UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/434,515	05/01/2009	Michael L. Reo		1388

109587 7590 01/05/2016

SPINAL KINETICS, Inc.
501 Mercury Drive
Sunnyvale, CA 94085

EXAMINER
JOHANAS, JACQUELINE T

ART UNIT	PAPER NUMBER
3733	

MAIL DATE	DELIVERY MODE
01/05/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

United States Patent and Trademark Office

Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office
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SPINAL KINETICS, INC.
501 MERCURY DRIVE
SUNNYVALE, CA 94085

Appeal No: 2016-002236
Application: 12/434,515
Appellant: Michael L. Reo et al.

Patent Trial and Appeal Board Docketing Notice

Application 12/434,515 was received from the Technology Center at the Board on January 04, 2016 and has been assigned Appeal No: 2016-002236.

In all future communications regarding this appeal, please include both the application number and the appeal number.

The mailing address for the Board is:

PATENT TRIAL and APPEAL BOARD
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above.

By order of the Patent Trial and Appeal Board.

AA

Office of Petitions: Routing Sheet

Application No. 12/434,515

This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application.

- [X] **GRANTED**
- [ ] **DISMISSED**
- [ ] **DENIED**

Office of Petitions: Decision Count Sheet

Mailing Month

Application No. 12434515

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456
For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official: FAISON-BALL, PATRICIA

Count (1) - Palm Credit 12/434,515

Decision: GRANT

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: 502 - 37 CFR 1.137(b) - REVIVAL BASED ON UNINTENTIC

Notes:

Count (2)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Count (3)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Initials of Approving Official (if required)

If more than 3 decisions, attach 2nd count sheet & mark this box ☐

Printed on: *12/4/2015*

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/434,515	05/01/2009	Michael L. Reo		1388

109587 7590 12/04/2015

SPINAL KINETICS, Inc.
501 Mercury Drive
Sunnyvale, CA 94085

EXAMINER
JOHANAS, JACQUELINE T

ART UNIT	PAPER NUMBER
3733	

MAIL DATE	DELIVERY MODE
12/04/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
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In re Application of
Michael L. Reo et al.
Application No. 12/434,515 ON PETITION
Filed: May 1, 2009
Attorney Docket No.: SK20028.00

This is a decision on the petition filed November 23, 2015, under 37 CFR 1.137(a)[1], to revive the above-identified application.

The petition is **GRANTED**.

This application became abandoned as a result of petitioner's failure to pay the appeal forwarding fee within two months of the examiner's answer mailed November 25, 2014. Accordingly, the Notice of Abandonment was mailed February 2, 2015.

§ 41.45 Appeal forwarding fee.

(a) *Timing* . Appellant in an application or *ex parte* reexamination proceeding must pay the fee set forth in § **41.20(b)(4)** within the later of two months from the date of either the examiner's answer, or a decision refusing to grant a petition under § **1.181** of this chapter to designate a new ground of rejection in an examiner's answer.

(b) *Failure to pay appeal forwarding fee* . On failure to pay the fee set forth in § **41.20(b)(4)** within the period specified in paragraph (a) of this section, the appeal will stand dismissed.

(c) *Extensions of time* . Extensions of time under § **1.136(a)** of this title for patent applications are not applicable to the time period set forth in this section. *See* § **1.136(b)** of this title for extensions of time to reply for patent applications and § **1.550(c)** of this title for extensions of time to reply for *ex parte* reexamination proceedings.
[Added, 78 FR 4212, Jan. 18, 2013, effective Mar. 19, 2013; revised 78 FR 17102, Mar. 20, 2013, effective Mar. 20, 2013]

The appeal forwarding fee in the amount of $1000 was received on February 2, 2015 and applied. Unfortunately however, the fee was received outside of the period set for reply as two months from the mailing of the Examiner's Answer was January 25, 2015.

All other requirements for revival having been met, this matter is being referred to Technology Center 3733 for forwarding to the Board.

Telephone inquiries concerning this matter may be directed to the undersigned Attorney at (571) 272-3212.

/Patricia Faison-Ball/

Patricia Faison-Ball
ATTORNEY ADVISOR
Office of Petitions

---

[1] Effective December 18, 2013, a grantable petition under 37 CFR 1.137(a) must be accompanied by: (1) the required reply, unless previously filed; (2) the petition fee as set forth in 37 CFR 1.17(m); (3) a statement that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition pursuant to 37 CFR 1.137(a) was unintentional; and (4) any terminal disclaimer (and fee as set forth in 37 CFR 1.20(d)) required by 37 CFR 1.137(d). Where there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137 was unintentional, the Director may require additional information. See MPEP 711.03(c)(II)(C) and (D).

IFW
DAC

Doc Code: PET.OP
Document Description: Petition for Review by the Office of Petitions

PTO/SB/64 (12-13)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(a)

Docket Number (Optional): SK20002.08

First named inventor: Michael L. REO

Application No.: 12/434,515 Art Unit: 3733

Filed: May 1, 2009 Examiner: Jacqueline T. JOHANAS

Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX (571) 273-8300

11/24/2015 APEREZAM 00000010 12434515
01 FC:2453 850.00 OP

NOTE: If information or assistance is needed in completing this form, please contact the Office of Petitions at (571) 272-3282.

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus any extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION.

NOTE: A grantable petition requires the following items:

(1) Petition fee;
(2) Reply and/or issue fee;
(3) Terminal disclaimer with disclaimer fee – required for all utility and plant applications filed before June 8, 1995, and for all design applications; and
(4) Statement that the entire delay was unintentional.

1. **Petition fee**

☑ Small entity fee $ 850 (37 CFR 1.17(m)). Applicant asserts small entity status. See 37 CFR 1.27.

☐ Undiscounted fee $ _____ (37.CFR.1.17(m)).

2. **Reply and/or fee**

A The reply and/or fee to the above-noted Office notice or action in the form of

Reply Brief and check for $1,000 (Appeal Forwarding Fee) (identify the type of reply):

☑ has been filed previously on February 2, 2015.

☐ is enclosed herewith.

B The issue fee and publication fee (if applicable) of $ _____

☐ has been paid previously on _____.

☐ is enclosed herewith.

Doc Code: PET.OP
Document Description: Petition for Review by the Office of Petitions

PTO/SB/64 (12-13)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(a)

3. **Terminal disclaimer with disclaimer fee**

☑ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of $ _____) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. **STATEMENT:** The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(a) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(a) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

E. Thomas Wheelock
Signature

November 18, 2015
Date

E. Thomas Wheelock
Typed or Printed Name

28,825
Registration Number, if applicable

301 Mercury Drive
Address

650-302-6286
Telephone Number

Sunnyvale, CA94085
Address

Enclosures:

☑ Fee Payment
☐ Reply
☐ Terminal Disclaimer Form
☐ Additional sheet(s) containing statements establishing unintentional delay
☑ Other: transmittal form, return receipt postcard

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☑ Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

☐ Transmitted by EFS-Web or facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

November 18, 2015
Date

E. Thomas Wheelock
Signature

E. Thomas Wheelock
Typed or printed name of person signing certificate

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	3

Application Number	12/434,515
Filing Date	05/01/2009
First Named Inventor	Michael L. REO
Art Unit	3733
Examiner Name	Jacqueline T. JOHANAS
Attorney Docket Number	SK20002.08

OPAP AKIMA-14 NOV 2 3 2015 PATENT & TRADEMARK OFFICE

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☑ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  - CHECK FOR $850
  - return receipt postcard

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SPINAL KINETICS, Inc.		
Signature	E. Thomas Wheelock		
Printed name	E. Thomas Wheelock		
Date	11/18/2015	Reg. No.	28,825

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	E. Thomas Wheelock		
Typed or printed name	E. Thomas Wheelock	Date	11/18/2015

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/434,515	05/01/2009	Michael L. Reo		1388

109587 7590 11/09/2015

SPINAL KINETICS, INC.
595 N. Pastoria Ave.
Sunnyvale, CA 94085

EXAMINER
JOHANAS, JACQUELINE T

ART UNIT	PAPER NUMBER
3733	

MAIL DATE	DELIVERY MODE
11/09/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Application of
Michael L. Reo et al.
Application No. 12/434,515 ON PETITION
Filed: May 1, 2009
Attorney Docket No.: SK20028.00

This is a decision on the petition filed April 24, 2015, to withdraw the holding of abandonment, which is being treated under 37 CFR 1.181.

The petition under 37 CFR 1.181 is **DISMISSED**.

Any request for reconsideration of this decision should be filed within two (2) months from the mail date of this decision. *Note* 37 CFR 1.181(f). The request for reconsideration should include a cover letter and be entitled as a "Renewed Petition under 37 CFR 1.181 to Withdraw the Holding of Abandonment."

This application became abandoned as a result of petitioner's failure to pay the appeal forwarding fee within two months of the examiner's answer mailed November 25, 2014. Accordingly, the Notice of Abandonment was mailed February 2, 2015.

§ 41.45 Appeal forwarding fee.

(a) *Timing*. Appellant in an application or *ex parte* reexamination proceeding must pay the fee set forth in § **41.20(b)(4)** within the later of two months from the date of either the examiner's answer, or a decision refusing to grant a petition under § **1.181** of this chapter to designate a new ground of rejection in an examiner's answer.

(b) *Failure to pay appeal forwarding fee*. On failure to pay the fee set forth in § **41.20(b)(4)** within the period specified in paragraph (a) of this section, the appeal will stand dismissed.

(c) *Extensions of time*. Extensions of time under § **1.136(a)** of this title for patent applications are not applicable to the time period set forth in this section. *See* § **1.136(b)** of this title for extensions of time to reply for patent applications and § **1.550(c)** of this title for extensions of time to reply for *ex parte* reexamination proceedings.
[Added, 78 FR 4212, Jan. 18, 2013, effective Mar. 19, 2013; revised 78 FR 17102, Mar. 20, 2013, effective Mar. 20, 2013]

Petitioner argues "This is a request to withdraw the improper holding that this application was abandoned due to a failure to submit the requisite appeal forwarding fee required under 37 CFR 41.45. The application is not and has not been abandoned. The Reply Brief and the requisite Appeal Forwarding Fee were timely submitted. A copy of the improvidently issued Notice of Abandonment (mailed on 2/2/2015) is attached. (see ATTACHMENT 1) A copy of the SPINAL KINETICS INC. $1,000 check for the appeal forwarding fee required under 37 CFR 41.45 (with the account number deleted since this check will be made public in the PUBLIC PAIR database) is also attached. As may be seen from the copy of the check, the check has been cashed by the USPTO. (see ATTACHMENT 2) A copy of the first page of the Reply Brief submitted concurrently with the check for the appeal forwarding fee required under 37 CFR 41.45 is also attached.

(see ATTACHMENT 3) That copy is taken from the USPTO's own PUBLIC PAIR database. The USPTO's copy shows that the appeal forwarding fee required under 37 CFR 41.45 was received by the USPTO and credited to this patent application".

A review of the record reveals that a fee in the amount of $1000 was received on February 2, 2015 and applied. Unfortunately however, the fee was received outside of the period set for reply as two months from the mailing of the Examiner's Answer was January 25, 2015. The transmittal included with the Appeal Forwarding Fee and the Reply Brief received on February 2, 2015 did not include a proper certificate of mail pursuant to 37 CFR 1.8. The certificate of mail was signed but not dated and thus the reply was not timely filed.

In view thereof, the application is appropriately abandoned and cannot be withdrawn.

The application will therefore remain in an abandoned status until such time as a renewed grantable petition to either withdraw the holding of abandonment or petition to revive under 37 CFR 1.137(a)[1] has been filed.

The filing of a petition under the unintentional standard cannot be intentionally delayed and therefore should be filed promptly. A person seeking revival due to unintentional delay cannot make a statement that the delay was unintentional unless the entire delay, including the delay from the date it was discovered that the application was abandoned until the filing of the petition to revive under 37 CFR 1.137(a), was unintentional. A statement that the delay was unintentional is not appropriate if petitioner intentionally delayed the filing of a petition for revival under 37 CFR 1.137(a).

Further correspondence with respect to this matter should be addressed as follows:

By mail: Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX: (571) 273-8300

Telephone inquiries concerning this matter may be directed to the undersigned Attorney at (571) 272-3212.

/Patricia Faison-Ball/

Patricia Faison-Ball
ATTORNEY ADVISOR
Office of Petitions

---

[1] Effective December 18, 2013, a grantable petition under 37 CFR 1.137(a) must be accompanied by: (1) the required reply, unless previously filed; (2) the petition fee as set forth in 37 CFR 1.17(m); (3) a statement that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition pursuant to 37 CFR 1.137(a) was unintentional; and (4) any terminal disclaimer (and fee as set forth in 37 CFR 1.20(d)) required by 37 CFR 1.137(d). Where there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137 was unintentional, the Director may require additional information. See MPEP 711.03(c)(II)(C) and (D).

Office of Petitions: Routing Sheet

Application No. 12/434,515

This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application.

- [ ] **GRANTED**
- [X] **DISMISSED**
- [ ] **DENIED**

Office of Petitions: Decision Count Sheet

Mailing Month

Application No. 12434515

12434515

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456
For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official: FAISON-BALL, PATRICIA

Count (1) - Palm Credit 12/434,515

Decision: DISMISSED

FINANCE WORK NEEDED
☐ Select Check Box for YES

DISMISSED

Decision Type: 525 - 37 CFR 1.181 for W/D HOLDING OF ABANDONMEN

525

Notes:

Count (2)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Count (3)

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Initials of Approving Official (if required)

If more than 3 decisions, attach 2nd count sheet & mark this box ☐

Printed on: *11/8/2015*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. 12/434,515
Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS
Applicant: Reo et al
Filing Date: May 1, 2009

Examiner: Jaqueline T. Johanas
Group Art Unit: 4129

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Confirmation No.: 1388
Attorney No.: SK20028.00

REQUEST TO WITHDRAW IMPROPER HOLDING OF ABANDONMENT

Sir:

This is a request to withdraw the improper holding that this application was abandoned due to a failure to submit the requisite appeal forwarding fee required under 37 CFR 41.45. The application is not and has not been abandoned. The Reply Brief and the requisite Appeal Forwarding Fee were timely submitted.

A copy of the improvidently issued Notice of Abandonment (mailed on 2/2/2015) is attached. (see ATTACHMENT 1)

A copy of the SPINAL KINETICS INC. $1,000 check for the appeal forwarding fee required under 37 CFR 41.45 (with the account number deleted since this check will be made public in the PUBLIC PAIR database) is also attached. As may be seen from the copy of the check, the check has been cashed by the USPTO. (see ATTACHMENT 2)

A copy of the first page of the Reply Brief submitted concurrently with the check for the appeal forwarding fee required under 37 CFR 41.45 is also attached. (see ATTACHMENT 3) That copy is taken from the USPTO's own PUBLIC PAIR database. The USPTO's copy shows

that the appeal forwarding fee required under 37 CFR 41.45 was received by the USPTO and credited to this patent application.

SUMMARY

Since the application has not been abandoned for the reason specified by the Examiner as demonstrated by the USPTO's own records, Applicants request that the Holding of Abandonment be withdrawn as mistakenly granted and that either the Appeal be reinstated or, in the alternative, that - in view of the Reply Brief - the application be allowed.

Should the Examiner have any questions or believe that a telephonic interview would be beneficial, she is urged and invited to call Applicant's associate attorney, E. Thomas Wheelock (Reg. No. 28,825), at 650-302-6286.

Respectfully submitted,

E. Thomas Wheelock
(Reg. No. 28,825)

650-302-6286
650-858-2131 (fax)

tom@etwheelocklaw.com
twheelock@spinalkinetics.com

Spinal Kinetics Inc.
595 N. Pastoria Ave.
Sunnyvale, CA, 94085

ATTACHMENT 1

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/434,515	05/01/2009	Michael L. Reo		1388

109587 7590 02/02/2015

SPINAL KINETICS, INC.
595 N. Pastoria Ave.
Sunnyvale, CA 94085

EXAMINER
JOHANAS, JACQUELINE T

ART UNIT	PAPER NUMBER
3733	

MAIL DATE	DELIVERY MODE
02/02/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Abandonment

Application No.	Applicant(s)
12/434,515	REO ET AL.
Examiner	**Art Unit**
Jacqueline Johanas	3733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on _____.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) if this is utility or plant application, a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. Note that RCEs are not permitted in design applications.)
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☐ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record or other party authorized under 37 CFR 1.33(b). See 37 CFR 1.138(b).

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☒ The reason(s) below:

The appeal fowarding fee pursuant to 37 CFR 41.45 was not paid. Appeal has been dismissed.

/ELLEN C. HAMMOND/ Primary Examiner, Art Unit 3733	/Jacqueline Johanas/ Examiner, Art Unit 3733

Petitions to revive under 37 CFR 1.137, or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

ATTACHMENT 2

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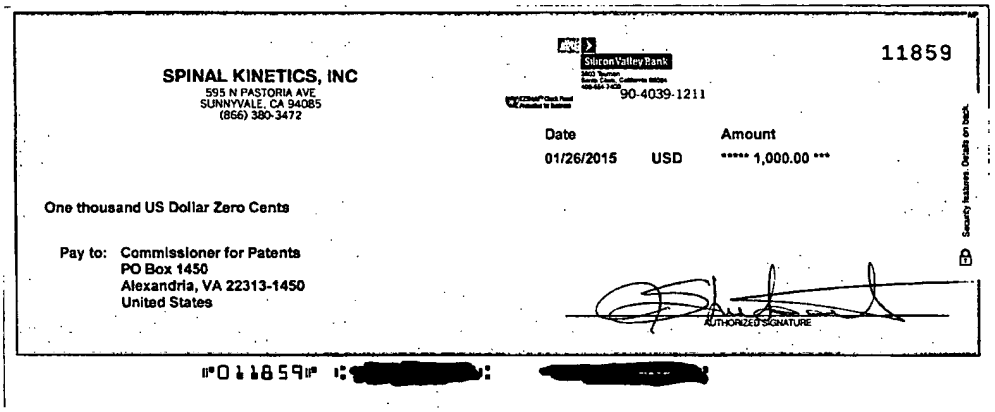

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SUNNYVALE, CA 94085
(866) 380-3472

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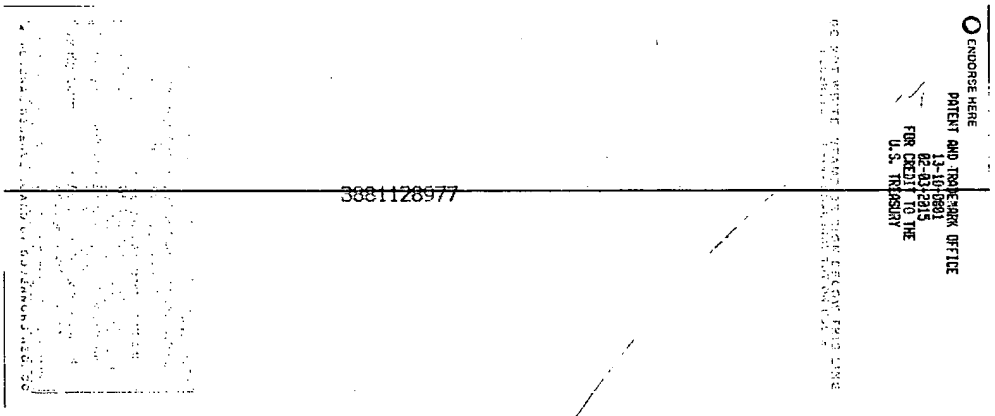

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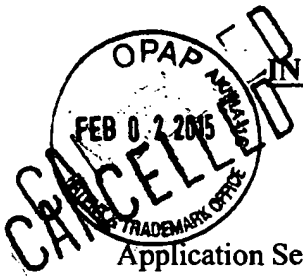

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Ser. No. 12/434,515
Appellant: Michael Reo et al
Filing Date: May 1, 2009
Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Group Art Unit: 3733
Examiner: Jaqueline T. JOHANAS

Docket No. SK 20028.00
Customer No. 109587

REPLY BRIEF FILED UNDER 37 CFR 41.41

This Reply Brief is filed in response to the Examiner's Answer, mailed on November 25, 2014. The fee required under 37 CFR 41.20(b)(4) for "Forwarding an appeal in an application or ex parte reexamination proceeding to the Board" is submitted with this Reply Brief.

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01 FC:2413 1600.00 OP

Doc Code: TRAN.LET

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TRANSMITTAL FORM

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Total Number of Pages in This Submission	10

Application Number	12/434,515
Filing Date	May 1, 2009
First Named Inventor	Michael REO
Art Unit	4129
Examiner Name	Jaqueline T. JOHANAS
Attorney Docket Number	SK20028.00

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SPINAL KINETICS, INC.		
Signature	E. Thomas Wheelock		
Printed name	E. Thomas Wheelock		
Date	April 20, 2015	Reg. No.	28,825

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/434,515	05/01/2009	Michael L. Reo		1388

109587 7590 02/02/2015

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EXAMINER
JOHANAS, JACQUELINE T

ART UNIT	PAPER NUMBER
3733	

MAIL DATE	DELIVERY MODE
02/02/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Abandonment	Application No.	Applicant(s)
	12/434,515	REO ET AL.
	Examiner	Art Unit
	Jacqueline Johanas	3733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on _____.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) if this is utility or plant application, a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. Note that RCEs are not permitted in design applications.)
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☐ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
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6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☒ The reason(s) below:

The appeal fowarding fee pursuant to 37 CFR 41.45 was not paid. Appeal has been dismissed.

/ELLEN C. HAMMOND/ Primary Examiner, Art Unit 3733	/Jacqueline Johanas/ Examiner, Art Unit 3733

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Ser. No. 12/434,515

Appellant: Michael Reo et al

Filing Date: May 1, 2009

Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Group Art Unit: 3733

Examiner: Jaqueline T. JOHANAS

Docket No. SK 20028.00

Customer No. 109587

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ARGUMENTS

Regarding the Statement of the Rejections

Appellants agree that pages 2-17 of the Examiner's Answer accurately repeat the text of the final rejections found in the Office Action mailed on August 27, 2012.

Regarding the "Response to Arguments" Section of the Examiner's Answer

A.) (Examiner's argument beginning at the bottom of page 17) Examiner states that Appellants argue that Reo's upper end plate and lower end plate "are not configured to be attached to an upper and lower spinous process..." The Examiner mischaracterizes the Appellants' arguments. In the Brief, the Appellants argue that the Examiner "does not specify any teaching in the Reo reference that expressly or inherently discloses that the Reo end plates 'attach to an upper spinous process [or to a lower spinous process] with a first [or second] fixation structure' as is required by each of the claims."

The Examiner further mischaracterizes Appellants' claims as containing "recitation(s) of intended use..." None of Appellants' claims contain statements of "intended use." Appellants' claims contain functional recitations -- including "configured to" type functional recitations – that are not "expressly or inherently" shown in the Reo reference.

The Examiner cites *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) in the Examiner's Answer. *Ex Parte Masham* is a decision and opinion by an expanded, five-member panel of the Board of Patent Appeals and Interferences. The Examiner properly argues that the opinion in *Ex Parte Masham* explains that "a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations..." However, *Ex parte Masham* is irrelevant to Appellants claims. As noted above, Appellants' claims do not contain "intended use" recitations. Each recitation specified in the Office Action is a functional limitation delineating, to greater or lesser degree, a structural feature.

Specifically, *Ex parte Masham* dealt with a single claim including a recitation: "means, defining a chamber, for receiving the flowing developer material therein and means for mixing the flowing developer material, said mixing means being stationary and completely submerged in the developer material." *Ex Parte Masham* dealt with a single claim that did not include any functional language, and specifically did not contain any functional language adding or otherwise providing a structural feature to the recited "means, defining a chamber ... means for mixing..." nor delimiting the "means" in a way to exclude some type of structure. Appellants' claims do not contain recitations of the form "for mixing."

The Examiner urges that Appellants argue that Reo's device "does not attach directly to upper and lower spinous processes with the fixation structures..." Since Reo discloses only that the described device is attached to vertebrae in the area where an intervertebral disc has been removed, the argument that the Reo device "does not attach directly to upper and lower spinous processes" is true.

The Examiner's bald conclusion that "Applicant (sic) uses their device for a different purpose does not alter the conclusion that its use in a prior art device would be prima facie obvious from the purpose disclosed in the reference" is truly without support or, in this instance, without explanation.

Even if the Examiner's conclusion is additionally based on a belief that the claims recite only an "intended use," the fact that the claims do not recite an "intended use" but instead recite functional limitations rebuts the Examiner's bare conclusion.

B.) (Examiner's argument beginning in the last full paragraph of page 18) The Examiner's argument that "there is no structural difference between the device of Reo as stated in the rejection reproduced above and Appellant's claimed device that precludes the fixation structures of Reo (elements 358 shown in Fig. 13) from being attached to the upper and lower spinous processes" is in error for several reasons.

The argument in attempted rebuttal that "Appellant has not claimed a medical diagnosis or treatment regimen for which the claimed device needs function to engage the adjacent processes" fails to consider the claim and disclosure as a whole and ignores the requirements set out by the Federal Circuit in reviewing such claims.

As an initial matter, it is the responsibility of the Office to show that the Reo fixation

structures -- fixation structures on a disc replacement device, a device having significantly different utility than Appellants' claimed inter spinous process spinal stabilization device -- may be modified to be "configured to attach to an upper/lower spinous process..." It is not Appellants' responsibility to show that the Reo fixation structures are precluded from "being attached to the upper and lower spinous processes" as is urged by the Examiner.

In any event, the initial portion of the preamble of claim 1 is: "An interspinous process spinal stabilization device ..." It is the responsibility of the Office to examine the patent application and the claims as "an entirety ... to determine whether the inventors intended such language [words contained in a preamble] to represent an additional limitation..." See *In re Paulsen,* 30 F.3d 1475, 1479 Fed.Cir. 1994). The Office Actions do not reflect a review of the specification to make such a determination. Specifically, the specification indicates at Para. [0010]:

> "Specifically, a dynamic stabilization device is comprised of a posterior spacer member located between a pair of spinous processes on adjacent vertebral bodies and provides a combination of stabilizing forces to one or more spinal units to assist in bearing spinal loads, whether in compression, tension, or torsion, and in transferring or sharing those loads between vertebrae. The posterior spacer maintains spacing between the pair of adjacent vertebral bodies while allowing their relative motion."
>
> And in Para. [0029]:
>
> "The inter-spinous process spacers described herein are intended to alleviate this problem *[decreased foramenal space due to diseased or fractured vertebral bodies and resulting impingement on nerve root causing discomfort, pain, and possible damage to that nerve root]* by maintaining or restoring the spacing between the adjacent vertebrae and protect the nerve root from impingement by those vertebrae."
>
> And in Para. [0049]:
>
> "Our prosthetic inter-spinous process device, whether used in isolation or when used in conjunction with a prosthetic intervertebral disc such as shown in U.S. Pat. No. 7,153,325, contribute to the natural movement of the spinal joint in response to external forces or moments. In the implant described herein, the specific responsive movements are due to the choice of materials, their compositions, certain of their physical parameters (compressibility, the disclosed geometry, etc.), and, in some cases, the manner in which the core is attached to the assembly."

By using that preamble, the Appellants clearly require that the claimed device have particular capabilities and functionalities. By using spinal "stabilization device" in the claim 1

preamble, Appellants specify a particular device having specific functional capabilities.[1]

Appellants' "interspinous process spinal stabilization device" preamble to claim 1 is every much a claim limitation as was the "An optical waveguide" preamble in *Corning Glass Works v Sumitomo Electric,* 868 F.2d 1251, 1257 (Fed.Cir. 1989) and the "balloon angioplasty catheter" preamble in *Rowe v Dror,* 112 F.3d 473, 478 (Fed.Cir. 1997). Appellants' claim 1 preamble provides more than just an intended purpose.

In the Examiner's Answer, the Examiner has newly complained that "Appellant has not claimed a medical diagnosis or treatment regimen for which the claimed device needs function to engage the adjacent processes." Appellants' "interspinous process spinal stabilization device" preamble to claim 1 and its specific ties to the specification discussed above provide that "medical diagnosis" and "treatment regimen."

In addition, the remainder of the claim 1 preamble, i.e., "implantable between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine..." provides both a broad functional limitation, i.e., "implantable," while excluding devices that are not implantable.[2] The preamble also provides antecedent basis for terms used in the body of the claim. See *Rowe v Dror,* 112

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[1] The following paragraph is taken from *Corning Glass Works v Sumitomo Electric*, 868 F.2d 1251, 1257 (Fed.Cir. 1989) -- which deals with a claim preamble ["An optical waveguide"] and what effect that preamble has. However, for the sake of argument in assessing whether Applicants' preamble should be given substantive weight in examination, Appellants have substituted the words specific to Appellants' claim 1 for the words specific to the "optical waveguide" preamble:

"The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim. Here, ~~the '915~~ Appellants' specification makes clear that the inventors were working on the particular problem of an effective ~~optical communication system~~ interspinous process spinal stabilization device not on general improvements in conventional ~~optical fibers~~ spinal implants. To read the claim in light of the specification indiscriminately to cover all types of ~~optical fibers~~ spinal implants would be divorced from reality. The invention is restricted to those devices ~~fibers~~ that work as interspinous process spinal stabilization device ~~waveguides~~ as defined in the specification, which is not true with respect to devices ~~fibers~~ constructed with the limitations of paragraphs (a) and (b) only. Thus, we conclude that the claim preamble in this instance does not merely state a purpose or intended use for the claimed structure."

The modified paragraph fits the current situation.

[Appellants note that the *Corning Glass Works* claims and the prior art were apparently considered to be identical except for the weight to be given the claim preamble. Appellants do not agree or concede that Appellants' claims and the Reo disclosure have that same relationship.]

[2] As a practical examination matter, the term "implantable" is not of a form that could be construed as an "intended use." Intended use recitations are often of the form "for implanting." The adjectival term "implantable" is a functional requirement.

F.3d 473, 478 (Fed.Cir. 1997); *Gerber Garment v Lectra Systems*, 916 F.2d 683, 689 (Fed.Cir. 1990).

The Office Action notes at the bottom of page 18 (with respect to claim 1) that "first and second fixation structures configured to be attached to upper and lower vertebrae, respectively..." The Office Action then indicates that there "are many ways in which the device of Reo can meet the intended use of the claimed invention."

The latter words contain at least two errors.

First, the standard for reviewing "configured to" recitals is not that the device "can meet" some function. The requirement instead is whether it would have been obvious to modify the prior art apparatus to arrive at the claimed device.[3]

Secondly, as mentioned above, claim 1 does not contain any "intended use" language.

The Examiner then provides (on the top of page 19) three hypothetical instances[4] in which the Examiner argues that the Reo device attaches to spinous processes.

A preliminary point: claim 1 requires that the two end plates be "configured to attach to" upper and lower spinous processes with first and second fixation structures. The Examiner points to the definition of "attach" in dictionary.com, i.e., "to fasten or affix, join; connect" and then looks to dictionary.com for a definition of "join," i.e.," to bring in contact, connect, or bring or put together." Based upon this multi-level definition, the Examiner construes "attach" merely to mean "contact." Appellants have argued that ascribing such a meaning to "attach" is not reasonable in the context of this claimed invention. Indeed, a review of the Reo publication applied against the claims shows that each time the verb "attach" is used in reference to the disc

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[3] See, *In re Giannelli*, 739 F.3d 1375, 1380 (Fed.Cir. 2014). The Court indicates: "In the context of the claimed ... machine, however, the mere capability of [the prior art device to perform the function in the claims] ... is not the inquiry that the Board should have made; it should have determined whether it would have been obvious to modify the prior art apparatus to arrive at the claimed ... machine." And also: "Because the Board determined that the machine claimed in the ... [pending] application would have been obvious by merely showing that a ... [function]... could be performed on the machine disclosed in the ...[prior art] patent, and not whether it was obvious to modify the [prior art] ... machine to contain ... [components] "adapted to" perform the ... [claimed function], the Board erred in concluding that the examiner had met his initial burden of establishing a case of prima facie obviousness."

[4] For the purposes of submitting replies to the points raised in the Examiner's Answer, the Appellants will consider the erroneous phrase: "many ways in which the device of Reo can meet the intended use of the claimed invention" instead to be: "the Reo device is configured to attach to spinous processes or it would have been obvious to modify the Reo device to arrive at the claim 1 device."

replacement implant and a vertebral bone, the term is used in the most common sense of "affixing to" or "fastening to" or "connecting to."[5] The Reo attachment components -- when used as described in Reo – are not used in the sense of merely "touching." Instead, the Reo components are affixed to the vertebrae.[6]

The three instances proposed by the Examiner include: first, "one can place the Reo device within a cadaver between adjacent spinous processes with the fixation structures touching the adjacent processes;" second, "one can hold the device in between processes of a natural bone teaching model with the fixation structures touching the adjacent processes." Such propositions do not demonstrate that the fixation structures of the Reo device are "configured to attach to" upper and lower spinous processes with the claimed first and second fixation structures. In that "attach" does not mean to merely "touch" in Appellants' specification, in the absence of any showing or argument that the Reo fixation structures do more than merely touch the cadaver and the natural bone teaching model, the unsupported statements of the Examiner are irrelevant.

The Reo fixation structures cited by the Examiner are not suitable for use with spinous processes. The fixation structures discussed by the Examiner are shown in Reo's Figure 31B (dual parallel rows of anchoring fins (623,625) @ [0180]), 37A (a pair of anchoring fins (743, 745) @ [0190]) or 39 (spikes (806, 808), or fins, anchors, or others @ [0198]). Each of the Reo fixation structures extends away from the endplates of the disc replacement implant and penetrates into comparatively wide bone surface between vertebrae. Such fixation structures without modification would pass into the thin edge of the spinous processes.[7] Reo teaches specific ways of introducing the fixation structures into the vertebrae so that the structures are affixed to the vertebrae. Reo does not teach introducing his fixation structures into the

---

[5] For instance, when one "attaches" a wheel to an automobile, the normal meaning ascribed to the term in that context would be that the wheel is affixed to the brake disc/drum, not merely that the wheel is simply touched to the automobile.

[6] Since Appellants use the term "attach" to mean "fixedly attach" in referring to the upper and lower end plates, Appellants are willing to replace "attach" with "fixedly attach" for each occurrence in independent claims 1, 15, and 30. Appellants consider "fixedly attach" to be the full equivalent of "attach" in referring to the upper and lower end plates in the claims. With such a change to the independent claims, it appears that the fundamental disagreement between the Examiner and the Appellants would disappear with the remaining arguments relying upon that construction of the term "attached" logically then also suitable for withdrawal.

[7] An analogy: assume that a spinous process is a cracker, consider sawing a slot into the edge of the cracker parallel to the face of the cracker. Assume that a flat-blade screwdriver is represented by the "anchoring fins" of the Reo device. Inserting the screwdriver into the slot in the edge of the cracker will not be a stable joint; the cracker will break upon most any movement by the screwdriver.

intervertebral space vacated by the offending disc in such a way that the structures only "touch" the vertebrae.

The third instance proposed by the Examiner is: sizing the Reo device to implant it between adjacent spinal processes in a patient with the fixation structures "engaging" the processes. The Examiner urges that the Reo implant "may be sized to fit in the height of the disc space as shown by Reo" and that "[a Reo device of] such height can also fit in a space of that same height between processes of other adjacent vertebrae..." The Examiner argues that "there are many differently sized vertebrae within human spines ... and many differently sized vertebrae within spines of other vertebrates (...mice to ...elephants)."

To repeat, Appellants' claim 1 requires that "the upper/lower end plate [be] configured to attach to an upper/lower spinous process with a first/second fixation structure..." Simply sizing the Reo disc implant device to fit into a space between upper and lower spinous processes does not configure the Reo fixation structures to attach to the adjacent spinous processes. One of ordinary skill in this at would not insert the Reo device into the space between the spinous processes because of the dangerous potential for device migration. The Reo fixation structures are not suitable for use on the thin edges of spinous processes without some additional structure.

Beginning at the bottom of page 19, the Examiner argues that the spinous processes need not be slotted to use the Reo fixation structures but that the attachment fins shown in Figures 31B and 37A "can be placed alongside the processes, in contact with said processes and the device can be bound or attached to the spinous processes via means such as a band, strap, ties, adhesive, etc." Reo does not make such a teaching. Further, to repeat again the words of *In re Giannelli* cited above: "In the context of the claimed ... machine, however, the mere capability of [the prior art device to perform the function in the claims] ... is not the inquiry that the Board should have made; it should have determined whether it would have been obvious to modify the prior art apparatus to arrive at the claimed ... machine."

The third proposition in the Examiner's Answer merely illustrates that, without the teachings of Appellants' specification, the final Office Action does not contain a reason that one should move the parallel lines of Figures 31B and 37A attachment fins together to match the narrow width of a spinous process.

The remainder of the responses and arguments (except the one found just below) in the Examiners Answer merely repeat those discussed above. Appellants stand by the responses provided there.

Finally, in the last substantive paragraph on page 23, the Examiner states:

> "Furthermore, in response to Appellant's argument that the fixation structures of Reo are not configured to attach to the upper and lower spinous processes, Examiner submits that one could consider the fixation structures of Reo, when implanted as expressly taught by Reo - between vertebral endplates in the disc space - to be positively attached to the upper and lower spinous processes via the upper and lower vertebrae."

It is unclear to which claims this paragraph refers. It follows a response relating to claims 15 and 30. It may refer to all of the claims.

Secondly, the words in the paragraph deal only with the fixation structure of the claims, but taken with the rest of the Examiner's Answer, indicate that Reo anticipates some group of claims (all of the claims or claims 15 and 30). The final rejections in the last Office Action each are under 35 USC 103. As a rejection under 35 USC 102, it is a "new rejection."[8]

The Appellants urge that this is an unreasonable construction of the specific words of the claims. The words of each of independent claims 1, 15, and 30 recite "an upper/lower end plate configured to attach to an upper/lower spinous process with a first/second fixation structure..." Simply stated, the words recite a functional requirement of the claimed structure configured to attach to a "spinous process." It is a clear requirement. Persons of ordinary skill in this art know or can easily determine the location of the "spinous process."

To construe this limitation to include "an upper/lower end plate configured to attach to ~~an upper/lower spinous process~~ **another body part** with a first/second fixation structure..." is not reasonable. Using the unusual logic in that paragraph, the Reo fixation structures are affixed to, e.g., the two big toes of Queen Elizabeth, "via the [Examiner's argued] upper and lower vertebrae," then via the earth of North America, then via the Atlantic Ocean, etc.

The Examiner's construction of "configured to attach to an upper/lower spinous process"

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[8] A new rejection in an Examiners Answer is not permitted without the permission of the Director. See 37 CFR 41.39 (a)(2). Appellants have not received notice that such permission has been granted.

as including attachment to other body components is in error.

Appellants request that this informally stated rejection be **REVERSED.**

SUMMARY

For the reasons stated above and in the Brief, Appellants request that the final rejection of the claims be **REVERSED**

Respectfully submitted,

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TRANSMITTAL FORM

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Filing Date	May 1, 2009
First Named Inventor	Michael REO
Art Unit	3733
Examiner Name	Jaqueline T. JOHANAS
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ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☑ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SPINAL KINETICS, Inc.		
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Typed or printed name	E.Thomas Wheelock	Date	28,825

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In the Application of Michael Reo et al
Serial Number 12/434,515
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Entitled: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Art Unit No. 3733
Examiner: Jaqueline T. JOHANAS

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TRANSMITTAL OF FEE UNDER 37 CFR 41.20(b)(4)

Attached is a check in the amount of $1,000 for payment of the fee for "Forwarding an Appeal in an Application" under 37 CFR 41.20.

Should there be any questions, please contact Applicants' attorney, Thomas Wheelock, at 650-302-6286.

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Number: 12/434,515
Filing Date: 05/01/2009
Appellant(s): Michael Reo et al.

E. Thomas Wheelock
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07/22/2014.

(1) Grounds of Rejection to be Reviewed on Appeal

Every ground of rejection set forth in the Office action dated 08/27/2012 from which the appeal is taken is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

The following ground(s) of rejection are applicable to the appealed claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **1-7, 10-12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo et al. (US Publication No. 2007/0050033 A1) (from hereon referred to as Reo).

Regarding Claim 1, Reo discloses a spinal stabilization device (350) which is fully capable of being implanted between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device (350) comprising:

an upper end plate (352) which is fully capable of attaching to an upper spinous process with a first fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the first fixation structure, the

cavity substantially conforming in shape to a compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],

a lower end plate (354) which is fully capable of attaching to a lower spinous process with a second fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],

said compressible, elastic, polymeric core member (356) (core materials are disclosed as being identical to the core of embodiment of Fig. 4A-C which state that the core is made from (Hytrel®) [0094-0095] which is compressible, elastic and polymeric) having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length (the core is an elongate cylinder, with all dimensions of radius and diameter shorter than the length as shown in Fig. 13), the core axis forming an included angle with the spinal axis greater than about 35° to and including 90° (as used by Reo, the core axis or central axis along the length of the core is perpendicular (90°) to the spinal axis).

However, Reo does not disclose the embodiment of Figure 13, as described above, having one or more flexible members of fibers, ribbons, or membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate. However, Reo discloses an alternate embodiment (Fig. 15B) with slots formed in the upper and lower endplates and a fiber (400) extending through said slots in the upper and lower

endplates for the purpose of securing the endplates together [0138]. As described by Reo in paragraph [0088], fibers that hold the upper and lower endplates together limit the range of motion thereby associating or relating movement in one endplate with the other end plate. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the endplates of the embodiment of Fig. 13 by using fibers extending through slots in the endplates as taught in the embodiment of Fig. 15B in order to secure the two endplates together thereby preventing the implant core migration post-surgery.

Regarding Claims 2 and 3, the core member (356) has a core cross-section perpendicular to the core axis and wherein the core cross-section has a shape of substantially circular (Fig. 13).

Regarding Claim 4, the core member comprises elastomeric material [0094-0095].

Regarding Claim 5, the core member comprises TPE (Hytrel®) [0094-0095].

Regarding Claim 12, the one or more flexible members comprise more than one fibers interconnecting upper and lower end plates (Reo discloses that one or more fiber layers (400) may be used) [0138].

Regarding Claims 6 and 7, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of Figure 13, as modified above for Claim 1, having a core member that is tapered. However, Reo does disclose

that the shape of the core member is generally cylindrical however the shape may be varied to obtain desired physical or performance characteristics [0092].

Reo discloses an alternative embodiment of Fig. 19C wherein the components that comprise the core (416, 418) are uneven thereby creating a cross section that tapers in height for the purpose of providing different range of motion characteristics over the span of the implant with a greater amount of translational and rotational freedom at the taller, anterior core section and a lesser amount of translational and rotational freedom at the shorter, posterior core section (Fig. 19C) [0150].

It would have been obvious to one having ordinary skill in the art at the time the invention was modify the shape of the cylindrical core to taper the core of the implant of Reo as described in Claims 1-3 above in order to create a range of motion characteristics over the span of the implant as taught by the embodiment of Fig. 19C thereby modifying the implant characteristics to fit individual patient needs.

Regarding Claim 10, the modification of the device of Reo is disclosed above. The upper end plate (352) comprises the first fixation structure (358) and an upper support member (352), wherein the upper support member (352) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356), and wherein the lower end plate (354) comprises the second fixation structure (358) and a lower support member (354), wherein the lower support member (354) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356) (Fig. 13).

However, Reo does not disclose the embodiment of Figure 13, as modified above for Claim 1, having the first fixation structure and the upper support member are removably slidably attachable to each other and the second fixation structure and the lower support member are removably slidably attachable to each other.

However, Reo discloses an alternative embodiment of the partially cylindrical endplate (Fig. 23A-B) which is described as being generally similar to the endplates of Fig. 13 [0160]. The endplates of Fig. 23A-B have a removably slidably attachable keel or fixation structure (472) for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the integral connection of the fixation structure and the support members of the endplates of the embodiment of Fig. 13 with a removable, slidable and detachable connection as taught by the embodiment of Fig. 23A-B for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae.

In regards to Claim 11, the modification of Reo with the removably slidably attachable connection between the fixation structure and their respective support members as shown in the embodiment of Fig. 23A-B renders the upper and lower support members with slidable keyways (476) and the first and second fixation structures with members (474) slidable within the slidable keyways (Fig. 23A-B). However, it would be obvious to one having ordinary skill in the art at the time the

invention was made to switch the connection and have the slidable keyways on the first and second fixation structures and have members slidable within the slidable keyways located on the upper and lower support members since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein,* 8 USPQ 167.

Regarding Claim 14, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of the device of Fig. 13 as part of a spinal stabilization system along with an implantable prosthetic disc. However, Reo discloses a spinal stabilization system comprising an interspinous process spinal stabilization and an implantable prosthetic disc for the purpose of controlling the range of motion of the spine in both flexion and extension [0127] (Fig. 10) as the spine will be supported by both the interspinous process spinal stabilization device and the implantable prosthetic disc. It would have been obvious for one having ordinary skill in the art at the time the invention was made to use the implant (as modified) of the embodiment of Figure 13 of Reo in conjunction with an implantable prosthetic disc as taught by Reo to create a spinal stabilization system in order to support and control the range of motion of the spine in both flexion and extension base on unique patient need.

Claims **8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142 B1) (from hereon referred to as Paes).

Reo discloses the device as described above and modified for Claims 1-7. However, Reo does not disclose that the core member is threaded.

Paes discloses an intervertebral implant (22) in the same field of endeavor comprising a cylindrical core (28) that is tapered and threaded for the purpose of expanding the endplates or portions of the insert that contact the vertebrae to spread apart upon the insertion of the core thereby creating a secure connection by wedging the implant against the vertebrae and expanding the implant to fit correctly between the vertebrae based on individual patient anatomy (col. 5; ln. 50-67; col. 6; ln. 57- col. 7; ln. 3).

It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the core and the cavity of the endplate to be a threaded connection thereby rendering a threaded core member as taught by Paes in order to allow for implant expansion in situ to accommodate individual patient anatomy thereby firmly securing the implant thus preventing implant migration post-surgery.

Claims **1 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo in view of Slivka et al. (US Publication No. 2009/0005873 A1) (from hereon referred to as Slivka).

Reo discloses the device as described above. However, Reo does not disclose that the one or more flexible members comprise more than one ribbons interconnecting upper and lower end plates. However, Reo discloses that the fibers that interconnect

the upper and lower end plates may be wound multiple times within the same slot, thereby increasing the radial density of the fibers for the purpose of improving wear and stiffness of the implant [0087].

Slivka teaches using straps made of woven fibers (ribbons) to connect two endplates of a spinal implant in the same field of endeavor for the purpose of providing a flexible connection that is strong and tough [0049-0052]. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the more than one fiber wound multiple times within the same slot of Reo with more than one strap or ribbon to connect the upper and lower endplates as taught by Slivka in order to provide a flexible connection member that would provide a stronger, tougher connection while avoiding separation of individual fibers which may cause premature implant failure if the fibers separate and break.

Claims **15-21, 24-26, 28-33, 35-37 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo.

Regarding Claims 15, 28 and 30, Reo discloses a spinal stabilization device (350) which is fully capable of being implanted between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device (350) comprising:

an upper end plate (352) which is fully capable of attaching to an upper spinous process with a first fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the first fixation structure, the

cavity substantially conforming in shape to a compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],

a lower end plate (354) which is fully capable of attaching to a lower spinous process with a second fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],

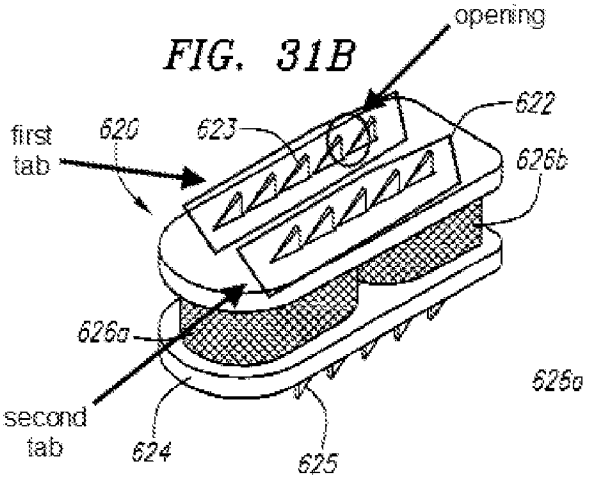
said compressible, elastic, polymeric core member (356) (core materials are disclosed as being identical to the core of embodiment of Fig. 4A-C which state that the core is made from (Hytrel®) [0094-0095] which is compressible, elastic and polymeric) having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length (the core is an elongate cylinder, with all dimensions of radius and diameter shorter than the length as shown in Fig. 13), the core axis forming an included angle with the spinal axis greater than about 35° to and including 90° (as used by Reo, the core axis or central axis along the length of the core is perpendicular (90°) to the spinal axis).

However, Reo does not disclose the embodiment of Figure 13, as described above, having one or more flexible members of fibers, ribbons, or membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate. However, Reo discloses an alternate embodiment (Fig. 15B) with slots formed in the upper and lower endplates and a fiber (400) extending through said slots in the upper and lower

endplates for the purpose of securing the endplates together [0138]. As described by Reo in paragraph [0088], fibers that hold the upper and lower endplates together limit the range of motion thereby associating or relating movement in one endplate with the other end plate. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the endplates of the embodiment of Fig. 13 by using fibers extending through slots in the endplates as taught in the embodiment of Fig. 15B in order to secure the two endplates together thereby preventing the implant core migration post-surgery.

The modification of the embodiment of Fig. 13 of Reo still does not disclose the fixation structures comprising a pair of tabs or each of the tabs containing openings.

However, Reo discloses multiple embodiments of analogous implants which have a pair of tabs as fixation structures, said tabs containing openings (voids or gaps between ridges) (see modified Fig. 31B below and Fig. 27A-C) for the purpose of engaging the superior and inferior vertebral bodies to substantially fix the implant in place (Fig. 31B, 31C, 37A, 39) [0168, 0180, 0194, 0198]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the single, solid fixation structure of the embodiment of Fig. 13 with two separate fixation structures as shown in Fig. 31B, 37A or 39, each fixation structure being toothed/ridged/having openings as shown in Fig. 31B or Fig. 27A, for the purpose of further securing the upper and lower endplates to superior and inferior vertebral bodies by increasing the surface area of the engaging surface of the fixation structure thereby preventing implant migration post-surgery.



The modification of the fixation structure to include two tabs, each with openings, would render the openings in the tabs as fully capable of fixation to upper and lower spinous processes as the device could be wedged in between adjacent spinous processes and the pair of tabs is fully capable of having a spinous process lay between said tabs as the device could be wedged in between adjacent spinous processes.

Regarding Claims 16, 17 and 30, the core member (356) has a core cross-section perpendicular to the core axis and wherein the core cross-section has a shape of substantially circular (Fig. 13).

Regarding Claims 18 and 31, the core member comprises elastomeric material [0094-0095].

Regarding Claims 19 and 32, the core member comprises TPE (Hytrel®) [0094-0095].

Regarding Claims 26 and 37, the one or more flexible members comprise more than one fibers interconnecting upper and lower end plates (Reo discloses that one or more fiber layers (400) may be used) [0138].

Regarding Claims 20, 21 and 33, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of Figure 13, as modified above for Claims 15 and 30, having a core member that is tapered. However, Reo does disclose that the shape of the core member is generally cylindrical however the shape may be varied to obtain desired physical or performance characteristics [0092].

Reo discloses an alternative embodiment of Fig. 19C wherein the components that comprise the core (416, 418) are uneven thereby creating a cross section that tapers in height for the purpose of providing different range of motion characteristics over the span of the implant with a greater amount of translational and rotational freedom at the taller, anterior core section and a lesser amount of translational and rotational freedom at the shorter, posterior core section (Fig. 19C) [0150].

It would have been obvious to one having ordinary skill in the art at the time the invention was modify the shape of the cylindrical core to taper the core of the implant of Reo as described in Claims 15-17 and 30 above in order to create a range of motion characteristics over the span of the implant as taught by the embodiment of Fig. 19C thereby modifying the implant characteristics to fit individual patient needs.

Regarding Claims 24 and 35, the modification of the device of Reo is disclosed above. The upper end plate (352) comprises the first fixation structure (358) and an upper support member (352), wherein the upper support member (352) contains the

cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356), and wherein the lower end plate (354) comprises the second fixation structure (358) and a lower support member (354), wherein the lower support member (354) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356) (Fig. 13).

However, Reo does not disclose the embodiment of Figure 13, as modified above for Claims 15 and 30, having the first fixation structure and the upper support member are removably slidably attachable to each other and the second fixation structure and the lower support member are removably slidably attachable to each other.

However, Reo discloses an alternative embodiment of the partially cylindrical endplate (Fig. 23A-B) which is described as being generally similar to the endplates of Fig. 13 [0160]. The endplates of Fig. 23A-B have a removably slidably attachable keel or fixation structure (472) for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the integral connection of the fixation structure and the support members of the endplates of the embodiment of Fig. 13 with a removable, slidable and detachable connection as taught by the embodiment of Fig. 23A-B for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae.

In regards to Claims 25 and 36, the modification of Reo with the removably slidably attachable connection between the fixation structure and their respective support members as shown in the embodiment of Fig. 23A-B renders the upper and lower support members with slidable keyways (476) and the first and second fixation structures with members (474) slidable within the slidable keyways (Fig. 23A-B). However, it would be obvious to one having ordinary skill in the art at the time the invention was made to switch the connection and have the slidable keyways on the first and second fixation structures and have members slidable within the slidable keyways located on the upper and lower support members since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein,* 8 USPQ 167.

Regarding Claims 29 and 39, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of the device of Fig. 13 as part of a spinal stabilization system along with an implantable prosthetic disc. However, Reo discloses a spinal stabilization system comprising an interspinous process spinal stabilization and an implantable prosthetic disc for the purpose of controlling the range of motion of the spine in both flexion and extension [0127] (Fig. 10) as the spine will be supported by both the interspinous process spinal stabilization device and the implantable prosthetic disc. It would have been obvious for one having ordinary skill in the art at the time the invention was made to use the implant (as modified) of the embodiment of Figure 13 of Reo in conjunction with an implantable prosthetic disc as

taught by Reo to create a spinal stabilization system in order to support and control the range of motion of the spine in both flexion and extension base on unique patient need.

Claims **22, 23 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142 B1) (from hereon referred to as Paes).

Reo discloses the device as described above and modified for Claims 1-7. However, Reo does not disclose that the core member is threaded.

Paes discloses an intervertebral implant (22) in the same field of endeavor comprising a cylindrical core (28) that is tapered and threaded for the purpose of expanding the endplates or portions of the insert that contact the vertebrae to spread apart upon the insertion of the core thereby creating a secure connection by wedging the implant against the vertebrae and expanding the implant to fit correctly between the vertebrae based on individual patient anatomy (col. 5; ln. 50-67; col. 6; ln. 57- col. 7; ln. 3).

It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the core and the cavity of the endplate to be a threaded connection thereby rendering a threaded core member as taught by Paes in order to allow for implant expansion in situ to accommodate individual patient anatomy thereby firmly securing the implant thus preventing implant migration post-surgery.

Claims **15, 27, 30 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reo in view of Slivka et al. (US Publication No. 2009/0005873 A1) (from hereon referred to as Slivka).

Reo discloses the device as described above. However, Reo does not disclose that the one or more flexible members comprise more than one ribbons interconnecting upper and lower end plates. However, Reo discloses that the fibers that interconnect the upper and lower end plates may be wound multiple times within the same slot, thereby increasing the radial density of the fibers for the purpose of improving wear and stiffness of the implant [0087].

Slivka teaches using straps made of woven fibers (ribbons) to connect two endplates of a spinal implant in the same field of endeavor for the purpose of providing a flexible connection that is strong and tough [0049-0052]. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the more than one fiber wound multiple times within the same slot of Reo with more than one strap or ribbon to connect the upper and lower endplates as taught by Slivka in order to provide a flexible connection member that would provide a stronger, tougher connection while avoiding separation of individual fibers which may cause premature implant failure if the fibers separate and break.

(2) Response to Argument

In response to Appellant's argument that the upper end plate and the lower endplate of Reo are not configured to be attached to an upper and a lower spinous

process, respectively, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

In response to Applicant's argument that the device of Reo does not attach directly to upper and lower spinous processes with the fixation structures, the fact that Applicant uses their device for a different purpose does not alter the conclusion that its use in a prior art device would be prima facie obvious from the purpose disclosed in the reference.

Regarding the rejection of claim 1, there is no structural difference between the device of Reo as stated in the rejection reproduced above and Appellant's claimed device that precludes the fixation structures of Reo (elements 358 shown in Fig. 13) from being attached to the upper and lower spinous processes.

Appellant has not claimed a medical diagnosis or treatment regimen for which the claimed device needs function to engage the adjacent processes. As claimed, Appellant only requires the device to be configured to be placed in between spinous processes with first and second fixation structures configured to be attached to upper

and lower vertebrae, respectively. There are many ways in which the device of Reo can meet the intended use of the claimed invention:

1) one can place the device within a cadaver between adjacent spinous processes with the fixation structures touching the adjacent processes;

2) one can hold the device in between processes of a natural bone teaching model with the fixation structures touching the adjacent processes; or

3) the device is sized to be implanted between adjacent processes in a patient with the fixation structures engaging said processes- the implant sized to fit in the height of the disc space as shown by Reo can also fit in a space of that same height between processes of other adjacent vertebrae as there are many differently sized vertebrae within human spines (sizes which vary from cervical to lumbar vertebrae as well as from small child to large adult vertebrae) and many differently sized vertebrae within spines of other vertebrates (from small mammals such as mice to large mammals such as elephants).

Appellant argues that in order to attach these fixation structures to the spinous processes, a longitudinal slot must be cut in the bone or else render the device unsatisfactory for its intended purpose (see pages 10-11 and 17 of brief); however, Examiner disagrees. Firstly, the intended purpose of the device of Reo as claimed is to provide a spacer between adjacent vertebrae and if the device is placed in an alternate location in the spine (between adjacent upper and lower spinous processes), the device would continue to function to space apart said vertebrae. Secondly, attaching the device between spinous processes would not necessarily require cutting into the spinous

processes for the device to be attached. The fixation structures can be placed alongside the processes, in contact with said processes and the device can be bound or attached to the spinous processes via means such as a band, strap, ties, adhesive, etc.

Regarding Appellant's argument that Examiner's interpretation of the fixation structures "touching" or "contacting" the spinous processes is an incorrect interpretation of "attaching" (see pages 18-19 of brief), Examiner submits that her interpretation further includes securing said fixation structures to the processes. Therefore, the examples provided by the Examiner describing how the device of Reo could be placed between adjacent spinous processes with the fixation structures both contacting and being secured to said processes via means such as bands, straps, etc. adequately read on the term "attach". Examiner also submits that dictionary.com defines "attach" as "to fasten or affix; join; connect". Aside from being secured to spinous processes via means as described above, the mere touching or contacting of the fixation structures to the spinous processes is considered joining ("join" defined by dictionary.com to mean "To bring in contact, connect, or bring or put together") thereby also reading on the limitation of "attaching".

With respect to Appellant's statement pertaining to the combination of Reo in view of Paes rejection (see page 19 of brief), Examiner recognizes that no new or different issues were raised; therefore, these issues are considered to be addressed with respect to the Reo reference above.

With respect to Appellant's statement pertaining to the combination of Reo in view of Slivka rejection (see page 20 of brief), Examiner recognizes that no new or

different issues were raised; therefore, these issues are considered to be addressed with respect to the Reo reference above.

Regarding the rejection of claims 15 and 30, there is no structural difference between the device of Reo as stated in the rejection reproduced above and Appellant's claimed device that precludes the fixation structures of Reo (toothed pair of tabs 358 shown in Fig. 31B, see modification in the rejection reproduced above) from being attached to the upper and lower spinous processes. In this case, the fixation structures as claimed comprise a pair of tabs configured such that when implanted, the process to which they attach lies between a respective pair of tabs.

As stated above with regards to claim 1, Appellant has not claimed a medical diagnosis or treatment regimen for which the claimed device needs function to engage the adjacent processes. As claimed, Appellant only requires the device to be configured to be placed in between spinous processes with pairs of tabs configured to be attached to said processes such that each spinous process lies between a pair of tabs. There are many ways in which the device of Reo can meet the intended use of the claimed invention:

1) one can wedge the device within a cadaver between adjacent spinous processes with the fixation structures (pair of toothed tabs) adjacent lateral sides of the adjacent processes and at least one of the toothed tabs touching its respective lateral side of the spinous process;

2) one can hold the device in between processes of a natural bone teaching model with the fixation structures (pair of toothed tabs) adjacent lateral sides of the adjacent processes and at least one of the toothed tabs touching its respective lateral side of the spinous process;

3) the device is sized to be implanted between adjacent processes in a patient with the fixation structures (pair of toothed tabs) touching both lateral sides of said processes - the implant sized to fit in the height of the disc space as shown by Reo can also fit in a space of that same height between processes of other adjacent vertebrae as there are many differently sized vertebrae within human spines (sizes which vary from cervical to lumbar vertebrae as well as from small child to large adult vertebrae) and many differently sized vertebrae within spines of other vertebrates (from small mammals such as mice to large mammals such as elephants), some of these vertebrae having thicker or narrower spinous processes which can fit between the toothed tabs; or

4) the device is sized to be implanted between adjacent processes in a patient with the fixation structure (pair of toothed tabs) digging into or embedded into the spinous processes- the implant sized to fit in the height of the disc space as shown by Reo can also fit in a space of that same height between processes of other adjacent vertebrae as there are many differently sized vertebrae within human spines (sizes which vary from cervical to lumbar vertebrae as well as from small child to large adult vertebrae) and many differently sized vertebrae within spines of other vertebrates (from small mammals such as mice to large mammals such as elephants), some of these

vertebrae having thicker spinous processes into which both the toothed tabs can be embedded simultaneously.

With respect to Appellant's statement pertaining to the combination of Reo in view of Paes rejection (see page 26-27 of brief), Examiner recognizes that no new or different issues were raised; therefore, these issues are considered to be addressed with respect to the Reo reference above.

With respect to Appellant's statement pertaining to the combination of Reo in view of Slivka rejection (see page 27-28 of brief), Examiner recognizes that no new or different issues were raised; therefore, these issues are considered to be addressed with respect to the Reo reference above.

Furthermore, in response to Appellant's argument that the fixation structures of Reo are not configured to attach to the upper and lower spinous processes, Examiner submits that one could consider the fixation structures of Reo, when implanted as expressly taught by Reo -between vertebral endplates in the disc space- to be positively attached to the upper and lower spinous processes via the upper and lower vertebrae.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jacqueline Johanas/

Examiner, Art Unit 3733

Conferees:

Eduardo Robert

/EDUARDO C. ROBERT/

Supervisory Patent Examiner, Art Unit 3733

Todd Manahan

/TODD MANAHAN/

Supervisory Patent Examiner, Art Unit 3776

Requirement to pay appeal forwarding fee. In order to avoid dismissal of the instant appeal in any application or ex parte reexamination proceeding, 37 CFR 41.45 requires payment of an appeal forwarding fee within the time permitted by 37 CFR 41.45(a), unless appellant had timely paid the fee for filing a brief required by 37 CFR 41.20(b) in effect on March 18, 2013.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

SPINAL KINETICS, INC.
595 N. PASTORIA AVE.
SUNNYVALE CA 94085

In re Application of
Reo et al.
Application No. 12/434,515
Filed: May 1, 2009
Attorney Docket No. SK20028.00

DECISION ON PETITION

This is a decision on the petition under the unintentional provisions of 37 CFR 1.137(a), filed July 22, 2014, to revive the above-identified application.

The petition is **GRANTED**.

This application became abandoned as a result of petitioner's failure to file an appeal brief (and fee required by 37 CFR 41.20(b)) within the time period provided in 37 CFR 41.37(a). As an appeal brief (and appeal brief fee) was not filed within two (2) months of the Notice of Appeal filed March 5, 2013, and no extensions of time under the provisions of 37 CFR 1.136(a) were obtained, the appeal was dismissed and the proceedings as to the rejected claims were terminated. See 37 CFR 1.197(b). As no claim was allowed, the application became abandoned on May 7, 2013. *See* MPEP 1215.04. A Notice of Abandonment was mailed December 26, 2013.

The petition satisfies the requirements of 37 CFR 1.137(a) in that petitioner has supplied (1) an appeal brief; (2) the petition fee of $850.00; and (3) a proper statement of unintentional delay.

It is not apparent whether the person signing the statement of unintentional delay was in a position to have firsthand or direct knowledge of the facts and circumstances of the delay at issue. Nevertheless, such statement is being treated as having been made as the result of a reasonable inquiry into the facts and circumstances of such delay. See 37 CFR 11.18 and Changes to Representation of Others Before the United States Patent and Trademark Office; Final Rule Notice, 73 Fed. Reg. 47650 (August 14, 2008), 1334 Off. Gaz. Pat. Office 338

(September 9, 2008). In the event that such an inquiry has not been made, petitioner must make such an inquiry. If such inquiry results in the discovery that it is not correct that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition pursuant to 37 CFR 1.137 was unintentional, petitioner must notify the Office.

Telephone inquiries concerning this decision should be directed to the undersigned at (571) 272-7751.

This application is being referred to Technology Center AU 3733 for appropriate action in the normal course of business on the reply received July 22, 2014.

/Joan Olszewski/
Joan Olszewski
Office of Petitions

Doc Code: PET.OP
Document Description: ~~Petition~~ for Review by the Office of Petitions

PTO/SB/64 (12-13)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(a)

Docket Number (Optional): SK20028.00

First named inventor: Michael REO

Application No.: 12/434,515 Art Unit: 4129

Filed: May 1, 2009 Examiner: Jacqueline T. JOHANAS

Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX (571) 273-8300

NOTE: If information or assistance is needed in completing this form, please contact the Office of Petitions at (571) 272-3282.

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus any extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION.

NOTE: A grantable petition requires the following items:

(1) Petition fee;
(2) Reply and/or issue fee;
(3) Terminal disclaimer with disclaimer fee – required for all utility and plant applications filed before June 8, 1995, and for all design applications; and
(4) Statement that the entire delay was unintentional.

1. **Petition fee**

☑ Small entity fee $ 850 (37 CFR 1.17(m)). Applicant asserts small entity status. See 37 CFR 1.27.

☐ Undiscounted fee $ _____ (37.CFR.1.17(m)).

2. **Reply and/or fee**

A The reply and/or fee to the above-noted Office notice or action in the form of

Appeal Brief (identify the type of reply):

☐ has been filed previously on _____.

☑ is enclosed herewith.

B The issue fee and publication fee (if applicable) of $ _____

☐ has been paid previously on _____.

☐ is enclosed herewith.

Doc Code: PET.OP
Document Description: Petition for Review by the Office of Petitions

PTO/SB/64 (12-13)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(a)

3. **Terminal disclaimer with disclaimer fee**

☑ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of $ _____) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. **STATEMENT:** The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(a) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(a) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

E. Thomas Wheelock
Signature

July 17, 2014
Date

E. Thomas Wheelock
Typed or Printed Name

28,825
Registration Number, if applicable

SPINAL KINETICS, INC.
Address

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Address

Enclosures:

☑ Fee Payment

☐ Reply

☐ Terminal Disclaimer Form

☐ Additional sheet(s) containing statements establishing unintentional delay

☑ Other: Appeal Brief; Post Card

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☑ Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

☐ Transmitted by EFS-Web or facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

July 17, 2014
Date

E. Thomas Wheelock
Signature

E. Thomas Wheelock
Typed or printed name of person signing certificate

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Ser. No. 12/434,515
Appellant: Michael Reo et al
Filing Date: May 1, 2009
Title: SPINAL STABILIZATION DEVICES, SYSTEMS, AND METHODS

Group Art Unit: 4129
Examiner: Jaqueline T. JOHANAS

Docket No. SK 20028.00
Customer No. 109587

APPEAL BRIEF FILED UNDER 37 CFR 41.31 AND 41.37

This is an appeal from the final rejection of claims 1-39 by the Examiner in an Office Action dated August 27, 2012.

Table of Contents

Appendices

I. Real Party in Interest

The real party in interest for the application on appeal is Spinal Kinetics Inc., a corporation of Delaware.

II. Related Appeals and Interferences

There are no prior or pending appeals, interferences, or judicial proceedings known to appellants, appellants' legal representatives, or assignee which may be related to, directly affect, or be directly affected by or have a bearing on the Board's decision in this appeal.

III. Status of the Claims

The status of the claims is:

Claims 1-39 stand rejected.

The claims being appealed are:

Claims 1-39.

IV. Status of Amendments Filed Subsequent to the Final Rejection

1.) The Office Action containing the final rejection from which this appeal is taken was mailed on August 27, 2012.

2.) A Response to that Office Action having no amendments to the claims was filed on March 5, 2013.

3.) An Advisory Action mailed on March 21, 2013 indicated that the Response did not place the application in condition for allowance.

V. Summary of the Claimed Subject Matter

Background

The spine has a formidable number of major tasks in the human body. It protects the major neurological pathway in the body – the spinal cord – and provides for branching of the nerve bundles from the spinal cord at intervals all the while forming the major structure for maintaining the shape of the middle of the body all the while allowing the body to twist and to lean in any direction.

The spine itself is made up of a collection of vertebral bones and a complex array of crossing and axial muscles and ligaments attached to those vertebrae. Countering the movements of the muscles are specific cushioning joints, e.g., intervertebral discs and various synovial joints. They serve to maintain geometric relationships among the vertebrae and to allow overall movement in the spine.

In humans, the spine (or vertebral column) normally consists of 33 vertebrae -- 24 articulating vertebrae and nine fused vertebrae in the sacrum and the coccyx. The articulating vertebrae are situated in three upper regions of the body. The cervical (or neck) region includes seven vertebrae. The thoracic (or rib) region contains twelve vertebrae. The lumbar (or lower back) region has five vertebrae.

Each vertebral body includes a number of bony projections extending outwardly from the central bone-mass of a vertebral bone, projections to which muscles and ligaments attach. Many of these bony projections are called processes, e.g., "spinous process," "articular processes," "transverse processes, etc. The spinous processes are thin bony projections that extend rearwardly from the central vertebral bone. The spinous processes are the lumps one feels when running fingers down the center of a baby's back.

With the passage of time or the occurrence of trauma, the discs between vertebrae may be damaged or diseased causing diminution of distance between vertebrae and resulting in neural consequences -- pain or even paralysis. Replacement of the natural disc with an implant for restoration of the spacing between vertebrae is an effective solution for restoring that spacing. Placing a spacer between adjacent spinous processes, with or without concurrent placement of an artificial disc, also aids in the restoration of intervertebral spacing.

Our claimed invention is a spacer for placement between adjacent spinous processes extending from adjacent vertebral bones.

INDEPENDENT CLAIM 1

In general, the variation of the device found in claim 1 may be seen in Figs. 2-13 and the structure is broadly described in described in Para. [0011] to [0013].

By way of example, one variation of the device (150) found in claim 1 may be seen in Fig. 2 and is described in Para. [0030] to [0038].

As to component a.): the "upper end plate configured to attach to an upper spinous process" is (154) in Para. [0033]; "a first fixation structure" or "tab" is (162) in Para. [0035]; "configured with a cavity situated opposite from the first fixation structure" is (158) in Para. [0034]; and "the cavity substantially conforming in shape to a compressible, elastic, polymeric core member" is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component b.): the "lower end plate configured to attach to a lower spinous process" is (156) in Para. [0033]; "a second fixation structure" or "tab" is (162) in Para. [0035]; "configured with a cavity situated opposite from the second fixation structure" is (158) in Para. [0034]; and "the cavity substantially conforming in shape to a compressible, elastic, polymeric core member" is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component c.): "one or more flexible members selected from the group consisting of fibers, ribbons, and membranes" is discussed as a fiber in Para. [0035] for the variation shown in FIG. 2 and as (200) in FIG. 9. The "ribbons" and "membranes" are described in original claim 1. Para. [0034] describes "extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate..."

As to component d.): "said compressible, elastic, polymeric core member having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°." Para. [0011] states that the core is not

collinear with the spinal axis. Original claim 1 Provides written description for the rest of the component. FIG. 14 shows a variation of the claim 1 device (400) as implanted between two adjacent spinous processes in which the core is not collinear with the spinal axis.

INDEPENDENT CLAIM 15

One variation of our device found in claim 15 is generally shown in FIG. 2 and discussed in Para. [0033]- [0038] and particularly -- as to the "first fixation structure comprising a pair of tabs" -- Para. [0035].

As to component a.): "an upper end plate configured to attach to an upper spinous process" is (154) in Para. [0033]; "a first fixation structure comprising a pair of tabs configured such that, when the device is implanted, the upper spinous process lies between the pair of tabs" is (162) in Para. [0035]; "further configured with a cavity situated opposite from the first fixation structure" is (158) in Para. [0034]; and "the cavity substantially conforming in shape to a compressible, elastic, polymeric core member..." is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component b.): "a lower end plate configured to attach to a lower spinous process" is (156) in Para. [0033]; "a second fixation structure comprising a pair of tabs configured such that, when the device is implanted, the lower spinous process lies between the pair of tabs" is (162) in Para. [0035]; , "configured with a cavity situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member" is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component c.): "one or more flexible members selected from the group consisting of fibers, ribbons, and membranes" is discussed as a fiber in Para. [0035] for the variation shown in FIG. 2 and as (200) in FIG. 9. The "ribbons" and "membranes" are described in original claim 1. Para. [0034] describes "extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate..."

As to component d.): "said compressible, elastic, polymeric core member having a core

axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°." Para. [0011] states that the core is not collinear with the spinal axis. Original claim 1 Provides written description for the rest of the component. FIG. 14 shows a variation of the claim 1 device (400) as implanted between two adjacent spinous processes in which the core is not collinear with the spinal axis.

INDEPENDENT CLAIM 30

A variation of our device found in claim 30 is generally shown in FIG. 2 and discussed in Para. [0033]- [0038] and particularly -- as to the "first [and second] fixation structure(s) comprising a pair of tabs" and "openings [in the tabs] for fixation to the upper (and lower) spinous process (es)" -- Para. [0035].

As to component a.): "an upper end plate configured to attach to an upper spinous process" is (154) in Para. [0033]; "a first fixation structure comprising a pair of tabs configured such that, when the device is implanted, the upper spinous process lies between the pair of tabs" is (162) in Para. [0035]; "each of the tabs containing openings for fixation to the upper spinous process" is (164) in Para. [0035]; "further configured with a cavity situated opposite from the first fixation structure" is (158) in Para. [0034]; and "the cavity substantially conforming in shape to a compressible, elastic, polymeric core member" is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component b.): "a lower end plate configured to attach to a lower spinous process" is (156) in Para. [0033]; "a second fixation structure comprising a pair of tabs configured such that, when the device is implanted, the lower spinous process lies between the pair of tabs" is (162) in Para. [0035]; "containing openings for fixation to the lower spinous process" is (164) in Para. [0035]; "further configured with a cavity situated opposite from the second fixation structure" is (158) in Para. [0034] and, "the cavity substantially conforming in shape to the compressible, elastic, polymeric core member" is (158) in Para. [0034]. The "polymeric core member" (152) and its "shape" -- exemplified as a cylindrical shape -- are discussed in Para. [0030] and [0034].

As to component c.): "one or more flexible members selected from the group consisting of fibers, ribbons, and membranes" is discussed as a fiber in Para. [0035] for the variation shown in FIG. 2 and as (200) in FIG. 9; The "ribbons" and "membranes" are described in original claim 1. Para. [0034]describes "extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate..."

As to component d.): "said compressible, elastic, polymeric core member having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°" Para. [0011] states that the core is not collinear with the spinal axis. Original claim 1 provides written description for the rest of component d.) in claim 30. FIG. 14 shows a variation of the claim 1 device (400) as implanted between two adjacent spinous processes in which the core is not collinear with the spinal axis. Finally, "wherein the polymeric core member has a substantially circular core cross-section" is (152) in FIG. 2 and "perpendicular to the core axis..." is described in original claim 1 and original claim 3.

VI. Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection to be reviewed on appeal are:

1.) Whether claims 1-7, 10-12, and 14 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo et al (US Publication No. 2007/0050033)

2.) Whether claims 8 and 9 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142).

3.) Whether claims 1 and 13 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Slivka et al (US Publication No. 2009/0005873).

4.) Whether claims 15-21, 24-26, 28-33, 35-37, and 39 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo et al.

5.) Whether claims 22, 23, and 34 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142).

6.) Whether claims 15, 27, 30, and 38 are properly rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Slivka et al (US Publication No. 2009/0005873).

VII. Arguments

Functional Limitation in Each of Claims 1-39

Summary

As an initial matter, each of the independent claims – and thus each of the dependent claims -- contains functional limitations using "configured to" terminology. The final rejection (augmented by the Advisory Action) indicated that the "configured to" functional limitations have not been dealt with in the way those functional limitations are construed by the Board and by the Federal Circuit Court of Appeals. Specifically, the Examiner has construed the limitations as requiring only that the structural component modified by the limitation is merely "capable of" accomplishing the recited objective of the recited function or that the structural component "can be made to serve that purpose" rather than construing the limitations to require that those subjects "accomplish the specified objectives..."

Appellant has provided citations to case law authored both by the Federal Circuit and by the Board explaining that the approach urged by the Examiner is erroneous, but the final Office Action and the Advisory Action persisted in the "capable of" approach without providing any comment on the cited case law.

Details

Claims 1, 15, and 29, the only independent claims in the application, each contain specific functional limitations -- i.e., "configured to ..." -- relating to the structure of the device.[1] Each requires that the claimed "interspinous process spinal stabilization device" include "an upper end plate configured to attach to an upper spinous process with a first fixation structure ..." and that "a lower end plate configured to attach to a lower spinous process with a second

[1] A copy of those claims may be found in ATTACHMENT 1 with the "configured to..." functional limitations highlighted for emphasis.

fixation structure..."

Functional limitations using the "configured to..." terminology do not mean that the subject to which they refer -- the upper and lower endplates -- are merely "capable of" accomplishing the recited objective or "that they can be made to serve that purpose" but instead mean that those subjects "accomplish the specified objectives..." [2] See, *Aspex Eyewear v. Marchon Eyewear,* 672 F.3d 1335 (Fed.Cir. 2012). Further, see *Typhoon Touch v. Dell*, 659 F.3d 1376 (Fed.Cir. 2011); *Anchor Wall Systems v. Rockwood Retaining Walls*, 340 F.3d 1298 (Fed. Cir. 2003); and *Advanced Cardiovascular Systems v. Scimed*, 261 F.3d 1329 (Fed.Cir. 2001) for similar analyses.

Each of the pending claims is rejected under 35 USC 103 over Reo et al. (US Publication No. 2007/0050033 Al) with Reo either as the sole reference or as the primary reference. However, the Office Action does not specify any teaching in the Reo reference that expressly or inherently discloses that the Reo end plates "attach to an upper spinous process [or to a lower spinous process] with a first [or second] fixation structure" as is required by each of the claims. Although the Office Action indicates that Reo shows "an upper end plate (352)" and "a lower end plate (354)," the Office Action only speculates that those end plates are respectively "fully capable of attaching to an upper spinous process with a first fixation structure (358)..." and "fully capable of attaching to a lower spinous process with a second fixation structure (358)..." [3]

Reo describes an intervertebral replacement disc implant having component structures designed to affix the device in a human spine between two vertebrae in the region where a natural disc has been removed. The Reo device is inserted into the "meatiest" region of the vertebral bone generally at the center of the bone. The Reo fixation region is, by comparison, flat and broad when compared to the narrow, cantilever-like spinous process extending rearwardly from the main body of the vertebral bone. Reo explains that the elongated fixation structures, e.g., "keels 358," shown in Fig. 13 and elsewhere, are to be inserted into pre-formed slots cut into the relatively large faces of the vertebrae found between the vertebrae after the disc has been removed. Reo does not describe nor suggest inserting those "keels 358" into the narrow spinous processes protruding rearwardly from the vertebrae. Indeed, cutting a

[2] Said another way: this functional limitation is different in kind than the "adapted to," "adapted for," etc. clauses listed, e.g., in MPEP 2111.04

[3] The cited Reo components may be found in Reo's Fig. 13.

longitudinal slot in an edge of a spinous process to accommodate a Reo keel would seem to be a recipe for causing the already-thin spinous process to fracture and fail. To modify the Reo fixation structures in a way so that they do not penetrate the vertebral bone would be to render the Reo device unsatisfactory for its intended purpose. Such a modification would be improper.[4]

Consequently, Reo does not directly describe upper or lower end plates "configured to" attach to an upper or to a lower spinous process with a fixation structure.

Further, Reo does not describe upper or lower end plates that are inherently configured to attach to an upper or to a lower spinous process with a fixation structure. The Office Action does not provide any explanation as to why the Reo end plates necessarily are "configured to" attach to a spinous process. As explained in *ex parte Tipley*, Appeal No. 2009-000300, Application Ser. No. 11/108,338, Board of Patent Appeals and Interferences, decided: September 18, 2009:

> "Inherency...may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981) (quoting *Hansgirg v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939)). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1463-64 (BPAI 1990) (citations omitted)."

The Board in *ex parte Tipley* reversed final rejections under 35 USC 102 and 103 involving printed circuit boards that were "configured to move" with respect to another circuit board.[5] The Board noted in *ex parte Tipley* that "because the Examiner does not direct us to any persuasive teaching in [the cited prior art] that expressly or inherently discloses the disputed claim feature..." and that since the "Examiner does not provide any reasoning to support a finding that Grabbe's circuit board inherently moves in a curved path ["of a mechanism configured to move or bias a circuit board or an electrical connector on a circuit board]" both rejections were reversed.

To be clear: these arguments of Appellants apply to each rejection under 35 USC 103 found in the Office Action as applied to every claim currently pending in the application.

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[4] See *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) and MPEP 2143.01V.

[5] A copy of *ex parte Tipley* is attached as Attachment 2 since it appears not to have been published in the typical sources.

In the Advisory Action, the Examiner argues that under the "broadest reasonable interpretation, an element is 'configured to' perform a function is not a positive limitation but only requires the ability to so perform." The Examiner then argues that the "device of Reo has the ability to be inserted into the space between adjacent spinous processes, having the keel or fixation structure immediately adjacent to the process (attaching or touching the process) and can be held in place with an additional means such as a band or strap..."

Appellant appreciates that the standard for examination of claims involves a "broadest reasonable interpretation" of those claims. However, in adhering to that standard, the USPTO examination may not ignore those decisions of the supervising U.S. Court of Appeals for the Federal Circuit that, in effect, delimit what constitutes "reasonable" in such an "interpretation." The Board of Patent Appeals and Interferences[6] follows the proper "broadest reasonable interpretation" standard in assessing "configured to" limitations. The *ex parte Tipley* decision and opinion of the Board demonstrates adherence to a proper standard -- a standard that necessarily excludes the tired rubric that a "configured to" modifier in a claim is "not a positive limitation."[7]

The Court has in effect set a standard of "broadest reasonable interpretation" for "configured to" terminology that the compared prior art must "accomplish the specified objectives ..." The Court explains that "configured to" is a narrower limitation than is "adapted to" although the latter term may, in context, even considered to be the narrower term "configured to." As Appellant noted just above, cases such as *Aspex Eyewear v. Marchon*

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[6] Now the Patent Trial and Appeals Board.

[7] As further evidence that the Board utilizes the standard that, during *ex parte* examination, construction of a "configured to" phrase is to be understood to the In *In re Jung*, 637 F.3d 1356, 1361 (Fed. Cir. 2011), the Court mentioned that the Board had reversed the Examiner's final rejection of a claim containing "configured to" language: "The Board, however, reversed the examiner's rejection of claim 5, which included the further limitation that the well-charge-level controller include "a processor **configured to** control said first charge pump utilizing at least one of a proportional, integral, or derivative control," because "[t]he examiner has not sufficiently explained how ... [the prior art patent's disclosure] amounts to proportional control, as that term is used in the control art." [emphasis added] The conclusory final rejection in the *Jung* prosecution is quite similar in content to the rejections on appeal. The rejection of Jung's claim 5 reads: "Regarding Claim 5, ...[the prior art patent] ... teach said first well-charge-level controller operably coupled with said first charge pump further comprises a processor ...(since the controller ... performs "determination" and/or "look-up", it is a processor ...) configured to control said first charge pump utilizing at least one of a proportional, integral, and derivative control (charge pump control is proportional to the read out current— ...)."

Eyewear and *Anchor Wall Systems v. Rockwood Retaining Walls*[8], show that functional limitations using the "configured to..." terminology do not mean that the subject to which they refer are merely "capable of" accomplishing the recited objective or "that they can be made to serve that purpose" but instead mean that those subjects "accomplish the specified objectives..."

As is clear from the Advisory Action, the final rejection utilizes improper standards in assessing the meaning of the functional terms in the three independent claims.

The final rejection of the claims should be **REVERSED** on this basis alone.

Specifics of the Rejections

In addition to the error in the rejections under 35 USC 103 discussed just above, the other shortcomings of the rejections may be found below.

Claims 1-7, 10-12, and 14 -- 35 USC 103

Claims 1-7, 10-12, and 14 stand rejected under 35 U.S.C. 103 as unpatentable over Reo et al. The Examiner notes:

> "Regarding Claim 1, Reo discloses a spinal stabilization device (350) which is fully capable of being implanted between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device (350) comprising:
>
> > "an upper end plate (352) which is fully capable of attaching to an upper spinous process with a first fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the first fixation structure, the cavity substantially conforming in shape to a

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[8] One issue in *Anchor Wall Systems v. Rockwood Retaining Walls*, 340 F.3d 1298 (Fed.Cir. 2003) involved mechanical technology, specifically building technology. One claim on appeal recited:

> "14. A masonry block comprising ... first and second sides, said first side having a first inset ... said second side having a second inset ... said block comprising a protrusion ... said protrusion being configured to mate with an inset of one or more adjacently positioned blocks ..." [emphasis added].

The Court determined that the lower court had properly determined the meaning of one portion of the function associated with the "configured to" recitation, but not the other two:

"The claims ... require that the protrusion be "configured to *mate* with an inset of one or more adjacently positioned blocks."... The district court construed "mate" to require the following three limitations: "(1) a close confinement of the protrusion within the inset(s) of one or more blocks; (2) an ability to secure the blocks in place in a forwards and backwards direction; and (3) an interlocking of the protrusion with the insets."... [the Appellant] does not dispute the district court's third limitation that "mate" is interchangeable with "interlock" in the patent specification. However, we hold that the first and second limitations of the district court's construction of "mate" are erroneous." id @ 1309.

compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],

"a lower end plate (354) which is fully capable of attaching to a lower spinous process with a second fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132], said compressible, elastic, polymeric core member (356) (core materials are disclosed as being identical to the core of embodiment of Fig. 4A-C which state that the core is made from (Hytrel®) [0094-0095] which is compressible, elastic and polymeric) having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length (the core is an elongate cylinder, with all dimensions of radius and diameter shorter than the length as shown in Fig. 13), the core axis forming an included angle with the spinal axis greater than about 35° to and including 90° (as used by Reo, the core axis or central axis along the length of the core is perpendicular (90°) to the spinal axis).

"However, Reo does not disclose the embodiment of Figure 13, as described above, having one or more flexible members of fibers, ribbons, or membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate. However, Reo discloses an alternate embodiment (Fig. 15B) with slots formed in the upper and lower endplates and a fiber (400) extending through said slots in the upper and lower endplates for the purpose of securing the endplates together [0138]. As described by Reo in paragraph [0088], fibers that hold the upper and lower endplates together limit the range of motion thereby associating or relating movement in one endplate with the other end plate. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the endplates of the embodiment of Fig. 13 by using fibers extending through slots in the endplates as taught in the embodiment of Fig. 158 in order to secure the two endplates together thereby preventing the implant core migration post-surgery.

"Regarding Claims 2 and 3, the core member (356) has a core cross-section perpendicular to the core axis and wherein the core cross-section has a shape of substantially circular (Fig. 13).

"Regarding Claim 4, the core member comprises elastomeric material [0094-0095].

"Regarding Claim 5, the core member comprises TPE (Hytrel®) [0094-0095].

"Regarding Claim 12, the one or more flexible members comprise more than one fibers interconnecting upper and lower end plates (Reo discloses that one or more fiber layers (400) may be used) [0138].

"Regarding Claims 6 and 7, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of Figure 13, as modified above for Claim 1, having a core member that is tapered. However, Reo does disclose that the

shape of the core member is generally cylindrical however the shape may be varied to obtain desired physical or performance characteristics [0092].

"Reo discloses an alternative embodiment of Fig. 19C wherein the components that comprise the core (416, 418) are uneven thereby creating a cross section that tapers in height for the purpose of providing different range of motion characteristics over the span of the implant with a greater amount of translational and rotational freedom at the taller, anterior core section and a lesser amount of translational and rotational freedom at the shorter, posterior core section (Fig. 19C) [0150].

"It would have been obvious to one having ordinary skill in the art at the time the invention was modify the shape of the cylindrical core to taper the core of the implant of Reo as described in Claims 1-3 above in order to create a range of motion characteristics over the span of the implant as taught by the embodiment of Fig. 19C thereby modifying the implant characteristics to fit individual patient needs.

"Regarding Claim 10, the modification of the device of Reo is disclosed above. The upper end plate (352) comprises the first fixation structure (358) and an upper support member (352), wherein the upper support member (352) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356), and wherein the lower end plate (354) comprises the second fixation structure (358) and a lower support member (354), wherein the lower support member (354) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356) (Fig. 13).

"However, Reo does not disclose the embodiment of Figure 13, as modified above for Claim 1, having the first fixation structure and the upper support member are removably slidably attachable to each other and the second fixation structure and the lower support member are removably slidably attachable to each other.

"However, Reo discloses an alternative embodiment of the partially cylindrical endplate (Fig. 23A-B) which is described as being generally similar to the endplates of Fig. 13 [0160]. The endplates of Fig. 23A-B have a removably slidably attachable keel or fixation structure (472) for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the integral connection of the fixation structure and the support members of the endplates of the embodiment of Fig. 13 with a removable, slidable and detachable connection as taught by the embodiment of Fig. 23A-B for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae.

"In regards to Claim 11, the modification of Reo with the removably slidably attachable connection between the fixation structure and their respective support members as shown in the embodiment of Fig. 23A-B renders the upper and lower support members with slidable keyways (476) and the first and second fixation

> structures with members (474) slidable within the slidable keyways (Fig. 23A-B). However, it would be obvious to one having ordinary skill in the art at the time the invention was made to switch the connection and have the slidable keyways on the first and second fixation structures and have members slidable within the slidable keyways located on the upper and lower support members since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein,* 8 USPQ 167.
>
> "Regarding Claim 14, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of the device of Fig. 13 as part of a spinal stabilization system along with an implantable prosthetic disc. However, Reo discloses a spinal stabilization system comprising an interspinous process spinal stabilization and an implantable prosthetic disc for the purpose of controlling the range of motion of the spine in both flexion and extension [0127] (Fig. 10) as the spine will be supported by both the interspinous process spinal stabilization device and the implantable prosthetic disc. It would have been obvious for one having ordinary skill in the art at the time the invention was made to use the implant (as modified) of the embodiment of Figure 13 of Reo in conjunction with an implantable prosthetic disc as taught by Reo to create a spinal stabilization system in order to support and control the range of motion of the spine in both flexion and extension base on unique patient need."

In the Advisory Action, the Examiner continues the argument that Reo describes a device meeting the "configured to" terms of the claims:

> "Regarding Applicant's argument that the functional limitations of the independent claims is not met by the device of Reo, Examiner respectfully disagrees. Under broadest reasonable interpretation, an element is "configured to" perform a function is not a positive limitation but only requires the ability to so perform. As mentioned in the previous office action mailed 08/27/2012, the device of Reo has the ability to be inserted into the space between adjacent spinous processes, having the keel or fixation structure immediately adjacent to the process (attaching or touching the process) and can be held in place with an additional means such as a band or strap (see page 18 of office action). In addition, the device of Reo is of the size that it can fit between or touch (attach) two cervical spinous processes or two spinous processes of a smaller vertebrate such as a cat with the two fixation structures 358 (or fixation structures of the tabs with the openings as modified by the embodiment of Fig. 31B of Reo) contacting (attaching) the spinous processes. Therefore, the device of Reo is "configured to" or has the ability to perform the functional limitations of independent claims 1, 15 and 30." [emphasis added]

Claim 1 in this application recites a device having "an upper end plate configured to attach to an upper spinous process with a first fixation structure" and having a similarly

described lower end plate. That claim says that the upper end plate attaches to the upper spinous process using ("with") the first fixation member. Reo explains that "anchoring fins 111" are "intended to engage mating grooves that are formed on the surfaces of the upper and lower vertebral bodies to thereby secure the endplate to its respective vertebral body." Para. [0084]. Attaching the Reo device to a spinous process using an "anchoring fin 111" via "mating grooves" cut into the length of the edge of the spinous process – as is described by Reo – is at least a bad idea. As may be seen in Appellant's drawings, the bone projection known as the spinous process is thin and cutting a groove into the edge of that bone projection to accommodate Reo's "anchoring fin 111" would leave but thin shells of bone along the sides of the "fin." Those thin shells would seem to be inadequate to support an inter-spinous-process device even during the ordinary bending and twisting actions that human beings partake of every day.

As a practical matter, even the step of implanting the Reo device as proposed by the Examiner ignores several real-life matters. For instance, when a person bends forward, e.g., to pick up a stray quarter from the sidewalk, adjacent spinous processes in the spine separate from each other in a fanning motion. By that bending, a patient having a Reo device that has been implanted as initially proposed by the Office Action would thereby cause that Reo device to loosen from the grooves in the spinous processes. Another concern: to place the Reo device into the grooves placed longitudinally in the adjacent spinous processes, the supraspinous ligament running down most of the length of the spine (and other ligaments depending upon the site in the back) must be severed. There is but one implantation pathway into the site proposed by the Examiner's conjecture, and access to that site is blocked by a number of ligaments.

The Examiner has also proposed an alternative placement of the Reo device into the inter-spinous-process site not requiring the formation of grooves in the edge of the spinous processes. That placement involves situating the Reo device such that the Reo "anchoring fin 111" is simply adjacent the side of the spinous process. The Examiner also proposes that the Reo anchoring fin "can be held in place with an additional means such as a band or strap."

First, the manner in which these placements are proposed in the final rejection and repeated in the Advisory Action shows that the Examiner considers the Reo device to be "attached" to a spinous process if the Reo "anchoring fin 111" merely "touches" or "contacts"

that spinous bone. This additional explanation by the Examiner introduces at least a couple of errors when comparing Reo to the claims.

As to the proposal that the Reo device simply be introduced into the space between adjacent spinous processes to "touch" or "contact" a spinous process and that "touching" or "contacting" should be treated as "attaching" the Reo endplate to the spinous process is an obvious error. The Examiner has provided no reference, e.g., dictionary or thesaurus, showing "touch" or "contact" to mean "attach" or even to imply such a meaning. To "attach" is a concept unrelated either of "touch" or "contact."

Secondly, the argued approach of simply introducing a Reo device into the space between adjacent spinous processes for some form of alleged "attachment" isn't practical. If a physician were to simply implant the Reo device into the spine so that the Reo "anchoring fins 111" merely touch or are adjacent the spinous process, how can that placement allow the Reo device to act in any way to perform any medical function, much less provide some stabilization to the spine ? If one of ordinary skill in the art would not recognize "touching" or "contacting" as "attaching" the Reo end plates to spinous processes and similarly would not implant the device in the manner proposed because the act of implantation would serve no apparent medical purpose, then the final rejection's argument that "touching" or "contacting" are "attaching" and further that the Reo "anchoring fins 111" are configured to attach to a spinous process are without any merit.

Further, the Examiner's additional proposal of utilizing some "additional means such as a band or strap" to hold the Reo "anchoring fins 111" in a touching or contacting relationship with the spinous process doesn't result in an explanation that meets the terms of claim 1. Again, claim 1 requires a device having "an upper/lower end plate configured to attach to an upper/lower spinous process with a first/second fixation structure..." If the Reo device is inserted such that the "anchoring fins 111" are only adjacent the spinous process but the "additional means" have the function of attaching the "anchoring fins 111" to the pertinent spinous process, then it is the "additional means" that is "configured to" attach the end plate to the spinous process, not the "anchoring fins 111." This example therefore radically redefines the functions of the Reo device and components in such a way that is internally inconsistent with the basic argument that the "anchoring fins 111" themselves are "configured to" attach to the spinous processes.

In sum and relating to this portion of the Office Action and Advisory Action, the final Office Action fails to follow the pertinent case law relating to "configured to" functional limitations. The final rejection uses Action uses ordinary terms -- "touch" and "contact" -- in erroneous and improper ways in an attempt to show equivalence to the claim term "attach." Finally, when the final rejection argues that some "means" holds the Reo "anchoring fins 111" to a spinous process, that argument renders specious the argument that those "anchoring fins 111" themselves are "configured to" attach to a spinous process.

For these reasons, the rejection of claims 1-7, 10-12, and 14 under 35 U.S.C. 103 as unpatentable over Reo et al should be **REVERSED.**

Claims 8 and 9 -- 35 USC 103

Claims 8 and 9 stand rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142). The final rejection states:

> "Reo discloses the device as described above and modified for Claims 1-7. However, Reo does not disclose that the core member is threaded.
>
> "Paes discloses an intervertebral implant (22) in the same field of endeavor comprising a cylindrical core (28) that is tapered and threaded for the purpose of expanding the endplates or portions of the insert that contact the vertebrae to spread apart upon the insertion of the core thereby creating a secure connection by wedging the implant against the vertebrae and expanding the implant to fit correctly between the vertebrae based on individual patient anatomy (col. 5; ln. 50-67; col. 6; ln. 57- col. 7; ln. 3).
>
> "It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the core and the cavity of the endplate to be a threaded connection thereby rendering a threaded core member as taught by Paes in order to allow for implant expansion in situ to accommodate individual patient anatomy thereby firmly securing the implant thus preventing implant migration post-surgery."

Reo does not "disclose[s] the device as described above" for the reasons specified above in this Brief. Claims 8 and 9 depend from claim 1. Paes does not remedy the deficiencies of Reo. Consequently, the combination of Reo and Paes does not render claims 8 and 9 unpatentable under 35 USC 103.

For these reasons, the rejection of claims 8 and 9 under 35 U.S.C. 103 as unpatentable over Reo and Paes should be **REVERSED.**

Claims 1 and 13

Claims 1 and 13 stand rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Slivka et al (US Publication No. 2009/0005873).

> Reo discloses the device as described above. However, Reo does not disclose that the one or more flexible members comprise more than one ribbons interconnecting upper and lower end plates. However, Reo discloses that the fibers that interconnect the upper and lower end plates may be wound multiple times within the same slot, thereby increasing the radial density of the fibers for the purpose of improving wear and stiffness of the implant [0087].
>
> Slivka teaches using straps made of woven fibers (ribbons) to connect two endplates of a spinal implant in the same field of endeavor for the purpose of providing a flexible connection that is strong and tough [0049-0052]. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the more than one fiber wound multiple times within the same slot of Reo with more than one strap or ribbon to connect the upper and lower endplates as taught by Slivka in order to provide a flexible connection member that would provide a stronger, tougher connection while avoiding separation of individual fibers which may cause premature implant failure if the fibers separate and break.

Reo does not "disclose[s] the device as described above" for the reasons specified above in this Brief. Claim 13 depends from claim 1. Slivka does not remedy the deficiencies of Reo. Consequently, the combination of Reo and Slivka does not render claims 1 and 13 unpatentable under 35 USC 103.

For these reasons, the rejection of claims 1 and 13 under 35 U.S.C. 103 as unpatentable over Reo and Slivka should be **REVERSED.**

Claims 15-21, 24-26, 28-33, 35-37, and 39

Claims 15-21, 24-26, 28-33, 35-37, and 39 stand rejected under 35 U.S.C. 103 as

unpatentable over Reo et al. [9]

> "Regarding Claims 15, 28 and 30, Reo discloses a spinal stabilization device (350) which is fully capable of being implanted between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device (350) comprising:
>
> > an upper end plate (352) which is fully capable of attaching to an upper spinous process with a first fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the first fixation structure, the cavity substantially conforming in shape to a compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],
> >
> > a lower end plate (354) which is fully capable of attaching to a lower spinous process with a second fixation structure (358), and further configured with a cavity (inward-facing concave surface) [0132] situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member (356) (Fig. 13) [0131-0132],
>
> "said compressible, elastic, polymeric core member (356) (core materials are disclosed as being identical to the core of embodiment of Fig. 4A-C which state that the core is made from (Hytrel®) [0094-0095] which is compressible, elastic and polymeric) having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length (the core is an elongate cylinder, with all dimensions of radius and diameter shorter then the length as shown in Fig. 13), the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°(as used by Reo, the core axis or central axis along the length of the core is perpendicular (90°) to the spinal axis).
>
> "However, Reo does not disclose the embodiment of Figure 13, as described above, having one or more flexible members of fibers, ribbons, or membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate. However, Reo discloses an alternate embodiment (Fig. 15B) with slots formed in the upper and lower endplates and a fiber (400) extending through said slots in the upper and lower endplates for the purpose of securing the endplates together [0138]. As described by Reo in paragraph [0088], fibers that hold the upper and lower endplates together limit the range of motion thereby associating or relating movement in one endplate with the other end plate. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the endplates of the embodiment of Fig. 13 by using fibers extending through slots in the endplates as taught in the embodiment of Fig. 15B in order to secure the two endplates together

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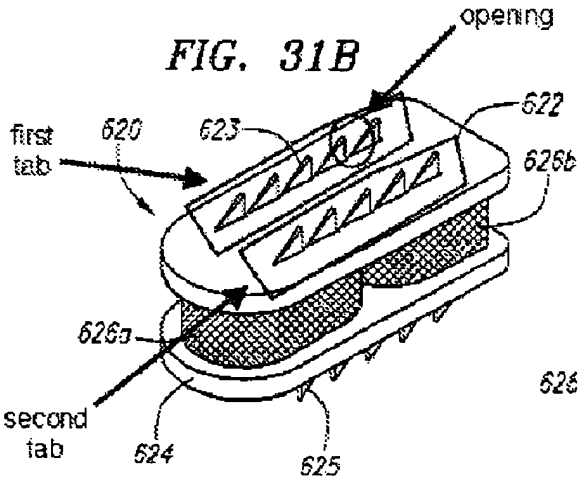
[9] Appellants note that this rejection recites claim 28 as being rejected in the opening line of the rejection, however, the text of this rejection does not provide any details relating to the rejection of that claim 28. None of the other rejections specifically mention claim 28. Due to the content of claim 28, Appellants believe that claim 28 is grouped with claim 15 in this rejection and have responded as if the Office Action specifically listed claim 28 with claim 15 in the rejection.

thereby preventing the implant core migration post-surgery.

"The modification of the embodiment of Fig. 13 of Reo still does not disclose the fixation structures comprising a pair of tabs or each of the tabs containing openings.

"However, Reo discloses multiple embodiments of analogous implants which have a pair of tabs as fixation structures, said tabs containing openings (voids or gaps between ridges) (see modified Fig. 31B below and Fig. 27A-C) for the purpose of engaging the superior and inferior vertebral bodies to substantially fix the implant in place (Fig. 31B, 31C, 37A, 39) [0168, 0180, 0194, 0198]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the single, solid fixation structure of the embodiment of Fig. 13 with two separate fixation structures as shown in Fig. 31B, 37A or 39, each fixation structure being toothed/ridged/having openings as shown in Fig. 31B or Fig. 27A, for the purpose of further securing the upper and lower endplates to superior and inferior vertebral bodies by increasing the surface area of the engaging surface of the fixation structure thereby preventing implant migration post-surgery.

FIG. 31B



"The modification of the fixation structure to include two tabs, each with openings, would render the openings in the tabs as fully capable of fixation to upper and lower spinous processes as the device could be wedged in between adjacent spinous processes and the pair of tabs is fully capable of having a spinous process lay between said tabs as the device could be wedged in between adjacent spinous processes.

"Regarding Claims 16, 17 and 30, the core member (356) has a core cross- section perpendicular to the core axis and wherein the core cross-section has a shape of substantially circular (Fig. 13).

"Regarding Claims 18 and 31, the core member comprises elastomeric material

[0094-0095].

"Regarding Claims 19 and 32, the core member comprises TPE (Hytrel®) [0094-0095].

"Regarding Claims 26 and 37, the one or more flexible members comprise more than one fibers interconnecting upper and lower end plates (Reo discloses that one or more fiber layers (400) may be used) [0138].

"Regarding Claims 20, 21 and 33, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of Figure 13, as modified above for Claims 15 and 30, having a core member that is tapered. However, Reo does disclose that the shape of the core member is generally cylindrical however the shape may be varied to obtain desired physical or performance characteristics [0092].

"Reo discloses an alternative embodiment of Fig. 19C wherein the components that comprise the core (416, 418) are uneven thereby creating a cross section that tapers in height for the purpose of providing different range of motion characteristics over the span of the implant with a greater amount of translational and rotational freedom at the taller, anterior core section and a lesser amount of translational and rotational freedom at the shorter, posterior core section (Fig. 19C) [0150].

"It would have been obvious to one having ordinary skill in the art at the time the invention was modify the shape of the cylindrical core to taper the core of the implant of Reo as described in Claims 15-17 and 30 above in order to create a range of motion characteristics over the span of the implant as taught by the embodiment of Fig. 19C thereby modifying the implant characteristics to fit individual patient needs.

"Regarding Claims 24 and 35, the modification of the device of Reo is disclosed above. The upper end plate (352) comprises the first fixation structure (358) and an upper support member (352), wherein the upper support member (352) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356), and wherein the lower end plate (354) comprises the second fixation structure (358) and a lower support member (354), wherein the lower support member (354) contains the cavity (inward-facing concave surface) substantially conforming in shape to the resilient core member (356) (Fig. 13).

"However, Reo does not disclose the embodiment of Figure 13, as modified above for Claims 15 and 30, having the first fixation structure and the upper support member are removably slidably attachable to each other and the second fixation structure and the lower support member are removably slidably attachable to each other.

"However, Reo discloses an alternative embodiment of the partially cylindrical endplate (Fig. 23A-B) which is described as being generally similar to the endplates of Fig. 13 [0160]. The endplates of Fig. 23A-B have a removably slidably attachable keel or fixation structure (472) for the purpose of minimizing the profile of the

implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the integral connection of the fixation structure and the support members of the endplates of the embodiment of Fig. 13 with a removable, slidable and detachable connection as taught by the embodiment of Fig. 23A-B for the purpose of minimizing the profile of the implant when initially implanted and then sliding the fixation structure into position to fix the endplate in place to form a secure attachment to the vertebrae.

"In regards to Claims 25 and 36, the modification of Reo with the removably slidably attachable connection between the fixation structure and their respective support members as shown in the embodiment of Fig. 23A-B renders the upper and lower support members with slidable keyways (476) and the first and second fixation structures with members (474) slidable within the slidable keyways (Fig. 23A-B).

"However, it would be obvious to one having ordinary skill in the art at the time the invention was made to switch the connection and have the slidable keyways on the first and second fixation structures and have members slidable within the slidable keyways located on the upper and lower support members since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein,* 8 USPQ 167.

"Regarding Claims 29 and 39, the modification of the device of Reo is disclosed above. However, Reo does not disclose the embodiment of the device of Fig. 13 as part of a spinal stabilization system along with an implantable prosthetic disc. However, Reo discloses a spinal stabilization system comprising an interspinous process spinal stabilization and an implantable prosthetic disc for the purpose of controlling the range of motion of the spine in both flexion and extension [0127] (Fig. 10) as the spine will be supported by both the interspinous process spinal stabilization device and the implantable prosthetic disc. It would have been obvious for one having ordinary skill in the art at the time the invention was made to use the implant (as modified) of the embodiment of Figure 13 of Reo in conjunction with an implantable prosthetic disc as taught by Reo to create a spinal stabilization system in order to support and control the range of motion of the spine in both flexion and extension base on unique patient need."

Independent claims 15 and 30 each include "an upper/lower end plate configured to attach to an upper/lower spinous process with a first/second fixation structure comprising a pair of tabs configured such that, when the device is implanted, the upper/lower spinous process lies between the pair of tabs..." The claim 30 tabs have an additional recital relating to "openings" in the tabs.

Reo describes a disc replacement device having end plates that may have "anchoring fins" "intended to fixedly engage the endplate to the vertebral body ..." See Para [0157]. The "anchoring fins 452 are adapted to engage grooves that are cut in the inward facing surface of the vertebral body..." See Para [0157]. Reo does not describe or suggest introducing the disclosed disc replacement implant into any other site in the human body. Reo specifically does not does describe or suggest introducing the disclosed disc replacement implant into a space between adjacent spinous processes. Reo mentions that inter spinous spacers and prosthetic discs are both members of the group of motion preservation devices but in doing so emphasizes that inter spinous spacers and prosthetic discs may also be employed with devices that replace elements of the spine. Specifically Reo states: "One or more motion preservation devices (including prosthetic discs, dynamic stabilization devices, interspinous spacers, and others) may also be combined with replacement devices, such as facet or vertebral body replacements." See Para. [0179]

As with the discussion of claim 1 above, Reo does not provide a basis for holding that the "anchoring fins 452" are "configured to" attach to spinous processes.

As noted just above, Reo does not describe or suggest that the "anchoring fins 452" are suitable for such a use.

Beyond Reo's description, the Examiner indicates in the Office Action that "the device could be wedged in between adjacent spinous processes and the pair of tabs is fully capable of having a spinous process lay between said tabs as the device could be wedged in between adjacent spinous processes."

Although the device shown in Figs. 31B shows a pair of parallel rows of anchoring fins, Reo also describes a specific application for those sawtooth fins, i.e., "to engage grooves that are cut in the inward facing surface of the vertebral body..." The parallel rows of fins shown in Reo's Fig. 31B are portrayed as being spaced apart at a distance significantly wider than a spinous process is thick. Appellants appreciate that patent drawings need not be drawn to scale, but it is the Office's task in rejections involving "configured to" clauses to provide reasoning tending to show that the cited prior art "accomplish(es) the specified objectives..." The only evidence available to the Office to show that Reo's "anchoring fins 452" could accomplish the objective of "attach(ing) to a ... spinous process..." is in the text and figures of Reo. That

evidence shows that the "anchoring fins 452" are far apart. The final rejection does not provide any reasoning why one would narrow that spacing to accomplish a result foreign to Reo's disclosure , i.e., attaching the Reo device to a spinous process.

The conclusion in the final Office Action that the Reo end plates are "fully capable of attaching to an upper spinous process" via the Reo "anchoring fins 452" is therefore but a conclusion without medical or technical support. The final rejection's conclusion is still but a conclusion whether the "anchoring tabs 452" are considered in the Office Action to be claim 15's "a ... fixation structure comprising a pair of tabs..." or claim 30's "a ... fixation structure comprising a pair of tabs ... containing openings ..."

Independent claims 15 and 30 are patentable under 35 USC 103 over the Reo reference for the reasons expressed above.

Each of dependent claims 16-21, 24-26, 28, 29, 31-33, 35-37, and 39 depend from one of claims 15 or 30. Consequently Reo does not render the depending claims unpatentable over Reo.

The rejection of claims 15-21, 24-26, 28-33, 35-37, and 39 under 35 USC 103 as unpatentable over Reo should be **REVERSED.**

Claims 22, 23, and 34

Claims 22, 23, and 34 stand rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Paes et al. (US Patent No. 6,436,142).

> "Reo discloses the device as described above and modified for Claims 1-7. However, Reo does not disclose that the core member is threaded.
>
> "Paes discloses an intervertebral implant (22) in the same field of endeavor comprising a cylindrical core (28) that is tapered and threaded for the purpose of expanding the endplates or portions of the insert that contact the vertebrae to spread apart upon the insertion of the core thereby creating a secure connection by wedging the implant against the vertebrae and expanding the implant to fit correctly between the vertebrae based on individual patient anatomy (col. 5; ln. 50-67; col. 6; ln. 57-col. 7; ln. 3).
>
> "It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the connection between the core and the cavity of the endplate to be a threaded connection thereby rendering a threaded core member as taught by Paes in order to allow for implant expansion in situ to accommodate

> individual patient anatomy thereby firmly securing the implant thus preventing implant migration post-surgery."

Reo does not "disclose[s] the device as described above" for the reasons specified above in this Brief. Claims 22 and 23 depend from claim 15. Claim 34 depends from claim 30. Paes does not remedy the deficiencies of Reo. Consequently, the combination of Reo and Paes does not render claims 22, 23, and 34 unpatentable under 35 USC 103.

For these reasons, the rejection of claims 22, 23, and 34 under 35 U.S.C. 103 as unpatentable over Reo and Paes should be **REVERSED.**

Claims 15, 27, 30, and 38

Claims 15, 27, 30, and 38 stand rejected under 35 U.S.C. 103 as unpatentable over Reo in view of Slivka et al (US Publication No. 2009/0005873).

> "Reo discloses the device as described above. However, Reo does not disclose that the one or more flexible members comprise more than one ribbons interconnecting upper and lower end plates. However, Reo discloses that the fibers that interconnect the upper and lower end plates may be wound multiple times within the same slot, thereby increasing the radial density of the fibers for the purpose of improving wear and stiffness of the implant [0087].
>
> "Slivka teaches using straps made of woven fibers (ribbons) to connect two endplates of a spinal implant in the same field of endeavor for the purpose of providing a flexible connection that is strong and tough [0049-0052]. It would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the more than one fiber wound multiple times within the same slot of Reo with more than one strap or ribbon to connect the upper and lower endplates as taught by Slivka in order to provide a flexible connection member that would provide a stronger, tougher connection while avoiding separation of individual fibers which may cause premature implant failure if the fibers separate and break.

Reo does not "disclose[s] the device as described above" for the reasons specified above in this Brief. Claim 27 depends from claim 15. Claim 38 depends from claim 30. Slivka does not remedy the deficiencies of Reo. Consequently, the combination of Reo and Slivka does not render claims 15, 27, 30, and 38 unpatentable under 35 USC 103.

For these reasons, the rejection of claims 15, 27, 30, and 38 under 35 U.S.C. 103 as unpatentable over Reo and Slivka should be **REVERSED.**

SUMMARY

For the reasons stated above, Appellants request that the final rejection of the claims be **REVERSED**

Respectfully submitted,

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CLAIMS ATTACHMENT

1. An interspinous process spinal stabilization device implantable between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device comprising:

a.) an upper end plate configured to attach to an upper spinous process with a first fixation structure, and further configured with a cavity situated opposite from the first fixation structure, the cavity substantially conforming in shape to a compressible, elastic, polymeric core member,

b.) a lower end plate configured to attach to a lower spinous process with a second fixation structure, and further configured with a cavity situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member,

c.) one or more flexible members selected from the group consisting of fibers, ribbons, and membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate, and

d.) said compressible, elastic, polymeric core member having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°.

2. The device of claim 1 wherein the core member has a core cross-section perpendicular to the core axis and wherein the core cross-section has a shape selected from the group consisting of substantially circular, oval, square, rectangular, and polygonal.

3. The device of claim 1 wherein the core member has a core cross-section perpendicular to the core axis and wherein the core cross-section is substantially circular.

4. The device of claim 1 wherein the core member comprises elastomeric material.

5. The device of claim 1 wherein the core member comprises TPE.

6. The device of claim 2 wherein the core member is tapered.

7. The device of claim 3 wherein the core member is tapered.

8. The device of claim 2 wherein the core member is threaded.

9. The device of claim 7 wherein the core member is threaded.

10. The device of claim 1 wherein the upper end plate comprises the first fixation structure and an upper support member,

wherein the upper support member contains the cavity substantially conforming in shape to the core member, and

wherein the first fixation structure and the upper support member are removably slidably attachable to each other, and

wherein the lower end plate comprises the second fixation structure and a lower support member,

wherein the lower support member contains the cavity substantially conforming in shape to the core member, and

wherein the second fixation structure and the lower support member are removably slidably attachable to each other.

11. The device of claim 10 wherein the first and second fixation structures comprise slidable keyways and wherein the upper and lower support members comprise members slidable within the slidable keyways.

12. The device of claim 1 wherein the one or more flexible members comprise more than one fiber interconnecting upper and lower end plates.

13. The device of claim 1 wherein the one or more flexible members comprise more than one ribbon interconnecting upper and lower end plates.

14. A spinal stabilization system comprising the interspinous process spinal stabilization device of claim 1 and an implantable prosthetic disc.

15. An interspinous process spinal stabilization device implantable between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device comprising:

a.) an upper end plate configured to attach to an upper spinous process with a first

fixation structure comprising a pair of tabs configured such that, when the device is implanted, the upper spinous process lies between the pair of tabs, and further configured with a cavity situated opposite from the first fixation structure, the cavity substantially conforming in shape to a compressible, elastic, polymeric core member,

b.) a lower end plate configured to attach to a lower spinous process with a second fixation structure comprising a pair of tabs configured such that, when the device is implanted, the lower spinous process lies between the pair of tabs, and further configured with a cavity situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member,

c.) one or more flexible members selected from the group consisting of fibers, ribbons, and membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate, and

d.) said compressible, elastic, polymeric core member having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90°.

16. The device of claim 15 wherein the core member has a core cross-section perpendicular to the core axis and wherein the core cross-section has a shape selected from the group consisting of substantially circular, oval, square, rectangular, and polygonal.

17. The device of claim 15 wherein the core member has a core cross-section perpendicular to the core axis and wherein the core cross-section is substantially circular.

18. The device of claim 15 wherein the core member comprises elastomeric material.

19. The device of claim 15 wherein the core member comprises TPE.

20. The device of claim 16 wherein the core member is tapered.

21. The device of claim 17 wherein the core member is tapered.

22. The device of claim 16 wherein the core member is threaded.

23. The device of claim 21 wherein the core member is threaded.

24. The device of claim 15 wherein the upper end plate comprises the first fixation structure and

an upper support member,

wherein the upper support member contains the cavity substantially conforming in shape to the core member, and

wherein the first fixation structure and the upper support member are removably slidably attachable to each other, and

wherein the lower end plate comprises the second fixation structure and a lower support member,

wherein the lower support member contains the cavity substantially conforming in shape to the core member, and

wherein the second fixation structure and the lower support member are removably slidably attachable to each other.

25. The device of claim 24 wherein the first and second fixation structures comprise slidable keyways and wherein the upper and lower support members comprise members slidable within the slidable keyways.

26. The device of claim 15 wherein the one or more flexible members comprise more than one fiber interconnecting upper and lower end plates.

27. The device of claim 15 wherein the one or more flexible members comprise more than one ribbon interconnecting upper and lower end plates.

28. The device of claim 15 wherein the tabs contain openings for fixation to the upper and lower spinous processes.

29. A spinal stabilization system comprising the interspinous process spinal stabilization device of claim 15 and an implantable prosthetic disc.

30. An interspinous process spinal stabilization device implantable between upper and lower spinous processes of adjacent vertebrae in a spine, the spine having a spinal axis that is substantially parallel with the spinal cord in the spine, the device comprising:

a.) an upper end plate configured to attach to an upper spinous process with a first fixation structure comprising a pair of tabs configured such that, when the device is implanted, the upper spinous process lies between the pair of tabs, each of the tabs containing openings for

fixation to the upper spinous process, and further configured with a cavity situated opposite from the first fixation structure, the cavity substantially conforming in shape to a compressible, elastic, polymeric core member,

b.) a lower end plate configured to attach to a lower spinous process with a second fixation structure comprising a pair of tabs configured such that, when the device is implanted, the lower spinous process lies between the pair of tabs containing openings for fixation to the lower spinous process, and further configured with a cavity situated opposite from the second fixation structure, the cavity substantially conforming in shape to the compressible, elastic, polymeric core member,

c.) one or more flexible members selected from the group consisting of fibers, ribbons, and membranes extending between the upper end plate and the lower end plate and associating movement in one end plate with movement in the other end plate, and

d.) said compressible, elastic, polymeric core member having a core axis along a core length, the core member having dimensions perpendicular to the core length that are all shorter than the core length, the core axis forming an included angle with the spinal axis greater than about 35° to and including 90° and further wherein the polymeric core member has a substantially circular core cross-section perpendicular to the core axis.

31. The device of claim 30 wherein the core member comprises elastomeric material.

32. The device of claim 30 wherein the core member comprises TPE.

33. The device of claim 30 wherein the core member is tapered.

34. The device of claim 30 wherein the core member is threaded.

35. The device of claim 30 wherein the upper end plate comprises the first fixation structure and an upper support member,

wherein the upper support member contains the cavity substantially conforming in shape to the core member, and

wherein the first fixation structure and the upper support member are removably slidably attachable to each other, and

wherein the lower end plate comprises the second fixation structure and a lower support

member,

wherein the lower support member contains the cavity substantially conforming in shape to the core member, and

wherein the second fixation structure and the lower support member are removably slidably attachable to each other.

36. The device of claim 35 wherein the first and second fixation structures comprise slidable keyways and wherein the upper and lower support members comprise members slidable within the slideable keyways.

37. The device of claim 35 wherein the one or more flexible members comprise more than one fiber interconnecting upper and lower end plates.

38. The device of claim 30 wherein the one or more flexible members comprise more than one ribbon interconnecting upper and lower end plates.

39. A spinal stabilization system comprising the interspinous process spinal stabilization device of claim 30 and an implantable prosthetic disc.

Evidence Appendix

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROGER E. TIPLEY,
ARTHUR G. VOLKMANN,
BARRY S. BASILE, and
STEVE L. RADABAUGH

Appeal 2009-000300
Application 11/108,338
Technology Center 2800

Decided: September 18, 2009

Before CATHERINE Q. TIMM, MICHAEL P. COLAIANNI, and
JEFFREY B. ROBERTSON, *Administrative Patent Judges.*

COLAIANNI, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 9 through 29, which are all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

We REVERSE.

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Appeal 2009-000300
Application 11/108,338

STATEMENT OF THE CASE

The subject matter on appeal is directed to, *inter alia*, a computer system. Claim 9 is illustrative:

> 9. A computer system comprising:
>
> a first circuit board comprising a first connector;
>
> a second circuit board disposed at an angle relative to the first circuit board and having a second connector couplable to the first connector, wherein the second circuit board is configured to move in a first direction along the first circuit board to generally align the first and second connectors; and
>
> a mechanism configured to engage the second circuit board, such that the second connector moves in a second direction along a curved path between an engaged position coupled to the first connector and a disengaged position offset from the first connector, wherein the first direction is substantially transverse to the second direction along the curved path.

The Examiner rejects claims 9-12 and 17-29 under 35 U.S.C. § 102(b) as anticipated by Grabbe (US 4,370,012, published Jan. 25, 1983) and claims 13-16 under 35 U.S.C. § 103(a) as unpatentable over Grabbe in combination with Tondreault (US 5,769,668, published Jun. 23, 1998), Obermaier (US 6,185,104 Bl, published Feb. 6, 2001), and/or Takayasu (US 5,785,549, published Jul. 28, 1998).

ISSUE

Have Appellants shown reversible error in the Examiner's findings that Grabbe meets the features "the second circuit board is configured to move in a first direction along the first circuit board" recited in claim 9 and a

[Copy - Ex Parte Tipley]

Appeal 2009-000300
Application 11/108,338

mechanism configured to move or bias a circuit board or an electrical connector on a circuit board along a curved path as required by claims 18 and 26? We decide this issue in the affirmative.

RELEVANT FINDINGS OF FACT (FF)

1. Grabbe teaches that its daughter board 8 may be connected to the conductors on the underside 12 of the mother board in a perpendicular direction. (Grabbe, col. 3,11. 5-24 and Fig. 1).

2. Grabbe teaches a daughter board 8 having electrical conductors 4 to contact terminals 18 contained in the insulated housing 20 via cams 120 (Grabbe, col. 2,11. 13-37, and col. 3,11. 8-16, and col. 6,11. 9-27, and Figs. 1, 3, and 5).

PRINCIPLES OF LAW

Under 35 U.S.C. § 102, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

"Inherency...may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981)(quoting *Hansgirg v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939)). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of

[Copy - Ex Parte Tipley]

Appeal 2009-000300
Application 11/108,338

the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1463-64 (BPAI 1990)(citations omitted).

ANALYSES AND CONCLUSIONS

With respect to claim 9, the Examiner finds (and illustrates on page 8 of the Answer) that "Grabbe discloses that the second circuit board (8) can move in a first direction along the first circuit board (14)." On this basis, the Examiner determines that Grabbe teaches that its daughter board is configured to move in a direction along the mother board as required by claim 9. (Ans. 8). We disagree.

While Grabbe broadly teaches that its daughter board (second circuit board) may be connected to the conductors on the underside of the mother board (first circuit board) in a perpendicular direction, the Examiner directs us to no express teaching in Grabbe that its daughter board is configured to move in a direction along the mother board as required by claim 9. In this regard, we note that the Examiner's finding, portrayed in the figure on page 8 of the Answer that allegedly shows the daughter board moving in a direction along the mother board via a directional line added by the Examiner, is based on the mere possibility of such movement and thus is speculative and insufficient to establish the inherency of such movement. The Examiner does not provide any reasoning to support such a determination.

Thus, because the Examiner does not direct us to any persuasive teaching in Grabbe that expressly or inherently discloses the disputed claim feature, we find that Grabbe, as applied by the Examiner, does not anticipate claim 9.

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Appeal 2009-000300
Application 11/108,338

With respect to claims 18 and 26, the Examiner finds that Grabbe teaches a mechanism configured to move or bias a circuit board or an electrical connector on a circuit board along a curved path as required by claims 18 and 26 because "the first connector (4) of Grabbe can rotate around a pivot structure and along a curved path." (Ans. 4, 11, and 14). We disagree.

While Grabbe broadly teaches a daughter board 8 having electrical conductors 4 to contact terminals 18 contained in the insulated housing 20 via cams 120, the Examiner directs us to no express teaching in Grabbe of a mechanism configured to move or bias a circuit board or an electrical connector on a circuit board along a curved path as required by claims 18 and 26. (FF 2). In this regard, we note that the Examiner's finding portrayed in the figure on page 10 of the Answer that allegedly shows the daughter board 8 moving in a curved path via a curved line added by the Examiner is mere speculation. The Examiner does not provide any reasoning to support a finding that Grabbe's circuit board inherently moves in a curved path.

Thus, it follows that Appellants have shown reversible error in the Examiner's findings that Grabbe meets the features "the second circuit board is configured to move in a first direction along the first circuit board" recited in claim 9 and a mechanism configured to move or bias a circuit board or an electrical connector on a circuit board along a curved path as required by claims 18 and 26.

Because the Examiner relies on, *inter alia,* the findings relating to claim 9 for all of the § 103(a) rejections on appeal and does not provide any

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Appeal 2009-000300
Application 11/108,338

findings as to how any of the other cited prior art references would meet the disputed claim feature, we reverse all of the rejections made by the Examiner.

ORDER

In summary, all of the rejections made by the Examiner are reversed.

REVERSED

cam

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Related Proceedings Appendix

NONE