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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/404,525	01/04/2024	Robert B. Wilcox	118508/US02/ PCTNS/180639P	4785
29270	7590	04/23/2025	EXAMINER	
K&L Gates LLP - Howmet Aerospace Inc. K&L Gates Center 210 Sixth Avenue Pittsburgh, PA 15222-2613			SAETHER, FLEMMING	
			ART UNIT	PAPER NUMBER
			3675	
			NOTIFICATION DATE	DELIVERY MODE
			04/23/2025	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):

uspatentmail@klgates.com

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the first, second, third, fourth, and fifth diameters.

The specification is objected to for failing to provide reference to related application and prior disclosures.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A READ-ONLY OPTICAL DISC,
AS A TEXT FILE OR AN XML FILE VIA THE PATENT ELECTRONIC SYSTEM.

(f) STATEMENT REGARDING PRIOR DISCLOSURES BY THE INVENTOR OR A JOINT INVENTOR.

(g) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(h) BRIEF SUMMARY OF THE INVENTION.

(i) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(j) DETAILED DESCRIPTION OF THE INVENTION.

(k) CLAIM OR CLAIMS (commencing on a separate sheet).

(l) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(m) SEQUENCE LISTING. (See MPEP § 2422.03 and 37 CFR 1.821 - 1.825). A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document either on read-only optical disc or as a text file via the patent electronic system.

Additionally, the continuity is not reflected in the electronic file or Bib Data. The claim for continuity was only found in the ADS.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pull region comprises a single groove must be shown or the feature canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the

replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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 –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claims 1, 5, 8, 13, 21, 24 and 30-33 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Makino (US 7,156,596). Makino discloses a blind fastener consisting of: a generally cylindrical elongated sleeve (3) having a first diameter including a first end, a second end with a swage collar (14) having a second diameter and a cavity therethrough with a third diameter; and a mandrel (5) including an enlarged portion (6) with a forth diameter larger than the third diameter at a first end, a pull region (7) at a second end, a shank region intermediate the first and second ends with a thread (13) and comprising a fifth diameter; wherein the pull region is shown to have a length less than 3 times the fifth diameter at the major diameter of the shank (at 9). The no breakneck groove is a restation of the

intended use of which Makino would be capable of and the fastener is configured to be installed in a bore with a diameter no greater than the fourth diameter

Claim Rejections - 35 USC § 103

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

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 25 and 26 are rejected under 35 U.S.C. 103 as being unpatentable over Makino as applied to claims 1 and 23 above and further in view of Yan (US 10,738,816). Makino does not disclose the length of the pull region no greater than 1.5 times the fifth diameter nor the pull region with a single groove. Yan discloses a fastener including a mandrel (3) with a swage on collar (1) wherein the mandrel has a pull region at one end (Fig. 4) comprising a single groove (3.4) wherein the pull region has a length (K) less than 1.5 times a major shank diameter (3.2). Before the effective filing date of the claimed invention it would have been obvious for one of ordinary skill in the art to replace the pull region of Makino with a pull region as disclosed in Yan because Yan teaches the pull region as an improvement over a conventional pull regions for the reasons enumerated in column 2.

Claims 22 and 23 are rejected under 35 U.S.C. 103 as being unpatentable over Makino as applied to claim 1 above, and further in view of Denham (US 2005/020056). Makino does not disclose the shank region with grooves. Denham discloses a blind fastener similar to Makino including a mandrel with a shank region but in Denham the shank region comprises grooves (17). Before the effective filing date of

the claimed invention it would have been obvious for one of ordinary skill in the art to replace the thread of Makino with grooves because Denham teaches them as alternatives (p. [0025]).

Claims 7 and 27-29 are rejected under 35 U.S.C. 103 as being unpatentable over Makino as applied above, and further in view of Kendall (US 4,702,655). Makino does not discuss the material strengths of the fastener. Kendall discloses a fastener similar to Makino but teaches the mandrel to be made of an iron alloy with a hardness greater than Rockwell 45Hrc (column 3, paragraph beginning line 22). Before the effective filing date of the claimed invention it would have been obvious for one of ordinary skill in the art to make the mandrel of Makino of the same material as disclosed in Kendall because Kendall teaches the material to be well suited for blind fastener applications such as Makino.

Claim 34 is rejected under 35 U.S.C. 103 as being unpatentable over Makino in view of Yan as applied to claims 1 and 2 above, and further in view of Denham and Kendall. Makino in view of Yan does not disclose the shank region with grooves. Denham discloses a blind fastener similar to modified Makino including a mandrel with a shank region but in Denham the shank region comprises grooves (17). Before the effective filing date of the claimed invention it would have been obvious for one of ordinary skill in the art to replace the thread of modified Makino with grooves because Denham teaches them as alternatives (p. [0025]). Makino in view of Yan and Denham does not discuss the material strengths of the fastener. Kendall discloses a fastener similar to modified Makino but teaches the mandrel to be made of an iron alloy with a hardness greater than Rockwell 45Hrc (column 3, paragraph beginning line 22). Before the effective filing date of the claimed invention it would have been obvious for one of ordinary skill in the art to make the mandrel of modified Makino of the same material as disclosed in Kendall because Kendall teaches the material to be well suited for blind fastener applications such as modified Makino.

Response to Remarks

The examiner acknowledges the Interview and agrees with applicant's summary.

The 112(a) rejection has been withdrawn after consideration of applicant's remarks. The examiner agrees there is sufficient disclosure for the single pull groove. But as noted above, now that it claimed it must also be shown.

The examiner agrees that the Wang reference (US 11,692,576) does not apply as prior art because it has a later filing date than the earliest priority of the instant applicant. But for the reasons the explained above the priority was not apparent in the instant application. So, in light of the clarified priority a new rejection was necessitated which is again final because the it is the amendment filed 11/12/2024 which necessitated the new grounds of rejection.

Conclusion

The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references cited are of general interest.

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

Art Unit: 3675

shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any nonprovisional extension fee (37 CFR 1.17(a)) 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 mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FLEMMING SAETHER whose telephone number is (571)272-7071. The examiner can normally be reached M-F 8:30 - 7:00 eastern.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christine Mills can be reached at 571-272-8322. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/FLEMMING SAETHER/
Primary Examiner, Art Unit 3675