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(12) United States Patent

Kopelman et al.

(54) DENTAL IMAGE PROCESSING METHOD AND SYSTEM

- (75) Inventors: Avi Kopelman, Tel Aviv (IL); Eldad Taub, Reut (IL)
- (73) Assignce: Cadent Ltd., Or Yehuda (IL)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 479 days.
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(30)**Foreign Application Priority Data**

- Nov. 1, 1998 (IL) 126838

- (58) Field of Search 382/128, 131, 382/154, 285, 294; 600/587, 589, 590; 128/922; 433/24, 29, 68, 69, 215

(56)**References** Cited

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U.S. PATENT DOCUMENTS

9/1992 Ilalmann et al. 5,151,856 A

US 6,845,175 B2 (10) Patent No.:

(45) Date of Patent: Jan. 18, 2005

5,278,756 A		1/1994	Lemchen et al.
5,318,441 A	*	6/1994	Keller 433/68
6,068,482 A	*	5/2000	Snow 433/223
6,081,739 A	*	6/2000	Lemchen 600/407

FOREIGN PATENT DOCUMENTS

4141311	8/1993
0488987	6/1992
0741994	11/1996
4-336048	11/1992
WO 97/03622	2/1997
01/80761 A2	11/2001
	0488987 0741994 4-336048 WO 97/03622

OTHER PUBLICATIONS

International Search Report for International Application No. PCT/ IL 99/00577, mailed on Feb. 17, 2000.

An English language title and abstract is provided for DE 4141311.

* cited by examiner

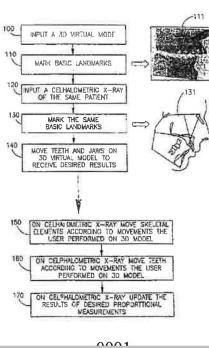
Primary Examiner-Todd E. Manahan

(74) Attorney, Agent, or Firm-Nath & Associates PLLC; Gary M. Nath; Lee C. Heiman

(57)ABSTRACT

An image processing method for use in dentistry or orthodontic is provided. Two images of teeth, one being a two-dimensional image and one a three-dimensional image are combined in a manner to allow the use of information obtained from one to the other. In order to combine the two images a set of basic landmarks is defined in one, identified in the other and then the two images are registered.

23 Claims, 11 Drawing Sheets



exocad GmbH, et. al. Exhibit 1008

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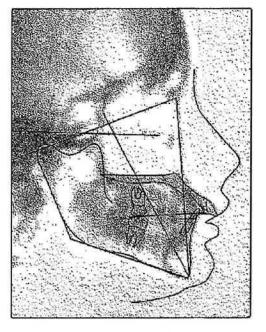


FIG. 1A

Α

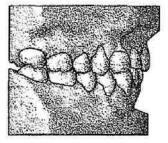


FIG. 1B

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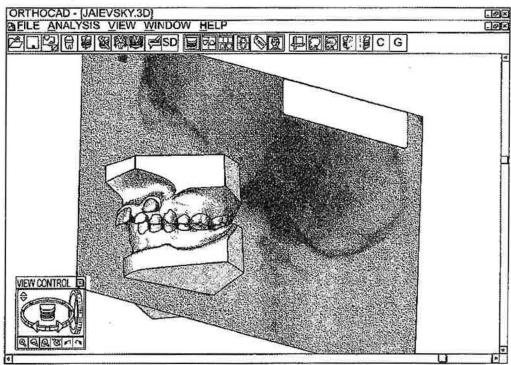
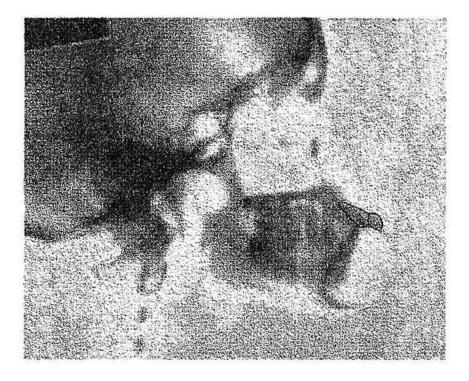


FIG. 2

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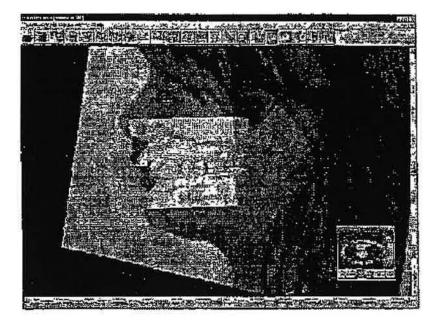


FIG.3A

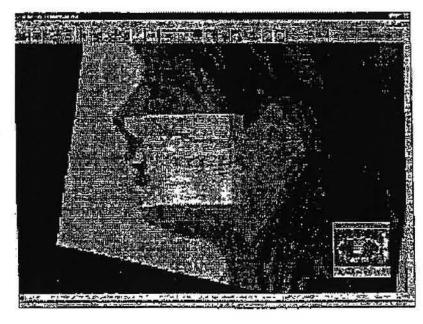


FIG.3B

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