

Application No. 12/984,293  
Amendment dated January 9, 2013  
After Final Office Action of July 9, 2012

Docket No.: 2003127.00122US3

Examiner asserts that in Stritzl, the locking pin 15 is the linkage element, the base 16a of the bearing block is the first surface and the roller 19 is the second surface. The Applicant disagrees that these three elements of Stritzl cooperate to limit motion of the lateral release assembly (i.e., 15a). Stritzl describes operation of the locking pin 15a at 3:51-62. This text of Stritzl, copied below, describes the pivoting of the heel support once the locking pin 15a is pulled out of the locking fork 16d, but does not teach or suggest any limiting of the locking pin 15a to a particular plane as required by claim 1.

“In the case of a torsion fall of the skier the sole plate 8 is twisted about a pivot axle 4 against the force of the locking spring 25 which acts upon the roller 78. At the same time, the roller 19 rolls along the cam 3a. The roller 78 lifts the sole support portion 6 of heel holder 2 until the release point of the sole support portion 6 has been reached. If the sole plate 8 is sufficiently swung out, the locking pin 15a of the axial member 15 is pulled out from the slot between the two prongs of the locking fork 16d, allowing the heel support 2 to be pivoted about its vertical axial member 61 and providing lateral release of the ski boot.” Stritzl, 3:51-62.

For at least these reasons, Stritzl does not teach or suggest each and every limitation of claim 1, so that claim should be allowable. Claims 2-9 depend from allowable claim 1, so those claims should be allowable.

At least in view of the above amendment and comments, applicant believes the pending application is in condition for allowance. If the Examiner disagrees with the arguments presented above, the Applicant requests a telephone Interview to expedite prosecution.

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Applicant encloses the required petition and fee for a Three-Month Extension of Time. Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0219, under Order No. 2003127.00122US3 from which the undersigned is authorized to draw.

Respectfully submitted,

Dated: January 9, 2013

/Ronald R. Demsher/  
Ronald R. Demsher  
Registration No.: 42,478  
Attorney for Applicant(s)

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| Electronic Patent Application Fee Transmittal  |                                |          |        |                      |
|--|--------------------------------|----------|--------|----------------------|
| <b>Application Number:</b>                     | 12984293                       |          |        |                      |
| <b>Filing Date:</b>                            | 04-Jan-2011                    |          |        |                      |
| <b>Title of Invention:</b>                     | ALPINE SKI BINDING HEEL        |          |        |                      |
| <b>First Named Inventor/Applicant Name:</b>    | Richard J. Howell              |          |        |                      |
| <b>Filer:</b>                                  | Ronald R. Demsher./June Watson |          |        |                      |
| <b>Attorney Docket Number:</b>                 | 2003127.00122US3               |          |        |                      |
| Filed as Small Entity                          |                                |          |        |                      |
| <b>Utility under 35 USC 111(a) Filing Fees</b> |                                |          |        |                      |
| Description                                    | Fee Code                       | Quantity | Amount | Sub-Total in USD(\$) |
| <b>Basic Filing:</b>                           |                                |          |        |                      |
| <b>Pages:</b>                                  |                                |          |        |                      |
| <b>Claims:</b>                                 |                                |          |        |                      |
| <b>Miscellaneous-Filing:</b>                   |                                |          |        |                      |
| <b>Petition:</b>                               |                                |          |        |                      |
| <b>Patent-Appeals-and-Interference:</b>        |                                |          |        |                      |
| <b>Post-Allowance-and-Post-Issuance:</b>       |                                |          |        |                      |
| <b>Extension-of-Time:</b>                      |                                |          |        |                      |
| Extension - 3 months with \$0 paid             | 2253                           | 1        | 645    | 645                  |

| Description                       | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-----------------------------------|----------|----------|--------|----------------------|
| <b>Miscellaneous:</b>             |          |          |        |                      |
| Request for continued examination | 2801     | 1        | 465    | 465                  |
| <b>Total in USD (\$)</b>          |          |          |        | <b>1110</b>          |



**Electronic Acknowledgement Receipt**

|   |                                |
|---|--------------------------------|
| <b>EFS ID:</b>                              | 14655050                       |
| <b>Application Number:</b>                  | 12984293                       |
| <b>International Application Number:</b>    |                                |
| <b>Confirmation Number:</b>                 | 2029                           |
| <b>Title of Invention:</b>                  | ALPINE SKI BINDING HEEL        |
| <b>First Named Inventor/Applicant Name:</b> | Richard J. Howell              |
| <b>Customer Number:</b>                     | 23483                          |
| <b>Filer:</b>                               | Ronald R. Demsher./June Watson |
| <b>Filer Authorized By:</b>                 | Ronald R. Demsher.             |
| <b>Attorney Docket Number:</b>              | 2003127.00122US3               |
| <b>Receipt Date:</b>                        | 09-JAN-2013                    |
| <b>Filing Date:</b>                         | 04-JAN-2011                    |
| <b>Time Stamp:</b>                          | 16:23:20                       |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)    |

**Payment information:**

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|---|-------------------|
| Submitted with Payment  | yes               |
| Payment Type  | Credit Card       |
| Payment was successfully received in RAM  | \$1110            |
| RAM confirmation Number   | 3485              |
| Deposit Account   | 080219            |
| Authorized User   | DEMSHER, RONALD R |
| <p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)</p> |                   |

**File Listing:**

| Document Number              | Document Description                                | File Name                      | File Size(Bytes)/<br>Message Digest      | Multi Part /.zip | Pages (if appl.) |
|------------------------------|---|--------------------------------|--|------------------|------------------|
| 1                            | Request for Continued Examination (RCE)             | 2003127_00122US3_RCE.PDF       | 697782                                   | no               | 3                |
|                              |   |                                | a35e51e394afddb36872685fee68b36f4ea13a7d |                  |                  |
| Warnings:                    |   |                                |  |                  |                  |
| Information:                 |   |                                |  |                  |                  |
| 2                            | Extension of Time                                   | 2003127_00122US3_EOT.PDF       | 78002                                    | no               | 1                |
|                              |   |                                | 7b15ebbet285fc1ab225a022e869e19ec9f33543 |                  |                  |
| Warnings:                    |   |                                |  |                  |                  |
| Information:                 |   |                                |  |                  |                  |
| 3                            |   | 2003127_00122US3_Amendment.PDF | 114228                                   | yes              | 7                |
|                              |   |                                | 4e71673b97fbf43837b5a04cdc115bb3bc80a2e4 |                  |                  |
|                              | Multipart Description/PDF files in .zip description |                                |  |                  |                  |
|                              | Document Description                                |                                | Start                                    | End              |                  |
|                              | Amendment Submitted/Entered with Filing of CPA/RCE  |                                | 1  | 1                |                  |
|                              | Claims  |                                | 2  | 4                |                  |
|                              | Applicant Arguments/Remarks Made in an Amendment    |                                | 5  | 7                |                  |
| Warnings:                    |   |                                |  |                  |                  |
| Information:                 |   |                                |  |                  |                  |
| 4                            | Fee Worksheet (SB06)                                | fee-info.pdf                   | 32014                                    | no               | 2                |
|                              |   |                                | b72f1a91372c3674945b89ad46b36f01c7a655a6 |                  |                  |
| Warnings:                    |   |                                |  |                  |                  |
| Information:                 |   |                                |  |                  |                  |
| Total Files Size (in bytes): |   |                                | 922026                                   |                  |                  |

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875  |   |                                  |            |                                    | Application or Docket Number<br><b>12/984,293</b> |   | Filing Date<br><b>01/04/2011</b> |                         | <input type="checkbox"/> To be Mailed |                     |
|--|---|----------------------------------|------------|------------------------------------|---|---|----------------------------------|-------------------------|---------------------------------------|---------------------|
| <b>APPLICATION AS FILED – PART I</b>   |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
| (Column 1)   |   |                                  | (Column 2) |                                    |   | SMALL ENTITY <input checked="" type="checkbox"/> OR |                                  | OTHER THAN SMALL ENTITY |                                       |                     |
| FOR  | NUMBER FILED  | NUMBER EXTRA                     | RATE (\$)  | FEE (\$)                           | OR  | RATE (\$)   | FEE (\$)                         |                         |                                       |                     |
| <input type="checkbox"/> BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))  | N/A   | N/A                              | N/A        |                                    |   | N/A   |                                  |                         |                                       |                     |
| <input type="checkbox"/> SEARCH FEE<br>(37 CFR 1.16(k), (i), or (m))   | N/A   | N/A                              | N/A        |                                    |   | N/A   |                                  |                         |                                       |                     |
| <input type="checkbox"/> EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))  | N/A   | N/A                              | N/A        |                                    |   | N/A   |                                  |                         |                                       |                     |
| TOTAL CLAIMS<br>(37 CFR 1.16(j))   | minus 20 =  | *                                | X \$ =     |                                    | OR  | X \$ =  |                                  |                         |                                       |                     |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))   | minus 3 =   | *                                | X \$ =     |                                    |   | X \$ =  |                                  |                         |                                       |                     |
| <input type="checkbox"/> APPLICATION SIZE FEE<br>(37 CFR 1.16(s))  | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
| <input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))   |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
| * If the difference in column 1 is less than zero, enter "0" in column 2.  |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
| <b>APPLICATION AS AMENDED – PART II</b>  |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
| (Column 1)   |   |                                  | (Column 2) |                                    |   | SMALL ENTITY OR                                     |                                  | OTHER THAN SMALL ENTITY |                                       |                     |
| AMENDMENT  | DATE  | CLAIMS REMAINING AFTER AMENDMENT | MINUS      | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                                     | RATE (\$)   | ADDITIONAL FEE (\$)              | OR                      | RATE (\$)                             | ADDITIONAL FEE (\$) |
|  | <b>01/09/2013</b>   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
|  | Total (37 CFR 1.16(i))  | * 14                             | Minus      | ** 20                              | = 0   | X \$31 =  | 0                                | OR                      | X \$ =                                |                     |
|  | Independent (37 CFR 1.16(h))  | * 1                              | Minus      | *** 3                              | = 0   | X \$125 =   | 0                                | OR                      | X \$ =                                |                     |
| <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))   |   |                                  |            |                                    |   |   |                                  | OR                      |                                       |                     |
| <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))   |   |                                  |            |                                    |   |   |                                  | OR                      |                                       |                     |
|  |   |                                  |            |                                    |   | TOTAL ADD'L FEE                                     | 0                                | OR                      | TOTAL ADD'L FEE                       |                     |
| (Column 1)   |   |                                  | (Column 2) |                                    |   | (Column 3)  |                                  |                         |                                       |                     |
| AMENDMENT  | DATE  | CLAIMS REMAINING AFTER AMENDMENT | MINUS      | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                                     | RATE (\$)   | ADDITIONAL FEE (\$)              | OR                      | RATE (\$)                             | ADDITIONAL FEE (\$) |
|  |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |
|  | Total (37 CFR 1.16(i))  | *                                | Minus      | **                                 | =   | X \$ =  |                                  | OR                      | X \$ =                                |                     |
|  | Independent (37 CFR 1.16(h))  | *                                | Minus      | ***                                | =   | X \$ =  |                                  | OR                      | X \$ =                                |                     |
| <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))   |   |                                  |            |                                    |   |   |                                  | OR                      |                                       |                     |
| <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))   |   |                                  |            |                                    |   |   |                                  | OR                      |                                       |                     |
|  |   |                                  |            |                                    |   | TOTAL ADD'L FEE                                     |                                  | OR                      | TOTAL ADD'L FEE                       |                     |
| <p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p> |   |                                  |            |                                    |   |   |                                  |                         |                                       |                     |

Legal Instrument Examiner:  
/ERIC DANTZLER/

This collection of information is required by 37 CFR 1.16. 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 1.14. This collection is estimated to take 12 minutes 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.



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|                   |             |                      |                     |                  |
|-------------------|-------------|----------------------|---------------------|------------------|
| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 12/984,293        | 01/04/2011  | Richard J. Howell    | 2003127.00122US3    | 2029             |
| 23483             | 7590        | 07/09/2012           | EXAMINER            |                  |
| WILMERHALE/BOSTON |             |                      | AVERY, BRIDGET D.   |                  |
| 60 STATE STREET   |             |                      | ART UNIT            | PAPER NUMBER     |
| BOSTON, MA 02109  |             |                      | 3618                |                  |
|                   |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|                   |             |                      | 07/09/2012          | ELECTRONIC       |

**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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

teresa.carvalho@wilmerhale.com  
whipusptopairs@wilmerhale.com



|                              |                        |      |                     |  |  |
|------------------------------|------------------------|------|---------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |      | <b>Applicant(s)</b> |  |  |
|                              | 12/984,293             |      | HOWELL, RICHARD J.  |  |  |
|                              | <b>Examiner</b>        |      | <b>Art Unit</b>     |  |  |
| BRIDGET AVERY                |                        | 3618 |                     |  |  |

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

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 20 December 2011.

2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

5) ☒ Claim(s) 1-14 is/are pending in the application.

5a) Of the above claim(s) 10-14 is/are withdrawn from consideration.

6) ☐ Claim(s) \_\_\_\_ is/are allowed.

7) ☒ Claim(s) 1-9 is/are rejected.

8) ☐ Claim(s) \_\_\_\_ is/are objected to.

9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application<br>6) <input type="checkbox"/> Other: _____. |
|--|--|

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 10-14 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the structure required to restrict side-to-side movement of the tongue 60a to block lateral heel release in one lateral direction is different from the structure defined in the claim that applicant filed on January 4, 2011 and received an Office Action on June 28, 2011. Accordingly, the search and examination for the invention defined in claims 10-14 would be burdensome.

2. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 10-14 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Applicant's claim recitation "wherein the lateral release assembly is maintained in a predetermined neutral position in the absence the force vectors applied to the vector



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decoupling assembly" is unclear and confusing. For the purposes of advance prosecution of the application, the claim will be treated as "wherein the lateral release assembly is maintained in a predetermined neutral position in the absence of force vectors applied to the vector decoupling assembly".

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Stritzl et al. (US Patent 4,858,946).

Stritzl et al. teaches a vector decoupling assembly for separating and isolating two or more force vectors (the first being a force from a forward fall and the second being the force from a torsion fall) applied to a safety binding (2) securing a heel portion of a ski boot to a ski (1), including: a lower heel assembly (8) attached to the ski (1); an upper heel assembly coupled to the lower heel assembly and having a lateral release assembly (locking pin 15a) for applying lateral securing pressure (via spring 21 and tread spur 7) to the ski boot; a linkage element (15) fixedly attached to the lateral release assembly (15a); wherein the linkage assembly (15a), a first surface defined by base (16a) and a second surface defined by roller (19) cooperate to limit motion of the lateral release assembly (15a) to within a predetermined region within a plane defined by the longitudinal and horizontal axes of the ski (1). It is noted that the roller (19) rolls along a horizontal cam (3a) where the lateral release assembly moves horizontally within a plane with no vertical movement as shown in Figures 1 and 2. Regarding **claim 2**, the first surface (16a) and the second surface (19) are substantially parallel to

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one another as shown in Figure 1. Regarding **claim 3**, the first surface (16a) and the second surface (19) cooperate to limit motion of the linkage element (15) to the longitudinal and horizontal plane of the ski (1). Regarding **claim 4**, the lateral release assembly (15a) is maintained in a predetermined neutral position (defined by the center of cam 3a) in the absence of force vectors applied to the vector decoupling assembly. Regarding **claim 5**, the lateral release assembly moves in both a first direction (left) and a second direction (right) with respect to the neutral position as clearly shown in Figure 2. Regarding **claim 6**, the motion of the lateral release assembly is at least partially rotational based on the movement of the second surface (roller 19) and the shape of the horizontal cam (3a). Regarding **claim 7**, a force required to move the lateral release assembly increases as the lateral release assembly moves away from the neutral position because of the shape of the horizontal cam (3a) and because of the pressure spring (21). Regarding **claims 8 and 9**, a relationship between a position of the lateral release assembly with respect to the neutral position and the force required to move the lateral release assembly is linear and non-linear in as much as applicant's because the assembly of Stritzl et al. is laterally released during a torsion fall which involves twisting which is linear and non-linear.

### ***Response to Arguments***

6. Applicant's arguments with respect to claim 1 has been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

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***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Freisinger et al. shows a safety ski binding.

Jungkind shows a safety ski binding having a pivotable sole plate.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIDGET AVERY whose telephone number is (571)272-6691. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00PM.



Application/Control Number: 12/984,293  
Art Unit: 3618

Page 6

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Allen Shriver, can be reached on 571-272-6698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. ALLEN SHRIVER II/  
Supervisory Patent Examiner, Art Unit 3618

/Bridget Avery/

Examiner, Art Unit 3618

|                                   |                                       |  |             |
|-----------------------------------|---------------------------------------|--|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>12/984,293 | Applicant(s)/Patent Under<br>Reexamination<br>HOWELL, RICHARD J. |             |
|                                   | Examiner<br>BRIDGET AVERY             | Art Unit<br>3618   | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name              | Classification |
|---|---|--|-----------------|-------------------|----------------|
| * | A | US-4,732,405 A                                   | 03-1988         | Freisinger et al. | 280/634        |
| * | B | US-4,858,946 A                                   | 08-1989         | Stritzl et al.    | 280/618        |
| * | C | US-5,199,736 A                                   | 04-1993         | Jungkind, Roland  | 280/618        |
|   | D | US-  |                 |                   |                |
|   | E | US-  |                 |                   |                |
|   | F | US-  |                 |                   |                |
|   | G | US-  |                 |                   |                |
|   | H | US-  |                 |                   |                |
|   | I | US-  |                 |                   |                |
|   | J | US-  |                 |                   |                |
|   | K | US-  |                 |                   |                |
|   | L | US-  |                 |                   |                |
|   | M | US-  |                 |                   |                |


**FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--|-----------------|---------|------|----------------|
|   | N |  |                 |         |      |                |
|   | O |  |                 |         |      |                |
|   | P |  |                 |         |      |                |
|   | Q |  |                 |         |      |                |
|   | R |  |                 |         |      |                |
|   | S |  |                 |         |      |                |
|   | T |  |                 |         |      |                |

**NON-PATENT DOCUMENTS**


| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
|   | U |   |
|   | V |   |
|   | W |   |
|   | X |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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| <b><i>Index of Claims</i></b><br> | <b>Application/Control No.</b><br>12984293 | <b>Applicant(s)/Patent Under Reexamination</b><br>HOWELL, RICHARD J. |
|  | <b>Examiner</b><br>BRIDGET AVERY           | <b>Art Unit</b><br>3618  |

|   |                 |   |                   |   |                     |   |                 |
|---|-----------------|---|-------------------|---|---------------------|---|-----------------|
| ✓ | <b>Rejected</b> | - | <b>Cancelled</b>  | N | <b>Non-Elected</b>  | A | <b>Appeal</b>   |
| = | <b>Allowed</b>  | ÷ | <b>Restricted</b> | I | <b>Interference</b> | O | <b>Objected</b> |

| <input type="checkbox"/> Claims renumbered in the same order as presented by applicant |          |            |            | <input type="checkbox"/> CPA |  |  |  | <input type="checkbox"/> T.D. |  |  |  | <input type="checkbox"/> R.1.47 |  |  |  |
|--|----------|------------|------------|------------------------------|--|--|--|-------------------------------|--|--|--|---------------------------------|--|--|--|
| CLAIM  |          | DATE       |            |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
| Final  | Original | 06/07/2011 | 07/02/2012 |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 1        | ✓          | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 2        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 3        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 4        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 5        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 6        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 7        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 8        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 9        |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 10       |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 11       |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 12       |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 13       |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |
|  | 14       |            | ✓          |                              |  |  |  |                               |  |  |  |                                 |  |  |  |

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| <b><i>Search Notes</i></b><br><br> | <b>Application/Control No.</b><br><br>12984293 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>HOWELL, RICHARD J. |
|   | <b>Examiner</b><br><br>BRIDGET AVERY           | <b>Art Unit</b><br><br>3618  |

| SEARCHED |  |         |          |
|----------|--|---------|----------|
| Class    | Subclass                                   | Date    | Examiner |
| 280      | 618, 624, 625, 626, 627, 628, 62, 632, 634 | 6/6/11  | BA       |
| search   | updated                                    | 6/25/12 | BA       |

| SEARCH NOTES |      |          |
|--------------|------|----------|
| Search Notes | Date | Examiner |
|              |      |          |

| INTERFERENCE SEARCH |          |      |          |
|---------------------|----------|------|----------|
| Class               | Subclass | Date | Examiner |
|                     |          |      |          |

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**EAST Search History****EAST Search History (Prior Art)**

| Ref # | Hits | Search Query  | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|------|---|-------|------------------|---------|------------------|
| S1    | 796  | "280"/\$.ccls. and (ski and (heel\$ same release))  | USPAT | OR               | OFF     | 2006/10/12 16:51 |
| S2    | 687  | S1 and (lateral\$ or horizontal\$ or vector\$)  | USPAT | OR               | OFF     | 2006/10/12 16:50 |
| S3    | 1223 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS. | USPAT | OR               | OFF     | 2006/10/12 16:51 |
| S4    | 455  | S3 and (ski and (heel\$ same release))  | USPAT | OR               | OFF     | 2006/10/16 10:56 |
| S5    | 1223 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS. | USPAT | OR               | OFF     | 2006/10/16 10:56 |
| S6    | 455  | S5 and (ski and (heel\$ same release))  | USPAT | OR               | OFF     | 2006/10/16 10:56 |
| S7    | 395  | S6 and (lateral or horizontal)  | USPAT | OR               | OFF     | 2006/10/16 10:57 |
| S8    | 334  | S6 and lateral  | USPAT | OR               | OFF     | 2006/10/16 10:57 |
| S9    | 177  | S6 and (lateral with release)   | USPAT | OR               | OFF     | 2006/10/16 10:58 |
| S10   | 129  | S6 and (lateral near4 release)  | USPAT | OR               | OFF     | 2006/10/16 10:58 |
| S11   | 1    | ("4070034").PN.   | USPAT | OR               | OFF     | 2006/12/19 04:08 |
| S12   | 2    | ((("4070034") or ("3734522")).PN.   | USPAT | OR               | OFF     | 2006/12/19 04:09 |
| S13   | 0    | ("skiandheelandlateral").PN.  | USPAT | OR               | OFF     | 2007/03/26 17:50 |
| S14   | 2059 | ski and heel and lateral  | USPAT | OR               | OFF     | 2007/03/26 17:50 |
| S15   | 1242 | "280"/\$.ccls. and (ski and heel and lateral)   | USPAT | OR               | OFF     | 2007/03/26 17:51 |
| S16   | 1282 | "280"/\$.ccls. and (ski and heel and (lateral adj "2" release))                                 | USPAT | OR               | OFF     | 2007/03/26 17:51 |
| S17   | 166  | (280/629).CCLS.   | USPAT | OR               | OFF     | 2007/07/09 14:21 |
| S18   | 115  | S17 and release   | USPAT | OR               | OFF     | 2007/07/09 14:22 |
| S19   | 15   | S17 and release with horizontal   | USPAT | OR               | OFF     | 2007/07/09 14:22 |
| S20   | 15   | S17 and (release with horizontal)   | USPAT | OR               | OFF     | 2007/07/09 14:25 |
| S21   | 6    | S20 and heel  | USPAT | OR               | OFF     | 2007/07/09 14:25 |
| S22   | 1293 | ((280/632) or (280/634) or (280/618) or   | USPAT | OR               | OFF     | 2010/09/26       |



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|     |      | (280/624) or (280/625) or (280/626) or (280/627)).OCLS.  |                        |    |     | 21:50            |
| S23 | 476  | S22 and (ski and (heel\$ same release))  | USPAT                  | OR | OFF | 2010/09/26 21:50 |
| S24 | 9    | ("20020101063"   "2676813"   "3734522"   "3773344"   "3825273"   "3992032"   "4052086"   "4070034").PN. OR ("7318598").URPN.   | US-PGPUB; USPAT; USOCR | OR | OFF | 2010/09/27 16:16 |
| S25 | 31   | US-2676813-\$.DID. OR US-3606370-\$.DID. OR US-3610650-\$.DID. OR US-3727932-\$.DID. OR US-3865388-\$.DID. OR US-3897076-\$.DID. OR US-3902728-\$.DID. OR US-3905613-\$.DID. OR US-3909029-\$.DID. OR US-3936062-\$.DID. OR US-4065151-\$.DID. OR US-4264088-\$.DID. OR US-4268064-\$.DID. OR US-4286801-\$.DID. OR US-4288094-\$.DID. OR US-4288095-\$.DID. OR US-4294461-\$.DID. OR US-4307898-\$.DID. OR US-4429896-\$.DID. OR US-7225104-\$.DID. OR US-4553772-\$.DID. OR US-4753452-\$.DID. OR US-20020101063-\$.DID. OR US-4070034-\$.DID. OR US-4052086-\$.DID. OR US-3992032-\$.DID. OR US-3825273-\$.DID. OR US-3773344-\$.DID. OR US-3734522-\$.DID.   | US-PGPUB; USPAT; USOCR | OR | OFF | 2010/09/27 17:11 |
| S26 | 158  | (280/628).OCLS.  | USPAT; USOCR           | OR | OFF | 2010/09/27 17:29 |
| S27 | 0    | ("6nots23").PN.  | USPAT; USOCR           | OR | OFF | 2010/09/27 17:30 |
| S28 | 1293 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).OCLS.  | USPAT                  | OR | OFF | 2010/09/27 17:30 |
| S29 | 476  | S28 and (ski and (heel\$ same release))  | USPAT                  | OR | OFF | 2010/09/27 17:30 |
| S30 | 104  | S26 not S29  | USPAT                  | OR | OFF | 2010/09/27 17:30 |
| S31 | 158  | (280/628).OCLS.  | USPAT; USOCR           | OR | OFF | 2010/09/27 17:34 |
| S35 | 49   | US-2676813-\$.DID. OR US-20020101063-\$.DID. OR US-3578350-\$.DID. OR US-3606370-\$.DID. OR US-3610650-\$.DID. OR US-3620545-\$.DID. OR US-3695625-\$.DID. OR US-3727932-\$.DID. OR US-3734520-\$.DID. OR US-3734522-\$.DID. OR US-3773344-\$.DID. OR US-3825273-\$.DID. OR US-3865388-\$.DID. OR US-3897076-\$.DID. OR US-3902728-\$.DID. OR US-3905613-\$.DID. OR US-3909029-\$.DID. OR US-3936062-\$.DID. OR US-3992032-\$.DID. OR US-7915705-\$.DID. OR US-4052086-\$.DID. OR US-4065151-\$.DID. OR US-4070034-\$.DID. OR US-4111453-\$.DID. OR US-4183549-\$.DID. OR US-4264088-\$.DID. OR US-4266806-\$.DID. OR US-4268064-\$.DID. OR US-4286801-\$.DID. OR US-4288094-\$.DID. OR US-4288095-\$.DID. OR US-4294461-\$.DID. OR US-4307898-\$.DID. OR US-4429896-\$.DID. OR US-4444413-\$.DID. | US-PGPUB; USPAT; USOCR | OR | ON  | 2011/06/19 13:37 |



|     |      |  |  |    |     |                     |
|-----|------|--|--|----|-----|---------------------|
|     |      | OR US-4449731-\$.DID. OR US-4451059-\$.DID. OR US-4466634-\$.DID. OR US-4475743-\$.DID. OR US-4489956-\$.DID. OR US-4553772-\$.DID. OR US-4602804-\$.DID. OR US-4625991-\$.DID. OR US-4753452-\$.DID. OR US-4758017-\$.DID. OR US-5160159-\$.DID. OR US-7887084-\$.DID.  |  |    |     |                     |
| S36 | 47   | ("20020101063"   "2676813"   "3578350"   "3606370"   "3610650"   "3620545"   "3695625"   "3727932"   "3734520"   "3734522"   "3773344"   "3825273"   "3865388"   "3897076"   "3902728"   "3905613"   "3909029"   "3936062"   "3992032"   "4052086"   "4065151"   "4070034"   "4111453"   "4183549"   "4264088"   "4266806"   "4268064"   "4286801"   "4288094"   "4288095"   "4294461"   "4307898"   "4429896"   "4444413"   "4449731"   "4451059"   "4466634"   "4475743"   "4489956"   "4553772"   "4602804"   "4625991"   "4753452"   "4758017"   "5160159").PN. OR ("7887084").URPN.   | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2011/06/19<br>13:48 |
| S37 | 160  | ("3129951"   "3317217"   "3325178"   "3326567"   "3351354"   "3366394"   "3408087"   "3432180"   "3473817"   "3497230"   "3527468"   "3529845"   "3529846"   "3550996"   "3554571"   "3554572"   "3578350"   "3580597"   "3594015"   "3604720"   "3606369"   "3608918"   "3610650"   "3620544"   "3620545"   "3625532"   "3675937"   "3727935"   "3733082"   "3734520"   "3762735"   "3778073"   "3820804"   "3830510"   "3836163"   "3876219"   "3909023"   "3933363"   "3937480"   "3944237"   "3950001"   "3989273"   "3989274"   "4022493"   "4033603"   "4060257"   "4103930"   "4111453"   "4165883"   "4183549"   "4188045"   "4190264"   "4214773"   "4307895"   "4421341"   "4444413"   "4489956"   "4533155"   "4607859"   "4624473"   "4625991"   "4681338"   "4773669"   "5024457"   "RE26670").PN. OR ("3578350"   "3620545"   "3695625"   "3734520"   "4111453"   "4183549"   "4266806"   "4444413"   "4449731"   "4451059"   "4466634"   "4475743"   "4489956"   "4602804"   "4625991"   "4758017"   "5160159").URPN. | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2011/06/19<br>14:01 |
| S38 | 1    | "12984293"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/06/12<br>13:08 |
| S39 | 1322 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS.  | USPAT  | OR | OFF | 2012/06/12<br>14:16 |

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| S40 | 367 | S39 and ((horizontal or lateral) with release)          | USPAT  | OR | OFF | 2012/06/12 14:16 |
| S41 | 245 | S39 and ((horizontal or lateral) adj6 release)          | USPAT  | OR | OFF | 2012/06/12 14:16 |
| S42 | 189 | S39 and heel and ((horizontal or lateral) adj6 release) | USPAT  | OR | OFF | 2012/06/12 14:17 |
| S43 | 2   | "20030107352"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/06/14 11:20 |

7/ 2/ 2012 5:13:55 PM

C:\Users\bavery\Documents\EAST\Workspaces\12984293.wsp

Docket No.: 2003127.00122US3  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                  |                         |                   |             |
|------------------|-------------------------|-------------------|-------------|
| Applicant:       | Richard J. HOWELL       | Confirmation No.: | 2029        |
| Application No.: | 12/984,293              | Art Unit:         | 3618        |
| Filed:           | January 4, 2011         | Examiner:         | B. D. Avery |
| Title:           | ALPINE SKI BINDING HEEL |                   |             |

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION UNDER 37 C.F.R. 1.111**

Dear Sir:

**INTRODUCTORY COMMENTS**

In response to the Office Action dated June 28, 2011, please amend the above-identified U.S. patent application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.



Application No. 12/984,293  
Amendment dated December 20, 2011  
Reply to Office Action of June 28, 2011

Docket No.: 2003127.00122US3

**AMENDMENTS TO THE CLAIMS**

1. (Currently amended) A vector decoupling assembly for separating and isolating two or more force vectors applied to a safety binding securing a heel portion of a ski boot to a ski, comprising:
  - a lower heel assembly attached to the ski;
  - an upper heel assembly coupled to the lower heel assembly and having a lateral release assembly for applying lateral securing pressure to the ski boot;
  - a linkage element fixedly attached to the lateral release assembly;wherein the linkage element, ~~the~~a first surface and ~~the~~a second surface cooperate to limit motion of the lateral release assembly to within a predetermined region within a plane defined by the longitudinal and horizontal axes of the ski.
2. (New) The vector decoupling assembly of claim 1, wherein the first surface and the second surface are substantially parallel to one another.
3. (New) The vector decoupling assembly of claim 1, wherein the first surface and the second surface cooperate to limit motion of the linkage element to the longitudinal and horizontal plane of the ski.
4. (New) The vector decoupling assembly of claim 1, wherein the lateral release assembly is maintained in a predetermined neutral position in the absence the force vectors applied to the vector decoupling assembly.
5. (New) The vector decoupling assembly of claim 4, wherein the lateral release assembly moves in both a first direction and a second direction with respect to the neutral position.
6. (New) The vector decoupling assembly of claim 5, wherein the motion of the lateral release assembly is at least partially rotational.

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Amendment dated December 20, 2011  
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7. (New) The vector decoupling assembly of claim 5, wherein a force required to move the lateral release assembly increases as the lateral release assembly moves away from the neutral position.
8. (New) The vector decoupling assembly of claim 7, wherein a relationship between a position of the lateral release assembly with respect to the neutral position and the force required to move the lateral release assembly is linear.
9. (New) The vector decoupling assembly of claim 7, wherein a relationship between a position of the lateral release assembly with respect to the neutral position and the force required to move the lateral release assembly is non-linear.
10. (New) The vector decoupling assembly of claim 4, wherein the lateral release assembly moves only in a first direction with respect to the neutral position.
11. (New) The vector decoupling assembly of claim 10, wherein the motion of the lateral release assembly is at least partially rotational.
12. (New) The vector decoupling assembly of claim 10, wherein a force required to move the lateral release assembly increases as the lateral release assembly moves away from the neutral position.
13. (New) The vector decoupling assembly of claim 12, wherein a relationship between a position of the lateral release assembly with respect to the neutral position and the force required to move the lateral release assembly is linear.
14. (New) The vector decoupling assembly of claim 12, wherein a relationship between a position of the lateral release assembly with respect to the neutral position and the force required to



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move the lateral release assembly is non-linear.

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**REMARKS**

This paper is responsive to the non-final Office Action dated June 28, 2011. Claim 1 has been amended. Claims 2 through 12 have been added. All amendments are supported by the specification as filed. No new matter has been added.

At paragraph 1 of the Office Action, the Examiner rejects claim 1 under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner identifies two instances of insufficient antecedent basis. Accordingly, Applicant amends claim 1 to recite “a first surface” in place of “the first surface.” Similarly, Applicant amends claim 1 to recite “a second surface” in place of “the second surface. With this amendment, the rejection is no longer proper and should be withdrawn.

At paragraph 4 of the Office Action, the Examiner rejects claim 1 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,165,883 (Weigl). The Applicant traverses this rejection for at least the following reasons.

Claim 1 requires that “the linkage element, the first surface and the second surface cooperate to limit motion of the lateral release assembly to within a predetermined region within a plane defined by the longitudinal and horizontal axes of the ski”. The Applicant submits that Weigl does not limit motion of a lateral release assembly to any plane, let alone to a plane defined by the longitudinal and horizontal axes of the ski.

At paragraph 4 of the Office Action (top of page 3), the Examiner identifies the claim limitation of “lateral release assembly” as “housing 17, lever 27, spring 19 and locking element 9” from Weigl (e.g., from Figure 4 of Weigl). Examiner further identifies the claim limitation of “lower heel assembly” as “support plate 4” and “holding part 7”.

Weigl teaches that the assembly of components identified as the lateral release assembly (9, 17, 19 and 27) is coupled to the lower heel assembly (4 and 7) through the connection of the locking

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Amendment dated December 20, 2011  
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element 9 to the holding part 7 (see Figure 4). Specifically, Weigl describes the following at column 4, lines 20-24:

“The holding part 7 has an approximately Z-shaped constructed member extending upwardly from the support plate 4. The Z-shaped member has a recess 8 therein for receiving the stem of a mushroom-shaped locking element 9. The development of the holding part 7 is furthermore recognizable by also looking at the embodiment according to FIGS. 9 and 10.”

A careful evaluation of the locking element 9 as depicted in Weigl Figure 4 and Figures 6 through 10 clearly shows that the shape of locking element 9 where it contacts the holding part 7 allows for not only up and down movement but also side to side movement and any combination thereof. In other words, the locking element 9 allows movement within three spatial dimensions of the lateral release assembly (9, 17, 19 and 27) and clearly does not limit the lateral release assembly to a plane defined by the longitudinal and horizontal axes of the ski (i.e., the ski's longitudinal and horizontal plane). Thus, Weigl does not teach or suggest all of the elements of claim 1, so this rejection is improper and should be withdrawn.

Further, the Examiner identifies Weigl reference numbers 22 (bearing block), 27a (enlarged hole or guideway) and 8 (recess in holding part 7) as the linkage element, the first surface and the second surface, respectively, of claim 1. However, it is unclear how the bearing block 22, the enlarged hole or guideway 27a and the recess 8 cooperate to limit motion of the lateral release assembly to within a plane. As described above, motion of the lateral release assembly is not limited to within a plane for the Weigl device.

For at least these reasons, claim 1 should be allowable. Applicant further adds claims 1 through 12, which all depend from base claim 1, either directly or through intervening claims. All new claims are supported throughout the specification as-filed. For example, claims 2, 3 – see FIG. 2; claim 4 – see FIGs. 3 and 4; claims 5-12 – see paragraphs [0048] through [0059].

Application No. 12/984,293  
Amendment dated December 20, 2011  
Reply to Office Action of June 28, 2011

Docket No.: 2003127.00122US3

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant encloses the required petition and fee for a Three-Month Extension of Time. Applicant believes that no other fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0219, under Order No. 2003127.00122US3 from which the undersigned is authorized to draw.

Respectfully submitted,

Dated: December 20, 2011

/Ronald R. Demsher/  
Ronald R. Demsher  
Registration No.: 42,478  
Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP  
60 State Street  
Boston, Massachusetts 02109  
(617) 526-6000 (telephone)  
(617) 526-5000 (facsimile)



PTO/SB/22 (07-09)  
 Approved for use through 07/31/2012. OMB 0651-0031  
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| <b>PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)</b><br><b>FY 2009</b><br><i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>  |            | Docket Number (Optional)<br>2003127.00122US3 |           |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
|--|------------|--|-----------|--|------------|-------------------------|--|--|-------|------|----------|---|-------|-------|----------|--|--------|-------|-----------|--|--------|-------|----------|--|--------|--------|----------|
| Application Number 12/984,293-Conf. #2029  |            | Filed January 4, 2011                        |           |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| For ALPINE SKI BINDING HEEL  |            |  |           |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| Art Unit 3618  |            | Examiner B. D. Avery                         |           |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>Fee</u></th> <th style="width: 15%; text-align: center;"><u>Small Entity Fee</u></th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$130</td> <td style="text-align: center;">\$65</td> <td>\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$490</td> <td style="text-align: center;">\$245</td> <td>\$ _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1110</td> <td style="text-align: center;">\$555</td> <td>\$ 635.00</td> </tr> <tr> <td><input type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1730</td> <td style="text-align: center;">\$865</td> <td>\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2350</td> <td style="text-align: center;">\$1175</td> <td>\$ _____</td> </tr> </tbody> </table> <p><input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input checked="" type="checkbox"/> Payment by credit card. <del>Form PTO-2038 is attached.</del></p> <p><input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>08-0219</u>.</p> <p><b>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</b></p> <p>I am the <input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71.<br/>Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>42,478</u></p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34.<br/>Registration number if acting under 37 CFR 1.34 _____</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p>_____<br/>/Ronald R. Demsher/<br/>Signature</p> <p>_____<br/>Ronald R. Demsher<br/>Typed or printed name</p> </div> <div style="width: 45%;"> <p>_____<br/>December 20, 2011<br/>Date</p> <p>_____<br/>(617) 526-6000<br/>Telephone Number</p> </div> </div> <p style="font-size: small; margin-top: 10px;">NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input type="checkbox"/> Total of <u>1</u> forms are submitted.</p> |            |  |           |  | <u>Fee</u> | <u>Small Entity Fee</u> |  | <input type="checkbox"/> One month (37 CFR 1.17(a)(1)) | \$130 | \$65 | \$ _____ | <input type="checkbox"/> Two months (37 CFR 1.17(a)(2)) | \$490 | \$245 | \$ _____ | <input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3)) | \$1110 | \$555 | \$ 635.00 | <input type="checkbox"/> Four months (37 CFR 1.17(a)(4)) | \$1730 | \$865 | \$ _____ | <input type="checkbox"/> Five months (37 CFR 1.17(a)(5)) | \$2350 | \$1175 | \$ _____ |
|  | <u>Fee</u> | <u>Small Entity Fee</u>                      |           |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <input type="checkbox"/> One month (37 CFR 1.17(a)(1))   | \$130      | \$65   | \$ _____  |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <input type="checkbox"/> Two months (37 CFR 1.17(a)(2))  | \$490      | \$245  | \$ _____  |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))   | \$1110     | \$555  | \$ 635.00 |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <input type="checkbox"/> Four months (37 CFR 1.17(a)(4))   | \$1730     | \$865  | \$ _____  |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |
| <input type="checkbox"/> Five months (37 CFR 1.17(a)(5))   | \$2350     | \$1175                                       | \$ _____  |  |            |                         |  |  |       |      |          |   |       |       |          |  |        |       |           |  |        |       |          |  |        |        |          |

| Electronic Patent Application Fee Transmittal  |                                  |          |        |                      |
|--|----------------------------------|----------|--------|----------------------|
| <b>Application Number:</b>                     | 12984293                         |          |        |                      |
| <b>Filing Date:</b>                            | 04-Jan-2011                      |          |        |                      |
| <b>Title of Invention:</b>                     | ALPINE SKI BINDING HEEL          |          |        |                      |
| <b>First Named Inventor/Applicant Name:</b>    | Richard J. Howell                |          |        |                      |
| <b>Filer:</b>                                  | Ronald R. Demsher./carla Ofodile |          |        |                      |
| <b>Attorney Docket Number:</b>                 | 2003127.00122US3                 |          |        |                      |
| Filed as Small Entity                          |                                  |          |        |                      |
| <b>Utility under 35 USC 111(a) Filing Fees</b> |                                  |          |        |                      |
| Description                                    | Fee Code                         | Quantity | Amount | Sub-Total in USD(\$) |
| <b>Basic Filing:</b>                           |                                  |          |        |                      |
| <b>Pages:</b>                                  |                                  |          |        |                      |
| <b>Claims:</b>                                 |                                  |          |        |                      |
| <b>Miscellaneous-Filing:</b>                   |                                  |          |        |                      |
| <b>Petition:</b>                               |                                  |          |        |                      |
| <b>Patent-Appeals-and-Interference:</b>        |                                  |          |        |                      |
| <b>Post-Allowance-and-Post-Issuance:</b>       |                                  |          |        |                      |
| <b>Extension-of-Time:</b>                      |                                  |          |        |                      |
| Extension - 3 months with \$0 paid             | 2253                             | 1        | 635    | 635                  |

| Description       | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-------------------|----------|----------|--------|----------------------|
| Miscellaneous:    |          |          |        |                      |
| Total in USD (\$) |          |          |        | 635                  |



**Electronic Acknowledgement Receipt**

|   |                                  |
|---|----------------------------------|
| <b>EFS ID:</b>                              | 11662065                         |
| <b>Application Number:</b>                  | 12984293                         |
| <b>International Application Number:</b>    |                                  |
| <b>Confirmation Number:</b>                 | 2029                             |
| <b>Title of Invention:</b>                  | ALPINE SKI BINDING HEEL          |
| <b>First Named Inventor/Applicant Name:</b> | Richard J. Howell                |
| <b>Customer Number:</b>                     | 23483                            |
| <b>Filer:</b>                               | Ronald R. Demsher./carla ofodile |
| <b>Filer Authorized By:</b>                 | Ronald R. Demsher.               |
| <b>Attorney Docket Number:</b>              | 2003127.00122US3                 |
| <b>Receipt Date:</b>                        | 20-DEC-2011                      |
| <b>Filing Date:</b>                         | 04-JAN-2011                      |
| <b>Time Stamp:</b>                          | 14:20:59                         |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)      |

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|   |                   |
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| Authorized User   | DEMSHER, RONALD R |
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| Document Number              | Document Description                                  | File Name           | File Size(Bytes)/ Message Digest                             | Multi Part /.zip | Pages (if appl.) |
|------------------------------|---|---------------------|--|------------------|------------------|
| 1                            |   | 122US3Amendment.pdf | 77956<br><div>168eab15ceffd06b0429172b70123ccd905833c9</div> | yes              | 7                |
|                              | Multipart Description/PDF files in .zip description   |                     |  |                  |                  |
|                              | Document Description                                  |                     | Start  |                  | End              |
|                              | Amendment/Req. Reconsideration-After Non-Final Reject |                     | 1  |                  | 1                |
|                              | Claims  |                     | 2  |                  | 4                |
|                              | Applicant Arguments/Remarks Made in an Amendment      |                     | 5  |                  | 7                |
| Warnings:                    |   |                     |  |                  |                  |
| Information:                 |   |                     |  |                  |                  |
| 2                            | Extension of Time                                     | 122US3EOT.pdf       | 93438<br><div>3fb1abf9b3b0ddb8da431b60c3f054ca0a59b002</div> | no               | 1                |
| Warnings:                    |   |                     |  |                  |                  |
| Information:                 |   |                     |  |                  |                  |
| 3                            | Fee Worksheet (SB06)                                  | fee-info.pdf        | 30255<br><div>456b53791307facf6e3d2e8dde50bb312aea18f9</div> | no               | 2                |
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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875   |   |                                    |                                    |               | Application or Docket Number<br><b>12/984,293</b> |   | Filing Date<br><b>01/04/2011</b> |                         | <input type="checkbox"/> To be Mailed |  |
|---|---|------------------------------------|------------------------------------|---------------|---|---|----------------------------------|-------------------------|---------------------------------------|--|
| <b>APPLICATION AS FILED – PART I</b>  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| (Column 1)  |   |                                    | (Column 2)                         |               |   | SMALL ENTITY <input checked="" type="checkbox"/> OR |                                  | OTHER THAN SMALL ENTITY |                                       |  |
| FOR   | NUMBER FILED  | NUMBER EXTRA                       | RATE (\$)                          | FEE (\$)      | OR  | RATE (\$)   | FEE (\$)                         |                         |                                       |  |
| <input type="checkbox"/> BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))   | N/A   | N/A                                | N/A                                |               |   | N/A   |                                  |                         |                                       |  |
| <input type="checkbox"/> SEARCH FEE<br>(37 CFR 1.16(k), (i), or (m))  | N/A   | N/A                                | N/A                                |               |   | N/A   |                                  |                         |                                       |  |
| <input type="checkbox"/> EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))   | N/A   | N/A                                | N/A                                |               |   | N/A   |                                  |                         |                                       |  |
| TOTAL CLAIMS<br>(37 CFR 1.16(i))  | minus 20 =  | *                                  | X \$ =                             |               | OR  | X \$ =  |                                  |                         |                                       |  |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))  | minus 3 =   | *                                  | X \$ =                             |               |   | X \$ =  |                                  |                         |                                       |  |
| <input type="checkbox"/> APPLICATION SIZE FEE<br>(37 CFR 1.16(s))   | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| <input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.   |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
|   |   |                                    | TOTAL                              |               |   | TOTAL   |                                  |                         |                                       |  |
| <b>APPLICATION AS AMENDED – PART II</b>   |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| (Column 1)  |   |                                    | (Column 2)                         |               |   | SMALL ENTITY OR                                     |                                  | OTHER THAN SMALL ENTITY |                                       |  |
| AMENDMENT   | 12/20/2011  | CLAIMS REMAINING AFTER AMENDMENT   | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE (\$)   | ADDITIONAL FEE (\$)                                 | OR                               | RATE (\$)               | ADDITIONAL FEE (\$)                   |  |
|   | Total (37 CFR 1.16(i))  | * 14                               | Minus ** 20                        | = 0           | X \$30 =  | 0   | OR                               | X \$ =                  |                                       |  |
|   | Independent (37 CFR 1.16(h))  | * 1                                | Minus *** 3                        | = 0           | X \$125 =   | 0   | OR                               | X \$ =                  |                                       |  |
| <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
|   |   |                                    |                                    |               | TOTAL ADD'L FEE                                   | 0   | OR                               | TOTAL ADD'L FEE         |                                       |  |
| (Column 1)  |   |                                    | (Column 2)                         |               |   | SMALL ENTITY OR                                     |                                  | OTHER THAN SMALL ENTITY |                                       |  |
| AMENDMENT   | CLAIMS REMAINING AFTER AMENDMENT  | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                      | RATE (\$)     | ADDITIONAL FEE (\$)                               | OR  | RATE (\$)                        | ADDITIONAL FEE (\$)     |                                       |  |
|   | Total (37 CFR 1.16(i))  | *                                  | Minus **                           | =             | X \$ =  |   | OR                               | X \$ =                  |                                       |  |
|   | Independent (37 CFR 1.16(h))  | *                                  | Minus ***                          | =             | X \$ =  |   | OR                               | X \$ =                  |                                       |  |
| <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
|   |   |                                    |                                    |               | TOTAL ADD'L FEE                                   |   | OR                               | TOTAL ADD'L FEE         |                                       |  |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.   |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".                                       |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |
| The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1. |   |                                    |                                    |               |   |   |                                  |                         |                                       |  |

This collection of information is required by 37 CFR 1.16. 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 1.14. This collection is estimated to take 12 minutes 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.**

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 12/984,293         | 01/04/2011            | Richard J. Howell     | 2003127.00122US3       |

**CONFIRMATION NO. 2029**

23483  
WILMERHALE/BOSTON  
60 STATE STREET  
BOSTON, MA 02109

**PUBLICATION NOTICE**



**Title:**ALPINE SKI BINDING HEEL

**Publication No.**US-2011-0193324-A1

**Publication Date:**08/11/2011

**NOTICE OF PUBLICATION OF APPLICATION**

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at [www.uspto.gov](http://www.uspto.gov). The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------|-------------|----------------------|---------------------|------------------|
| 12/984,293        | 01/04/2011  | Richard J. Howell    | 2003127.00122US3    | 2029             |
| 23483             | 7590        | 06/28/2011           | EXAMINER            |                  |
| WILMERHALE/BOSTON |             |                      | AVERY, BRIDGET D.   |                  |
| 60 STATE STREET   |             |                      | ART UNIT            | PAPER NUMBER     |
| BOSTON, MA 02109  |             |                      | 3618                |                  |
|                   |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|                   |             |                      | 06/28/2011          | ELECTRONIC       |

**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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

teresa.carvalho@wilmerhale.com  
whipusptopairs@wilmerhale.com

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 12/984,293             |  | HOWELL, RICHARD J.  |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | BRIDGET AVERY          |  | 3618                |  |

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

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 04 January 2011.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 04 January 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All    b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date 4/20/11.

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date. \_\_\_\_\_.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: \_\_\_\_\_.



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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claim 1 recites the limitation "the first surface" in line 8. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 1 recites the limitation "the second surface" in line 8. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Weigl et al. (US Patent 6,165,883).

Weigl et al. teaches a vector decoupling assembly for isolating two or more (vertical and lateral) force vectors applied to a safety binding securing a heel portion of a ski boot (2) to a ski (1), including: a lower heel assembly (4, 7) attached to the ski (1), as stated in col. 4, lines 10 and 11; an upper heel assembly (12) coupled to the lower



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heel assembly (4, 7) and having a lateral release assembly (see housing 17, lever 27, spring 19, locking element 9) for applying lateral securing pressure to the ski boot (2); a linkage element (bearing block 22) fixedly attached to the lateral release assembly (17, 27, 19, 9); where the linkage element (22), a first surface (27a) and a second surface (recess 8) cooperate to limit motion of the lateral release assembly (17, 27, 19, 9) to within a predetermined region within a plane defined by the longitudinal and horizontal axes of the ski (1).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Korger et al. shows a safety clamp for ski binding employing a combined vertical and horizontal swing catch.

Hashioka shows a releaseable ski boot heel binding.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIDGET AVERY whose telephone number is (571)272-6691. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Allen Shriver, can be reached on 571-272-6698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://portal.uspto.gov/external/portal>.

Should you have questions on access to the Private PAIR system, contact the  
Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Bridget Avery/  
Examiner, Art Unit 3618

/HAU PHAN/

Primary Examiner, Art Unit 3618

|                                   |                                       |  |             |
|-----------------------------------|---------------------------------------|--|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>12/984,293 | Applicant(s)/Patent Under<br>Reexamination<br>HOWELL, RICHARD J. |             |
|                                   | Examiner<br>BRIDGET AVERY             | Art Unit<br>3618   | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name                | Classification |
|---|---|--|-----------------|---------------------|----------------|
| * | A | US-3,620,545 A                                   | 11-1971         | Heinz Korger et al. | 280/632        |
| * | B | US-3,734,520 A                                   | 05-1973         | Hashioka, Noliyasu  | 280/632        |
| * | C | US-4,165,883 A                                   | 08-1979         | Weigl et al.        | 280/618        |
|   | D | US-  |                 |                     |                |
|   | E | US-  |                 |                     |                |
|   | F | US-  |                 |                     |                |
|   | G | US-  |                 |                     |                |
|   | H | US-  |                 |                     |                |
|   | I | US-  |                 |                     |                |
|   | J | US-  |                 |                     |                |
|   | K | US-  |                 |                     |                |
|   | L | US-  |                 |                     |                |
|   | M | US-  |                 |                     |                |

**FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--|-----------------|---------|------|----------------|
|   | N |  |                 |         |      |                |
|   | O |  |                 |         |      |                |
|   | P |  |                 |         |      |                |
|   | Q |  |                 |         |      |                |
|   | R |  |                 |         |      |                |
|   | S |  |                 |         |      |                |
|   | T |  |                 |         |      |                |

**NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
|   | U |   |
|   | V |   |
|   | W |   |
|   | X |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



## UNITED STATES PATENT AND TRADEMARK OFFICE


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 United States Patent and Trademark Office  
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 www.uspto.gov

## BIB DATA SHEET

CONFIRMATION NO. 2029

| SERIAL NUMBER  | FILING or 371(c)<br>DATE<br>RULE  | CLASS  | GROUP ART UNIT                    | ATTORNEY DOCKET<br>NO.  |                              |                                    |
|--|---|--|-----------------------------------|---|------------------------------|------------------------------------|
| 12/984,293   | 01/04/2011  | 280  | 3618                              | 2003127.00122US3  |                              |                                    |
| <b>APPLICANTS</b><br>Richard J. Howell, Stowe, VT;<br><b>** CONTINUING DATA *****</b><br>This application is a CON of 12/001,436 12/11/2007 PAT 7,887,084<br>which is a DIV of 10/780,455 02/17/2004 PAT 7,318,598<br>which claims benefit of 60/448,645 02/18/2003<br><b>** FOREIGN APPLICATIONS *****</b><br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b><br>01/14/2011 |   |  |                                   |   |                              |                                    |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Verified and Acknowledged <u>/BRIDGET D AVERY/</u><br>Examiner's Signature  |   | <input type="checkbox"/> Met after Allowance<br>Initials | <b>STATE OR<br/>COUNTRY</b><br>VT | <b>SHEETS<br/>DRAWINGS</b><br>4   | <b>TOTAL<br/>CLAIMS</b><br>1 | <b>INDEPENDENT<br/>CLAIMS</b><br>1 |
| <b>ADDRESS</b><br>WILMERHALE/BOSTON<br>60 STATE STREET<br>BOSTON, MA 02109<br>UNITED STATES  |   |  |                                   |   |                              |                                    |
| <b>TITLE</b><br>ALPINE SKI BINDING HEEL  |   |  |                                   |   |                              |                                    |
| <b>FILING FEE<br/>RECEIVED</b><br>527  | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |  |                                   | <input type="checkbox"/> All Fees<br><input type="checkbox"/> 1.16 Fees (Filing)<br><input type="checkbox"/> 1.17 Fees (Processing Ext. of time)<br><input type="checkbox"/> 1.18 Fees (Issue)<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Credit |                              |                                    |




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| <b><i>Search Notes</i></b><br><br> | <b>Application/Control No.</b><br><br>12984293 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>HOWELL, RICHARD J. |
|   | <b>Examiner</b><br><br>BRIDGET AVERY           | <b>Art Unit</b><br><br>3618  |

|                 |   |             |                 |
|-----------------|---|-------------|-----------------|
| <b>SEARCHED</b> |   |             |                 |
| <b>Class</b>    | <b>Subclass</b>                             | <b>Date</b> | <b>Examiner</b> |
| 280             | 618, 624, 625, 626, 627, 628, 62, 632, 6349 | 6/6/11      | BA              |

|                     |             |                 |
|---------------------|-------------|-----------------|
| <b>SEARCH NOTES</b> |             |                 |
| <b>Search Notes</b> | <b>Date</b> | <b>Examiner</b> |
|                     |             |                 |

|                            |                 |             |                 |
|----------------------------|-----------------|-------------|-----------------|
| <b>INTERFERENCE SEARCH</b> |                 |             |                 |
| <b>Class</b>               | <b>Subclass</b> | <b>Date</b> | <b>Examiner</b> |
|                            |                 |             |                 |

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| <b><i>Index of Claims</i></b><br> | <b>Application/Control No.</b><br>12984293 | <b>Applicant(s)/Patent Under Reexamination</b><br>HOWELL, RICHARD J. |
|  | <b>Examiner</b><br>BRIDGET AVERY           | <b>Art Unit</b><br>3618  |

|   |                 |   |                   |   |                     |   |                 |
|---|-----------------|---|-------------------|---|---------------------|---|-----------------|
| ✓ | <b>Rejected</b> | - | <b>Cancelled</b>  | N | <b>Non-Elected</b>  | A | <b>Appeal</b>   |
| = | <b>Allowed</b>  | ÷ | <b>Restricted</b> | I | <b>Interference</b> | O | <b>Objected</b> |

|  |          |                              |  |                               |  |                                 |  |  |  |
|--|----------|------------------------------|--|-------------------------------|--|---------------------------------|--|--|--|
| <input type="checkbox"/> Claims renumbered in the same order as presented by applicant |          | <input type="checkbox"/> CPA |  | <input type="checkbox"/> T.D. |  | <input type="checkbox"/> R.1.47 |  |  |  |
| <b>CLAIM</b>   |          | <b>DATE</b>                  |  |                               |  |                                 |  |  |  |
| Final  | Original | 06/07/2011                   |  |                               |  |                                 |  |  |  |
|  | 1        | ✓                            |  |                               |  |                                 |  |  |  |

**EAST Search History****EAST Search History (Prior Art)**

| Ref # | Hits | Search Query   | DBs                    | Default Operator | Plurals | Time Stamp       |
|-------|------|--|------------------------|------------------|---------|------------------|
| L4    | 49   | US-2676813-\$.DID. OR US-20020101063-\$.DID. OR US-3578350-\$.DID. OR US-3606370-\$.DID. OR US-3610650-\$.DID. OR US-3620545-\$.DID. OR US-3695625-\$.DID. OR US-3727932-\$.DID. OR US-3734520-\$.DID. OR US-3734522-\$.DID. OR US-3773344-\$.DID. OR US-3825273-\$.DID. OR US-3865388-\$.DID. OR US-3897076-\$.DID. OR US-3902728-\$.DID. OR US-3905613-\$.DID. OR US-3909029-\$.DID. OR US-3936062-\$.DID. OR US-3992032-\$.DID. OR US-7915705-\$.DID. OR US-4052086-\$.DID. OR US-4065151-\$.DID. OR US-4070034-\$.DID. OR US-4111453-\$.DID. OR US-4183549-\$.DID. OR US-4264088-\$.DID. OR US-4266806-\$.DID. OR US-4268064-\$.DID. OR US-4286801-\$.DID. OR US-4288094-\$.DID. OR US-4288095-\$.DID. OR US-4294461-\$.DID. OR US-4307898-\$.DID. OR US-4429896-\$.DID. OR US-4444413-\$.DID. OR US-4449731-\$.DID. OR US-4451059-\$.DID. OR US-4466634-\$.DID. OR US-4475743-\$.DID. OR US-4489956-\$.DID. OR US-4553772-\$.DID. OR US-4602804-\$.DID. OR US-4625991-\$.DID. OR US-4753452-\$.DID. OR US-4758017-\$.DID. OR US-5160159-\$.DID. OR US-7887084-\$.DID. | US-PGPUB; USPAT; USOCR | OR               | ON      | 2011/06/19 13:37 |

|    |     |   |                                  |    |    |                     |
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| L6 | 160 | ("3129951"   "3317217"  <br>"3325178"   "3326567"  <br>"3351354"   "3366394"  <br>"3408087"   "3432180"  <br>"3473817"   "3497230"  <br>"3527468"   "3529845"  <br>"3529846"   "3550996"  <br>"3554571"   "3554572"  <br>"3578350"   "3580597"  <br>"3594015"   "3604720"  <br>"3606369"   "3608918"  <br>"3610650"   "3620544"  <br>"3620545"   "3625532"  <br>"3675937"   "3727935"  <br>"3733082"   "3734520"  <br>"3762735"   "3778073"  <br>"3820804"   "3830510"  <br>"3836163"   "3876219"  <br>"3909023"   "3933363"  <br>"3937480"   "3944237"  <br>"3950001"   "3989273"  <br>"3989274"   "4022493"  <br>"4033603"   "4060257"  <br>"4103930"   "4111453"  <br>"4165883"   "4183549"  <br>"4188045"   "4190264"  <br>"4214773"   "4307895"  <br>"4421341"   "4444413"  <br>"4489956"   "4533155"  <br>"4607859"   "4624473"  <br>"4625991"   "4681338"  <br>"4773669"   "5024457"  <br>"RE26670").PN. OR ("3578350" | US-<br>PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2011/06/19<br>14:01 |



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| S1  | 796  | "280"/\$.ccls. and (ski and (heel\$ same release))  | USPAT | OR | OFF | 2006/10/12<br>16:51 |
| S2  | 687  | S1 and (lateral\$ or horizontal\$ or vertor\$)  | USPAT | OR | OFF | 2006/10/12<br>16:50 |
| S3  | 1223 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS.   | USPAT | OR | OFF | 2006/10/12<br>16:51 |
| S4  | 455  | S3 and (ski and (heel\$ same release))  | USPAT | OR | OFF | 2006/10/16<br>10:56 |
| S5  | 1223 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS.   | USPAT | OR | OFF | 2006/10/16<br>10:56 |
| S6  | 455  | S5 and (ski and (heel\$ same release))  | USPAT | OR | OFF | 2006/10/16<br>10:56 |
| S7  | 395  | S6 and (lateral or horizontal)  | USPAT | OR | OFF | 2006/10/16<br>10:57 |
| S8  | 334  | S6 and lateral  | USPAT | OR | OFF | 2006/10/16<br>10:57 |
| S9  | 177  | S6 and (lateral with release)   | USPAT | OR | OFF | 2006/10/16<br>10:58 |
| S10 | 129  | S6 and (lateral near4 release)  | USPAT | OR | OFF | 2006/10/16<br>10:58 |
| S11 | 1    | ("4070034").PN.   | USPAT | OR | OFF | 2006/12/19<br>04:08 |
| S12 | 2    | ((("4070034") or ("3734522")).PN.   | USPAT | OR | OFF | 2006/12/19<br>04:09 |
| S13 | 0    | ("skiandheelandlateral").PN.  | USPAT | OR | OFF | 2007/03/26<br>17:50 |
| S14 | 2059 | ski and heel and lateral  | USPAT | OR | OFF | 2007/03/26<br>17:50 |
| S15 | 1242 | "280"/\$.ccls. and (ski and heel and lateral)   | USPAT | OR | OFF | 2007/03/26<br>17:51 |
| S16 | 1282 | "280"/\$.ccls. and (ski and heel and (lateral adj "2" release))   | USPAT | OR | OFF | 2007/03/26<br>17:51 |
| S17 | 166  | (280/629).CCLS.   | USPAT | OR | OFF | 2007/07/09<br>14:21 |
| S18 | 115  | S17 and release   | USPAT | OR | OFF | 2007/07/09<br>14:22 |

|     |      |  |                              |    |     |                     |
|-----|------|--|------------------------------|----|-----|---------------------|
| S19 | 15   | S17 and release with horizontal  | USPAT                        | OR | OFF | 2007/07/09<br>14:22 |
| S20 | 15   | S17 and (release with horizontal)  | USPAT                        | OR | OFF | 2007/07/09<br>14:25 |
| S21 | 6    | S20 and heel   | USPAT                        | OR | OFF | 2007/07/09<br>14:25 |
| S22 | 1293 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS.  | USPAT                        | OR | OFF | 2010/09/26<br>21:50 |
| S23 | 476  | S22 and (ski and (heel\$ same release))  | USPAT                        | OR | OFF | 2010/09/26<br>21:50 |
| S24 | 9    | ("20020101063"   "2676813"   "3734522"   "3773344"   "3825273"   "3992032"   "4052086"   "4070034").PN. OR ("7318598").URPN.   | US-PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2010/09/27<br>16:16 |
| S25 | 31   | US-2676813-\$.DID. OR US-3606370-\$.DID. OR US-3610650-\$.DID. OR US-3727932-\$.DID. OR US-3865388-\$.DID. OR US-3897076-\$.DID. OR US-3902728-\$.DID. OR US-3905613-\$.DID. OR US-3909029-\$.DID. OR US-3936062-\$.DID. OR US-4065151-\$.DID. OR US-4264088-\$.DID. OR US-4268064-\$.DID. OR US-4286801-\$.DID. OR US-4288094-\$.DID. OR US-4288095-\$.DID. OR US-4294461-\$.DID. OR US-4307898-\$.DID. OR US-4429896-\$.DID. OR US-7225104-\$.DID. OR US-4553772-\$.DID. OR US-4753452-\$.DID. OR US-20020101063-\$.DID. OR US-4070034-\$.DID. OR US-4052086-\$.DID. OR US-3992032-\$.DID. OR US-3825273-\$.DID. OR US-3773344-\$.DID. OR US-3734522-\$.DID. | US-PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2010/09/27<br>17:11 |
| S26 | 158  | (280/628).CCLS.  | USPAT;<br>USOCR              | OR | OFF | 2010/09/27<br>17:29 |
| S27 | 0    | ("6nots23").PN.  | USPAT;<br>USOCR              | OR | OFF | 2010/09/27<br>17:30 |
| S28 | 1293 | ((280/632) or (280/634) or (280/618) or (280/624) or (280/625) or (280/626) or (280/627)).CCLS.  | USPAT                        | OR | OFF | 2010/09/27<br>17:30 |
| S29 | 476  | S28 and (ski and (heel\$ same release))  | USPAT                        | OR | OFF | 2010/09/27<br>17:30 |
| S30 | 104  | S26 not S29  | USPAT                        | OR | OFF | 2010/09/27<br>17:30 |

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| S31 | 158 | (280/628).CCLS. | USPAT;<br>USOCR | OR | OFF | 2010/09/27<br>17:34 |
|-----|-----|-----------------|-----------------|----|-----|---------------------|

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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |   |    | Application Number       | 12/984,293-Conf. #2029 |                  |
|  |   |    | Filing Date              | January 4, 2011        |                  |
|  |   |    | First Named Inventor     | Richard J. HOWELL      |                  |
|  |   |    | Art Unit                 | 3618                   |                  |
|  |   |    | Examiner Name            | Not Yet Assigned       |                  |
| Sheet  | 1 | of | 4                        | Attorney Docket Number | 2003127.00122US3 |

| U.S. PATENT DOCUMENTS |                       |  |                                |  |   |
|-----------------------|-----------------------|--|--------------------------------|--|---|
| Examiner Initials*    | Cite No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|                       |                       | Number-Kind Code <sup>2</sup> (if known) |                                |  |   |
| /B.A.                 | AA*                   | US-2,676,813                             | 04-27-1954                     | Beyl   |   |
|                       | AB*                   | US-20020101063                           | 08-01-2002                     | Dodge  |   |
|                       | AC*                   | US-3,578,350                             | 05-11-1971                     | Suhner   |   |
|                       | AD*                   | US-3,606,370                             | 09-20-1971                     | Spademan   |   |
|                       | AE*                   | US-3,610,650                             | 10-05-1971                     | Korger et al.                                      |   |
|                       | AF*                   | US-3,620,545                             | 11-16-1971                     | Heinz Korger et al.                                |   |
|                       | AG*                   | US-3,695,625                             | 10-03-1972                     | Salomon  |   |
|                       | AH*                   | US-3,727,932                             | 04-17-1973                     | Druss et al.                                       |   |
|                       | AI*                   | US-3,734,520                             | 05-22-1973                     | Hashioka   |   |
|                       | AJ*                   | US-3,734,522                             | 05-22-1973                     | Salomon et al.                                     |   |
|                       | AK*                   | US-3,773,344                             | 11-20-1973                     | Wilkes   |   |
|                       | AL*                   | US-3,825,273                             | 07-23-1974                     | Greene   |   |
|                       | AM*                   | US-3,865,388                             | 02-11-1975                     | Haldemann et al.                                   |   |
|                       | AN*                   | US-3,897,076                             | 07-29-1975                     | Beyl et al.  |   |
|                       | AO*                   | US-3,902,728                             | 09-02-1975                     | Salomon et al.                                     |   |
|                       | AP*                   | US-3,905,613                             | 09-16-1975                     | Romeo  |   |
|                       | AQ*                   | US-3,909,029                             | 09-30-1975                     | Salomon et al.                                     |   |
|                       | AR*                   | US-3,936,062                             | 02-03-1976                     | Schweizer et al.                                   |   |
| /B.A.                 | AS*                   | US-3,992,032                             | 11-16-1976                     | Swenson  |   |

| FOREIGN PATENT DOCUMENTS |                       |   |                                |  |  |                |
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| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages Or Relevant Figures Appear | T <sup>6</sup> |
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|                          |                       |   |                                |  |  |                |
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| Examiner Signature | /Bridget Avery/ | Date Considered | 06/19/2011 |
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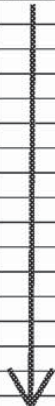
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|  |   |    | Application Number       | 12/984,293-Conf. #2029 |                  |
|  |   |    | Filing Date              | January 4, 2011        |                  |
|  |   |    | First Named Inventor     | Richard J. HOWELL      |                  |
|  |   |    | Art Unit                 | 3618                   |                  |
|  |   |    | Examiner Name            | Not Yet Assigned       |                  |
| Sheet  | 2 | of | 4                        | Attorney Docket Number | 2003127.00122US3 |

| U.S. PATENT DOCUMENTS  |                       |  |              |                                |  |   |
|--|-----------------------|--|--------------|--------------------------------|--|---|
| Examiner Initials*   | Cite No. <sup>1</sup> | Document Number                          |              | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
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| /B.A./   | AT*                   | US-4,052,086                             |              | 10-04-1977                     | Eckart et al.                                      |   |
|  | AU*                   | US-4,065,151                             |              | 12-27-1977                     | Weinstein et al.                                   |   |
|  | AV*                   | US-4,070,034                             |              | 01-24-1978                     | Swenson  |   |
|  | AW*                   | US-4,111,453                             |              | 09-05-1978                     | Krob   |   |
|  | AX*                   | US-4,183,549                             |              | 01-15-1980                     | Salomon  |   |
|  | AY*                   | US-4,264,088                             |              | 04-28-1981                     | Replogle   |   |
|  | AZ*                   | US-4,266,806                             |              | 05-12-1981                     | Weigl et al.                                       |   |
|  | AA1*                  | US-4,268,064                             |              | 05-19-1981                     | Svoboda et al.                                     |   |
|  | AB1*                  | US-4,286,801                             |              | 09-01-1981                     | Richert et al.                                     |   |
|  | AC1*                  | US-4,288,094                             |              | 09-08-1981                     | Svoboda et al.                                     |   |
|  | AD1*                  | US-4,288,095                             |              | 09-08-1981                     | Wittmann et al.                                    |   |
|  | AE1*                  | US-4,294,461                             |              | 10-13-1981                     | Eckart et al.                                      |   |
|  | AF1*                  | US-4,307,898                             |              | 12-29-1981                     | Schmidt et al.                                     |   |
|  | AG1*                  | US-4,429,896                             |              | 02-07-1984                     | Spademan   |   |
|  | AH1*                  | US-4,444,413                             |              | 04-24-1984                     | Richert et al.                                     |   |
|  | AI1*                  | US-4,449,731                             |              | 05-22-1984                     | Knabel et al.                                      |   |
|  | AJ1*                  | US-4,451,059                             |              | 05-29-1984                     | Knabel et al.                                      |   |
|  |                       | AK1*                                     | US-4,466,634 |                                | 08-21-1984   | Knabel et al.   |
| /B.A./   | AL1*                  | US-4,475,743                             |              | 10-09-1984                     | Wittmann   |   |

| FOREIGN PATENT DOCUMENTS |                          |   |                                   |  |   |                |
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|  |   |    |   | Filing Date              | January 4, 2011        |
|  |   |    |   | First Named Inventor     | Richard J. HOWELL      |
|  |   |    |   | Art Unit                 | 3618                   |
|  |   |    |   | Examiner Name            | Not Yet Assigned       |
| Sheet  | 4 | of | 4 | Attorney Docket Number   | 2003127.00122US3       |

| NON PATENT LITERATURE DOCUMENTS |                          |   |                |
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| Examiner<br>Initials*           | Cite<br>No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
| /B.A.                           | CA**                     | Minutes to ASTM F-27 Skiing Safety Meeting, Burlington, VT, July 20-21, 2002  |                |
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|-----------------------|--------------------------|-----------------|---------------|------------------|------------|------------|
| 12/984,293            | 01/04/2011               | 3618            | 527           | 2003127.00122US3 | 1          | 1          |

CONFIRMATION NO. 2029

## UPDATED FILING RECEIPT



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## Applicant(s)

Richard J. Howell, Stowe, VT;

## Assignment For Published Patent Application

Kneebinding, Inc., Stowe, VT

Power of Attorney: The patent practitioners associated with Customer Number 23483

## Domestic Priority data as claimed by applicant

This application is a CON of 12/001,436 12/11/2007 PAT 7,887,084  
 which is a DIV of 10/780,455 02/17/2004 PAT 7,318,598  
 which claims benefit of 60/448,645 02/18/2003

**Foreign Applications** (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 01/14/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/984,293**

Projected Publication Date: 08/11/2011

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*



**Title**

ALPINE SKI BINDING HEEL

**Preliminary Class**

280

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| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b>   |   |                                    |               |                 |                    | Application or Docket Number<br>12/984,293 |                 |                               |  |
|--|---|------------------------------------|---------------|-----------------|--------------------|--|-----------------|-------------------------------|--|
| Substitute for Form PTO-875  |   |                                    |               |                 |                    |  |                 |                               |  |
| <b>APPLICATION AS FILED - PART I</b>   |   |                                    |               |                 |                    |  |                 |                               |  |
| (Column 1)   |   | (Column 2)                         |               | SMALL ENTITY    |                    | OR<br>OTHER THAN SMALL ENTITY              |                 |                               |  |
| FOR  | NUMBER FILED  | NUMBER EXTRA                       | RATE(\$)      | FEE(\$)         |                    | RATE(\$)                                   | FEE(\$)         |                               |  |
| BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))   | N/A   | N/A                                | N/A           | 82              |                    | N/A  |                 |                               |  |
| SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))  | N/A   | N/A                                | N/A           | 270             |                    | N/A  |                 |                               |  |
| EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))   | N/A   | N/A                                | N/A           | 110             |                    | N/A  |                 |                               |  |
| TOTAL CLAIMS<br>(37 CFR 1.16(i))   | 1   | minus 20 = *                       | x 26          | = 0.00          | OR                 |  |                 |                               |  |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))   | 1   | minus 3 = *                        | x 110         | = 0.00          |                    |  |                 |                               |  |
| APPLICATION SIZE FEE<br>(37 CFR 1.16(s))   | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                    |               | 0.00            |                    |  |                 |                               |  |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))  |   |                                    |               | 0.00            |                    |  |                 |                               |  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.  |   |                                    | TOTAL         | 462             |                    | TOTAL                                      |                 |                               |  |
| <b>APPLICATION AS AMENDED - PART II</b>  |   |                                    |               |                 |                    |  |                 |                               |  |
| (Column 1)   |   | (Column 2)                         |               | (Column 3)      |                    | SMALL ENTITY                               |                 | OR<br>OTHER THAN SMALL ENTITY |  |
| AMENDMENT A  | CLAIMS REMAINING AFTER AMENDMENT  | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)        | ADDITIONAL FEE(\$) |  | RATE(\$)        | ADDITIONAL FEE(\$)            |  |
| Total<br>(37 CFR 1.16(i))  | *   | Minus                              | **            | x               | =                  |  | x               | =                             |  |
| Independent<br>(37 CFR 1.16(h))  | *   | Minus                              | ***           | x               | =                  |  | x               | =                             |  |
| Application Size Fee (37 CFR 1.16(s))  |   |                                    |               |                 |                    |  |                 |                               |  |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |               |                 |                    |  |                 |                               |  |
|  |   |                                    |               | TOTAL ADD'L FEE |                    | OR   | TOTAL ADD'L FEE |                               |  |
| (Column 1)   |   | (Column 2)                         |               | (Column 3)      |                    | SMALL ENTITY                               |                 | OR<br>OTHER THAN SMALL ENTITY |  |
| AMENDMENT B  | CLAIMS REMAINING AFTER AMENDMENT  | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)        | ADDITIONAL FEE(\$) |  | RATE(\$)        | ADDITIONAL FEE(\$)            |  |
| Total<br>(37 CFR 1.16(i))  | *   | Minus                              | **            | x               | =                  |  | x               | =                             |  |
| Independent<br>(37 CFR 1.16(h))  | *   | Minus                              | ***           | x               | =                  |  | x               | =                             |  |
| Application Size Fee (37 CFR 1.16(s))  |   |                                    |               |                 |                    |  |                 |                               |  |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |               |                 |                    |  |                 |                               |  |
|  |   |                                    |               | TOTAL ADD'L FEE |                    | OR   | TOTAL ADD'L FEE |                               |  |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.<br>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".<br>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".<br>The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1. |   |                                    |               |                 |                    |  |                 |                               |  |



Docket No.: 2003127.00122US3  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                  |                         |                   |                  |
|------------------|-------------------------|-------------------|------------------|
| Applicant:       | Richard J. HOWELL       | Confirmation No.: | 2029             |
| Application No.: | 12/984,293              | Art Unit:         | 3618             |
| Filed:           | January 4, 2011         | Examiner:         | Not Yet Assigned |
| Title:           | ALPINE SKI BINDING HEEL |                   |                  |

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION**

Dear Sir:

In response to the Notice to File Missing Parts of Application – Filing Date Granted mailed January 20, 2011, Applicant respectfully submits the Filing Fee for the Application (as shown on accompanying Fee Transmittal), a Petition for Extension of Time, and an Information Disclosure Statement.

Please charge our Credit Card in the amount of \$592.00 covering the required fees. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 08-0219, under Order No. 2003127.00122US3.

Respectfully submitted,

Dated: April 20, 2011

/Ronald R. Demsher/  
Ronald R. Demsher  
Registration No.: 42,478  
Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP  
60 State Street  
Boston, Massachusetts 02109  
(617) 526-6000 (telephone)  
(617) 526-5000 (facsimile)



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.

Docket No.: 2003127.00122US3  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                  |                         |                   |                  |
|------------------|-------------------------|-------------------|------------------|
| Applicant:       | Richard J. HOWELL       | Confirmation No.: | 2029             |
| Application No.: | 12/984,293              | Art Unit:         | 3618             |
| Filed:           | January 4, 2011         | Examiner:         | Not Yet Assigned |
| Title:           | ALPINE SKI BINDING HEEL |                   |                  |

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT (IDS)**

Dear Sir:

This Information Disclosure Statement is being filed prior to the mailing date of a first Office Action on the merits. No fee is required.

Those documents which are marked with a double asterisk (\*\*) next to the Cite No. in the attached form PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office in prior application numbers 10/780455 filed February 17, 2004 and 12/001436 filed December 11, 2007 and relied upon in this application for an earlier filing date under 35 U.S.C. 120.

Application No.: 12/984,293

Docket No.: 2003127.00122US3

Applicant requests that the Examiner initial and return a copy of the enclosed Form PTO SB-08 with the next communication.

Respectfully submitted,

Dated: April 20, 2011

/Ronald R. Demsher/  
Ronald R. Demsher  
Registration No.: 42,478  
Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP  
60 State Street  
Boston, Massachusetts 02109  
(617) 526-6000 (telephone)  
(617) 526-5000 (facsimile)

| Electronic Patent Application Fee Transmittal  |                                  |          |        |                      |
|--|----------------------------------|----------|--------|----------------------|
| <b>Application Number:</b>                     | 12984293                         |          |        |                      |
| <b>Filing Date:</b>                            | 04-Jan-2011                      |          |        |                      |
| <b>Title of Invention:</b>                     | ALPINE SKI BINDING HEEL          |          |        |                      |
| <b>First Named Inventor/Applicant Name:</b>    | Richard J. Howell                |          |        |                      |
| <b>Filer:</b>                                  | Ronald R. Demsher./Michael Riego |          |        |                      |
| <b>Attorney Docket Number:</b>                 | 2003127.00122US3                 |          |        |                      |
| Filed as Small Entity                          |                                  |          |        |                      |
| <b>Utility under 35 USC 111(a) Filing Fees</b> |                                  |          |        |                      |
| Description                                    | Fee Code                         | Quantity | Amount | Sub-Total in USD(\$) |
| <b>Basic Filing:</b>                           |                                  |          |        |                      |
| Utility filing Fee (Electronic filing)         | 4011                             | 1        | 82     | 82                   |
| Utility Search Fee                             | 2111                             | 1        | 270    | 270                  |
| Utility Examination Fee                        | 2311                             | 1        | 110    | 110                  |
| <b>Pages:</b>                                  |                                  |          |        |                      |
| <b>Claims:</b>                                 |                                  |          |        |                      |
| <b>Miscellaneous-Filing:</b>                   |                                  |          |        |                      |
| Late filing fee for oath or declaration        | 2051                             | 1        | 65     | 65                   |
| <b>Petition:</b>                               |                                  |          |        |                      |



| Description                              | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--|----------|----------|--------|----------------------|
| <b>Patent-Appeals-and-Interference:</b>  |          |          |        |                      |
| <b>Post-Allowance-and-Post-Issuance:</b> |          |          |        |                      |
| <b>Extension-of-Time:</b>                |          |          |        |                      |
| Extension - 1 month with \$0 paid        | 2251     | 1        | 65     | 65                   |
| <b>Miscellaneous:</b>                    |          |          |        |                      |
| <b>Total in USD (\$)</b>                 |          |          |        | <b>592</b>           |

**Electronic Acknowledgement Receipt**

|   |                                  |
|---|----------------------------------|
| <b>EFS ID:</b>                              | 9906330                          |
| <b>Application Number:</b>                  | 12984293                         |
| <b>International Application Number:</b>    |                                  |
| <b>Confirmation Number:</b>                 | 2029                             |
| <b>Title of Invention:</b>                  | ALPINE SKI BINDING HEEL          |
| <b>First Named Inventor/Applicant Name:</b> | Richard J. Howell                |
| <b>Customer Number:</b>                     | 23483                            |
| <b>Filer:</b>                               | Ronald R. Demsher./Michael Riego |
| <b>Filer Authorized By:</b>                 | Ronald R. Demsher.               |
| <b>Attorney Docket Number:</b>              | 2003127.00122US3                 |
| <b>Receipt Date:</b>                        | 20-APR-2011                      |
| <b>Filing Date:</b>                         | 04-JAN-2011                      |
| <b>Time Stamp:</b>                          | 15:37:19                         |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)      |

**Payment information:**

|  |               |
|--|---------------|
| Submitted with Payment   | yes           |
| Payment Type   | Credit Card   |
| Payment was successfully received in RAM   | \$ 592        |
| RAM confirmation Number  | 2080          |
| Deposit Account  | 080219        |
| Authorized User  | LADD,CATHLEEN |
| <p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)</p> |               |

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

**File Listing:**

| Document Number                                 | Document Description                                 | File Name                              | File Size(Bytes)/ Message Digest                  | Multi Part /.zip | Pages (if appl.) |
|---|--|--|---|------------------|------------------|
| 1   | Information Disclosure Statement (IDS) Filed (SB/08) | 2003127_00122US3_SB08.pdf              | 131138<br>29ec8a4513a31404587071d2927ff59ad66bd3  | no               | 4                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| This is not an USPTO supplied IDS fillable form |  |  |   |                  |                  |
| 2   | Applicant Response to Pre-Exam Formalities Notice    | 2003127_00122US3_Response_NTFMP.pdf    | 62261<br>2049e746b0d83fbff83f6521e21793a7515a2cd3 | no               | 1                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 3   | Extension of Time                                    | 2003127_00122US3_Extension_of_Time.pdf | 93487<br>908de9ff126e54fe24557b271c8173322a97737  | no               | 1                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 4   | Transmittal Letter                                   | 2003127_00122US3_IDS.pdf               | 62230<br>1d9795ff18cc5142682ebd71b6024685e9ecd1e3 | no               | 2                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 5   | Fee Worksheet (PTO-875)                              | fee-info.pdf                           | 38598<br>8c8412324187807b45a4e35a4c43b8120edbeb18 | no               | 2                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| <b>Total Files Size (in bytes):</b>             |  |  | 387714  |                  |                  |

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



**Electronic Acknowledgement Receipt**

|   |                                  |
|---|----------------------------------|
| <b>EFS ID:</b>                              | 9906330                          |
| <b>Application Number:</b>                  | 12984293                         |
| <b>International Application Number:</b>    |                                  |
| <b>Confirmation Number:</b>                 | 2029                             |
| <b>Title of Invention:</b>                  | ALPINE SKI BINDING HEEL          |
| <b>First Named Inventor/Applicant Name:</b> | Richard J. Howell                |
| <b>Customer Number:</b>                     | 23483                            |
| <b>Filer:</b>                               | Ronald R. Demsher./Michael Riego |
| <b>Filer Authorized By:</b>                 | Ronald R. Demsher.               |
| <b>Attorney Docket Number:</b>              | 2003127.00122US3                 |
| <b>Receipt Date:</b>                        | 20-APR-2011                      |
| <b>Filing Date:</b>                         | 04-JAN-2011                      |
| <b>Time Stamp:</b>                          | 15:37:19                         |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)      |

**Payment information:**

|  |               |
|--|---------------|
| Submitted with Payment   | yes           |
| Payment Type   | Credit Card   |
| Payment was successfully received in RAM   | \$ 592        |
| RAM confirmation Number  | 2080          |
| Deposit Account  | 080219        |
| Authorized User  | LADD,CATHLEEN |
| <p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)</p> |               |

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

**File Listing:**

| Document Number                                 | Document Description                                 | File Name                              | File Size(Bytes)/ Message Digest                  | Multi Part /.zip | Pages (if appl.) |
|---|--|--|---|------------------|------------------|
| 1   | Information Disclosure Statement (IDS) Filed (SB/08) | 2003127_00122US3_SB08.pdf              | 131138<br>29ec8a4513a31404587071d2927ff59ad66bd3  | no               | 4                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| This is not an USPTO supplied IDS fillable form |  |  |   |                  |                  |
| 2   | Applicant Response to Pre-Exam Formalities Notice    | 2003127_00122US3_Response_NTFMP.pdf    | 62261<br>2049e746b0d83fbff83f6521e21793a7515a2cd3 | no               | 1                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 3   | Extension of Time                                    | 2003127_00122US3_Extension_of_Time.pdf | 93487<br>908de9ff126e54fe24557b271c8173322a97737  | no               | 1                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 4   | Transmittal Letter                                   | 2003127_00122US3_IDS.pdf               | 62230<br>1d9795ff18cc5142682ebd71b6024685e9ecd1e3 | no               | 2                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| 5   | Fee Worksheet (PTO-875)                              | fee-info.pdf                           | 38598<br>8c8412324187807b45a4e35a4c43b8120edbeb18 | no               | 2                |
| <b>Warnings:</b>                                |  |  |   |                  |                  |
| <b>Information:</b>                             |  |  |   |                  |                  |
| <b>Total Files Size (in bytes):</b>             |  |  | 387714  |                  |                  |

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

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PTO/SB/08a (07-09)

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| Substitute for form 1449/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |   |    | <b>Complete if Known</b> |                        |                  |
|  |   |    | Application Number       | 12/984,293-Conf. #2029 |                  |
|  |   |    | Filing Date              | January 4, 2011        |                  |
|  |   |    | First Named Inventor     | Richard J. HOWELL      |                  |
|  |   |    | Art Unit                 | 3618                   |                  |
|  |   |    | Examiner Name            | Not Yet Assigned       |                  |
| Sheet  | 1 | of | 4                        | Attorney Docket Number | 2003127.00122US3 |

| U.S. PATENT DOCUMENTS |                          |  |                                |  |   |
|-----------------------|--------------------------|--|--------------------------------|--|---|
| Examiner<br>Initials* | Cite<br>No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|                       |                          | Number-Kind Code <sup>2</sup> (if known) |                                |  |   |
|                       | AA*                      | US-2,676,813                             | 04-27-1954                     | Beyl   |   |
|                       | AB*                      | US-20020101063                           | 08-01-2002                     | Dodge  |   |
|                       | AC*                      | US-3,578,350                             | 05-11-1971                     | Suhner   |   |
|                       | AD*                      | US-3,606,370                             | 09-20-1971                     | Spademan   |   |
|                       | AE*                      | US-3,610,650                             | 10-05-1971                     | Korger et al.                                      |   |
|                       | AF*                      | US-3,620,545                             | 11-16-1971                     | Heinz Korger et al.                                |   |
|                       | AG*                      | US-3,695,625                             | 10-03-1972                     | Salomon  |   |
|                       | AH*                      | US-3,727,932                             | 04-17-1973                     | Druss et al.                                       |   |
|                       | AI*                      | US-3,734,520                             | 05-22-1973                     | Hashioka   |   |
|                       | AJ*                      | US-3,734,522                             | 05-22-1973                     | Salomon et al.                                     |   |
|                       | AK*                      | US-3,773,344                             | 11-20-1973                     | Wilkes   |   |
|                       | AL*                      | US-3,825,273                             | 07-23-1974                     | Greene   |   |
|                       | AM*                      | US-3,865,388                             | 02-11-1975                     | Haldemann et al.                                   |   |
|                       | AN*                      | US-3,897,076                             | 07-29-1975                     | Beyl et al.  |   |
|                       | AO*                      | US-3,902,728                             | 09-02-1975                     | Salomon et al.                                     |   |
|                       | AP*                      | US-3,905,613                             | 09-16-1975                     | Romeo  |   |
|                       | AQ*                      | US-3,909,029                             | 09-30-1975                     | Salomon et al.                                     |   |
|                       | AR*                      | US-3,936,062                             | 02-03-1976                     | Schweizer et al.                                   |   |
|                       | AS*                      | US-3,992,032                             | 11-16-1976                     | Swenson  |   |

| FOREIGN PATENT DOCUMENTS |                          |   |                                   |  |   |                |
|--------------------------|--------------------------|---|-----------------------------------|--|---|----------------|
| Examiner<br>Initials*    | Cite<br>No. <sup>1</sup> | Foreign Patent Document   | Publication<br>Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>Or Relevant Figures Appear | T <sup>6</sup> |
|                          |                          | Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known) |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |
|                          |                          |   |                                   |  |   |                |

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* CITE NO.: Those application(s) which are marked with an asterisk (\*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/08a (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

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|--|---|----|--------------------------|------------------------|------------------|
| Substitute for form 1449/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |   |    | <b>Complete if Known</b> |                        |                  |
|  |   |    | Application Number       | 12/984,293-Conf. #2029 |                  |
|  |   |    | Filing Date              | January 4, 2011        |                  |
|  |   |    | First Named Inventor     | Richard J. HOWELL      |                  |
|  |   |    | Art Unit                 | 3618                   |                  |
|  |   |    | Examiner Name            | Not Yet Assigned       |                  |
| Sheet  | 2 | of | 4                        | Attorney Docket Number | 2003127.00122US3 |

| U.S. PATENT DOCUMENTS |                       |  |                                |  |   |
|-----------------------|-----------------------|--|--------------------------------|--|---|
| Examiner Initials*    | Cite No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|                       |                       | Number-Kind Code <sup>2</sup> (if known) |                                |  |   |
|                       | AT*                   | US-4,052,086                             | 10-04-1977                     | Eckart et al.                                      |   |
|                       | AU*                   | US-4,065,151                             | 12-27-1977                     | Weinstein et al.                                   |   |
|                       | AV*                   | US-4,070,034                             | 01-24-1978                     | Swenson  |   |
|                       | AW*                   | US-4,111,453                             | 09-05-1978                     | Krob   |   |
|                       | AX*                   | US-4,183,549                             | 01-15-1980                     | Salomon  |   |
|                       | AY*                   | US-4,264,088                             | 04-28-1981                     | Replogle   |   |
|                       | AZ*                   | US-4,266,806                             | 05-12-1981                     | Weigl et al.                                       |   |
|                       | AA1*                  | US-4,268,064                             | 05-19-1981                     | Svoboda et al.                                     |   |
|                       | AB1*                  | US-4,286,801                             | 09-01-1981                     | Richert et al.                                     |   |
|                       | AC1*                  | US-4,288,094                             | 09-08-1981                     | Svoboda et al.                                     |   |
|                       | AD1*                  | US-4,288,095                             | 09-08-1981                     | Wittmann et al.                                    |   |
|                       | AE1*                  | US-4,294,461                             | 10-13-1981                     | Eckart et al.                                      |   |
|                       | AF1*                  | US-4,307,898                             | 12-29-1981                     | Schmidt et al.                                     |   |
|                       | AG1*                  | US-4,429,896                             | 02-07-1984                     | Spademan   |   |
|                       | AH1*                  | US-4,444,413                             | 04-24-1984                     | Richert et al.                                     |   |
|                       | AI1*                  | US-4,449,731                             | 05-22-1984                     | Knabel et al.                                      |   |
|                       | AJ1*                  | US-4,451,059                             | 05-29-1984                     | Knabel et al.                                      |   |
|                       | AK1*                  | US-4,466,634                             | 08-21-1984                     | Knabel et al.                                      |   |
|                       | AL1*                  | US-4,475,743                             | 10-09-1984                     | Wittmann   |   |

| FOREIGN PATENT DOCUMENTS |                       |   |                                |  |  |                |
|--------------------------|-----------------------|---|--------------------------------|--|--|----------------|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages Or Relevant Figures Appear | T <sup>6</sup> |
|                          |                       | Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known) |                                |  |  |                |
|                          |                       |   |                                |  |  |                |
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| Examiner Signature |  | Date Considered |  |
|--------------------|--|-----------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* CITE NO.: Those application(s) which are marked with an single asterisk (\*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

Marker Volkl-1010  
Marker Volkl USA, Inc. v. Kneebinding, Inc.  
Page 394

PTO/SB/08b (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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|  |   |    |   |                          |                        |
|--|---|----|---|--------------------------|------------------------|
| Substitute for form 1449/PTO   |   |    |   | <b>Complete if Known</b> |                        |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |   |    |   | Application Number       | 12/984,293-Conf. #2029 |
|  |   |    |   | Filing Date              | January 4, 2011        |
|  |   |    |   | First Named Inventor     | Richard J. HOWELL      |
|  |   |    |   | Art Unit                 | 3618                   |
|  |   |    |   | Examiner Name            | Not Yet Assigned       |
| Sheet  | 4 | of | 4 | Attorney Docket Number   | 2003127.00122US3       |

| NON PATENT LITERATURE DOCUMENTS |                          |   |                |
|---------------------------------|--------------------------|---|----------------|
| Examiner<br>Initials*           | Cite<br>No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                                 | CA**                     | Minutes to ASTM F-27 Skiing Safety Meeting, Burlington, VT, July 20-21, 2002  |                |
|                                 |                          |   |                |
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|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \*\* CITE NO.: Those document(s) which are marked with an double asterisk (\*\*) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b>   |   |                                    |               |                 |                    | Application or Docket Number<br>12/984,293 |                 |                               |  |
|--|---|------------------------------------|---------------|-----------------|--------------------|--|-----------------|-------------------------------|--|
| Substitute for Form PTO-875  |   |                                    |               |                 |                    |  |                 |                               |  |
| <b>APPLICATION AS FILED - PART I</b>   |   |                                    |               |                 |                    |  |                 |                               |  |
| (Column 1)   |   | (Column 2)                         |               | SMALL ENTITY    |                    | OR<br>OTHER THAN SMALL ENTITY              |                 |                               |  |
| FOR  | NUMBER FILED  | NUMBER EXTRA                       | RATE(\$)      | FEE(\$)         |                    | RATE(\$)                                   | FEE(\$)         |                               |  |
| BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))   | N/A   | N/A                                | N/A           | 82              |                    | N/A  |                 |                               |  |
| SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))  | N/A   | N/A                                | N/A           | 270             |                    | N/A  |                 |                               |  |
| EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))   | N/A   | N/A                                | N/A           | 110             |                    | N/A  |                 |                               |  |
| TOTAL CLAIMS<br>(37 CFR 1.16(i))   | 1   | minus 20 = *                       | x 26          | = 0.00          | OR                 |  |                 |                               |  |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))   | 1   | minus 3 = *                        | x 110         | = 0.00          |                    |  |                 |                               |  |
| APPLICATION SIZE FEE<br>(37 CFR 1.16(s))   | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                    |               | 0.00            |                    |  |                 |                               |  |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))  |   |                                    |               | 0.00            |                    |  |                 |                               |  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.  |   |                                    | TOTAL         | 462             |                    | TOTAL                                      |                 |                               |  |
| <b>APPLICATION AS AMENDED - PART II</b>  |   |                                    |               |                 |                    |  |                 |                               |  |
| (Column 1)   |   | (Column 2)                         |               | (Column 3)      |                    | SMALL ENTITY                               |                 | OR<br>OTHER THAN SMALL ENTITY |  |
| AMENDMENT A  | CLAIMS REMAINING AFTER AMENDMENT  | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)        | ADDITIONAL FEE(\$) |  | RATE(\$)        | ADDITIONAL FEE(\$)            |  |
| Total<br>(37 CFR 1.16(i))  | *   | Minus                              | **            | x               | =                  |  | x               | =                             |  |
| Independent<br>(37 CFR 1.16(h))  | *   | Minus                              | ***           | x               | =                  |  | x               | =                             |  |
| Application Size Fee (37 CFR 1.16(s))  |   |                                    |               |                 |                    |  |                 |                               |  |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |               |                 |                    |  |                 |                               |  |
|  |   |                                    |               | TOTAL ADD'L FEE |                    |  | TOTAL ADD'L FEE |                               |  |
| (Column 1)   |   | (Column 2)                         |               | (Column 3)      |                    | SMALL ENTITY                               |                 | OR<br>OTHER THAN SMALL ENTITY |  |
| AMENDMENT B  | CLAIMS REMAINING AFTER AMENDMENT  | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)        | ADDITIONAL FEE(\$) |  | RATE(\$)        | ADDITIONAL FEE(\$)            |  |
| Total<br>(37 CFR 1.16(i))  | *   | Minus                              | **            | x               | =                  |  | x               | =                             |  |
| Independent<br>(37 CFR 1.16(h))  | *   | Minus                              | ***           | x               | =                  |  | x               | =                             |  |
| Application Size Fee (37 CFR 1.16(s))  |   |                                    |               |                 |                    |  |                 |                               |  |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))  |   |                                    |               |                 |                    |  |                 |                               |  |
|  |   |                                    |               | TOTAL ADD'L FEE |                    |  | TOTAL ADD'L FEE |                               |  |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.<br>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".<br>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".<br>The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1. |   |                                    |               |                 |                    |  |                 |                               |  |





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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 12/984,293         | 01/04/2011            | Richard J. Howell     | 2003127.00122US3       |

CONFIRMATION NO. 2029

## FORMALITIES LETTER

23483  
 WILMERHALE/BOSTON  
 60 STATE STREET  
 BOSTON, MA 02109



Date Mailed: 01/20/2011

## NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted***Items Required To Avoid Abandonment:**

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.  
*Applicant must submit \$82 to complete the basic filing fee for a small entity.*

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted.

**SUMMARY OF FEES DUE:**

Total fee(s) required within **TWO MONTHS** from the date of this Notice is \$527 for a small entity

- \$82 Statutory basic filing fee.
- \$65 Surcharge.
- The application search fee has not been paid. Applicant must submit \$270 to complete the search fee.
- The application examination fee has not been paid. Applicant must submit \$110 to complete the examination fee for a small entity in compliance with 37 CFR 1.27.

Replies should be mailed to:

Mail Stop Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.

<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/llvuong/

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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| APPLICATION<br>NUMBER | FILING or<br>371(c) DATE | GRP ART<br>UNIT | FIL FEE REC'D | ATTY. DOCKET NO. | TOT CLAIMS | IND CLAIMS |
|-----------------------|--------------------------|-----------------|---------------|------------------|------------|------------|
| 12/984,293            | 01/04/2011               | 3618            | 0.00          | 2003127.00122US3 | 1          | 1          |

CONFIRMATION NO. 2029

## FILING RECEIPT



\*OC000000045509187\*

23483  
 WILMERHALE/BOSTON  
 60 STATE STREET  
 BOSTON, MA 02109

Date Mailed: 01/20/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

## Applicant(s)

Richard J. Howell, Stowe, VT;

## Assignment For Published Patent Application

Kneebinding, Inc., Stowe, VT

Power of Attorney: The patent practitioners associated with Customer Number 23483

## Domestic Priority data as claimed by applicant

This application is a CON of 12/001,436 12/11/2007  
 which is a DIV of 10/780,455 02/17/2004 PAT 7,318,598  
 which claims benefit of 60/448,645 02/18/2003

**Foreign Applications** (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 01/14/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/984,293**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*



**Title**

ALPINE SKI BINDING HEEL

**Preliminary Class**

280

**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 12/984,293         | 01/04/2011            | Richard J. Howell     | 2003127.00122US3       |

**CONFIRMATION NO. 2029**

**POA ACCEPTANCE LETTER**

23483  
WILMERHALE/BOSTON  
60 STATE STREET  
BOSTON, MA 02109



Date Mailed: 01/20/2011

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 01/04/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/bphc/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/81 (01-06)

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|   |                      |                              |                   |  |
|---|----------------------|------------------------------|-------------------|--|
| <b>POWER OF ATTORNEY<br/>and<br/>CORRESPONDENCE ADDRESS<br/>INDICATION FORM</b> | Application Number   |                              | 12/001,436        |  |
|   | Filing Date          |                              | December 11, 2007 |  |
|   | First Named Inventor |                              | Richard J. Howell |  |
|   | Title                | ALPINE SKI BINDING HEEL UNIT |                   |  |
|   | Art Unit             | 3618                         |                   |  |
|   | Examiner Name        | Not Yet Assigned             |                   |  |
| Attorney Docket No.   |                      | 2003127.122US2               |                   |  |

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

☒ Practitioners associated with the Customer Number: 23483

OR

☐ Practitioner(s) named below:

| Name | Registration Number | Name | Registration Number |
|------|---------------------|------|---------------------|
|      |                     |      |                     |

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

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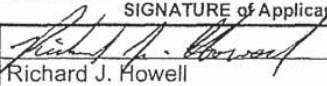
|         |           |       |  |
|---------|-----------|-------|--|
| City    | State     | Zip   |  |
| Country | Telephone | Email |  |

I am the:

☒ Applicant/Inventor.

☐ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

|                   |   |           |               |
|-------------------|---|-----------|---------------|
| Signature         |  | Date      | MARCH 10, '08 |
| Name              | Richard J. Howell   | Telephone | 802-760-3026  |
| Title and Company | Inventor  |           |               |

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.



PTO/SB/96 (04-07)

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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Richard J. HowellApplication No./Patent No.: 12/001,436 Filed/Issue Date: December 11, 2007Entitled: ALPINE SKI BINDING HEEL UNIT

KneeBinding, Inc., a corporation  
 (Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or  
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 (The extent (by percentage) of its ownership interest is \_\_\_\_\_ %)

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The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Richard J. Howell  
 Signature

MARCH 10, '08  
 Date

Richard J. Howell  
 Printed or Typed Name

802-760-3026  
 Telephone Number

PRESIDENT  
 Title



## ALPINE SKI BINDING HEEL UNIT

### CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** This patent application is a Continuation Patent Application of U.S. Patent Application Serial No. 12/001,436, filed on December 11, 2007 entitled ALPINE SKI BINDING HEEL UNIT, which is a Divisional Patent Application of U.S. Patent Application Serial No. 10/780,455, filed on February 17, 2004, which claims priority under 35 U.S.C. §119(e) to U.S. Provisional Application Serial No. 60/448,645, filed on February 18, 2003, all of which are expressly incorporated herein by reference in their entirety.

### BACKGROUND

**[0002]** This invention relates in general to alpine ski bindings and, in particular, to multi-directional release alpine ski binding heel units that release in the vertical and lateral directions..

**[0003]** Ski binding heel units have a jaw that is adapted to hold a boot and move between a boot retention position and a release position. The jaw vertical pivots around an axis transverse to the longitudinal axis of the ski and/or binding against the action of an elastic system. The elastic system comprises a mobile member biased by a spring against a release incline on a support attached to the ski. Vertical heel release bindings have serious disadvantages because vertical release bindings only release the ski when there is downward stress imparted by the skier on the ski where the area of applied stress is located in front of the boot's fulcrum point, which fulcrum is typically located under the ball of the foot; or release the ski when there is an upward stress applied to the ski by the skier when the skier is turned backwards in a fall with the top/aft section of the ski being dragged in the snow. Ski binding heel units that only release vertically rely on the mating ski binding toe units (which toe units release in response to lateral stresses or in the case of multi-directional toes units, release in response to lateral and special vertical stresses), which in the case of multi-directional release toes that provide vertical release

in response to vertical stresses applied to the ski by the skier to the top after-body section of the ski during pure backward falls and release vertically at the toe in response to vertical stresses being applied by the snow surface when the skier is backwards and the tip of the ski is being dragged in the snow. Heels that release only in the vertical direction rely on the mating ski binding toe units to provide lateral release in response to lateral stresses that enter the fore-body of the ski during forward twisting falls and in response to pure straight-downward twisting loads where an almost pure-torque is applied to the ski. Accordingly, with heels that only provide vertical release, lateral release of the ski from the boot is not possible when lateral forces are applied to the ski immediately under or near the heel that only releases vertically.

[0004] In an equal-and opposite vernacular, the boot can release from the ski, or the ski can release from the boot.

[0005] All alpine ski bindings provide lateral toe release to release the ski from the boot when a transverse-longitudinal (side of the ski) force is applied to the ski at all points along the ski, except where a lateral force is applied to the ski immediately under or near a non lateral releasing heel. A heel that releases in the vertical direction only which relies on a lateral releasing toe can be dangerous to the knee in the event of lateral forces being applied to the ski immediately under a heel that only provides vertical release, because a lateral force applied to a non-releasing ski, under a non-lateral releasing heel, can act over the entire length of the lower leg to generate a moment about the femur when the knee is bent at nearly 70-degrees to 110-degrees, which femur is semi-rigidly attached to the hip, thereby producing very high strain across the anterior cruciate ligament of the knee, often causing rupture of the ACL

[0006] Heel unit bindings that release both vertically and laterally have been proposed. Multi-directional heel unit bindings can have a jaw that laterally pivots around a vertical axis located on the longitudinal plane of symmetry of the ski or a jaw mounted on a universal joint and biased to a centered retention position by an elastic locking system. These heel unit bindings, however, have serious disadvantages. These disadvantages include unsatisfactory lateral and vertical retention of the ski to the boot.



[0007] Multi-directional release bindings that exhibit unsatisfactory lateral and vertical ski retention fail to retain skis to boots during normal controlled skiing which gives rise to a condition called pre-release. Pre-release occurs when a ski binding releases a ski during normal controlled skiing. Pre-release can be caused by an undesired relationship between the vertical forces, the lateral forces, the fore-and-aft forces, the forward and backward bending moments, the torsional moments (pure torques) and the roll moments (edging loads) that enter the binding

[0008] To overcome pre-release, some skiers manually increase the release level biasings of the ski binding which increases the retention of the ski to the boot in the binding. The increase in release level offsets inadvertent pre-release. However, the increase in retention also increases the release level, negating the original benefits that multi-directional bindings are intended to resolve.

[0009] Many of the multi-directional heel release bindings have offered the promise of improved release but have failed to provide adequate retention in practice. Consequently, previous multi-directional heel bindings do not meet fundamental design requirements of an alpine ski binding including providing proper retention of a ski to a boot during controlled skiing maneuvers

[0010] There is also one multi-directional heel unit which provides false-positive retention, because it provides retention during controlled skiing, but fails to allow proper lateral heel release when roll moments (from edging) are induced into the binding, and is being taken to market, regardless, because there is no international standard that tests for the effects of induced roll moments on proper lateral heel release. Therefore, in this special case, the important promise of multi-directional release is not present during edging, which is almost always occurring during controlled and uncontrolled skiing (potentially injurious falls).

[0011] Despite improvements in multi-directional toe release bindings, the incidence of knee injuries continues to increase. Frequently the anterior cruciate ligament (ACL) of knee is strained or ruptured. ACL strain intensifies when lateral forces are applied to the ski immediately under or near the projected tibial axis (coaxial with the

tibia), generally known as phantom-foot fall kinematics. In phantom-foot falls a lateral heel release binding will avert ACL strain. For example, when the knee is in a flexion angle of approximately 70 to 110-degrees, lateral forces applied to the bottom of the project tibia axis generate a torque about the femoral axis when the hip is semi-fixed. Due to the long length of the lever-arm from the base of the ski, including the thickness of the ski, the thickness of the binding (often also including "under-binding devices" / plates), the thickness of the heel section of the boot sole and the long length of the tibia), this high leverage generates a large torque about the femur where the instant unit stress through the knee is applied as strain to the ACL. In this frequent circumstance, a lateral heel release binding could release. However, a multi-directional heel release binding that accommodates the release of the ski in the above described situation, which provides proper lateral release during edge-induced roll moments and also prevents pre-release during normal skiing conditions has yet to be reduced to practice.

**[0012]** Pre-release in a multi-directional release heel (that provides release in the lateral and vertical directions) is primarily caused by an improper cross-linking of the design of the lateral and vertical release mechanisms; or by the cross-linked design of the mechanisms that control lateral, vertical, longitudinal, roll (induced edging), and forward and backward bending moments, causing the pure lateral release mode or the pure vertical release mode (the injurious modes) to become overloaded by the linked addition of the other non-lateral and non-vertical stresses (non-injurious / innocuous modes), by excessive friction between the release interfaces (low friction interfaces not only improve combined-loading release, but also enhance the rapid re-centering of the ski to the boot during innocuous stresses), and by insuring that the fitting adjustments that properly connect the binding to the individual sizing of the boot are correct.

**[0013]** In related art with a multi-directional heel release, a center release mechanism is used. However, center release mechanisms show evidence of internal friction, especially during induced roll moments from edging. Furthermore, snow can be forced into the front end of the binding where the moving twist release interface resides between the bottom side of the binding and the ski. The snow builds up, and when compressed by the cyclical action of ski flex and counter-flex, forms an expanding layer



of ice that greatly increases the resultant twist release. The presence of snow and ice melts deposits large amounts of dirt and grit in the release interfaces. The deposition greatly increases the resultant twist release and subsequent resultant torsional loading induced into the tibia during combined forward twisting falls, by as much as 300%, easily causing a fractured tibia.

**[0014]** A multi-directional release binding that takes into consideration the aforementioned intricacies and prevents pre-release has not been reduced to practice.

#### SUMMARY OF THE INVENTION

**[0015]** An alpine ski binding heel unit is disclosed that includes a primary vertical release, lateral heel release and longitudinal pressure compensator. The primary vertical release, lateral heel release and longitudinal pressure compensator are de-linked from each other. That is, they are functionally independent mechanisms. The forward release, the lateral heel release, and longitudinal pressure compensator include independent adjustment.

**[0016]** In one embodiment, the lateral heel release includes a lateral release cam. The lateral release cam features a decisively controlled level of release effort as the heel of the boot displaces from the longitudinal center of the ski. The lateral release cam and similarly matched cam interface include two pairs of individual cam members. Each pair includes a left individual cam member and right individual cam member for lateral heel release in the left and right direction, respectively. The individual cam member comprise rounded faces such that during dynamic motion of the lateral release only one or two cam members are in contact with the matched cam interface. The lateral release cam restricts the movement of the lateral heel release to a predetermined path of both rotation and translation. The shape of the individual cam members and the matched cam interface define this predetermined path.

**[0017]** In one embodiment, the left and right side individual cam members are shaped symmetrically providing similar lateral release in either the inward or outward directions. In another embodiment, the two sides are shaped asymmetrically to provide

unequal release in the inward and outward directions. The asymmetry is shaped so that the gross features of the individual cam members are either curved toward the fore body of the ski or curved aft toward the after-body of the ski. Curving forward increases the net lateral release, while curving aft decreases the net lateral release.

**[0018]** During dynamic actuation, the shape of the individual cam members shifts the instant center of contact between the lateral release cam and the matched cam interface. The contact center during its initial phase of lateral movement is at the inner pair of individual cam members. Specifically, one of the individual cam members (left or right) will contact the matched cam interface during the initial phase of lateral release. Then, during the latter phase of lateral movement, the contact center shifts from the inner pair to the outer pair of individual cam members (either left or right).

**[0019]** Analytically, the lateral heel release includes an incremental lever arm that resists lateral motion. The incremental lever arm is defined by the distance between the point of contact between the tension shaft and the point of contact on the lateral release cam. The incremental lateral release cam tilts during initial and latter phases of release. The lateral release cam tilt allows the instant lateral center of effort (from the longitudinal pressure) of the boot to shift laterally to a point that is farther away from the concentrated point of contact. The rolling nature of the contact interface, defined by the lateral release cam and the matched cam interface, minimizes changes in the coefficient of friction within the cam interface of the lateral heel release mechanism.

**[0020]** Lateral release of the ski from the boot occurs after the instant lateral center of the boot's longitudinal pressure is displaced past the outer most individual cam member (either left or right). The incremental lever arm offsets an opposing lever arm of the lateral release spring-bias. When the boot's lateral instant center of longitudinal pressure is disposed near the outer pair of individual cam members, the ski, relative to the boot, can either continue to move laterally until release if the induced load increased, or the ski, relative to the boot, can be pulled back to center if the loading innocuously dissipates. The net effect of multiple lever arms as described above pulls the ski, relative to the boot, back to center.



**[0021]** In one or more embodiments, a vector decoupler mechanism separates and isolates undesired release conditions from intended release conditions. The vector decoupler mechanism filters events including induced roll loads (due to edging on snow or ice), forward bending moments, vertical forces and backward bending moments from the primary lateral and vertical heel release mechanisms. The vector decoupler prevents influence on objects including the lateral heel release, the vertical heel release and the longitudinal pressure compensator.

**[0022]** The vector decoupler mechanism includes a tongue that extends from the upper stem of the lateral release cam. The tongue moves between two plates disposed above and below the tongue. The two plates are stationary relative to lateral heel release and are a part of a lower heel unit housing. The lower heel unit housing connects to the non-moving side of the lateral release cams.

**[0023]** The heel unit as described also provides the function of entry and exit into and out of the ski by virtue of the movement of the vertical release feature. Stepping upon a treadle latches the heel unit to the boot. The other protruding end of the heel unit can be stepped upon by the opposite ski, boot, pole or hand to effect stepping-out of (i.e., disengaging the boot from) the heel unit.

**[0024]** The vector decoupler mechanism filters out unwanted non-lateral loads away from the lateral release cam. The unwanted loads include those that occur when stepping-into the binding (as during latching the vertical release mechanism), those that occur during vertical only release, and those that occur during edging on snow or ice (roll moments).

**[0025]** The longitudinal pressure compensator includes a spring. The spring bias produces linear force between the boot and the jaw (heel interface of the binding) of the binding. Ski flex causes the spring to become compressed. In one embodiment, the longitudinal pressure compensator mechanism is semi-linked to the primary vertical heel release and lateral heel release mechanisms. Consequently, the longitudinal pressure on the lateral heel release mechanism and vertical release mechanism increases proportionally and predictably in the event of ski flex as a function of the spring rate of

the forward pressure spring.

[0026] The design largely blocks the introduction of foreign matter into the lateral heel release cam mechanism, thereby not significantly affecting performance. The open space between the lateral release cam and the matching cam interface may be partially filled with a compressible rubber-like polymer to prevent the introduction of mud, road-salt and ice contaminates.

[0027] Another embodiment describes a heel pad, to which the heel area of the sole of the boot rests, which is coated with a low-friction element to minimize the lateral friction produced by normal forces (downward forces). An alternative describes a different coefficient of friction coating surface, such as, polytetrafluoroethylene (PTFE) or polypropylene. This low-friction interface maintains an expected level of lateral-twist release during the introduction of combined vertical-downward and roll loads, as primarily controlled by the spring-biased lateral heel release.

#### BRIEF DESCRIPTION OF THE DRAWING

[0028] FIG. 1 illustrates a side view of the alpine ski binding heel unit;

[0029] FIG. 2 is a more detailed side view of the heel unit of FIG. 1;

[0030] FIG. 3 illustrates a cross-sectional top view of a lateral release mechanism including the spring biasing; and,

[0031] FIG. 4 is a more detailed cross-sectional top view of the lateral release mechanism of FIG. 3.

#### DETAILED DESCRIPTION

[0032] FIG. 1 shows a sectional side view of a ski binding heel unit 100. The ski binding heel unit includes an upper heel housing 16, lower heel housing 27, heel pad 13, lateral release 340, interface support 330, and vector decoupler mechanism 60. Heel pad



13 connects to interface support. The heel housing is disposed on the lateral release 340, which is connected to the vector decoupler mechanism 60.

**[0033]** FIG. 2 details a side view of the alpine ski binding heel unit shown in FIG. 1. Upper Heel housing 16 includes a pivot rod 18, cam surfaces 19a and 19b stem section 17b, lateral release cam assembly 17, vertical release cam follower 20, vertical release spring 21, threaded cap 22, window 24, polymer piece 25, surface 26, region 33, and heel cup assembly 47.

**[0034]** As used herein, the longitudinal and horizontal plane of the ski is that plane which is parallel to the bottom surface of the ski. The longitudinal and vertical plane of the ski is that plane which is perpendicular to the longitudinal and horizontal plane of the ski and parallel to the longitudinal centerline of the ski.

**[0035]** Upper heel housing 16 connects to lateral release cam 17 by way of a pivot rod 18. Vertical release is a function of opposing vertical release cam surfaces 19a and 19b on the aft-most end of the upper one-third stem section 17b of lateral release cam 17, and the vertical release cam follower 20. The vertical release spring 21 (shown by an "X") in the large internal pocket of the upper heel housing 16 pushes cam follower 20. Forward release threaded cap 22 compresses the opposing end of spring.

**[0036]** A window 24 on surface 26 registers the release adjustment value. In one embodiment, a transparent polymer piece 25 covers the window 24. In a forward skiing fall, which generates a forward bending moment on the lower leg of the skier, the ski boot applies an upward vertical force to region 33 of the underside of heel cup 47 which heel cup is integral with upper heel housing 16.

**[0037]** The upper heel housing 16 holds and compresses a ski boot heel downward to oppose the upward forces generated by the ski boot during skiing. Forces include those from forward bending moments and roll moments generated during edging because region 33 and pivot rod 18 have a lateral width to resist such induced roll moments from edging. The skier removes the ski boot from the alpine ski binding heel unit by applying downward pressure to the top end of upper heel housing 16 with the opposite ski,

opposite boot, by ski pole, or by an open hand.

**[0038]** Cam follower 20 moves along the length of the pocket of the long axis of upper heel housing 16 in response to upward vertical forces being applied to region 33 or in response to downward exiting forces applied to the upper end of upper heel housing 16. The shape of cam surfaces 19a and 19b control the relationship of the forces and corresponding displacement of cam follower 20, as biased by spring 21, which allows for the rotational displacement about a horizontal axis 18 of upper heel housing 16 and the vertical displacement of the ski boot in concert with region 33.

**[0039]** The vertical release cam follower 20 is made of plastic, while the moving lateral release cam 17 / 17b is made of coated die cast metal or injection molded plastic, although other suitable materials known in the art may also be used. The vertical release cam interface between cam surfaces 19a and 19b can be heavily greased with moderately high viscosity low-friction grease such as molybdenum disulfide or the like. The wicking action of cam surfaces 19a and 19b, as in the way an eye-lid functions, preclude mud, road-salt and ice from interfering with smooth vertical release cam action.

**[0040]** Interface support 330 includes bottom surface, stop-lock/nut 29, teeth 30, longitudinal spring 32, and lower carriage 12.

**[0041]** Lower carriage 11, connects to the top surface of a ski (not shown), to a riser plate (not shown), a lifter (not shown) or to an integral rail-system (not shown). Stop-lock/nut 29 has one or more teeth 30 to allow selective movement of lower heel housing 27 along the length of lower carriage 12 in conjunction with slots 31 that are formed in lower carriage 12. Turning stop-lock/nut 29 facilitates movement of lower heel housing 27 relative to lower carriage 12 to properly fit various lengths of ski boots between the lower heel housing 27 and an alpine binding toe piece (not shown).

**[0042]** In series with the stop-lock/nut 29 and lower heel housing 27 is longitudinal spring 32, which provides a spring bias between lower heel housing 27 and lower carriage 12. Longitudinal spring 32 also provides longitudinal pressure between the lower heel housing 27 and alpine binding toe piece to ensure proper hold of a boot during



the ski's counter-flex. Counter-flex increases the strain on the top surface of the ski, thereby increasing the distance between the toe piece and heel unit 100. The longitudinal pressure maintains the contact of the binding's toe piece and heel unit 100 throughout the ski counter-flex. The lower heel housing 27 applies longitudinal pressure to the ski boot via the upper heel housing 16 at surface 32 of heel cup 47. An internal shoulder on stop-lock/nut 29 prevents the nut 29 from falling out of its opening at the end of the lower heel housing 27. Longitudinal pressure increases substantially during ski flex. Such pressure is addressed by the longitudinal pressure spring biasing means that is comprised of elements 32, 29, 30, 31 within lower heel housing 27.

**[0043]** The lower heel housing 27 fits to and integrates with lower carriage 12 by flanges 28. Specifically, flanges 28a, 28b, on each side of the lower heel housing 27, mate with lower carriage 12.

**[0044]** Heel pad 13 includes low-friction element 14, low-friction surface 15, and bearing grease 56. Low-friction element 14 is disposed on the heel pad 13 and is lubricated with bearing grease 56. In an alternate embodiment low-friction surface 15 and bearing grease 56 is replaced with a low-friction surface 15 to which a boot can contact. Low-friction means 14 and 15 provide smooth lateral heel release during combined downward-vertical and lateral stresses, which mitigate torque about the femur and correspondingly strained ACL. Low-friction means 14 and 15 contribute to rapid re-centering of the heel of a boot during innocuous lateral heel loads.

**[0045]** The vector decoupler assembly 60 includes cantilevered plate 57, vector decoupler tongue 60a, top surface 61, and low-friction elements 58 and 59.

**[0046]** The cantilevered plate 57 joins to the moving lateral release cam element 17. The low friction elements 58 and 59 are made of a low-friction polymer, such as polytetrafluoroethylene (PTFE), or are made of other low-friction materials or surfaces that are already well known in the art. One side of the low-friction element 58 bonds to a mating surface (not shown). For example, the top-side of low-friction element 58 can be bonded to the bottom side of vector decoupler assembly 60, allowing the low friction element 58 to slide while rotating and translating laterally. The translation occurs with

the vector decoupler tongue 60a when a force is applied to the vector decoupler tongue 60a such that the vector decoupler tongue 60a is applied against top surface 61 of lower heel housing 27. Optionally, the bottom side of low-friction element 58 can be bonded to the top surface 61 of lower heel housing 27. Accordingly, the vector decoupler tongue 60 can rotationally and translationally slide laterally against low friction element 58. If the vector decoupler tongue is made of an aluminum die casting, a low friction coating (such as Teflon impregnated epoxy paint) is applied to the contact surfaces of the vector decoupler tongue 60a and the top surface 61 of the lower heel housing 27. Low friction coatings provide a low friction interface between the vector decoupler tongue 60 and the lower heel housing. If the vector decoupler tongue is made of injection molded plastic, the plastic material itself can be of a low coefficient of friction material without any coating, such as DuPont Delrin blended with PTFE, low-coefficient of friction grades of Nylon 12 or Nylon 66 or other low-coefficient of friction / high impact at low-temperature grades of plastics that are already well known in the art.

**[0047]** In a similar way, the top-side of low-friction element 59 bonds to the bottom side of cantilevered plate 57 so that the vector decoupler tongue 60a can slide smoothly while rotating and translating in the general lateral direction. Or, optionally, the bottom side of low-friction element 59 can be bonded to the top surface of the vector decoupler tongue 60a while the top surface of the low-friction element 59 slides by rotating and translating against the bottom side of the cantilevered plate 57. If the vector decoupler tongue is made of die castable aluminum, low friction coatings, such as Teflon impregnated epoxy paint, are applied to the contact surfaces of the vector decoupler tongue 60a and the bottom surface of the cantilevered plate 57. The application provides a low-friction interface between the vector decoupler tongue 60a and the cantilevered plate 57.

**[0048]** The vector decoupler assembly 60 has sufficient width between 1 cm and 3 cm in the lateral direction. The augmented width resists a roll moment induced by a skier. The width also resists the stresses induced in the roll direction when skiing on snow or icy surfaces when a boot is forced to overturn laterally (roll), so that an upward unit force is applied to one side of the lateral region 33 of the underside of heel cup 47



thereby decoupling the effects of induced roll moments from the vertical release mechanism – minimizing inadvertent pre-release. The resistance supplied by the vector decoupler substantially decouples the roll moment from the moving lateral release cam surfaces 17c and interfacing lateral release cam surfaces 27a, thereby decoupling the effects of induced roll moments from the lateral heel release.

**[0049]** The vector decoupler assembly 60 allows free lateral translational and rotational movement of the moving lateral release cam 17 relative to the lower heel housing 27. The vector decoupler assembly 60 also allows free coupling of moving lateral release cam 17 against the mating cam surfaces 27a in the presence of lateral heel release loads. This occurs even when induced roll moments and upward force vectors are applied through the vector decoupler assembly 60. Free coupling is partially limited by friction generated between the sliding surfaces of low-friction elements 58 and 59 and the respective mating surfaces of components 60a and 61. Component 61 can be affixed to the lower heel housing 27 by band 18 that wraps around the lower heel housing 27.

**[0050]** In an alternate embodiment, cantilevered plate 61 is formed integrally with lower heel housing 27 as an aluminum die-casting or as an injection molded plastic part. The long length of vector decoupler tongue 60a reduces the unit compressive stresses at the far end of the tongue, between its interfacing components, low-friction element 59 and cantilevered plate 61 during induced forward bending moments. The long length of vector decoupler tongue 60 also serves to reduce the compressive stresses between interfacing components, low friction element 58, and the lower heel housing 27 during the latching action of stepping into the lower heel housing 27.

**[0051]** Vector decoupler mechanism 60 above is de-coupled from longitudinal pressure loads generated between moving lateral release cam 17 and lower heel housing 27, due to the longitudinally-open linkage between tongue 60a and cantilevered plate 57. In another embodiment, the side-to-side movement of the tongue 60a may be limited either on one side or both sides and substantially restricted on one side to block lateral heel release in one lateral direction to cut the probability of lateral heel pre-release in half while at the same time allowing release in the other lateral direction to provide for the

lateral stresses that cause the inward twisting abduction loads present in ACL ruptures, described in part by the phantom-foot injury mechanism/fall mechanics described above.

**[0052]** FIG. 3 illustrates a sectional top view of a lateral heel release mechanism. FIG. 4 shows the view of FIG. 3 in greater detail. Lateral release cam 17 is disposed next to matched cam interface 50. Both lateral release cam 17 and matched cam interface is disposed on top of lower carriage 12. Lateral release 340 includes lateral release cam 17, matched cam interface 50, spring biasing means 52, lateral heel release spring 35, tension shaft parts 36a and 36b, connector rod 41, shaft-rod 37, lateral release indicator washer 39, internal washer 40, integral opening 44, rectangular opening washer 42, and interface curved surfaces 51a, 51b, 51c, 51d, 51f, 51g.

**[0053]** Referring to FIGs. 2 and 4, the lateral heel release mechanism comprises lateral release cam surfaces 17c and lower heel housing lateral cam surfaces 27a, which are biased (i.e., forced together) by lateral heel spring-biasing component 52. Lateral spring biasing component 52 includes lateral heel release spring 35 that is placed in compression by the opposing force of the tension shaft parts, 36a and 36b (or by optional unitary tension shaft 36), and connector rod 41. These are supported at each tensioned two ends of the rod(s). At one end, shaft-rod 37, lateral release cam 17, and rectangular opening washer 42 support the equal and opposite compression against internal wall 43 of lower heel housing 27. At the other end, lateral release threaded cap 38, lateral release indicator washer 39, internal washer 40 support the equal and opposite compression of the tension rod(s). Internal opening 44 and the internal opening of rectangular opening washer 42 are both rectangular in shape to permit tension shaft 36a (or 36) to rotate and translate laterally upon the lateral movement of moving lateral release cam 17. While the vertical gaps of internal opening 44 and the vertical gaps of rectangular opening washer 42 are each smaller than their respective lateral gaps, such vertical gaps restrict the vertical movement of tension shaft 36a (or 36), so that upper heel housing 16 provides vertical movement of the ski binding heel unit about its pivot axis 18, rather than by the forced vertical movement of other elements.

**[0054]** Lateral heel release cam surfaces allow the lateral release cam 17 to both



rotate and translate relative to the lower heel housing 27, so that the heel area of the ski boot can displace laterally relative to the long axis of the ski. Boot displacement occurs when lateral loads are induced. Such lateral movement of the boot occurs across low-friction element 14 and heel pad top surface 15, as well as laterally against heel cup 47 boot-interface surfaces 32 and 33.

**[0055]** The lateral release cam surfaces 17c and 27a of the lateral release cam 17 and the mating cam surfaces 27a of the lower heel housing 27 displace relative to each other in a path described by their curved surfaces – specifically, curved surfaces 50a, 50b, 50c, 50d, 50f, 50g and their respective incremental interface curved surfaces 51a, 51b, 51c, 51d, 51f, 51g.

**[0056]** A partial lateral boot heel displacement occurs when the projected longitudinal-pressure center-of-effort between the boot and the heel cup 47 shifts laterally and the moving lateral release cam 17 tilts by rotating and translating a small amount, biased by lateral heel release spring 35. During such a partial lateral boot heel displacement, the opposing curved cam surfaces 50a, 50b, 50c, 50d, 50f, 50g move by translating and rotating (tilting) from their at-rest position to the next point of cam contact 50c and 51c, biased by lateral heel release spring 35. Accordingly, cam surfaces 50b and 51b space apart the "a-a" (as in 50a and 51a) surfaces from the "c-c" surfaces to provide an incremental lever arm. The incremental lever arm permits lateral translational and rotational movement of 17 relative to 27a. The at-rest position is defined to be when the surfaces on the symmetrically opposite side of the lower heel housing 27 are touching each other. For example, the at-rest position occurs when surfaces 50a and 51a are contacting each other.

**[0057]** As the heel of the boot continues to move laterally and lateral release cam 17 rotates and translates more to the point where cam surfaces "c-c" touch, a reverse-polarity lever-arm is generated that vector-adds to the spring bias effect of 52. The resultant incrementally abates the rotational and translational movement of lateral release cam 17. The abatement acts to re-center lateral release cam 17 toward its at-rest position, thereby providing incremental retention in the advent of large amounts of longitudinal

pressure between the boot and lateral release cam 17, which would otherwise cause inadvertent pre-release. If the lateral load at the heel persists in magnitude and/or duration, the boot's instant center of effort of longitudinal pressure then shifts outside of cam contact surfaces "c-c" to release the ski from the boot quickly and efficiently as is the case with ACL injury producing loads.

[0058] A similar benefit results if a load continues to persist in magnitude and duration while lateral release cam 17 continues to translate and rotate past the boot's projected longitudinal pressure shifts "outside" of cam contact surface "e-e." This reverses the polarity of the lever arm that acts perpendicular to the boot's projected center of effort of longitudinal pressure, thereby vector-subtracting from spring biasing means 52 to precipitate efficient release. Cam surfaces "f-f" begin to separate as cam surfaces "g-g" contact one another.

[0059] Finally, when cam surfaces "g-g" contact and the boot's projected instant center of longitudinal pressure shifts "outside" of cam surface contact point "g-g", the perpendicular lever arm finally reverses polarity again to vector-subtract from the spring bias 52, causing the moving lateral release cam 17 to rotate and translate toward lateral heel release.

[0060] The novel incremental vector additions and subtractions along the progressive cam surfaces that progress from cam surfaces "a-a" to cam surfaces "g-g" as described above, are also progressively effected by the increasing overall lateral lever arm generated between those cam contact surfaces and the reaction force of spring bias 52 applied at the instant-center-of-effort of shaft-rod 37. This arrangement makes lateral pre-release incrementally more difficult, the maximum point of release being a function of the exact spring constant of lateral heel spring 35, the amount of compression of spring 35 as controlled by lateral release threaded cap 38 (as indicated in lateral release level windows 53 on each side of lower heel housing 27). The maximum point of release is off-set by the incrementally decreasing longitudinal distance of the lever arm, between the lateral instant-center-of-contact of the side of the boot's heel and the lateral heel cup surface 54, to the instant-point of surface-contact on the progressive cam surfaces 17c



and 27a.

[0061] If the moving progressive cam 17 were to rotate only about a central pivot located over the center of the ski, the alpine binding heel unit 10 would be too biased toward release and skiers would suffer from pre-release. On the other hand, if the moving progressive cam were to rotate only about opposing cam surfaces "g-g" (as in 50g and 51g) the alpine binding heel unit would be too biased toward retention and skiers would suffer from ruptured ACL injuries. The progressive cams thus strike a decisive balance over release and retention by incrementally reversing polarity between release and retention during the course of lateral heel movement when moving cam 17 rotates and translates accordingly.

[0062] The kinematics of the incremental lateral release path of the boot relative to the ski can be controlled by the geometry of the mating cam surfaces as noted above. Adjustments to control the point of maximum lateral release can be adjusted by the compressive movement of lateral release threaded cap 38.

[0063] In one embodiment, a compressible elastomeric material 54 such as Dupont Crayton is placed between lateral release cam surfaces 27a and 17c to minimize the contamination effects of ice, mud and road-salt. Alternatively, a very highly elastic membrane 55 can be placed at the open end of the surfaces as a barrier to such contaminants. In yet another embodiment, the gap between the surfaces can remain open and exposed so that visual inspection of the gap can be easily performed by skiers or service technicians and because of the curved end surface of 51h. The curved end serves as a snow, ice and road-salt deflector to mitigate the practical effects of such environmental exposure. The entire lateral release mechanism including components 38, 39, 40, can be easily removed from parts 35, 36a, 36b, 41, 42, 37 and 17 to allow for periodic cleaning of the lateral release cam surfaces 17c and 27a. Snow pack does not build-up and compress into ice in the gap between 17c and 27a because the lateral orientation of the gap is at right angles to the direction of travel through the snow, mitigating the practical and important concerns about snow-pack and ice formation and its interference with lateral heel release.

**[0064]** Low-friction journals, or integral surfaces 62 and 63 of moving lateral release cam 17 further serve to decouple induced roll and vertical loads when acting against surfaces 49 and 64. They are, however, limited in their structural capacity due to the high unit stresses imposed on these surfaces. Such stresses exist because of the necessary restricted longitudinal lengths of elements 62, 63, 49 and 64, due to the need for the lower heel housing 27 to be compact in overall size, thereby causing the vector decoupler mechanism 60 to act in concert together with elements 62, 63, 49 and 64 to provide counter resistive fulcrum points as well as sliding bearing interface surfaces.

**[0065]** Other aspects, modifications, and embodiments are within the scope of the following claims.

What is claimed is:

- 1 1. A vector decoupling assembly for separating and isolating two or more force
- 2 vectors applied to a safety binding securing a heel portion of a ski boot to a ski,
- 3 comprising:
- 4 a lower heel assembly attached to the ski;
- 5 an upper heel assembly coupled to the lower heel assembly and having a lateral
- 6 release assembly for applying lateral securing pressure to the ski boot;
- 7 a linkage element fixedly attached to the lateral release assembly;
- 8 wherein the linkage element, the first surface and the second surface cooperate to
- 9 limit motion of the lateral release assembly to within a predetermined region within a
- 10 plane defined by the longitudinal and horizontal axes of the ski.

## ALPINE SKI BINDING HEEL UNIT

### ABSTRACT

Ski binding heel unit includes lateral release cams and a vector decoupler mechanism that provide lateral shear release of the heel of a ski boot from a ski. The ski binding heel unit includes an independent vertical heel release mechanism, independent lateral release mechanism and a forward pressure compensator. The lateral release cams have laterally outwardly flaring contact points. The vector decoupler mechanism restricts heel unit lateral rotation and translation to a control path. The shape of the lateral release cams dictates the control path. The vector decoupler mechanism redirects the non-lateral forces without effecting the vertical heel release, lateral heel release or forward pressure compensator. The lateral release cams and vector decoupler mechanism avert non-lateral, benign loads from the lateral heel release, and avert non-vertical, benign loads from the vertical heel release thereby reducing the incidence of inadvertent pre-release of a boot from a ski.



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|   |                         |                        |                  |
|---|-------------------------|------------------------|------------------|
| <b>Application Data Sheet 37 CFR 1.76</b>   |                         | Attorney Docket Number | 2003127.00122US3 |
|   |                         | Application Number     |                  |
| Title of Invention  | ALPINE SKI BINDING HEEL |                        |                  |
| <p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p> |                         |                        |                  |

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|   |                   |   |                    |  |    |
|---|-------------------|---|--------------------|--|----|
| <b>Applicant 1</b>  |                   |   |                    |  |    |
| <b>Applicant Authority</b>  |                   | <input checked="" type="radio"/> Inventor |                    | <input type="radio"/> Legal Representative under 35 U.S.C. 117 |    |
|   |                   |   |                    | <input type="radio"/> Party of Interest under 35 U.S.C. 118    |    |
| <b>Prefix</b>   | <b>Given Name</b> | <b>Middle Name</b>                        | <b>Family Name</b> | <b>Suffix</b>  |    |
| Mr.   | Richard           | J.  | HOWELL             |  |    |
| <b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service |                   |   |                    |  |    |
| <b>City</b>   | Stowe             | <b>State/Province</b>                     | VT                 | <b>Country of Residence</b>                                    | US |
| <b>Citizenship under 37 CFR 1.41(b)</b>   |                   | US  |                    |  |    |
| <b>Mailing Address of Applicant:</b>  |                   |   |                    |  |    |
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| <b>Address 2</b>  |                   |   |                    |  |    |
| <b>City</b>   | Stowe             | <b>State/Province</b>                     | VT                 |  |    |
| <b>Postal Code</b>  | 05672             | <b>Country</b>                            | US                 |  |    |
| All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.                                     |                   |   |                    |  |    |

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**Application Information:**

|  |                         |  |                                     |
|--|-------------------------|--|-------------------------------------|
| <b>Title of the Invention</b>                  | ALPINE SKI BINDING HEEL |  |                                     |
| <b>Attorney Docket Number</b>                  | 2003127.00122US3        | <b>Small Entity Status Claimed</b>               | <input checked="" type="checkbox"/> |
| <b>Application Type</b>                        | Nonprovisional          |  |                                     |
| <b>Subject Matter</b>                          | Utility                 |  |                                     |
| <b>Suggested Class (if any)</b>                |                         | <b>Sub Class (if any)</b>                        |                                     |
| <b>Suggested Technology Center (if any)</b>    | N/A                     |  |                                     |
| <b>Total Number of Drawing Sheets (if any)</b> | 4                       | <b>Suggested Figure for Publication (if any)</b> | 1                                   |

|   |                         |                        |                  |
|---|-------------------------|------------------------|------------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                         | Attorney Docket Number | 2003127.00122US3 |
|   |                         | Application Number     |                  |
| Title of Invention                        | ALPINE SKI BINDING HEEL |                        |                  |

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| Prior Application Status   | Pending            |                          | <a href="#">Remove</a>   |               |                         |
| Application Number   | Continuity Type    | Prior Application Number | Filing Date (YYYY-MM-DD) |               |                         |
|  | Continuation of    | 12001436                 | 2007-12-11               |               |                         |
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| Application Number   | Continuity Type    | Prior Application Number | Filing Date (YYYY-MM-DD) | Patent Number | Issue Date (YYYY-MM-DD) |
| 12001436   | Division of        | 10780455                 | 2004-02-17               | 7318598       | 2008-01-15              |
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| <b>Application Data Sheet 37 CFR 1.76</b> |                         | Attorney Docket Number | 2003127.00122US3 |
|   |                         | Application Number     |                  |
| Title of Invention                        | ALPINE SKI BINDING HEEL |                        |                  |

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| <b>Assignee 1</b>   |                   |                |            |
| If the Assignee is an Organization check here. <input checked="" type="checkbox"/>  |                   |                |            |
| Organization Name   | Kneebinding, Inc. |                |            |
| <b>Mailing Address Information:</b>   |                   |                |            |
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| Address 2   | P.O. Box 1416     |                |            |
| City  | Stowe             | State/Province | VT         |
| Country   | US                | Postal Code    | 05672-4650 |
| Phone Number  |                   | Fax Number     |            |
| Email Address   |                   |                |            |
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| A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature. |                     |           |         |                     |            |
| Signature  | /Ronald R. Demsher/ |           |         | Date (YYYY-MM-DD)   | 2011-01-04 |
| First Name   | Ronald              | Last Name | Demsher | Registration Number | 42478      |

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| <b>Application Number:</b>                  | 12984293                          |
| <b>International Application Number:</b>    |                                   |
| <b>Confirmation Number:</b>                 | 2029                              |
| <b>Title of Invention:</b>                  | ALPINE SKI BINDING HEEL UNIT      |
| <b>First Named Inventor/Applicant Name:</b> | Richard J. Howell                 |
| <b>Customer Number:</b>                     | 23483                             |
| <b>Filer:</b>                               | Ronald R. Demsher./maureen divito |
| <b>Filer Authorized By:</b>                 | Ronald R. Demsher.                |
| <b>Attorney Docket Number:</b>              | 2003127.122US3                    |
| <b>Receipt Date:</b>                        | 04-JAN-2011                       |
| <b>Filing Date:</b>                         |                                   |
| <b>Time Stamp:</b>                          | 16:22:52                          |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)       |

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|-----------------|---|-----------------------------|--|------------------|------------------|
| 1               | Drawings-only black and white line drawings | 2003127_122US3_Drawings.pdf | 319956<br>f9a6de4ac983325319785567a377bed6155fcd62 | no               | 4                |

**Warnings:****Information:**

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| 2   | Oath or Declaration filed                                  | 2003127_122US3_Declaration.pdf          | 139895<br>78de9d7a0d6b0bddcdab9ea8b42503723241bdd  | no         | 2  |
| <b>Warnings:</b>                                |  |   |  |            |    |
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| 3   | Power of Attorney  | 2003127_122US3_POA.pdf                  | 89356<br>98bd6740b7cc40ba441fada1a4715eeb122500cf  | no         | 1  |
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| 4   | Assignee showing of ownership per 37 CFR 3.73(b).          | 2003127_122US3_373bStmt.pdf             | 79031<br>f3e2962f850513db500a08ba0b0b029639684b22  | no         | 1  |
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| 5   |  | 2003127_122US3_specification_010411.pdf | 1335513<br>11806854780f31bce60640939a79f4e8c59f9fa | yes        | 20 |
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|   | Abstract   |   | 20   | 20         |    |
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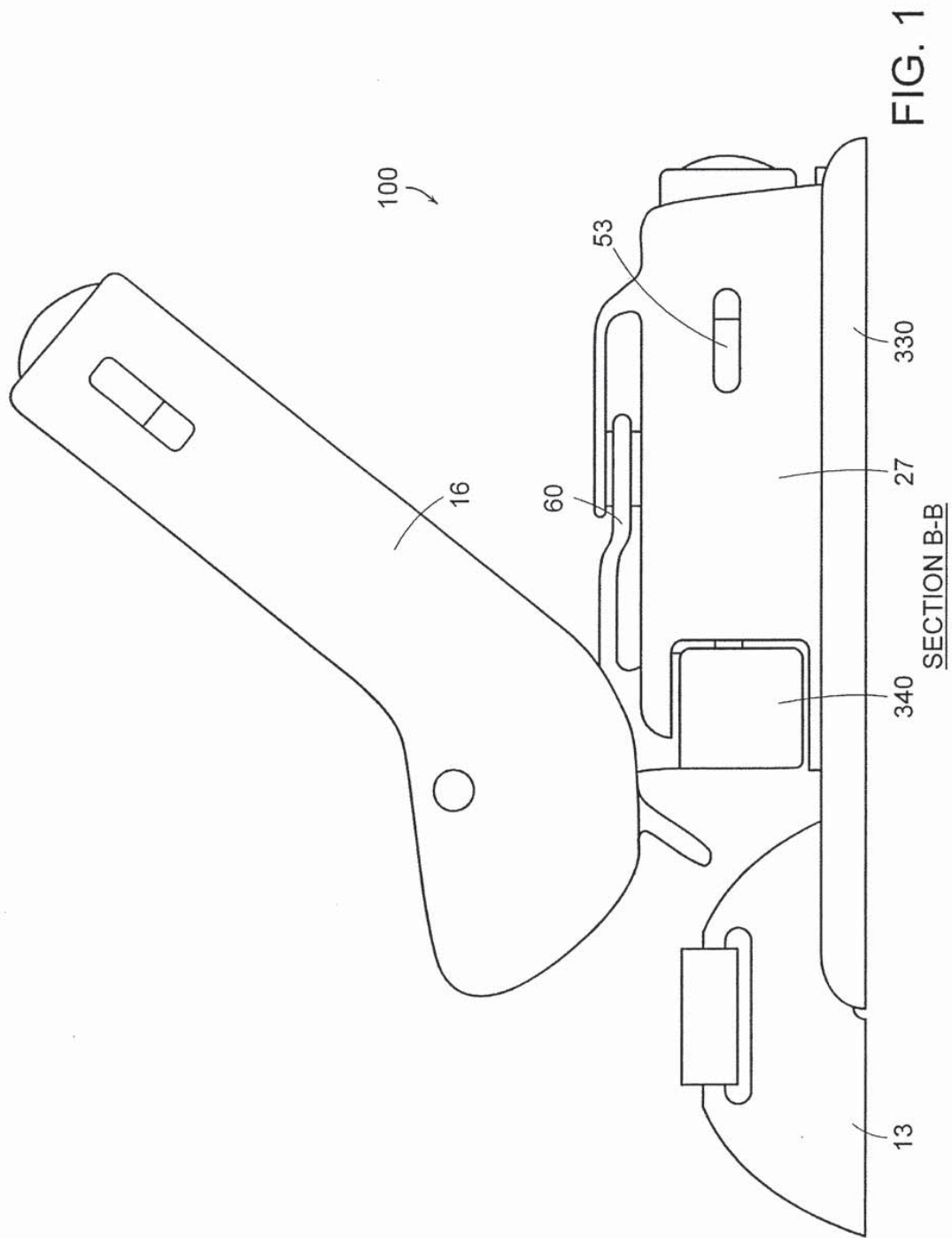
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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1/4



2/4

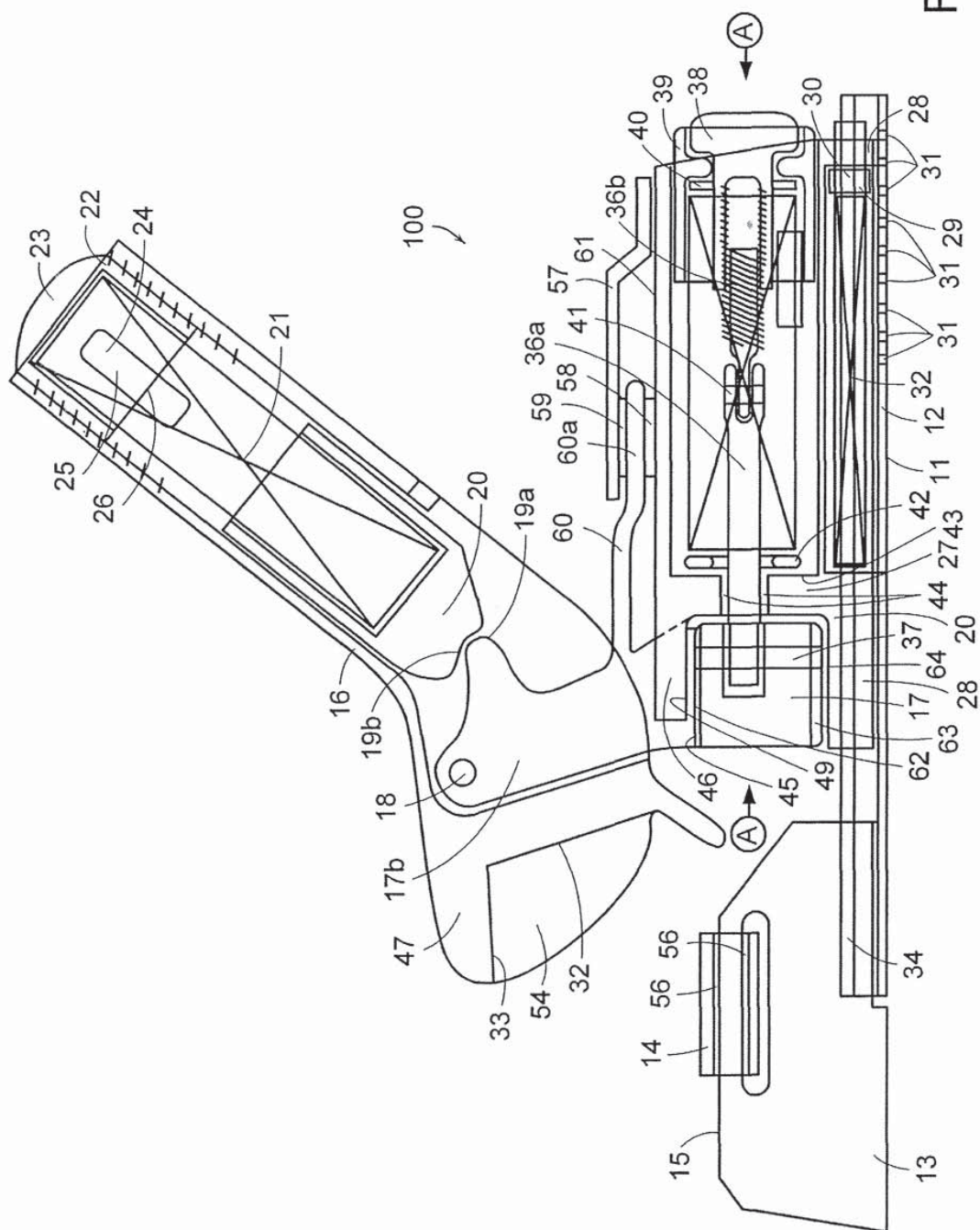


FIG. 2

3/4

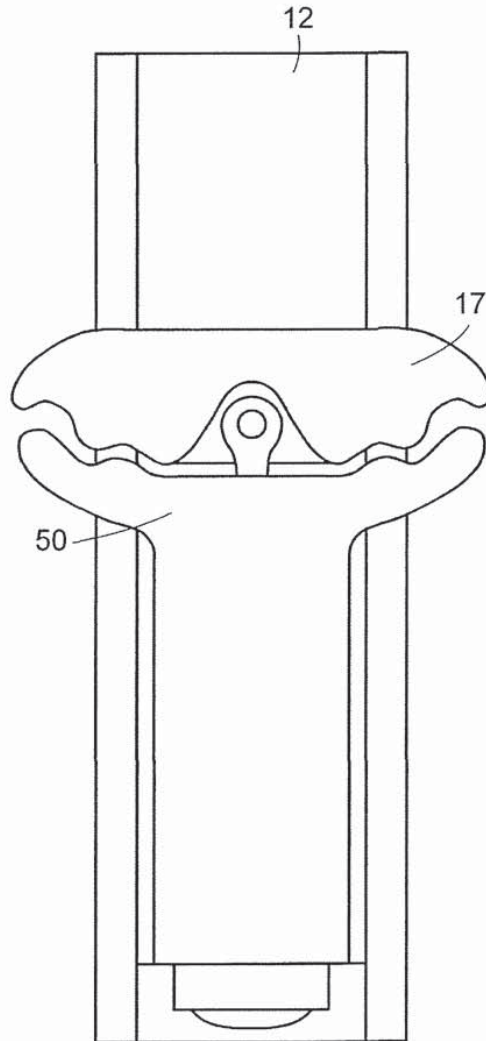


FIG. 3



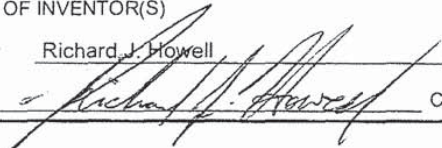


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| DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)   |                              |
|---|------------------------------|
| Title of Invention  | ALPINE SKI BINDING HEEL UNIT |
| As the below named inventor(s), I/we declare that:  |                              |
| This declaration is directed to:  |                              |
| <input type="checkbox"/> The attached application, or<br><input checked="" type="checkbox"/> Application No. <u>12/001,436</u> , filed on <u>12/11/2007</u> ,<br><input type="checkbox"/> as amended on _____ (if applicable);  |                              |
| I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;   |                              |
| I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;   |                              |
| I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. |                              |
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| FULL NAME OF INVENTOR(S)   |  |
|--|--|
| Inventor one:  | <u>Richard J. Howell</u>   |
| Signature:   | <u></u> Citizen of: <u>US</u> |
| Inventor two:  | _____  |
| Signature:   | _____ Citizen of: _____  |
| Inventor three:  | _____  |
| Signature:   | _____ Citizen of: _____  |
| Inventor four:   | _____  |
| Signature:   | _____ Citizen of: _____  |
| <input type="checkbox"/> Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto. |  |

*NONE*  
*MARCH 10, '08*

PTO/SB/01A (09-04)

Approved for use through 07/31/2006. OMB 0651-0032  
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| DECLARATION (37 CFR 1.63) FOR UTILITY OR<br>DESIGN APPLICATION USING AN APPLICATION<br>DATA SHEET (37 CFR 1.76) | ADDITIONAL INVENTOR(S)<br>Supplemental Sheet<br>Page 1 of |
|---|---|
| Inventor five: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor six: _____<br>Signature: _____ Citizen of: _____   |   |
| Inventor seven: _____<br>Signature: _____ Citizen of: _____   |   |
| Inventor eight: _____<br>Signature: _____ Citizen of: _____   |   |
| Inventor nine: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor ten: _____<br>Signature: _____ Citizen of: _____   |   |
| Inventor eleven: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor twelve: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor thirteen: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor fourteen: _____<br>Signature: _____ Citizen of: _____  |   |
| Inventor fifteen: _____<br>Signature: _____ Citizen of: _____   |   |