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- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

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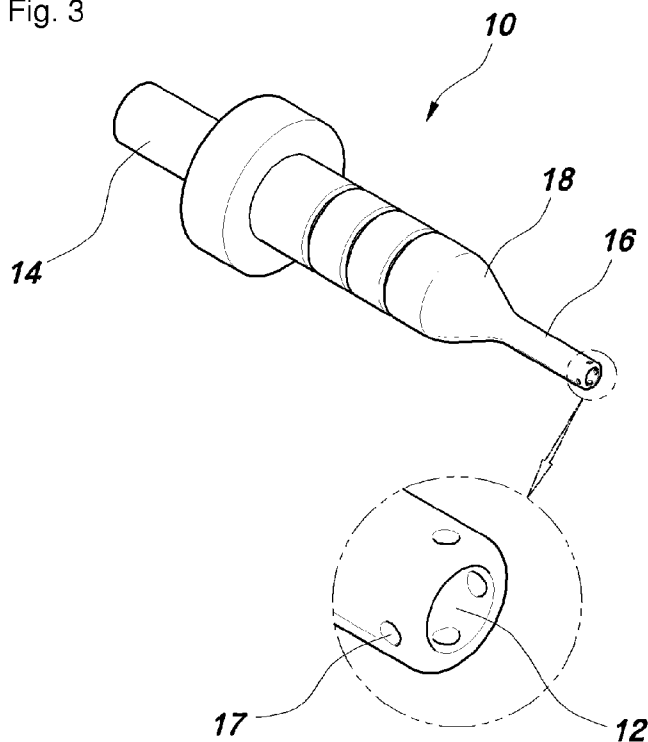
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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) **Title:** APPARATUS OF LIQUID INJECTING FOR LIFTING MAXILLARY SINUS MUCOUS MEMBRANE AND THE METHOD FOR THE SAME UTILIZING THIS APPARATUS

Fig. 3



(57) **Abstract:** A liquid injection apparatus for lifting a maxillary sinus mucous membrane includes a passageway longitudinally extending through inside the apparatus; a connecting pipe formed at a rear portion to connect with a liquid supply apparatus; and an injection pipe 16 formed in a front portion, for being inserted into an implant hole extending to a bottom of a mucous membrane of a maxillary sinus, with a distal end of the injection pipe 16 spaced apart from the mucous membrane by a predetermined distance. The injection pipe is structured to inject liquid into the implant hole while closing the implant hole. The liquid injection apparatus can more easily lift the maxillary sinus mucous membrane without damaging the same by applying uniform pressure to the maxillary sinus mucous membrane when the maxillary sinus mucous membrane is being lifted.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2008/007891**A. CLASSIFICATION OF SUBJECT MATTER*****A61C 19/00(2006.01)i, A61C 8/00(2006.01)i***

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 A61C 1/00, A61C 1/12, A61C 3/00, A61C 3/12, A61C 8/00, A61C 19/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility Models and applications for Utility Models since 1975

Japanese Utility Models and applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal), "maxilla, maxillary sinus, mucous membrane, injection, liquid, etc."

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 200365219 Y1 (SUNG-YUN KIM, KR) 15 October 2004 See abstract; page 2, lines 47 ~ 64; figs. 1~3; and claims.	1-4
A	KR 100757002 B1 (HONG CHAN LEE, KR) 7 September 2007 See abstract; page 4, <36> ~ <38>; figs. 1&2&6c; and claims.	1-4
A	US 7,125,253 B2 (AKIRA KITAMURA; RYOJI KITAMURA, JP) 24 October 2006 See abstract; col.5, lines 14 ~ 55; fig. 6; and claims.	1-4
T	KR 100884211 B1 (DAL HO LEE, KR) 18 February 2009 See abstract; page 4, <17>; page6, <34>; figs. 1&2&4c; and claims	1-4

☐ 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 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 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

26 JUNE 2009 (26.06.2009)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2008/007891**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.: 5, 6
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 5 and 6 comprising a step of surgery practiced on the human body fall into the category of methods for treatment of the human body by surgery or therapy as well as diagnostic methods. [Article 17(2)(a)(i), Rule 39.1(iv) PCT]
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:

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.:

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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2008/007891

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 200365219 Y1	15.10.2004	None	
KR 100757002 B1	07.09.2007	JP 2009-006116 KR 10-0757002 B1 US 2009-0004624 A1	15.01.2009 07.09.2007 01.01.2009
US 7125253 B2	24.10.2006	US 7364430 US 2005-0064368 A1 US 2005-064368 A1 US 2006-0204929 A1	29.04.2008 24.03.2005 24.03.2005 14.09.2006
KR 100884211 B1	18.02.2009	None	