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## United States Court of Appeals for the Federal Circuit

00-1414

(Serial No. 08/702,948)

IN RE SHEDRICK D. JONES

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DECIDED: March 16, 2001

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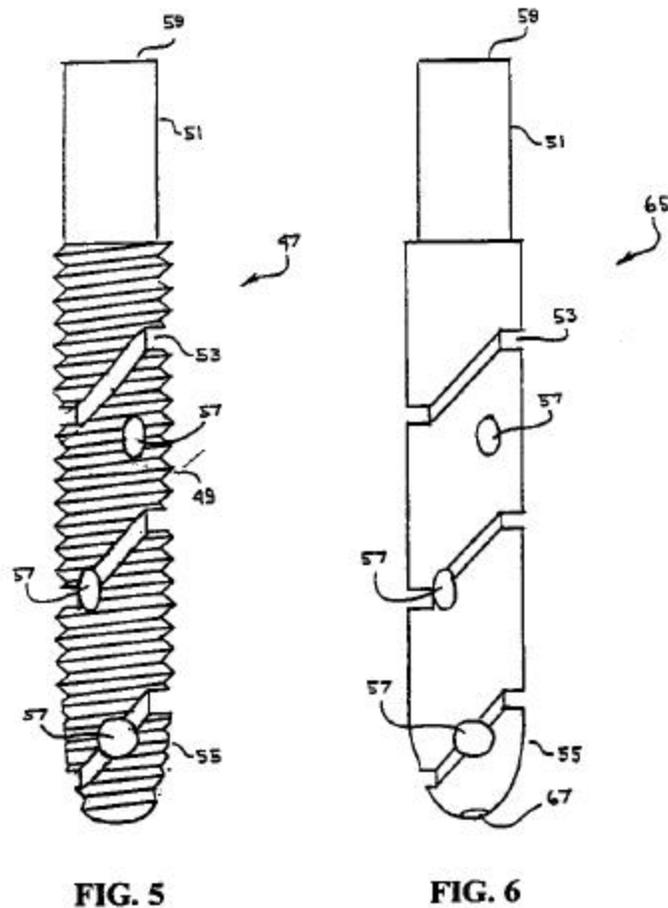
Before MAYER, Chief Judge, CLEVINGER and RADER, Circuit Judges.

Opinion for the court filed by Circuit Judge CLEVINGER. Dissenting Opinion filed by Circuit Judge RADER.

CLEVINGER, Circuit Judge.

Shedrick D. Jones appeals from the decision of the Board of Patent Appeals and Interferences ("Board") at the United States Patent and Trademark Office ("USPTO"), sustaining a final rejection of claims 6-15 of Jones's patent application No. 08/702,948. We affirm.

Jones's application, entitled "Method and Apparatus for Implantation," was filed on August 26, 1996. In general terms, the claimed invention at issue in this appeal relates to dental skeletal implants. Such implants are used for the purpose of permanently attaching prosthetic devices (*i.e.*, artificial teeth) to bone tissue (*i.e.*, the human jaw bone). As illustrated below, Jones's application discloses two such implants. Jones's implants are installed by first drilling a hole in the bone tissue, collecting the drilled out bone fragments, and then crushing them. Some of the crushed fragments are then reinserted into the drilled hole, while the remaining crushed fragments are packed into transverse through holes and other recessed areas on the implant. The crumb-packed implant is either screwed (using the threaded implant embodiment illustrated in Fig. 5) or forcibly inserted (using the non-threaded implant embodiment illustrated in Fig. 6) into the drilled out hole on top of the crumbs already in the hole.



Structurally, Jones's threaded implant embodiment (47) (shown in Fig. 5) consists of a tapered main section terminating in a distal end and a terminal portion (51). The terminal portion (51) provides the means for attaching a prosthesis. As described in the patent application, the tapered section (55) serves to allow easy entry into the hole in the bone tissue while the implant is being inserted. A helical channel (53) receives and then carries bone crumbs away from the tapered distal end and distributes them evenly throughout the length of the threaded

portion of the implant. After installation, the distributed bone crumbs encourage bone growth around the implant and into the transverse through holes (57), causing the implant to be securely and durably held over time.

The other embodiment described and illustrated in Jones's application (shown in Fig. 6) is similar, except that the screwed threads are omitted, and there is a coaxial hole (67) not present in the threaded embodiment.

Claims 6 through 15 are on review on appeal. Claims 7-14 are dependent on claims 6. Because Jones does not argue dependent claims 7-14 separately, these claims stand and fall with independent claim 6 for purposes of this appeal. In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986). Claims 6 and 15 are set forth in their entirety below, with emphasis on the disputed limitations:

6. A device in one piece for implantation and bone tissue having a distal end and a proximal end, the proximal end being the end to which a prostheses can be attached, the device having an axis and consisting of a main section extending from the distal end to an intermediate point on the axis and a terminal section extending from the intermediate point to the proximal end, the terminal section containing the means for attaching a prosthesis to the device, the main section being bounded by a main cylindrical surface, a distal plane, and an intermediate plane, the distal plane and the intermediate plane both being perpendicular to the device axis, the intermediate plane containing the intermediate point, the terminal section being bounded by a terminal surface, the intermediate plane, and a proximal plane, the terminal surface being either the surface of a cylinder or a frustrum of a cone, the proximal plane also being perpendicular to the device axis, the intersection of the terminal surface with the intermediate plane being a circle called the intermediate circle and the intersection of the terminal surface with the proximal plane being a circle called the proximal circle, the device, the main cylindrical surface, and the terminal surface all having a common axis, the main cylindrical surface being in contact with the main section at a plurality of points axially and circumferentially distributed on the main cylindrical surface, the distal plane being in contact with the main section, the proximal plane being in contact with the terminal section, the contact between the distal plane and the main section being a single point, substantial portions of a concentric circle, substantial portions of a region bounded by a concentric circle, or substantial portions of a region bounded by two concentric circles, a concentric circle having its center on the device axis, the terminal section being in contact with substantially all of the terminal surface, the device having at least one helical channel having closed ends encircling the device embedded in its surface, the angle of the helical chattel with respect to the axis of the device being significantly less than the angles of threads on standard screw-type fasteners.

15. A device in one piece for implantation and bone tissue having a distal end and a proximal end, the proximal end being the end to which a prostheses can be attached, the device having an axis and consisting of a main section extending from the distal end to an intermediate point on the axis and a terminal section extending from the intermediate point to the proximal end, the terminal section containing the means for attaching a prosthesis to the device, the main section being bounded by a main cylindrical surface, a distal plane, and an intermediate

plane, the distal plane and the intermediate plane both being perpendicular to the device axis, the intermediate plane containing the intermediate point, the terminal section being bounded by a terminal surface, the intermediate plane, and a proximal plane, the terminal surface being either the surface of a cylinder or a frustrum of a cone, the proximal plane also being perpendicular to the device axis, the intersection of the terminal surface with the intermediate plane being a circle called the intermediate circle and the intersection of the terminal surface with the proximal plane being a circle called the proximal circle, the device, the main cylindrical surface, and the terminal surface all having a common axis, the main cylindrical surface being in contact with the main section at a plurality of points axially and circumferentially distributed on the main cylindrical surface, the distal plane being in contact with the main section, the proximal plane being in contact with the terminal section, the contact between the distal plane and the main section being a single point, substantial portions of a concentric circle, substantial portions of a region bounded by a concentric circle, or substantial portions of a region bounded by two concentric circles, a concentric circle having its center on the device axis, the terminal section being in contact with substantially all of the terminal surface, the device having a plurality of cylindrical holes in the main section, the axes of the holes being perpendicular to the axis of the main cylindrical surface and intersecting the axis of the main cylindrical surface at different points.

## II

During prosecution, Jones explained what was meant by certain portions of the highly detailed and geometrically complex claim language. Jones stated that an implant where "the contact between the distal plane and the main section is substantial portions of a region bounded by a concentric circle" would refer to the threaded implant of Figure 5 if the distal end were flat rather than rounded, or to a device having a flat distal end with a chamfered edge and no distal hole. Jones further explained that an implant where "the contact between the distal plane and the main section is substantial portions of the region bounded by two concentric circles" would refer to the implant of Figure 6 if the distal end was flat rather than rounded, or to a device having a flat distal end with an axial hole. For simplicity, these limitations are collectively referred to as the "flat distal end limitations."

The other claim limitation at issue in this case is the "helical channel having closed ends" limitation. The helical channel (53) is depicted in both Figures 5 and 6 of Jones's patent application.

Jones's claims as originally filed did not contain either the "flat distal end" or the "helical channel having closed ends" limitations. During prosecution, in response to rejections based on prior art, Jones added these limitations, inter alia. The examiner found that the written description as originally filed failed to disclose an implant with the newly claimed "flat distal end" or "helical channel having closed ends" limitations, and rejected claims 6 and 15 pursuant to 35 U.S.C. § 112, ¶ 1 (1994), as containing subject matter not described in the original disclosure. Claims not containing these limitations were allowed.

On appeal, the Board affirmed the examiner's section 112, ¶ 1 rejections of claims 6 and 15, finding that the newly added flat distal end limitation was "simply not part of the original disclosure" and that the newly added helical channel having closed ends limitation was likewise "simply not described." The Board rejected Jones's arguments that his disclosure of

the tapered distal end configurations amounted to a disclosure of "reasonable variations" of the tapered embodiments explicitly described in the application as filed. Jones argued that one skilled in the art would have known of the use of implants with flat distal ends, and that his disclosure was therefore sufficient. The Board disagreed, finding that Jones's arguments required considerable speculation concerning the presumed knowledge of the one ordinarily skilled in the art, the manner in which such an artisan would employ such presumed knowledge to interpret Jones's disclosure, and what an ordinarily skilled artisan would consider to be reasonable variations of Jones's explicitly disclosed embodiments.

The Board also rejected Jones's arguments that a person of ordinary skill in the art would conclude that the "helical channel with closed ends" was inherent as being "speculative at best and clearly unsupported by any evidence in the record."

Jones requested rehearing by the Board, which was granted. On rehearing, the Board reiterated its grounds for affirming the examiner's rejection of claims 6 and 15. Jones timely appealed to this court. We have jurisdiction under 35 U.S.C. § 1295(a)(4)(A) (1994).

### III

The issue on appeal is whether the Board properly concluded that claims 6-15 were unpatentable pursuant to 35 U.S.C. § 112, ¶ 1 for failure to comply with the written description requirement, on the basis that the disclosure failed to provide adequate support for the claimed "flat distal end" and "helical channel having closed ends" limitations.

The first paragraph of 35 U.S.C. § 112 requires that "the specification shall contain the written description of the invention." This requires the applicant to "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). The issue of compliance with the written description requirement can arise where claimed subject matter not presented in an original application is subsequently added by amendment. Id. at 935 F.2d 1560, 19 USPQ2d 1114. An applicant complies with the written description requirement "by describing the invention with all its claimed limitations." Gentry Gallery v. Berkline Corp., 134 F.3d 1473, 1479, 45 USPQ2d 1498, 1503 (Fed. Cir. 1998). "One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention." Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).

Compliance with the written description requirement is a question of fact. Hyatt v. Boone, 146 F.3d 1348, 1352, 47 USPQ2d 1128, 1130 (Fed. Cir. 1998). Inherency is also a factual issue. Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268-69, 20 USPQ2d 1746, 1749-50 (Fed. Cir. 1991). We review the Board's factual findings for substantial evidence. In re Gartside, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000). Substantial evidence is "such relevant evidence that a reasonable mind might accept as adequate to support a conclusion." Inland Steel Indus. v. United States, 188 F.3d 1349, 1359 (Fed. Cir. 1999).

### IV

There is no dispute that the "flat distal ends" limitations present in both claims 6 and 15, and the "helical channel with closed ends" limitation found in claim 6 do not appear in the written text of the specification, in the drawings, or in the claims of the originally filed application. However, Jones argues that the flat distal end limitations were part of his original disclosure because--according to Jones--the original disclosure included not only the embodiments explicitly described and illustrated in the application, but also "reasonable variations" thereof based on the knowledge of one skilled in the art. Jones also argues that the "helical channel with closed ends" limitation is inherently disclosed.

Thus, Jones essentially contends that although the disputed limitations are not specifically disclosed, an explicit disclosure would not have been necessary to one of ordinary skill in the art. A disclosure is of course interpreted from the vantage point of an ordinarily skilled artisan, and "all of the limitations must appear in the specification." Lockwood, 107 F.3d at 1572, 41 USPQ2d at 1966. However, the written description requirement is not satisfied if the disclosure would lead one to speculate as to "modifications that the inventor might have envisioned, but failed to disclose." Id. In this case, the Board concluded that considerable speculation was required to find that a person of ordinary skill in the art would understand that the contested limitations were disclosed. Upon review of the record before us, we find that the Board's conclusion is supported by substantial evidence.

As for the "helical channel having closed ends" limitation, Jones argues that--as a matter of logic--the ends of the helical channel must have either open or closed ends, and that closed ends would therefore be inherent. For the missing limitations to be inherent in the disclosure, the missing descriptive matter must be necessarily present in the structure described. Continental Can Co. v. Monsanto, Inc., 948 F.2d at 1268-69, 20 USPQ2d at 1749. Inherency "may not be established by probabilities or possibilities." Id.

There is no evidence in Jones's original disclosure that would suggest that the helical channel with closed ends is necessarily present. In fact, there are actually four possibilities for each helical channel, since each end of a helical channel may be either "open" or "closed." Moreover, Jones's disclosure tends to indicate that at least the distal end of the helical channel should be open. The examiner noted that Jones's specification describes that the "helical channel is embedded in the surface of the implant throughout the threaded portion," that the threaded portion is shown as extending from the terminal portion (which has a diameter less than that of the threaded portion) to the distal end of the implant, and that a person skilled in the art would conclude that the helical channel would have open ends, much like a screw thread.

Additionally, Jones's disclosure suggests that closing the helical channel ends would cause his invention not to work because an open-ended helical channel would be needed to redistribute bone crumbs after the implant is inserted. According to Jones's specification, the purpose of the helical channel is to "carry bone-fragment crumbs deposited in the bone-tissue hole prior to installation of the implant 47 or implant 65 away from the distal end and distribute them throughout the threaded portion of the implant." The examiner correctly noted that a closed distal end on the helical channel may not allow crumbs (which are pre-inserted into the drilled hole) to enter the channel so that they could be carried from the distal end throughout the length of the implant and thus disrupt the disclosed functional advantages of Jones's invention.

We note that a substantial portion of Jones's briefs consists of unsupported attorney argument, Estee Lauder, Inc. v. L'Oreal, S.A., 129 F.3d 588, 595, 44 USPQ2d 1610, 1615 (Fed. Cir.

1997) ("Arguments of counsel cannot take the place of evidence lacking in the record."), and that Jones has presented arguments not earlier raised to the Board. On appeal, he asks us to consider new facts in support of his argument that implants with flat distal ends were known in the art, and asks us to find facts concerning what was known in the art at the time of his original disclosure based on newly presented references. This court is not a fact-finder in the first instance. Instead, we review the Board's factual findings for substantial evidence. Gartside, 203 F.3d at 1316, 53 USPQ2d at 1776. Moreover, our review is limited to the record before the Board. See 35 U.S.C. § 144 (1994) (an appeal is taken on the record before the USPTO). Therefore, because Jones did not first raise these arguments to the Board, Jones's presentation of new facts at this stage is improper, and these arguments are waived. In re Schrieber, 128 F.3d 1473, 1479, 44 USPQ2d 1429, 1433 (Fed. Cir. 1997) (arguments not first raised to Board are not to be considered on appeal).

V

We conclude that substantial evidence supports the Board's finding that claims 6 and 15 are unpatentable because Jones's original disclosure does not provide support for the "flat distal ends" or for the "helical channel with closed ends" limitations. Therefore, we affirm the Board's decision.

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## United States Court of Appeals for the Federal Circuit

00-1414

(Serial No. 08/702,948)

IN RE SHEDRICK D. JONES

RADER, Circuit Judge, dissenting.

My concerns with this case involve the proper role of the written description in patent examinations. At its inception, the patent's written description gave the public notice of the scope of the invention. With the advent of peripheral claiming, claims took over that function. Thus, the sufficiency of a written description no longer had relevance to claim scope or validity, except to enlighten the meaning of claim terms.

In 1967, this court's predecessor created a new written description doctrine to address a specific problem—to ensure a claim amended after the initial filing date of an application deserved the priority date of the original application. In re Ruschig, 379 F.2d 990, 154 USPQ 118 (CCPA 1967). Thus, the Court of Customs and Patent Appeals' written description requirement policed priority, almost exclusively in cases involving chemical species. The Court of Customs and Patent Appeals did not create a free-standing validity test that supplanted enablement and obviousness.

In the present case, the PTO warps the questionable written description doctrine out of its context, using it to invalidate claim limitations to a simple mechanical device. Instead of its primary job of assessing patentability over prior art, the Board in this case took the "easy" way out: it speculated that one of skill in the art would not have deemed Mr. Jones' original specification to show "possession" of the later claimed material.

The art in this case is simple—screws. Moreover, the tip of a screw can only have a limited number of shapes. The number of possible screw tip shapes is hardly similar to the problematic half million or more possibilities of chemical species within one genus at issue in other cases where written description has been applied. E.g., In re Ruschig, 379 F.2d at 993. Furthermore, the drawings in Mr. Jones' application disclose two of the claimed shapes, a point and a hollowed point. Fig.5; Fig.6. The other two claimed shapes, a flat end and a hollowed flat end, are straightforward variations. How can the Board say with certainty that one of skill in the art would not consider Mr. Jones to have "possessed" such simple shape permutations in such a simple device? In fact, Mr. Jones himself submitted prior art in his brief to this court to show that screws and bolts with flat ends and hollowed flat ends are well known in this art. See, e.g., McGraw-Hill Book Co., Engineering Drawing of an American Standard Bolt 218 (6th ed. 1942); U.S. Patent No. 4,713,004 (issued Dec. 15, 1987).

Rather than conjecture about "possession" or what one of skill would understand from the drawings and description, the Board could have easily rejected Mr. Jones' invention for obviousness. In fact, in his brief, Mr. Jones admits that "the distal ends of [his] implants were not considered to be patentable features of [his] invention" and "the shape of the distal end is of little consequence." Why should the Board conjecture about "possession" when the prior art indisputably discloses the limitation in question?

The second application of the written description requirement is even more far-fetched. As the majority itself points out, there are only two possibilities for the shape of the end of a helical channel: it must be either open or closed. Mr. Jones' written description discloses a channel "embedded throughout the thread[s]." Thus, he had "possession" of channels in the threading and thereby had possession of open and closed channels. Furthermore, the prior art submitted by Mr. Jones again shows both open and closed channels in screw threads were known in this

art. See, e.g., U.S. Patent No. 5,205,745 (issued Apr. 27, 1993); IMTEC Dental Implant, *available at* <http://www.imtec.com/mall/lobby2stage.asp>. Why again conjecture about Mr. Jones' choice of descriptive words when this claim limitation is so clearly obvious?

I conclude that the Board inappropriately applied the written description requirement to Mr. Jones' invention instead of making a determination of whether his invention is obvious. Mr. Jones' concessions alone compel an obviousness determination. I would vacate the Board's decision to facilitate a proper determination of validity on remand.