NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

NOVATEK, INC.,
Plaintiff-Appellee,

v.

THE SOLLAMI COMPANY,
Defendant-Appellant.

2013-1389

Appeal from the United States District Court for the District of Utah in Nos. 11-CV-0180 and 11-CV-1112, Judge David Nuffer.

Decided: March 26, 2014

PHILIP W. TOWNSEND, III, of Provo, Utah, argued for plaintiff-appellee.

JEFFREY T. MORRIS, Morris, Jobe, & Cook, LLC, of Pittsburgh, Pennsylvania, argued for defendant-appellant.

Before NEWMAN, MOORE, and WALLACH, *Circuit Judges.*

Opinion for the court filed by *Circuit Judge* WALLACH.

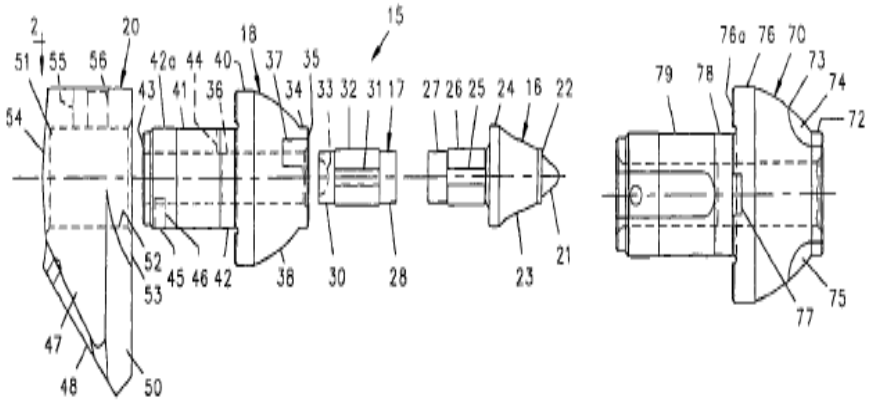
Dissenting opinion filed by *Circuit Judge* MOORE.

WALLACH, *Circuit Judge*.

In this patent case, Sollami Company ("Sollami") alleged Novatek, Inc. ("Novatek") infringed U.S. Patent Nos. 7,883,155 ("the '155 patent") and 6,371,567 ("the '567 patent"). Particularly, in February 2011, Novatek instituted this declaratory judgment action at the U.S. District Court for the District of Utah on issues of invalidity and non-infringement of the '155 patent. On July 13, 2011, Sollami filed suit against Novatek in the Southern District of Illinois for infringement of the '567 patent. This latter suit was transferred to the District of Utah, and the two cases were consolidated in February 2012. After claim construction, the district court found non-infringement in favor of Novatek. This court affirms.

BACKGROUND

The technology at issue involves equipment and machinery used in road milling, mining, and trenching operations. Specifically, the patents are directed to cutter bits, bit holders, and bit blocks used in the above-mentioned operations. The patents purport to provide a better means for allowing the removal of a bit from a bit holder or a bit block, "especially when the bit becomes worn and in need of replacement." *E.g.*, '567 patent col. 1 ll. 36–37, 43–44. The figure below is illustrative:



'155 patent at [57]. A bit 16 and a spacer 17, together with a bit holder 18, and a bit block 20 comprise the claimed invention. The bit 16 includes a hardened tip 21 which resides in a pocket in the front face 22 of a frustoconical forward portion 23 of the bit 16. *Id.* col. 2 l. 65–col. 3 l. 1. "At the rear of the frustoconical portion (23) is a cylindrical front portion base 24." *Id.* col. 3 ll. 1–2. "Aft of the cylindrical base 24, the tip narrows to a cylindrical shank 25, which, [in certain embodiments], includes a C-shaped retainer 26 there around and a cylindrical shank portion base 27 defining the rear end of the bit 16." *Id.* col. 3 ll. 7–10.

The '567 patent was issued on April 16, 2002, and the '155 patent was issued on February 8, 2011. The two patents' specifications are not identical but are nonetheless substantially similar. Claims 1 to 9 of the '567 patent and claims 1 to 4 of the '155 patent are the asserted claims in this case. Claim 1 of the '155 patent is representative:

> 1. In an assembly for use in road milling, trenching and mining equipment including a bit, bit holder and a bit block, said bit being mountable in a first bore through said bit holder and said bit holder being mountable in a second bore

> through said bit block, said bit holder and bit block, in combination, comprising:
>
> a single piece bit holder structure including,
>
> a bit holder front portion and a generally cylindrical bit holder shank portion extending axially rearwardly from said front portion defining an annular sidewall, an elongate slot radially through said sidewall extending axially from a distal end of said shank and terminating between said distal end and said front portion defining a C-shape portion of said shank, an outer surface of said C-shape portion providing interference with said second bore on said bit block sufficient to maintain said bit holder on said bit block during use.

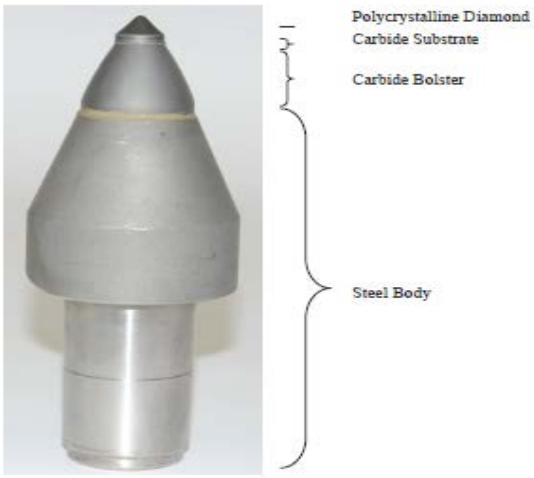
'155 patent col. 7 l. 14–col. 8. l. 8. Claim 1 of the '567 patent differs slightly, and recites:

> 1. A bit holder for use in road milling, trenching and mining equipment as part of an assembly including a bit, said bit holder and a bit block, said bit being mountable in a first bore through said bit holder and said bit holder being mountable in a second bore through said bit block, said bit holder comprising:
>
> a bit receiving front portion terminating at an annular flange for engaging a face of said bit block, a shank portion extending axially rearwardly from said annular flange, said shank portion including a declining taper from adjacent said annular flange to adjacent a distal end thereof, said declining taper providing an interference fit between said bit holder and said bit block,
>
> said shank portion including an axial bore centrally therethrough, and

> means on said shank portion for providing increased resilience for an outer surface of said declining taper to increase the usable interference fit between said declining taper and said second bore on said bit block by at least about four times a standard interference fit therebetween as said shank portion is fully mounted on said second bore.

'567 patent col. 8 ll. 11–33.

Like Sollami, Novatek manufactures a bit assembly used in road milling, mining, and trenching operations ("accused device"). Its assembly consists of a bit with a polycrystalline diamond ("PCD") coated tip that is brazed to a carbide bolster, which is then brazed to a steel body. Novatek provides the following depiction of its accused device:



Appellee's Br. 12; J.A. 332.

The district court issued its claim construction order on December 4, 2012, and Novatek moved for summary judgment of non-infringement thereafter on December 21, 2012. On April 30, 2013, the motion was granted and

judgment was entered.[1] Sollami timely appealed. This court has jurisdiction under 28 U.S.C. § 1295(a)(1) (2012).

DISCUSSION

Sollami makes the following arguments on appeal: (1) that the district court erred in construing "bit," "bit holder," and "shank" as recited in the asserted claims; and (2) that the district court erred in finding that the accused device does not have a "bit" as the district court construed the term. The issues presented therefore pertain to the district court's claim construction and its grant of Novatek's motion for summary judgment of non-infringement.

A. The District Court Correctly Construed "Bit," "Bit Holder," and "Shank"

This court reviews a district court's claim construction *de novo*. *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, No. 2012–1014, 2014 WL 667499, at *1, *16 (Fed. Cir. Feb. 21, 2014) (en banc). To ascertain the scope and meaning of the asserted claims, courts look to the words of the claims themselves, the specification, the prosecution history, and, if necessary, any relevant extrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315–17 (Fed. Cir. 2005) (en banc).

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[1] Although the district court's judgment does not discuss Novatek's invalidity counterclaims, "[the judgment] is clear that the district court intended to dispose of all the claims before it." *Locell v. Chandler*, 303 F.3d 1039, 1049 (9th Cir. 2002); *Petty v. Manpower, Inc.*, 591 F.2d 615, 617 (10th Cir. 1979) ("What is of importance is the district court's intent in issuing its order dismissal of the complaint alone or actual dismissal of plaintiff's entire action?").

Relevant to this appeal, the district court construed, among other terms, "bit," "bit holder," and "shank." *Novatek, Inc. v. Sollami Co.*, No. 2:11–cv–00180, 2013 WL 1831995, at *3 (D. Utah Apr. 30, 2013). Sollami contends that certain terms interpreted by the district court, including the term "bit," appear only in the preambles of the asserted claims. Sollami argues "bit" is not a required structural element of the asserted claims because the preambles are not limitations on the claims. The district court concluded that the preambles serve as limitations.

"A claim's preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim." *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1284 (Fed. Cir. 2011). On one hand, a preamble is generally construed to be limiting if it "'recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.'" *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1305 (Fed. Cir. 2005) (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). For example, limitations in the body of the claim that rely upon and derive antecedent basis from the preamble may render the preamble a necessary component of the claimed invention; and therefore, a limitation on the claims. *Id.* at 1306. Also, where the specification underscores structure or steps recited in the preamble as important, the preamble may operate as a claim limitation. *Catalina Mktg.*, 289 F.3d at 808. Further, "clear reliance on the preamble during prosecution to distinguish the claimed invention from prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." *Id.* at 808–09.

On the other hand, when a patentee "defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." *Rowe*

v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997); *see Pitney Bowes, Inc. v. Hewlett–Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999) (explaining the preamble is not limiting if "the body of the claim fully and intrinsically sets forth the complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations, but rather merely states, for example, the purpose or intended use of the invention"). Whether a preamble is treated as a limitation is determined by the facts of each case and upon an understanding of what the inventors actually invented and intended to encompass by the claims. *Catalina Mktg.*, 289 F.3d at 808.

Here, as the district court concluded, the preambles of the asserted claims recite essential elements of the invention pertaining to, among other things, the bit, the bit holder, and the bit block in addition to the mounting relationship among these elements that make up the claimed bit assembly. For example, the preamble of claim 1 of the '567 patent recites a "bit holder" that is a "part of an assembly including a bit, said bit holder and a bit block," where the "bit" is "mountable in a first bore through said bit holder and said bit holder being mountable in a second bore through said bit block." The preamble of claim 1 of the '155 patent recites substantially the same. Particularly, it too refers to "an assembly" that includes "a bit, bit holder and a bit block." The body of claim 1 of the '567 patent does not recite the complete invention, but refers back to the features of the bit assembly stated in the preamble, so that these references in the body of the claim derive their antecedent bases from the preamble. '567 patent col. 8 ll. 11–33 ("bit holder, "bit block," and "second bore" finding antecedent bases in the preamble).

The patents' specifications support this reading of the preambles. In particular, the specifications identify the

recited structural elements in the patents' preambles as "the invention." The '567 patent for instance provides:

> Referring to FIGS. 1–2, a bit mounting assembly, generally indicated at 20, constructed in accordance with the present invention, includes a bit, generally indicated at 21, which is mounted on a bit holder, generally indicated at 22, which, in turn, is secured on a bit block, generally indicated at 23.

'567 patent col. 2 ll. 49–54; *see also* '155 patent col. 2 ll. 59–64 ("[A] bit, bit holder and bit block assembly, generally indicated at 15, constructed in accordance with the present invention, includes a bit, generally indicated at 16 and a spacer, generally indicated at 17, together with a bit holder, generally indicated at 18 and a bit block, generally indicated at 20."). In addition, the purported improvement over prior art is stated as a "more efficient means for allowing the removal of a bit from a bit holder or a bit block." '567 patent col. 1 ll. 43–44. These statements in the specification underscore structural elements recited in the preamble, *e.g.*, "bit," as pertinent to the invention claimed. *Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F. 3d 1367, 1373 (Fed. Cir. 2014) ("[T]he preamble [provides for] the only reference in any independent claim to the inventive concept . . . [and] [t]his fact alone is likely sufficient to support a conclusion that the preamble is limiting."); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1358 (Fed. Cir. 2012) (holding that the preamble phrase "rotary cutter deck" was a limitation where the specification referred to "the present invention" as "a rotary cutter deck"); *Poly–Am., LP v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1310 (Fed. Cir. 2004) (construing preamble as limiting where it disclosed a "fundamental characteristic of the claimed invention") (internal quotation marks and citation omitted).

The inventor's statements made during prosecution of the '155 patent also highlight the relevance of the structural elements recited in the preambles. For instance, the inventor stated in a declaration that: "The present application is a bit holder that is stiffer and therefore holds the bit in the proper position for heavy operating conditions . . . . A combination of the [cited prior art references] would cause the holder to rotate. In the industry, bits rotate, not holders." J.A. 253. In distinguishing prior art, the inventor stated that:

> The [prior art] reference has a wider notch at the rearward potion and a narrower width at the front face [than the bit holder of the claimed invention]. The present application is the reverse. This difference is material because the narrower rearward portion prevents the clogging of the notch and aids in removal of the bit.

J.A. 254. Thus, the inventor during prosecution of the '155 patent relied on structural elements recited in the preamble to distinguish the claimed invention from the prior art.

Accordingly, the preambles of the asserted claims are not merely limited to stating the purpose or intended use of the invention of the '567 and '155 patents, but rather contain essential structural elements that are highlighted in the specification and which were relied upon during prosecution. Although Sollami argues that the essence of its invention is directed to a "bit holder" as opposed to a "bit," the intrinsic evidence does not support Sollami's contention. Indeed, in addition to the structural elements of the claimed bit assembly, the invention focuses on the mounting relationship among the bit, bit holder, and bit block. *E.g.*, '155 patent col. 4 ll. 7–9 ("Referring to FIG. 2, the mounting relation between the bit block 20, bit holder 18, spacer 17 and bit 16 is shown in cross section."). It is apparent that the "claim drafter [chose] to use both the

preamble and the body to define the subject matter of the claimed invention." *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) (internal quotation marks and citation omitted). Therefore, the district court did not err in concluding that the recited structural elements in the preambles serve as limitations that give "life, meaning, and vitality to the claims" as a whole. *Novatek*, 2013 WL 1831995, at *3.

Even if "bit" is construed as a structural limitation, Sollami avers that the district court erred by requiring a bit with a shank and by requiring removability of the bit from the bit holder. The district court construed "bit" as "an object comprising a hardened tip and a shank mountable in and removable from a bore through the front portion of a bit holder," and "bit holder" as "[a]n object in which a removable bit is mounted in a bore in the front portion thereof." *Novatek*, 2013 WL 1831995, at *3. The court's constructions were correct.

Claim 1 of the '567 patent provides that the "bit [is] mountable in a first bore through said bit holder and said bit holder [is] mountable in a second bore through said bit block." '567 patent col. 8 ll. 13–15. Inherent in this claim language is that a portion of the bit is "in" a first bore, and similarly, a portion of the bit holder is "in" a second bore. That portion of the bit holder that is "in" the second bore is recited expressly as the "shank portion." *Id.* col. 8 ll. 18–32. Although the claim language does not denote a label for the portion of the bit that is "in" the first bore, like the district court, this court holds that portion of the bit and the bit holder's shank portion "cannot be . . . entirely different" and construes both the bit and the bit holder to include a shank. *Novatek*, 2013 WL 1831995, at *5. The patentee adheres to this definition when describing his invention throughout the patent. *See Boss Control, Inc. v. Bombardier Inc.*, 410 F.3d 1372, 1377 (Fed. Cir. 2005) (quoting *Astrazeneca AB v. Mut. Pharm. Co.*, 384 F.3d 1333, 1340 (Fed. Cir. 2004)) ("[W]hile it is of

course improper to limit the claims to the particular preferred embodiments described in the specification, the patentee's choice of preferred embodiments can shed light on the intended scope of the claims.").

In the "Background of the Invention" section, the patentee without qualification sets out that "bits include a tip and a shank." '567 patent col. 1 ll. 21–22; '155 patent col. 1 ll. 28–30 ("The bits utilized include a tip and a shank."). Elaborating on the "tip" and "shank," the patentee recites:

> The shank is received and may axially rotate in a bit holder which is secured onto a bit block that, in turn, is mounted on the drum. Each of the bits has a hardened tip, preferably made of tungsten carbide or such other hardened material that acts to remove a portion of the surface it contacts.

'567 patent col. 1 ll. 22–26.

Additionally, every figure in the patents depicting a bit includes a shank. '567 patent Figs. 1, 2, 7, 8; '155 patent Figs. 1, 13. Specifically, the '567 patent provides: "Referring to FIG. 2, the bit, generally indicated at 21, includes a forward end 24, and a shank 25 or rear end thereof." '567 patent col. 2 ll. 57–59; '155 patent col. 3 ll. 9–10 ("[A] cylindrical shank portion base 27 defining the rear end of the bit."). Further consistent with the claim language that allows for the bit and bit holder to include a shank, the embodiments provide that "shank 25 [of the bit] fits within bore 40" of the bit holder the length of which "is determined partly by the length of the shank 25 on bit 21," '567 patent col. 3 ll. 31–34, and that "[b]ore 49 [that runs through the bit block] is sized to receive the cylindrical shank 35 of the bit holder 22," *id.* col. 3 ll. 45–46.

The intrinsic evidence therefore supports what is inherent in the claim language—the portion of the bit that

is "in" the first bore, as recited in the asserted claims, is the "shank." In particular, the patents disclose a symbiotic relationship between the shank and bore, an interdependence where the existence of a bore necessitates the need for a shank to practice the invention as claimed. *See* Response to Office Action, U.S. Patent App. No. 11/509,349, at 9 (Oct. 21, 2009) ("[B]its used in road milling equipment have shanks that may slightly vary but would approximate 3/4 to 7/8 inch in diameter. Applicant is presently designing bit holders for trenching equipment wherein the bit shanks approximate 1-1/2 inches in diameter. Mining equipment would utilize bits having larger shanks. Therefore, the exact numbers given for the bit holder bores and outer bit holder dimensions would vary depending upon the application . . . .").[2] Accordingly, the patentee's consistent usage and treatment of a limitation (here, "shank") demonstrates the bit includes a shank. *See, e.g.*, *Honeywell Int'l Inc. v. Universal Avionics Sys. Corp.*, 488 F.3d 982, 990 (Fed. Cir. 2007) (construing the claim term "look ahead distance" to include a time limitation because "time is inherent in the calculation of 'look ahead distance,'" as shown by the specification); *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1360 (Fed. Cir. 2005) (limiting the term "download component" to a component capable of performing certain functions, based on the consistent usage in the specification).

That the "bit" was construed as being "removable" from the "bit holder" was also not error. The district court reasoned that "if [the bit is] going to be mountable, it has

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[2] The '155 patent's prosecution history, *e.g.*, office action responses, referenced in this opinion are publicly available at Patent Application Information Retrieval, USPTO, http://portal.uspto.gov/pair/PublicPair (last visited Mar. 21, 2014).

to be removable." J.A. 308. Sollami argues that "removable" is not recited in the claim language, and thus, cannot be a limitation.

The "removable" requirement is fully supported by the specification, which is "'the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Every relevant embodiment disclosed in the '567 and '155 patents refers to the removability of the bit from the bit holder. Indeed, the purpose of the invention is to provide a means for "quick removal" of the bit from the bit holder and/or the bit holder from the bit block during road milling, mining, and trenching. *See, e.g.*, '567 patent col. 1 ll. 54–57 ("[A]n object of the present invention, generally stated, is to provide an improved means for quickly mounting and/or removing a bit holder from its associated bit block.").

In the "Background of the Invention" section, the '567 patent explains that "a need has developed for providing ease of removability of bits in their bit holders, especially when the bit becomes worn and in need of replacement," and that "[i]t would be desirable to provide a more efficient means for allowing the removal of a bit from a bit holder or a bit block." *Id.* col. 1 ll. 36–44. Throughout the specifications of both patents, the bit is described in no other way than allowing for removability:

> If the bit 21 should break at reduced diameter portion 29 adjacent the bottom flanged portion 28, a rod, punch, etc. (not shown) may be inserted into the bottom of the bore to push the shank [of the bit] out of the holder.

Id. col. 3 ll. 34–38;

> The notches 32a-32d, constructed in accordance with the present invention, allow for the quick removal of the bit 21 from the bit holder 22 by ap-

> plying a force having a substantial axial component thereto to the bottom side of the bit flange 28. In the preferred embodiments there may be two, three or four notches or indents 32a-d (FIG. 2, 32-d not shown) on the bit holder 22 positioned at 120 degree or 90 degree intervals, respectively, around the circumference thereof. Each notch may be straight vertically or slightly wider at surface 31 and narrows as the notch descends toward flange 33. While the use of the punch 55 on one notch is usually sufficient to remove the bit, the punch may be utilized sequentially in differing notches to balance the axial force, if necessary, to move the bit 21 out of the bit holder 22.

Id. col. 3 l. 63–col. 4 l. 10;

> Referring to FIGS. 7 and 8, the bit 21 and the second embodiments of the bit holder 60 and bit block 61 are shown in assembled condition with the exception of the modification in the bit block 61 to provide a slot 85 positioned in the outer portion of bit block 61 to more easily allow the insertion of tools in the rear of the bit block 61 to drive the bit 21 from the bit holder 60.

Id. col. 5 ll. 35–41;

> As with the first embodiment of the present invention, the notch 65 in the front tapered portion of the bit holder 60 allows a chisel (not shown) or other such device to apply force on the back side of the bottom flanged portion 28 of bit 21 to drive the bit out of the bit holder.

Id. col. 5 ll. 49–53;

> A plurality of notches 37-37 (one shown) adjacent the front face 35 of the bit holder, provide an access area to the cylindrical base 24 of the tip 16 into which a prying tool may be positioned to force

> out the base 24 of the bit 16 when the bit shank 25 and spacer 17 are mounted in the bore 36 of the bit holder 18.

'155 patent col. 3 ll. 25–30.

> As shown most clearly in FIG. 2, the semi-cylindrical indent 33 in the spacer 17 provides for the insertion of a tool through the backside of bore 36 which will accommodate punching out the spacer 17 and the bit 16 from the back of the assembly.

Id. col. 4 ll. 32–46.

> With this embodiment, the bit 16 (not shown) would be driven out of the bit holder 60 for replacement by inserting a rod to tool (not shown) in the bottom of bore 63 of the bit holder (shown most clearly in FIG. 3) . . . .

Id. col. 5 ll. 15–19;

> The bulbous frustoconical portion 73 extends rearwardly beyond the cylindrical nose and includes a pair of notches 74, 75 therein that provide tool access to the back of a bit for easing removal of the bit from the bit holder.

Id. col. 5 ll. 44–48. It is apparent that removability of the bit from the bit holder is a feature of the invention as a whole, and not merely a preferred embodiment of the invention. *See Regents of Univ. of Minn. v. AGA Med. Corp.*, 717 F.3d 929, 936 (Fed. Cir. 2013) (quoting *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007)) ("When a patent thus describes the features of the 'present invention' as a whole, this description limits the scope of the invention."); *Decisioning.com, Inc. v. Federated Dept. Stores, Inc.*, 527 F.3d 1300, 1309 (Fed. Cir. 2008) ("The remote interface is a component of the invention itself, and the inventor's use of 'kiosk' in

that manner does not merely describe a preferred embodiment of the invention. Rather, it describes the invention itself.").

In addition, the prosecution history of the '155 patent supports the district court's construction requiring removability of bits from bit holders. In explaining the purpose behind the wall thickness of a prior art bit assembly, the patentee declared that it was "to quickly remove the bit" and further specified that "[a]s many as 320 bits may be removed and replaced in a day." J.A. 253. The patentee also explained as "material" the bit assembly design of the '155 patent that "aids in removal of the bit." J.A. 254. These statements show the patentee remained cognizant of a key feature throughout the prosecution of the '155 patent—removability of the bit.

Thus, the patentee's references to "bit" consistently require that it is removable from the bit holder. *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1271 (Fed. Cir. 2001) (quoting *Vitronics Corp.*, 90 F.3d at 1582) ("[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term 'by implication.'"). Accordingly, the district court did not err in construing the bit to be removable from the bit holder.

Finally, Sollami argues that the district court erred in requiring the "shank" to be an "elongate cylindrical object" because the claim language does not provide for a particular shape of "shank." As discussed above, claim 1 of the '567 patent requires the bit's and bit holder's shank portions to be "in" bores that run through the bit holder and bit block. The ordinary meaning of "bore" is defined as "a hole made or enlarged by boring" and/or "the inside diameter of a hole, tube, or hollow cylindrical object or device, such as a bushing or bearing, engine cylinder, or barrel of a gun." *Random House Unabridged Dictionary*

242 (2d ed. 2001); *see also Merriam-Webster Dictionary*, http://www.merriam-webster.com/dictionary/bore (last visited Mar. 21, 2014) ("Bore" defined as "a usually cylindrical hole made by or as if by boring" or "the long usually cylindrical hollow part of something (as a tube or gun barrel)."). A shank portion that fits in a "hole" that runs through the bit holder (and bit block) must be elongated and cylindrical. The claim language also provides that a shank extends axially from an annular (shape of a ring) flange. '567 patent col. 8 ll. 19–21 (describing the bit holder's shank). Although Sollami contends that the "shank" can be of any shape, a structure that extends away from an annular flange must impart a shape that is generally cylindrical and no other.

The specification supports this plain meaning. To begin, every figure and description of "shank" and "shank portion" illustrates a cylindrical structure. As an example, a portion of the '567 patent's specification reads:

> Flange 66 is annular in that a bore 71 runs axially through the bit holder in a more straight forward hollow cylindrical manner than the bore 40 which extends through the bit holder 22 of the first embodiment. The leading edge of bore 71 includes a countersink 72 adjacent to the flat annular leading surface 62 of the bit holder to receive a similarly shaped shank portion 25 on the bit 21 shown in FIG. 2.

Id. col. 4 ll. 45–51. Consequently, a "hollow cylindrical" bore receives "a similarly shaped shank portion" of the bit.

Likewise, "[t]he shank is received and may axially rotate in a bit holder which is secured into a bit block that, in turn, is mounted on the drum." *Id.* col. 1 ll. 21–23. In order for a shank to axially rotate and to extend away from an annular flange, the "shank" must take on a cylindrical shape. While this latter example is in refer-

ence to the shank portion of the bit holder, it is nevertheless depictive of the disclosed shape of the bit's shank portions. Indeed, these and other examples disclosed in the patents show that the claimed bore and shank portions are of similar cylindrical shape. *E.g.*, *id.* col. 7 ll. 1–34 (disclosing cylindrical "drive pins" that fit into the bores of the bit holder and bit block). The prosecution history similarly highlights the structurally complementary relationship between the shank and bore. *See* Response to Office Action, U.S. Patent App. No. 11/509,349, at 8 (Oct. 21, 2009) (The Patent Office states a "standard interference-press fit" is indefinite. While it is true there are no present standards for hollow slotted shanks fitting in complementary bores . . . there are standards for interference fits for solid cylinders fitting into bores."); *see also* Response to Office Action, U.S. Patent App. No. 11/509,349, at 20 (Aug. 6, 2007) ("[M]echanical engineering handbooks . . . include charts disclosing what dimensions heretofore known interference fits are for various diameters of solid cylinders. These are the [interference] fits that applicant refers to."). Accordingly, the district court's construction of "shank" as an "elongate cylindrical object" was correct.[3]

B. The District Court Did Not Err in Granting Novatek's Motion for Summary Judgment of Non-infringement

Summary judgment decisions are reviewed under regional circuit law. *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1194 (Fed. Cir. 2013). The Tenth Circuit reviews the grant of summary judgment *de novo*. *Robert*

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[3] Novatek raises alternative claim construction and non-infringement contentions. Appellee's Br. 20 ("The 'Bit' must be rotatable."). Because we affirm the district court's claim constructions and affirm the district court's finding of non-infringement, this court need not consider Novatek's alternative bases for affirmance.

v. Bd. of Cnty. Comm'rs, 691 F.3d 1211, 1216 (10th Cir. 2012). Summary judgment is appropriate "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). At the summary judgment stage, we credit all of the nonmovant's evidence and draw all justifiable inferences in her favor. *Brilliant Instruments, Inc. v. GuideTech, LLC*, 707 F.3d 1342, 1344 (Fed. Cir. 2013) (internal quotation marks and citations omitted).

Based on its construction of "bit," the district court found that Novatek was entitled to judgment as a matter of law because there were no genuine disputes as to any material fact that Novatek's accused device did not have a bit including a shank. The district court additionally found that the accused device did not include a bit mountable in a bore. Lastly, the district court found that the accused device did not have a bit that is removable from the bit holder.

"To prove infringement, the patentee must show that an accused product embodies all limitations of the claim either literally or by the doctrine of equivalents." *Cephalon, Inc. v. Watson Pharms., Inc.*, 707 F.3d 1330, 1340 (Fed. Cir. 2013). "If any claim limitation is absent from the accused product, there is no literal infringement as a matter of law." *Id.* Where a defendant seeks summary judgment of non-infringement, "nothing more is required than the filing of a . . . motion stating that the patentee had no evidence of infringement and pointing to the specific ways in which accused [products] did not meet the claim limitations." *Exigent Tech. v. Atrana Solutions, Inc.*, 442 F.3d 1301, 1309 (Fed. Cir. 2006). The burden of production then shifts to the patentee to "identify genuine issues that preclude summary judgment." *Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 990 (Fed. Cir. 2006).

Novatek's accused devices do not meet all the structural limitations of the asserted claims. First, the district court found that "the carbide bolster of the Novatek devices is not an elongate cylindrical object and is therefore not a 'shank.'" *Novatek*, 2013 WL 1831995, at *5. An illustration of the PCD tip and carbide bolster is depicted below:

Appellee's Br. 13; Appellant's Reply Br. 19; J.A. 334; *see also* J.A. 416. Sollami argues that the device "exhibits a cylindrical protrusion at its distal end which serves to anchor or secure the subassembly into the bore in the front end of the tool holder/steel body." Appellant's Reply Br. 18. According to Sollami, a trier of fact could reasonably conclude that the cylindrical protrusion at the distal end is an elongated cylindrical shank. We find Sollami's contention persuasive. Whether the protrusion at the bottom portion of the carbide bolster is sufficiently "elongate" and "cylindrical" are disputed. To the extent the district court's decision was based on Novatek's lack of a "shank" or an "elongate cylindrical object," it was error.

The district court nonetheless found no genuine dispute as to whether Novatek's accused device met the bit "mountable in a bore" limitation of the asserted claims. In particular, the district court determined that "even if the carbide bolster comprises a shank, the carbide bolster nevertheless is not mountable in a bore." *Novatek*, 2013

WL 1831995, at *5. Although Sollami disputes the district court's determination that Novatek's device does not include a "bit mountable in a bore," its arguments turn on issues of claim construction—whether the shank portion of the bit and the corresponding bore are cylindrical and whether the shank portion fits in a bore. Because the district court correctly interpreted "shank" to be cylindrical (and in turn, the bore to be cylindrical), many of Sollami's arguments as to whether Novatek's device has a "bit mountable in a bore" cannot stand.

With respect to any remaining argument on this point, the following illustrations of Novatek's accused device are instructive:

Appellee's Br. 15; J.A. 337; *see also* J.A. 416. As shown in these illustrations, the accused devices do not feature a bit "in" a bore that runs through the bit holder. Sollami's contention that the "concave opening in the front portion of the steel body/bit holder" constitutes a "complex geometry through hole" is unconvincing. Appellant's Reply Br. 19–20 (quotation marks and citation omitted). The claim language requires a bore that runs through the bit holder, and the shank is required to be "in" this bore. As the district court found, however, it is undisputed that the carbide bolster is brazed directly to the top of the steel

body and no corresponding shank portion is in a bore. *Novatek*, 2013 WL 1831995, at *5. Accordingly, there is no genuine dispute as to whether Novatek's carbide bolster mounts in the bore of the steel body; Novatek's carbide bolster lacks a bore in which a shank is mounted as the asserted claims require.

The district court was also correct in finding that the accused device's PCD tip with its carbide bolster is not "removable" from the steel body, and therefore, fails to meet the "removable" construction of the "bit" limitation. *Novatek*, 2013 WL 1831995, at *6. The district court considered "the brazed attachment to be analogous to a rivet or laminate, which are 'meant to remain permanent [and] unremovable unless one is bent on breaking the permanent structure apart,' as opposed to a screw, for example, which is 'meant to be unscrewed [or] removed.'" *Id.* (quoting *K2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1365 (Fed. Cir. 1999)). The accused device's brazed attachment of the carbide bolster to the steel body is shown below:

Appellee's Br. 18; J.A. 339; *see also* J.A. 415.

It is undisputed that Novatek's carbide bolster is brazed to a steel body. Sollami argues that the carbide bolster is nevertheless "removable" from the steel body, requiring merely the application of heat to dissolve the brazed joint; a process Sollami characterizes as non-

destructive and having no adverse effects to the components. Therefore, despite the need to melt the braze joint, Sollami contends that it does not render the PCD tip/carbide bolster subassembly not "removable." These contentions are unpersuasive.

Sollami's own expert declaration in the record shows the difficulty of removing the accused product's carbide bolster from the steel body. In particular, Sollami's expert depicts a process that includes using induction heat to melt the braze, removing and replacing the carbide bolster, and using induction heat to braze the new carbide bolster onto the steel body. J.A. 417–18. Although the accused device's carbide bolster is removable, it cannot be said to be "removable" as the term is intended in the patents at issue.

Distinguishing from prior art, the '567 patent states: "It would be desirable to provide a more *efficient means for allowing the removal* of a bit from a bit holder or a bit block." '567 patent col. 1 ll. 42–44 (emphasis added). Also, referring to an embodiment as depicted in Figure 1, the specification recites: "The notches 32a-32d, constructed in accordance with the present invention, allow for the *quick removal* of the bit 21 from the bit holder 22 by applying a force having a substantial axial component thereto the bottom side of the bit flange 28." *Id.* col. 4 ll. 64–67 (emphasis added). Further, "providing *ease of removability* of bits in their bit holders" is described as a "need" that the patent addresses. *Id.* col. 1 ll. 36–37 (emphasis added). "Quick removal" providing "ease of removability" is depicted by embodiments disclosing, *e.g.*, "drive pins" that push bits out of bit holders and bit holders out of bit blocks, *id.* col. 7 ll. 1–34, and the use of "interference fit," as opposed to utilizing retaining nuts or clips for the purpose of keeping the bit assembly together and the components in place, *id.* col. 1 ll. 62–64, col. 5 ll. 53–55. The process of heating and melting the brazed joint of

Novatek's device to render it removable is not the type of removability the patents contemplate.

K2 Corp. v. Salomon S.A. is instructive. There, this court recognized that while claim terms such as "permanently" can be interpreted to require infinite duration in the metaphysical sense, "claim construction is firmly anchored in reality by the understanding of those of ordinary skill in the art." *K2 Corp.*, 191 F.3d at 1365. We accordingly held that a rivet or a laminate was sufficiently permanent because it "is meant to remain permanent, unremovable unless one is bent on breaking the permanent structure apart." *Id*; *see High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995) (finding the "rotatably coupled" limitation in the asserted claim was not met by the accused product where the accused product had to be altered—by loosening the set screws—in order for it to rotate).

Here, adopting Sollami's position would detract from "removable" as a skilled artisan would interpret "bit" based on the patents' disclosures. Anything with adequate force can be "removable," but such unbounded interpretation of the term flounders on the shoals of reality. No reasonable jury would find "removable" as construed by the district court to read on Novatek's accused device. Accordingly, the district court was correct to find that there are no genuine disputes whether Novatek's accused device includes a bit that is removable.

CONCLUSION

Based on the foregoing, the district court's claim construction of "bit," "bit holder," and "shank" and its summary judgment of non-infringement are affirmed. Novatek's accused device does not meet the "bit" limitation of the asserted claims.

AFFIRMED

NOTE: This disposition is nonprecedential

United States Court of Appeals for the Federal Circuit

NOVATEK, INC.,
Plaintiff-Appellee,

v.

THE SOLLAMI COMPANY,
Defendant-Appellant.

2013-1389

Appeal from the United States District Court for the District of Utah in No. 11-CV-1112, Judge David Nuffer.

MOORE, *Circuit Judge*, dissenting.

I respectfully dissent from the majority's decision to affirm the district court's judgment of noninfringement. Because the district court erred in its claim construction, I would reverse and remand.

I. IS "BIT," USED ONLY IN THE PREAMBLE, A STRUCTURAL LIMITATION?

I disagree with the majority that "bit" limits the claims of U.S. Patent No. 6,371,567 ('567 patent). It is correct that the terms "bit holder" and "bit block," which first appear in the preamble of the '567 patent, are claim limitations. The body of the claim itself expressly recites these structures. However, the fact that one structure

recited in the preamble is a limitation by virtue of providing antecedent basis for a later reference does not convert the entire preamble into a limitation. The bit is a structure distinct from the bit holder or bit block. The bit itself appears only in the preamble in a statement of intended use. It does not appear in the body of any claim in the patent. And the invention claimed in the '567 patent is structurally complete without the bit. Claim 1 is to a bit holder, and the elements in the body of the claim define the structure of the bit holder and the manner in which the bit holder interacts with the bit block. But claim 1 does not require the presence of a bit. It never mentions the bit itself or even delineates how the bit fits into the claimed bit holder. There is no doubt that the bit is part of the assembly disclosed in the '567 patent for use in road milling, trenching, and mining. Neither the assembly nor the bit, however, is claimed in the '567 patent. The patentee directed the '567 patent claims solely to the bit holder and its interaction with the bit block.

I find nothing in the specification to indicate that the bit is necessary to give life, meaning, and vitality to the claimed bit holder and block. *See Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). The title of the '567 patent is "Bit Holders and Bit Blocks," not "bits." '567 patent, at [54]. The abstract discusses "[a]n improved bit holder with its mating bit block," but again does not mention a "bit" as a separate structural entity. *Id.* at [57]. Finally, the face of the '567 patent displays Figures 3 and 9, which do not depict a bit. The specification describes Figures 3–8 as "a second embodiment of the bit holder and bit block constructed in accordance with the present invention," *id.* col. 4 ll. 11–13, and Figures 9–10 as "a third embodiment of the bit holder of the present invention," *id.* col. 5 ll. 56–57. Although Figures 1 and 2, which presumably refer to the first embodiment, depict bits, the bits are not described as a part of the "present invention." I thus conclude the word

"bit," used only in the preamble, is not a limitation of the '567 patent claims. Because the district court's decision that the '567 patent is not infringed was based on its erroneous conclusion that "bit" is a claim limitation, I would reverse its grant of summary judgment of noninfringement as to the '567 patent.

With regard to U.S. Patent No. 7,883,155 ('155 patent), I agree with the majority that the preamble term "bit" limits the scope of the claims, but not for the reasons that the majority provides. The '155 patent, in contrast to the '567 patent, is directed not to bit holders and blocks that are a "*part* of an assembly," but rather to the "assemblies" or "bit assemblies" themselves. *See* '155 patent, at [54], [57]; claims 1–4; *cf.* '567 patent claim 1 (emphasis added). I read the "assembly" in the preamble of claim 1 of the '155 patent as a claim limitation that delineates the structural elements of the claim. Each dependent claim of the '155 patent expressly recites "[t]he assembly as defined in claim 1 . . . ." '155 patent claims 2–4. Were the word "assembly" not a limitation of claim 1, the claims that depend from it would lack a proper antecedent basis for the "[t]he assembly as defined in claim 1." *See, e.g.*, *Rapoport v. Dement*, 254 F.3d 1053, 1059 (Fed. Cir. 2001). Moreover, the dependent claims of the '155 patent expressly add a further limitation to "the assembly," not to the bit holder (as the '567 patent does).

The specification confirms this conclusion. It indicates that the assembly is the present invention. *See* '155 patent col. 4 ll. 64–65 ("the assembly 15 of the present invention"); col. 5 l. 3 ("the bit assembly of the invention"); col. 2 ll. 59–61 ("Referring to FIG. 1, a bit, bit holder and bit block assembly, generally indicated at 15, constructed in accordance with the present invention, includes a bit . . ."). I would thus conclude that the "assembly" recited in the preamble is a limitation of the '155 patent claims. And claim 1 expressly defines the assembly as "including a bit, bit holder, and bit block." For these reasons, I

conclude that bit is a structural limitation of the claims of the '155 patent.

II. WHAT IS THE PROPER CONSTRUCTION OF "BIT"?

Although I agree that the term "bit" in the preamble of claim 1 of the '155 patent is a limitation, I would still reverse the grant of summary judgment of noninfringement with respect to this patent. The district court's construction of "bit" is in error. The district court, and now the majority, improperly read three limitations into the bit—that the bit is removable, that the bit includes a shank that is cylindrical, and that the bit is mounted in a cylindrical bore.

A. "Removable" bit

The plain and ordinary meaning of "bit" does not require removability. A "bit" is simply an object comprising a tip and a shank. That is the plain meaning and the definition expressly given by the patentee. *See* '155 patent col. 1 l. 27 ("The bits utilized include a tip and a shank."). A bit can be brazed onto its holder. *See* Maj. Op. at 22–23. This lack of removability makes it no less a bit.

We only deviate from the plain and ordinary meaning in instances of lexicography or disavowal. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The majority points to the same definition discussed above: "[t]he bits utilized include a tip and a shank." *See* Maj. Op. at 12. There is not, nor does the majority point to, any other lexicography on this term. The majority concludes that the claimed bits ought to be limited to removable bits because "[t]he removability requirement is fully supported by the specification." *Id.* at 14. With all due respect, that is not the standard we apply. If it were, every limitation in the preferred embodiments would be read into the claims.

There have been cases from this court that conclude that a claim is limited by a statement in the specification when the patentee has indicated clearly and unmistakably that he intended to so limit his claims—i.e., disclaimer cases. For example, we found disclaimer when the specification indicated that for "successful manufacture" a particular step was "require[d]." *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1367 (Fed. Cir. 2007) ("Those statements are not descriptions of particular embodiments, but are characterizations directed to the invention as a whole."). We found disclaimer when the specification indicated that the invention operated by "pushing (as opposed to pulling) forces," and then characterized the "pushing forces" as "an important feature of the present invention." *SafeTCare Mfg., Inc. v. Tele-Made, Inc.*, 497 F.3d 1262, 1269–70 (Fed. Cir. 2007). We found disclaimer when the patent repeatedly disparaged an embodiment as "antiquated," having "inherent inadequacies," and then went on to detail the "deficiencies [that] make it difficult" to use. *Chicago Bd. Options Exch., Inc. v. Int'l Sec Exch., LLC*, 677 F.3d 1361, 1372 (Fed. Cir. 2012) ("[T]he specification goes well beyond expressing the patentee's preference . . . and its repeated derogatory statements about [a particular embodiment] reasonably may be viewed as a disavowal."). We have also held that disclaimer applies when the patentee makes statements such as "the present invention includes . . ." or "the present invention is . . . " or "all embodiments of the present invention are . . . ." *See Regents of Univ. of Minn. v. AGA Med. Corp.*, 717 F.3d 929, 936 (Fed. Cir. 2013); *Honeywell Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1316–19 (Fed. Cir. 2006); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–44 (Fed. Cir. 2001). There is no such disclaimer here.

Nowhere does the '155 patent describe removability of the bit as a feature of the "present invention" or a feature "essential" to the invention. In fact, the '155 patent is

almost completely devoid of any statement about removability of the bit. The Background of the Invention section discusses four objects of the present invention: (1) improved means for removing *a bit holder* from its bit block; (2) a more efficient assembly that requires less power; (3) providing multiple means for retaining a bit holder in a bit block; and (4) providing a tool that allows easy removal of the *bit holder* from the bit block. *See* '155 patent col. 2 ll. 1–20. To the extent that removability is discussed at all, it is the removability of the bit holder from the bit block, *not* the removability of the bit from its bit holder. There are only two mentions of removability of the bit from the bit holder in the entire patent. The first is where the patent discusses, not the present invention, but rather a single piece of prior art: "U.S. Patent 5,374,111 discloses [a tool] . . . to help remove a bit from the bit block. It would be desirable to provide a more efficient means and multiple means for allowing the removal of a *bit holder* from the *bit block*." *Id.* col. 1 ll. 56–61. Clearly, this statement does not limit the claimed invention to removable bits. It explains that the present invention focuses on removal of bit holders from bit blocks. The only other mention of removability of a bit is in the third discussed embodiment: "Referring to Figures 7, 8, and 9, a third embodiment of a bit holder is shown . . . . [The bit holder] includes a pair of notches 74, 75 therein that provide tool access to the back of a bit for easing removal of the bit from the bit holder." *Id.* col. 5 ll. 40–48. The fact that the design of the bit holder in this one embodiment facilitates removal does not morph removability into a requirement. Additionally, there are five embodiments in the patent, and none of the others require, show, or even mention removability of the bit. The majority's claim that every relevant embodiment disclosed refers to the removability of the bit from the bit holder is inaccurate.

To be sure, removability of *the bit holder from the bit block* is an important aspect of the present invention and is mentioned more than a dozen times in the patent. But this is entirely different from removability of *the bit from the bit holder*, which is mentioned only once in conjunction with one of five embodiments. The fact that my watch must be removable from my arm doesn't mean the hands on the watch need to be removable from the watch. There is nothing in this patent which suggests that removability of the bit is important, much less a critical or essential part of the claimed invention.

Finally, to the extent that the majority finds disclaimer in the prosecution history, I do not agree. *None* of the multiple office actions or responses ever discusses removable bits. There was, however, a declaration filed by the inventor during the prosecution of the '155 patent that mentions removable bits. The PTO rejected claims as obvious over Beebe in combination with O'Neill or Topka. The declaration states that in Beebe (the prior art reference), the sleeve has a "wall material thickness of between 0.040 and 0.045. The reason [for] this wall thickness is to be able to quickly remove the bit. As many as 320 bits may be removed and replaced a day." J.A. 253. The patentee criticizes this design because the thin walls would "shear under even a moderate load." *Id.* The patentee further explains that "the present application is a bit holder that is stiffer [due to thickness] and therefore holds the bit in the proper position for heavy operating." *Id.* None of this supports the idea that the present invention is limited to a holder with removable bits. The declaration does, however, go on to distinguish the Warren reference because Warren's bit holder "has a wider notch at the rearward portion and a narrower width at the front face. The present application is the reverse. This difference is material because the narrower rearward portion prevents the clogging of the notch and aids in removal of the bit." J.A. 254. This is not a clear and

unmistakable disclaimer of any bit that is not removable. The fact that the present design of the bit holder might permit or aid in removability of bits does not require that the bits be removable. This is a statement that would support the notion that the inventor contemplated removable bits, but it is a far cry from requiring removable bits.

It is *not* an object of the invention of the '155 patent to provide removable bits. Removability of the bits is only mentioned in one of the five disclosed embodiments. It is not described as important, essential, required, or "the present invention." None of the descriptions of the other embodiments and none of the figures of the other embodiments even hint at removable bits. Respectfully, this patent is directed to bit holders that are removable from bit blocks. The bit, however, does not have to be removable from the bit holder. I would find for the patentee, and not read the removability limitation into the claim.

B. "Mountable in a Bore"

I agree with the majority that the bit must be "mountable in a bore," but not because this is somehow inherent in the word "bit." The claims contain a limitation that the bit is "mountable in a first bore through said bit holder." '155 patent claim 1. This limitation requires that the bit be mountable in a bore.

The majority notes, but does not appear to adopt, the district court's reasoning that if a bit is "mountable" it has to be "removable." *See* J.A. 308 ("[T]he only reason really on this one that I adopted the removability is because I think if it's going to be mountable, it has to be removable.") Mounting is about attachment, not removal. When one mounts a bit to a bore, one attaches it or fixes it to the bore. A bit that is brazed onto its bore is still mounted in the bore. Likewise, a diamond is mounted in its setting. Removability is not a condition that necessarily follows from mounting.

C. "Cylindrical" shank and bore

The majority also errs in its construction of the "shank" portion of the bit as an "elongate cylindrical object." There is nothing inherent in the word "shank" that requires a cylindrical shape as opposed to, for example, the frustoconical shape of the accused structures' carbide bolster (which, the patentee argues, is its shank). The plain and ordinary meaning of shank is "[t]hat part of an instrument, tool, or other thing, which connects the acting part with a handle or other part." J.A. 437. It is true that *one* disclosed embodiment—the discussion of Figure 1 of the '155 patent—has a bit with a cylindrical shank. The only time the shank of the bit is ever described at all is in the following sentence of the patent: "Aft of the cylindrical base 24, the tip narrows to a *cylindrical shank 25*, which, in this embodiment, includes a C-shaped retainer 26 there around and a cylindrical shank portion base 27 defining the rear end of the bit." '155 patent col. 3 ll. 7–10 (emphasis added). That is the only time in the entire patent that the shape of the shank of the bit is ever mentioned. Given that shanks in general can have any shape, this one sentence does not clearly limit the claimed bit to a bit with a cylindrical shank. There is nothing in this discussion that even suggests that the cylindrical shape is important, essential, useful, advantageous, or necessary to the invention.

To be clear, there are other portions of the patent that discuss the cylindrical shank of the *bit holder*. In fact, claim 1 itself covers a "generally cylindrical bit holder shank." *Id.* claim 1. This is *not* the shank of the bit, nor does the bit shank mate with the bit holder shank such that one would expect them to be similarly shaped. They are completely separate parts.

The majority's requirement that the shank be cylindrical is intertwined with its conclusion that the bore be

cylindrical. Maj. Op. at 18; *see Novatek, Inc. v. Sollami Co.*, No. 2:11-cv-00180, 2013 WL 1831995, at *5 (D. Utah Apr. 30, 2013) ("Because the shank . . . [is] 'in the bore,' and because the shank is cylindrical, the bore must also be cylindrical."). Again there is no language anywhere that suggests that the cylindrical shape given to the disclosed embodiment is important, "the present invention," or an essential feature. If the plain and ordinary meaning of bore required a cylindrical shape, then there would be no need for the patent to refer to a "cylindrical bore," as it does at one place in the patent. '155 patent col. 3 l. 64. The very dictionaries relied upon by the majority indicate only that bores are "usually cylindrical." In short, bores are not required to be cylindrical.

* * * * *

To the extent "bit" is a claim limitation, it is to be given its plain and ordinary meaning, which does not require removability or a cylindrical shank and bore. There is nothing in the record to indicate that the patentee intended to deviate from the plain and ordinary meaning by defining the word "bit," disavowing its scope, or even suggesting that these three features are critical to the claimed invention. The majority improperly deprives the patentee of the breadth of the claims by reading limitations from particular embodiments in the specification into its construction of "bit." I would reverse the summary judgment of noninfringement and remand for a jury trial on the disputed issues of fact.