to each other. It is not at all clear what technical features are to be interpreted from this. Furthermore, there seems to be a contradiction in terms between the system/kit being suitable to implant into the jaw and the implants, which are part of the system, having been already implanted into the jaw. Not least is the fact that the wording of the claim, although aimed at a device, implicitly necessitates the surgical step of implanting the implants in the jaw. The claims dependent on these independent claims could also not be searched.

Claims 48-53 violate Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery

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

1. claims: 18-29

An abutment comprising a proximal end having a flat connection of a predetermined shape that is circularly symmetrical with a proximal decreasing radius.

An implant having a distal end formed to a circularly symmetrical flat socket with a distal increasing radius and exhibits a predefined socket shape.

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2. claims: 30-38

A kit comprising an abutment having a flat connection with a circularly symmetrical predefined shape and a decreasing radius; a dental implant; wherein the flat connection of the abutment is supposed to allow connection of the proximal end of the abutment to the distal end of the implant, and wherein the length axis of the abutment and the length axis of the implant do not coincide and are at an angle to one another which is foreseen with a substantial tolerance.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IL2009/000229

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