

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAKER HUGHES OILFIELD OPERATIONS, INC.,
Petitioner,

v.

SMITH INTERNATIONAL, INC.,
Patent Owner.

Case IPR2016-01452
Patent 7,314,099 C1

Before BART A. GERSTENBLITH, JAMES A. TARTAL, and
AMANDA F. WIEKER, *Administrative Patent Judges*.

TARTAL, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Baker Hughes Oilfield Operations, Inc. (“Petitioner”)¹ filed a Petition (Paper 1, “Pet.”) requesting institution of *inter partes* review of claims 22–27 and 43–57 of U.S. Patent No. 7,314,099 C1 (Exs. 1001, 1003 (Ex Parte Reexamination Certificate), collectively, “the ’099 patent”). Smith International, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 9). With our prior authorization (Paper 10), Petitioner filed a Reply to the Preliminary Response (Paper 11), and Patent Owner filed a Sur-Reply (Paper 12).

Pursuant to 35 U.S.C. § 314(a), we determined the Petition showed a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of claims 22, 27, 46–52, 54, and 55 (the “instituted claims”), and instituted *inter partes* review of these claims on certain asserted grounds of unpatentability. Paper 13 (“Inst. Dec.”) 22. We, however, did not institute review of claims 23, 25, 26, 43–45, and 53 on an additional asserted ground of unpatentability, because we determined Petitioner had not shown sufficiently that one of the asserted references relied upon for that ground was available as prior art in this proceeding, and, as a result, the Petition did not show a reasonable likelihood that Petitioner would prevail with respect to claims 23, 25, 26, 43–45, and 53. *Id.* at 17–19. We also declined to institute review of claims 23–26, 43–45, 56, and 57 on another ground of unpatentability, because we determined that, with respect to that ground, Petitioner asserted the same or substantially the same prior art or arguments

¹ On July 14, 2017, Petitioner filed an updated notice to identify the following as real parties-in-interest to this proceeding: Baker Hughes Oilfield Operations LLC; Baker Hughes, a GE company, LLC; Baker Hughes, a GE company; and General Electric Company. Paper 20.

that Petitioner previously presented to the Office in the reexamination of the '099 patent. *Id.* at 19–22; *see also* 35 U.S.C. § 325(d) (“In determining whether to institute or order a proceeding . . . , the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.”).

After institution, Patent Owner filed a Patent Owner Response. Paper 18 (“PO Resp.”). Petitioner filed a Reply to Patent Owner’s Response. Paper 22 (“Pet. Reply”).

Oral argument was held before the Board on October 25, 2017, jointly in this case and in Case IPR2016-01440 in which Petitioner filed a petition challenging claims 1, 2, 4–20, and 28–42 of the '099 patent. Paper 30 (“Tr.”); *see also* Pet. 3.

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Having considered the record before us, we determine Petitioner has not shown by a preponderance of the evidence that any of the instituted claims of the '099 patent are unpatentable. *See* 35 U.S.C. § 316(e).

II. BACKGROUND

A. ADDITIONAL RELATED PROCEEDINGS

The parties indicate that the '099 patent is asserted in the United States District Court for the District of Delaware, in a case captioned *Smith Int’l, Inc. v. Baker Hughes Inc.*, No. 1:16-cv-00056 (D. Del.). Pet. 3; Paper 4, 2. Additionally, an appeal of *Ex Parte* Reexamination Number 90/012,912 pertaining to U.S. Patent No. 6,732,817, a parent of the application that issued as the '099 patent, was pending before the U.S. Court

of Appeals for the Federal Circuit when this proceeding was instituted. Prior to oral argument in this proceeding, the Federal Circuit reversed the rejections of all of the appealed claims at issue in that case. *In re Smith Int'l, Inc.*, 871 F.3d 1375 (Fed. Cir. 2017).

B. THE '099 PATENT

The '099 patent is titled “Selectively Actuatable Expandable Underreamer/Stabilizer” and issued January 1, 2008, from U.S. Application No. 11/436,790, filed May 18, 2006. Ex. 1001. In 2013, Baker Hughes Incorporated requested an *ex parte* reexamination of claims 1–15 and 18–27 of the '099 patent based on seven references. Pet. 5; Ex. 1012, 102–03. An Ex Parte Reexamination Certificate for the '099 patent issued on December 16, 2014, canceling claim 21, confirming the patentability of claims 22–26, determining patentable claims 1 and 27 as amended, determining patentable claims 2–20 dependent on an amended claim, and determining patentable added claims 28–57. Ex. 1003, 1:17–25. During reexamination of the '099 patent, claim 27 was amended to require “the at least one moveable arm translates axially and radially” to overcome the prior art of record. Pet. 14–15 (citing Ex. 1012, 14–15).

The '099 patent generally relates to “underreamers for enlarging a borehole below a restriction to result in a borehole that is larger than the restriction” and “stabilizers for stabilizing a drilling assembly within an underreamed portion of borehole.” Ex. 1001, 1:25–30. In particular, the '099 patent describes “a selectively actuatable, expandable downhole tool that may function as an underreamer, or as a stabilizer, or as a combination thereof.” *Id.* at 1:30–33. According to the '099 patent, underreamers have two operative states: “a closed or collapsed state, where the diameter of the

tool is sufficiently small to allow the tool to pass through the existing cased borehole, and an open or partly expanded state, where one or more arms with cutters on the ends thereof extend from the body of the tool.” *Id.* at 1:58–63. “In this latter position, the underreamer enlarges the borehole diameter as the tool is rotated and lowered in the borehole. *Id.* at 1:63–65.

More particularly, the '099 patent describes “an expandable downhole tool for use within a wellbore comprising a tubular body having an axial flowbore extending there through, at least one moveable arm, and a selectively actuatable sleeve that prevents or allows the at least one moveable arm to translate between a collapsed position and an expanded position.” *Id.* at 4:66–5:5. Figures 4 and 5 of the '099 patent are reproduced below, with color shading that replicates the annotated version of the figures provided by Petitioner. *See* Pet. 1.

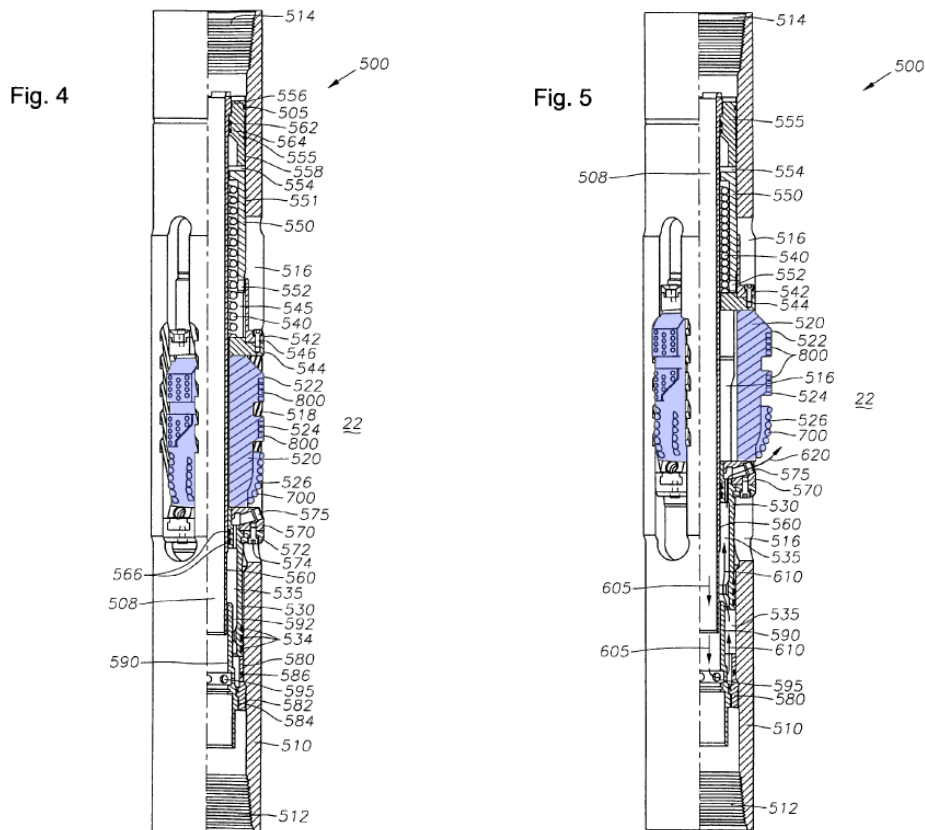


Figure 4 illustrates “a cross-sectional elevation view of one embodiment of the expandable tool . . . , showing [in blue] the moveable arms [520] in the collapsed position,” and Figure 5 illustrates “a cross-sectional elevation view of the expandable tool of FIG. 4, showing [in blue] the moveable arms [520] in the expanded position.” Ex. 1001, 6:44–49. Expandable tool 500 includes “a generally cylindrical tool body 510 with a flowbore 508 extending therethrough.” *Id.* at 8:60–62. Pocket recesses 516 in body 510 accommodate the axial movement of several components including “moveable, non-pivotable tool arms 520.” *Id.* at 8:64–9:4. “Each recess 516 stores one moveable arm 520 in the collapsed position.” *Id.* at 9:4–5. “[R]ecesses 516 further include angled channels 518 that provide a drive mechanism for the moveable tool arms 520 to move axially upwardly and radially outwardly into the expanded position of FIG. 5.” *Id.* at 9:14–17.

“The drilling fluid flows along path 605, through ports 595 in the lower retainer 590, along path 610 into the piston chamber 535.” *Id.* at 10:35–37. “The differential pressure between the fluid in the flowbore 508 and the fluid in the borehole annulus 22 surrounding tool 500 causes the piston 530 to move axially upwardly from the position shown in FIG. 4 to the position shown in FIG. 5.” *Id.* at 10:37–41. “As the piston 530 moves axially upwardly in pocket recesses 516, the piston 530 engages the drive ring 570, thereby causing the drive ring 570 to move axially upwardly against the moveable arms 520.” *Id.* at 10:43–47. The ’099 patent further explains that “[t]he arms 520 will move axially upwardly in pocket recesses 516 and also radially outwardly as the arms 520 travel in channels 518 disposed in the body 510.” *Id.* at 10:47–49. “In the expanded

position, the flow continues along paths 605, 610 and out into the annulus 22 through nozzles 575.” *Id.* at 10:49–51.

“The moveable arms 520 include pads 522, 524, and 526 with structures 700, 800 that engage the borehole when the arms 520 are expanded outwardly to the expanded position of the tool 500 shown in FIG. 5.” *Id.* at 9:52–55. “In the expanded position shown in FIG. 5, the arms 520 will either underream the borehole or stabilize the drilling assembly, depending upon how the pads 522, 524 and 526 are configured.” *Id.* at 10:25–28.

C. ILLUSTRATIVE CLAIMS

Instituted claims 22 and 27 are independent and claims 46–52, 54, and 55 depend from claim 22. Claims 22 and 27 are illustrative of the claimed subject matter and are reproduced below:

22. A method of expanding a downhole tool within a wellbore, comprising:
- disposing the downhole tool comprising at least one moveable arm within the wellbore;
 - biasing the at least one moveable arm to a collapsed position corresponding to an initial diameter of the downhole tool;
 - flowing a fluid through an axial flowbore extending through the downhole tool while preventing the fluid from communicating with a different flowpath of the downhole tool;
 - allowing the fluid to communicate with the different flowpath by introducing an actuator into the wellbore;
 - and
 - causing the at least one moveable arm to translate to an expanded position corresponding to an expanded diameter of the downhole tool.

Ex. 1001, 16:18–34.

27. An expandable downhole tool for use within a wellbore, comprising:
a tubular body; and
at least one moveable arm;
wherein the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm *both axially and radially* between a collapsed position and an expanded position.

Ex. 1003, 1:36–44 (emphasis in original indicating subject matter added by amendment).

D. INSTITUTED GROUNDS OF UNPATENTABILITY

We instituted *inter partes* review of claims 22, 27, 46–52, 54, and 55 of the '099 patent on the following grounds of unpatentability asserted in the Petition. Inst. Dec. 22.

Reference(s)	Basis	Claim(s)
Myers ²	§ 102(b)	22, 27, 46, 47, 50–52, 54, and 55 ³
Myers and Bostock ⁴	§ 103(a)	22, 48, and 49
Anderson ⁵	§ 102(b)	27 ⁶

Petitioner supports its challenge with a Declaration by Leslie T. Shale, dated July 15, 2016 (Ex. 1010).

² U.S. Patent No. 3,136,364, issued June 9, 1964 (Ex. 1004, “Myers”).

³ Petitioner did not contend in the Petition that claims 27, 46, 47, 50–52, 54, and 55 of the '099 patent would have been obvious over either Myers, alone or in combination with Bostock. Accordingly, our consideration in this case is limited to anticipation of these claims by Myers, which is the ground upon which we instituted *inter partes* review. See Inst. Dec. 22.

⁴ U.S. Patent No. 3,237,695, issued March 1, 1966 (Ex. 1005, “Bostock”).

⁵ U.S. Patent No. 6,131,675, issued October 17, 2000 (Ex. 1009, “Anderson”).

⁶ Petitioner did not contend in the Petition that claim 27 of the '099 patent would have been obvious over Anderson. Accordingly, our consideration in

Patent Owner relies on a Declaration by Lance D. Underwood, dated May 22, 2017 (Ex. 2019).

III. ANALYSIS

A. CLAIM CONSTRUCTION

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). We presume a claim term carries its “ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question” at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (citation and quotations omitted). This presumption, however, is rebutted when the patentee acts as his own lexicographer by giving the term a particular meaning in the specification with “reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner and Patent Owner address the construction of a number of claim terms. Pet. 16–20; PO Resp. 2–16; Pet. Reply 12–13. We address terms only to the extent necessary to resolve the parties’ disputes regarding the pending grounds of unpatentability. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). In reaching our final decision, we apply the ordinary and customary meaning of each term and determine that no claim term requires an express construction.

this case is limited to anticipation of claim 27 by Anderson, which is the ground upon which we instituted *inter partes* review. *See* Inst. Dec. 22.

B. ASSERTED ANTICIPATION BY MYERS

We instituted review on Petitioner’s assertion that Myers anticipates claims 22, 27, 46, 47, 50–52, 54, and 55 of the ’099 patent. Inst. Dec. 22; *see also* Pet. 21–29. Anticipation under 35 U.S.C. § 102 requires “the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010). Specifically, “[f]or a claim to be anticipated, each claim element must be disclosed, either expressly or inherently, in a single prior art reference, and the claimed arrangement or combination of those elements must also be disclosed, either expressly or inherently, in that same prior art reference.” *Id.* at 1332–33. Inherent disclosure is established where the reference “must necessarily include the unstated limitation.” *Id.* (emphasis omitted); *see Cont’l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991) (holding that inherency can be established by extrinsic evidence that “make[s] clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill”).

Upon consideration of the Petition, Patent Owner’s Response, Petitioner’s Reply, and the supporting evidence, for the reasons that follow, we conclude that Petitioner has not shown by a preponderance of the evidence that Myers anticipates any of claims 22, 27, 46, 47, 50–52, 54, and 55.

1. *Summary of the Disclosure of Myers*

Myers is titled “Hydraulically Set Well Packer” and relates to well tools “adapted to be lowered and set in conduit strings, such as well casing, disposed in well bores.” Ex. 1004, 1:2–12. As explained by Petitioner,

“Myers describes an expandable downhole tool in the form of a hydraulically set well packer for use within a wellbore.” Pet. 21.

Figures 2 and 3 of Myers are reproduced below, with color shading that replicates the annotated version of the figures provided by Patent Owner. See PO Resp. 29–31.

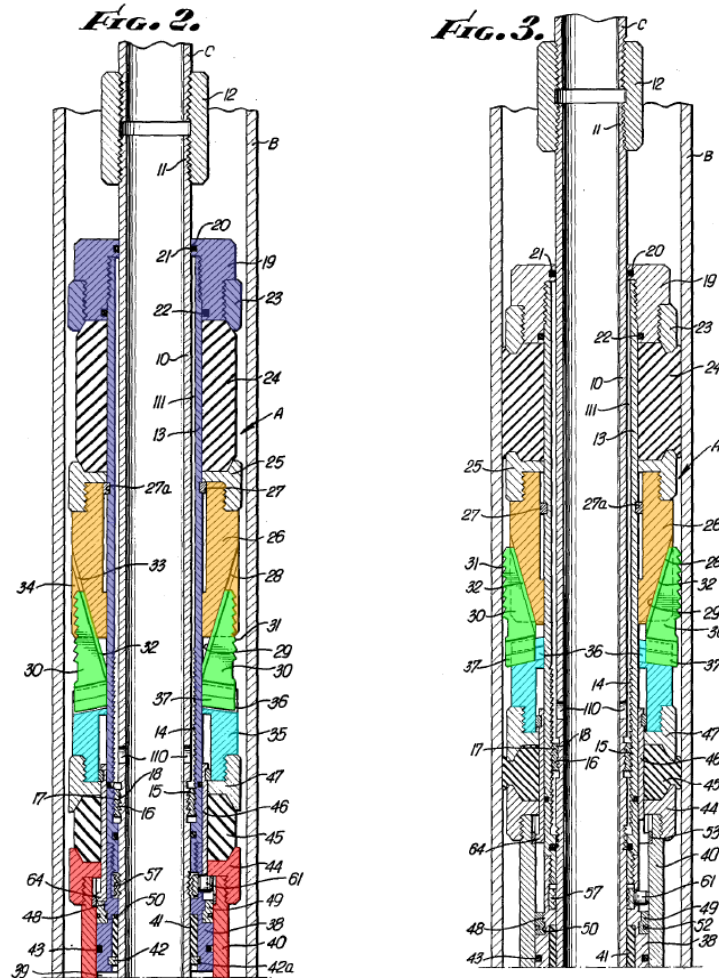


Figure 2 illustrates a longitudinal section of the well packer embodying the invention of Myers conditioned to be set hydraulically in the well casing. Ex. 1004, 1:60–62. Figure 3 illustrates a longitudinal section corresponding to Figure 2 of the well packer and embodying the invention anchored in packed-off condition in the well casing. *Id.* at 1:64–66.

Figures 2a and 3a of Myers are reproduced below, with color shading that replicates the annotated version of Figure 2a provided by Patent Owner. See PO Resp. 31.

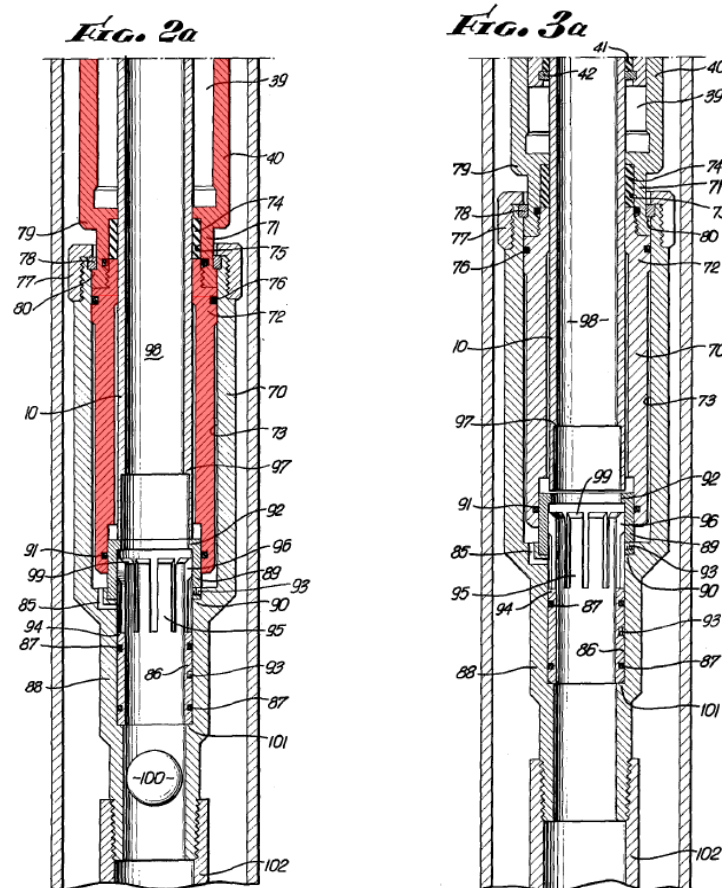


Figure 2a is a continuation of Figure 2 and illustrates a longitudinal section of the well packer embodying the invention conditioned to be set hydraulically in the well casing. Ex. 1004, 1:60–63. Figure 3a is a continuation of Figure 3 and illustrates a longitudinal section corresponding to Figure 2a of the well packer and embodying the invention anchored in packed-off condition in the well casing. *Id.* at 1:64–67. Figure 2 should be envisioned as stacked above Figure 2a, and, likewise, Figure 3 should be envisioned as stacked above Figure 3a. See Pet. Reply 3.

Figures 2, 2a, 3, and 3a show elements of well tool A, described as a “packer,” that may be lowered in well casing B on tubular string C (“such as a string of tubing or drill pipe”) to a desired location “to be anchored in packed-off condition against the wall of the well casing.” Ex. 1004, 2:5–9. The well packer, among various components, includes:

central tubular mandrel or body 10	upper annular abutment 47
upper setting sleeve 13	shear ring 53
upper abutment 19	split lock ring 57
abutment gauge ring 23	internal groove 58
packing structure 24	lock pin 61
lower annular abutment 25	bore 62
slip expander 26	cylinder 70
slips 30	lower annular piston 72
external wickers or teeth 31	clamp ring 77
side tongues 32	two-piece stop or limit ring 78
grooves 33	stop flange 80
slots 34	inlet port 85
slip ring 35	valve sleeve 86
T-shaped slots 36	stop sleeve 89
T-shaped heads 37	shoulder 90
upper annular piston 38	shear screw 93
lower setting sleeve or cylinder 40	passage 98
lower annular abutment or holding member 44	valve seat 99
elastic anchor sleeve 45	valve element or ball 100

Id. at 2:13–5:17.

Petitioner identifies slips 30 of Myers (shown in green in Figures 2 and 3 above) as corresponding to the “moveable arm” of claims 22 and 27. Pet. 20, 28. “The setting of the slips 30 and packing 24 is secured

hydraulically, and actually by the hydrostatic head of fluid in the well bore or casing B.” Ex. 1004, 4:11–13. Petitioner further describes at length how it contends the well packer described by Myers operates. Pet. 21–24; Pet. Reply 1–17. Patent Owner also details its contentions about the operation of Myers. PO Resp. 16–42. We approach the issue by addressing the sequence of steps Myers discloses with respect to the deployment of slips 30 as set forth primarily in the Petition. Each of the elements discussed below is shown in at least one of Figures 2, 2a, 3, or 3a of Myers unless otherwise noted.

1. “[S]lips 30 are held in position by tongue-in-groove engagement with expanders 26 [shown in yellow in Figures 2 and 3 above].” Pet. 23 (citing Ex. 1004, 2:68–3:9).
2. “[E]xpanders 26 are coupled to an upper setting sleeve 13 through a lower annular abutment 25, packing structure 24, and upper annular abutment 19.” *Id.* (citing Ex. 1004, 2:50–67).
3. “[U]pper setting sleeve 13 is initially prevented from moving axially relative to the body 10 ‘by virtue of a split lock ring 57 disposed in an internal groove 58 [illustrated in Figure 5 of Myers] provided by and between the piston 38 and the lower end of the setting sleeve 13,’ and the split lock ring 57 is held in the locked position ‘with a lock pin 61 mounted in a bore 62 [illustrated in Myers Figure 5] of the piston 38.’” *Id.* (quoting Ex. 1004, 3:60–74.)
4. Piston 38 “is held in position relative to a lower setting sleeve 40 by a shear ring 53.” *Id.* (citing Ex. 1004, 3:42–50).

5. With all of the parts coupled together to prevent relative movement, “well packer A is lowered in the well casing B by means of the tubular string C to the desired setting point.”
Ex. 1004, 5:43–47.
6. To deploy the slips at a desired location, ball 100 is dropped into tubular string C “and will gravitate downwardly therethrough” until reaching seat 99 of valve sleeve 86 at the upper end of valve sleeve fingers 96 (illustrated in Myers, Figure 1a). *Id.* at 4:72–5:14, 5:47–52; *see also* Pet. 23.
7. “Sufficient pressure is then imposed on the fluid in the tubular string C and the body 10 of the tool to shear the screw 93.”
Ex. 1004, 5:52–54. “Fluid pressure acts against the ball 100 seated against the seat 99, shears a shear screw 93, and shifts the valve sleeve 86 axially downward ‘from its closed position across the inlet port 85’ to an open position.” Pet. 23 (quoting Ex. 1004, 5:55–59). “The hydrostatic head of fluid in the tubular string C can now enter the inlet port 85 and act in an upward direction on the lower piston 72.” Ex. 1004, 5:57–59.
8. “Upward movement of the lower piston 72 ‘carries the lower setting sleeve 40’ upwardly and shears the shear ring 53.”
Pet. 23 (quoting Ex. 1004, 5:57–69).
9. “The movement of the lower setting sleeve 40 upwardly releases the pin 61, and ‘the lock ring 57 can then expand outwardly’ to free ‘the piston 38 and the upper setting sleeve 13 for downward movement along the body.’” *Id.* at 23–24 (quoting Ex. 1004, 5:69–75).

10. “When the piston 38 is free to move, fluid pressure within the tool bore ‘can act downwardly on the upper piston 38,’ which ‘pulls the upper setting sleeve 13 downwardly with it . . . , moving the upper abutment 19 secured to it, the packing sleeve 24, and the expander 26 downwardly with it.’” *Id.* at 24 (quoting Ex. 1004, 6:6–17).
11. Slips 30 are “prevented from moving downwardly by the fact that the slip ring 35 [shown in blue in Figures 2 and 3 above] and abutment 47 are resting upon the elastic anchor sleeve 45, which, in turn, bears against the lower abutment 44 secured to the lower setting sleeve 40.” Ex. 1004, 6:17–21.
12. “The expander 26 ‘moves longitudinally downwardly along the slips 30, shifting them outwardly and embedding their wickers or teeth 31 in the wall of the well casing B.’” Pet. 24 (quoting Ex. 1004, 6:21–24).

2. Alleged Anticipation of Claim 22 by Myers

Claim 22 of the '099 patent recites a method of expanding a downhole tool within a wellbore that includes the step of “flowing a fluid though an axial flowbore extending through the downhole tool while preventing the fluid from communicating with a different flowpath of the downhole tool,” (the “flowing a fluid” step). Ex. 1001, 16:25–28. Petitioner identifies passage 98 of Myers within body 10 as an “axial flowbore.” Pet. 22. Petitioner further contends that Myers anticipates the “flowing a fluid” step by disclosing “the inlet port 85 is initially blocked with a valve sleeve 86.” *Id.* at 25 (citing Ex. 1004, 4:55–66, 5:35–37; Fig. 1a). Beyond this cursory statement, the Petition provides virtually no explanation to further support

the contention that Myers discloses the “flowing a fluid” step. Nor is it apparent from the discussion of the operation of Myers, as set forth by Petitioner and as summarized above, that Myers discloses the “flowing a fluid” step. *See id.* at 1–2, 19–26.

We next consider the declaration of Mr. Shale on behalf of Petitioner to determine whether it further supports the contention that Myers discloses the “flowing a fluid” step. Mr. Shale’s declaration discusses the operation of Myers in a manner that is virtually identical in substance to the content of the Petition. *Compare* Ex. 1010 ¶¶ 49–53, *with* Pet. 21–24. Mr. Shale does not address directly the “flowing a fluid” step or otherwise explain how Myers discloses “flowing a fluid through an axial flowbore extending through the downhole tool.”⁷ Accordingly, we find Mr. Shale’s declaration fails to provide persuasive support for Petitioner’s contention that Myers discloses “flowing a fluid through an axial flowbore extending through the downhole tool while preventing the fluid from communicating with a different flowpath of the downhole tool,” as required by claim 22, beyond what Myers, itself, discloses.

Patent Owner asserts that “[n]oticeably absent from both Myers and the Petitioner’s analysis is any discussion of *flowing fluid*.” PO Resp. 23. Specifically, Patent Owner argues that “Petitioner fails to assert, and Myers does not teach, flowing a fluid through the axial flowbore . . . while

⁷ During his deposition when asked whether he had any opinion of whether any claim of the ’099 patent is anticipated by any prior art, Mr. Shale responded: “I’ve got no idea what you’re talking about.” Ex. 2020, 75:1–2. More important than Mr. Shale’s understanding of the term “anticipation” is his opinion on whether Myers discloses all elements of the instituted claims of the ’099 patent, arranged as in the claims, and we find his declaration does not address this issue expressly. *See* Ex. 1010.

preventing the fluid from communicating with a different flowpath.” *Id.* We find more persuasive Mr. Underwood’s testimony, on behalf of Patent Owner, that Myers does not disclose the “flowing a fluid” limitation of claim 22. Mr. Underwood testifies that “[o]ne of Myers’ key premises is that the well packer is lowered and set hydrostatically (i.e., with no fluid flowing through the system),” and he notes that “Myers states that an ‘object of the invention is to provide an improved subsurface well tool adapted to be set hydraulically in a well bore by a hydrostatic head of fluid therewithin, and *without the need for imposing any pressure on the fluid in the well bore*, or in a tubular string to which the tool is connected.’” Ex. 2019 ¶ 101 (quoting Ex. 1004, 1:20–25) (emphasis added). Mr. Underwood also testifies that “Myers teaches a brief pulse of pressure may be applied to the ball for shearing the shear screw 93,” but the pressure on the ball is not “a flowing fluid that is prevented from translating the slips by the sleeve and then allowed to communicate with the different flowpath,” as required by claim 22. *Id.* at ¶ 104. Patent Owner also contends that Mr. Shale confirmed “that fluid is not flowing in Myers’ tool prior to, during, or after dropping the ball 100 (Ex. 2021, 214:14–215:22), while also confirming that ‘through the body’ requires flow in one end of the body and out the other (Ex. 2020, 134:1–22).” PO Resp. 24–25.

In its Reply, Petitioner argues that Patent Owner and Mr. Underwood erroneously interpret Myers. Pet. Reply 1. Petitioner notes that “[a] correct understanding of the operation of the Myers tool is essential to discern whether Myers anticipates the claims of the ’099 Patent” and recognizes that “Myers is a complicated reference.” *Id.* Significantly, however, Petitioner’s Reply is unsupported by any additional declaration testimony from

Mr. Shale or any other expert in the field. As noted above, Mr. Shale's sole declaration in this case fails to provide persuasive support for Petitioner's contention that Myers discloses the "flowing a fluid" step of claim 22. Thus, in Petitioner's attempt to show by a preponderance of the evidence that Myers anticipates claim 22, we are left primarily with counsel's arguments on behalf of Petitioner and the deposition testimony of Mr. Shale and Mr. Underwood. In its Reply, however, Petitioner also fails to identify support from Mr. Shale's deposition for the proposition that Myers discloses the "flowing a fluid" step. *See* Pet. Reply 1–25. Petitioner instead focuses on Mr. Underwood's testimony.

In the Reply, Petitioner argues that Patent Owner "omits from its analysis" Myers statement that "[s]ufficient pressure is then imposed on the fluid in the tubular string C and the body 10 of the tool to shear the screw 93, shifting the sleeve valve 86 downwardly from its closed position." Pet. Reply 14 (quoting Ex. 1004, 5:52–55). To the contrary, as noted above, Mr. Underwood directly addressed this portion of Myers in his declaration. *See* Ex. 2019 ¶ 104. Petitioner further argues that Mr. Underwood confirmed that the pressure would be imposed by a pump, and that fluid "has to move some," albeit for a short period of time. *Id.* (quoting Ex. 1021, 76:12). Petitioner then asserts that "[t]his fluid flowing through the tool" is prevented from acting on piston 72 by valve sleeve 86, and then allowed to act on piston 72 after valve sleeve 86 shifts downward. Pet. Reply 14. Petitioner's argument mischaracterizes Mr. Underwood's testimony.

The complete question and answer presented to Mr. Underwood is as follows:

Q. So there is a fluid flowing within the Myers tool, correct?

MR. ROSE: Objection to form.

THE WITNESS: In -- in the course of shearing a pin, there is a fluid pressure applied to the ball that shears the pin. And after that, there is no longer any -- any fluid pressure applied.

BY MR. BURTON:

Q. But it's flowing in order to apply the pressure, correct?

A. Yes, to displace the ball, the fluid has to -- has to move some. I think it flows into the tool. It moves the tool. As soon as the ball is released, there is no longer any need to flow. So that fluid doesn't flow through the tool. Just into the tool.

Ex. 1021, 75:25 – 76:7. Mr. Underwood's testimony does not support Petitioner's contention that Myers discloses the "flowing a fluid" step. Mr. Underwood was asked whether there is "a fluid flowing within the Myers tool," not whether Myers discloses "flowing a fluid through an axial flowbore extending through the downhole tool," as required by claim 22. *Id.* Moreover, Mr. Underwood testified that "fluid doesn't flow *through* the tool," but rather just flows "*into* the tool." *Id.* (emphases added)

Petitioner fails to provide additional evidence in support of its contention that Myers discloses the "flowing a fluid" step, for example from

expert testimony, and instead relies only on attorney argument.⁸ Petitioner's effort to raise doubt over Patent Owner's interpretation of Myers' operation is not sufficient to demonstrate by a preponderance of the evidence that Myers discloses all elements of claim 22 of the '099 patent—this remains Petitioner's burden. The information and evidence advanced by Petitioner, including the Petition, Mr. Shale's supporting declaration, and Mr. Shale's deposition testimony, collectively, do not demonstrate by a preponderance of the evidence that Myers discloses the step of "flowing a fluid through an axial flowbore extending through the downhole tool while preventing the fluid from communicating with a different flowpath of the downhole tool," as recited in claim 22 of the '099 patent. As a result, we find that Petitioner has not shown by a preponderance of the evidence that Myers anticipates claim 22.

2. Alleged Anticipation of Claims 46, 47, 50–52, 54, and 55 by Myers

Claims 46, 47, 50–52, 54, and 55 each depend from claim 22.

Petitioner contends that Myers anticipates each of the additional limitations of these dependent claims. Pet. 26–28. Petitioner's analysis of these dependent claims is premised on Petitioner's analysis of claim 22 discussed

⁸ A supporting expert declaration is not, *per se*, a requirement of a reply. However, by relying only on attorney argument to further develop its contentions in its Reply, Petitioner has shielded its interpretation of the operation of Myers (an admittedly complicated reference) from potential examination by Patent Owner through, for example, additional deposition testimony. Thus, the Board is left with less evidence upon which to base its decision than it would likely have had if Petitioner's Reply contentions were supported by evidence in the form of, for example, declaration testimony from a competent witness. Ultimately, however, even Petitioner's attorney argument does not persuade us that Myers supports Petitioner's position for the reasons discussed.

above. *Id.* Having determined that Petitioner has not shown by a preponderance of the evidence that Myers anticipates claim 22, we further find that Petitioner has not shown by a preponderance of the evidence that Myers anticipates any of claims 46, 47, 50–52, 54, and 55 for the same reasons.

3. Alleged Anticipation of Claim 27 by Myers

Petitioner contends that Myers anticipates claim 27. Pet. 28–29. Claim 27 recites that “the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm both axially and radially between a collapsed position and an expanded position,” (the “fluid flowing” limitation). Ex. 1003, 1:40–44 (emphasis omitted). Thus, similar to the “flowing a fluid” step of method claim 22, the “fluid flowing” limitation of claim 27 is directed to an apparatus that selectively permits a fluid “flowing through” it to translate a moveable arm. Patent Owner further explained that “the selectively actuatable tool must include at least two configurations, one of which prevents a flowing fluid from translating a movable arm, and one of which allows a flowing fluid to translate a movable arm.” PO Resp. 10–12. Petitioner does not contest that claim 27 requires configurations both “to allow” and “to prevent” the flowing fluid to translate the moveable arm between a collapsed and an expanded position. *See* Pet. Reply; *see also* Pet. 18–19 (stating that “selectively actuatable” refers to “a tool or component configured for actuation at the selection of an operator”).

Petitioner’s arguments with respect to claim 27 substantially mirror the arguments Petitioner made with respect to claim 22. According to Petitioner, Myers anticipates the recited “wherein the expandable downhole

tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body” because Myers “discloses introducing a ball 100 into the wellbore, which ‘shift[s] the sleeve valve 86 downwardly from its closed position across the inlet port 85’ so that ‘fluid in the tubular string C can now enter the inlet port 85.’” Pet. 25, 28–29 (quoting Ex. 1004, 5:45–64); *see also id.* at 25 (contending that the “flowing a fluid” step of claim 22 is disclosed by Myers because “the inlet port 85 is initially blocked with a valve sleeve 86”). Beyond this cursory statement, the Petition provides virtually no explanation to further support the contention that Myers discloses the “fluid flowing” limitation. Nor is it apparent from the discussion of the operation of Myers, as set forth by Petitioner and as summarized above, that Myers discloses the “fluid flowing” limitation. *See id.* at 1–2, 19–26.

We next consider the declaration of Mr. Shale on behalf of Petitioner to determine whether it further supports the contention that Myers discloses the “fluid flowing” limitation of claim 27. As explained above, Mr. Shale’s declaration discusses the operation of Myers in a manner that is virtually identical in substance to the content of the Petition. *Compare* Ex. 1010 ¶¶ 49–53, *with* Pet. 21–24. Mr. Shale does not address directly or otherwise explain how Myers discloses the “fluid flowing” limitation. Accordingly, we find Mr. Shale’s declaration fails to provide persuasive support for Petitioner’s contention that Myers discloses that “the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm,” as required by claim 27, beyond what Myers, itself, discloses.

Patent Owner contends that “Petitioner fails to assert, and Myers does not teach, . . . allowing or preventing a fluid flowing through the tubular body to translate the arm.” PO Resp. 23–24. Patent Owner’s arguments with respect to claim 27 are substantially the same as the arguments made with regard to claim 22. *Id.* at 23–25. Likewise, Petitioner’s Reply addresses claims 22 and 27 together with respect to whether Myers discloses either the “flowing a fluid” step of claim 22 or the “fluid flowing” limitation of claim 27. Pet. Reply 14. We have addressed these arguments in the context of claim 22 above, and our determinations equally are applicable to claim 27 for the same reasons. The Petition, Mr. Shale’s supporting declaration, Mr. Shale’s deposition testimony, and all of the evidence of record, considered together, does not demonstrate by a preponderance of the evidence that Myers discloses “the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm,” as recited in claim 27 of the ’099 patent. As a result, we find that Petitioner has not shown by a preponderance of the evidence that Myers anticipates claim 27.⁹

⁹ Patent Owner also contends that Myers does not disclose translating the “at least one moveable arm” axially, as required by claims 27, 46, and 50–52. PO Resp. 26–47. In related case IPR2017-01440, also concerning the ’099 patent, we determined that Petitioner did not show by a preponderance of the evidence that Myers discloses axial translation of at least one moveable arm. IPR2017-01440, Paper 31, 24–25 (PTAB Feb. 1, 2018). The record developed in this case and the arguments advanced are essentially duplicative of the record developed in IPR2017-01440 with regard to whether Myers discloses axial translation of a moveable arm. *See, e.g.*, Exs. 1021, 1022, 2020, 2021 (expert depositions addressing both cases at the same time). We adopt our reasoning provided in our Final Written Decision in IPR2017-01440, at pages 18–26, and determine that Petitioner has not shown show by a preponderance of the evidence that Myers

C. ASSERTED OBVIOUSNESS OVER MYERS AND BOSTOCK

Petitioner contends claim 22, and claims 48 and 49, which depend from claim 22, would have been obvious over Myers and Bostock. Pet. 29–32. With regard to the “flowing a fluid” step of claim 22, Petitioner relies only on the contentions it set forth under its anticipation analysis with respect to claim 22. Pet. 31. Because Petitioner does not rely on Bostock to teach the recited “flowing a fluid” step, does not argue the step would have been obvious over the combination, and, for the reasons provided above, has not shown by a preponderance of the evidence that Myers discloses the step, Petitioner has not shown by a preponderance of the evidence that claims 22, 48, and 49 would have been obvious over Myers and Bostock.

D. ASSERTED ANTICIPATION BY ANDERSON

We instituted review on Petitioner’s assertion that Anderson anticipates claim 27 of the ’099 patent. Inst. Dec. 22; *see also* Pet. 21–29. Pet. 55–57. Upon consideration of the Petition, Patent Owner’s Response, Petitioner’s Reply, and the supporting evidence, for the reasons that follow, we conclude that Petitioner has not shown by a preponderance of the evidence that Anderson anticipates claim 27.

Anderson discloses a “combination milling and drilling tool for use in performing a single trip milling-then-drilling operation” or “drilling-then-milling operation.” Ex. 1009, 2:35–39.

discloses axial translation of a moveable arm, as required by claims 27, 46, and 50–52.

Anderson's Figures 1 and 2 are reproduced below.

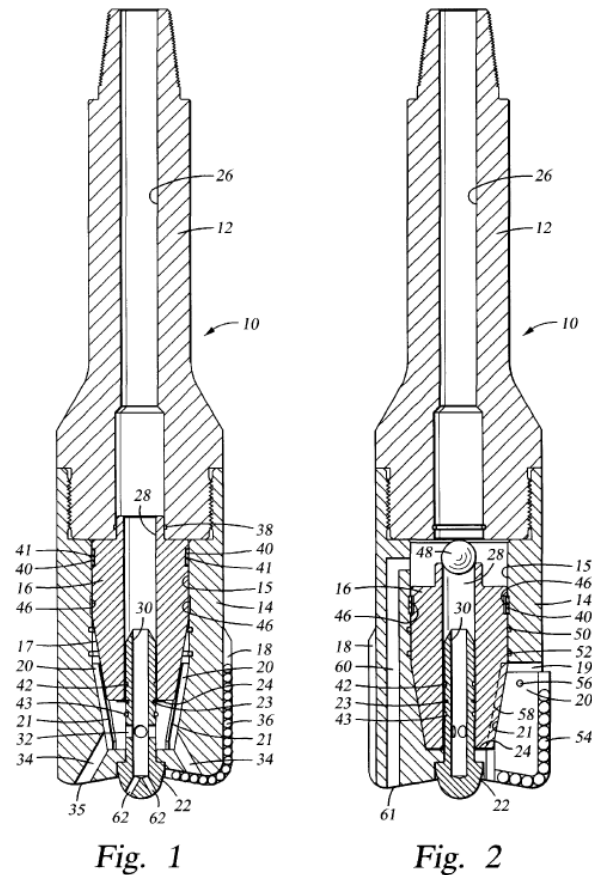


Figure 1 of Anderson illustrates a longitudinal section view of the tool showing the movable cutting structure withdrawn into the tool body and Figure 2 shows the same tool with the movable cutting structure extended to its deployed position. *Id.* at 3:25–30. As shown in Figure 1, the “combination milling tool and drill bit 10 . . . includes an upper body 12, a lower body 14, a hydraulic actuator plug 16, a plurality of fixed cutting blades 18, and a plurality of movable cutting blades 20.” *Id.* at 3:39–43. “A longitudinal bore 26 in the upper body 12 is in fluid flow communication with a longitudinal bore 28 in the actuator plug 16, and with a longitudinal bore 30 in the end plug 22.” *Id.* at 4:4–7. “[S]lidable actuator plug 16 is held in its initial, upper, position by a shearable ring 24.” *Id.* at 4:1–4.

When the actuator plug 16 is in its upper position, fluid passageways 34 are uncovered and fluid flowing through the work string via the longitudinal bores exits through fluid ports 35. *Id.* at 4:12–17.

When ball 48 is dropped through longitudinal bore 26 it will “come to rest at the upper end of the actuator plug 16, blocking the longitudinal bore 28 of the actuator plug 16.” *Id.* at 4:34–38. “Continued pumping of fluid through the drill string will build up pressure on the actuator plug 16 until it shears the shear ring 24 and moves downwardly to the lower position.” *Id.* at 4:38–41. As actuator plug 16 moves down it causes movable blades 20 to move downwardly and outwardly in their respective slots 19. *Id.* at 4:44–50. “When the actuator plug 16 moves to its lower position shown in FIG. 2, the second plurality of fluid passageways 60 are uncovered, allowing fluid to flow from the work string via longitudinal bore 26 and the central cavity 15, exiting ports 61 to facilitate the cutting action of movable blades 20.” *Id.* at 5:20–25. “Simultaneously, the actuator plug 16 blocks flow through the first plurality of fluid passageways 34.” *Id.* at 5:25–27.

The operation of Anderson largely is not in dispute. Rather, the primary issue is what claim 27 requires in reciting that “the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm both axially and radially between a collapsed position and an expanded position,” (as noted above, the “fluid flowing” limitation), and whether it is disclosed by Anderson. Ex. 1003, 1:40–44. Consistent with the Specification of the ’099 patent, Mr. Shale and Mr. Underwood agree that fluid flowing “through” requires flow in one end and out the other. *See* Ex. 2020, 134:1–

22; Ex. 2019 ¶ 194; *see also* Ex. 1001, 10:35–56. Accordingly, there is no dispute that claim 27 requires fluid flowing in one end and out the other end of “the tubular body.” Further, as discussed above, claim 27 is directed to a selectively actuatable tool that permits a fluid “flowing through” it to translate a moveable arm between two positions. Petitioner does not contest, and we agree with Patent Owner based on the plain language of the claim and the specification, that “the selectively actuatable tool must include at least two configurations, one of which prevents a flowing fluid from translating a movable arm, and one of which allows a flowing fluid to translate a movable arm.” PO Resp. 10–12.

With regard to the “fluid flowing” limitation, Petitioner identifies “upper body 12” of Anderson as the claimed “tubular body,” but fails to provide a persuasive explanation in support of that contention in the Petition. Pet. 20, 56 (stating with respect to the elements of claim 27 “‘a tubular body’ (‘upper body 12,’ [Ex. 1009], 4:4; FIG. 1)’”); *see also* Ex. 1009, 4:4 (cited by Petitioner, and stating only “plug 22. A longitudinal bore 26 in the upper body 12 is in”).

We next consider the declaration of Mr. Shale on behalf of Petitioner to determine whether it further supports the contention that upper body 12 of Anderson corresponds to the claimed “tubular body.” Mr. Shale’s declaration discusses the operation of Anderson in a manner that is virtually identical in substance to the content of the Petition. *Compare* Ex. 1010 ¶¶ 68–69, *with* Pet. 55–56. Mr. Shale states that “tubular body” refers to “the overall portion or portions of the downhole tool that define the flowbore.” Ex. 1010 ¶ 47. In discussing Anderson, Mr. Shale does not

identify upper body 12 as corresponding to the claimed “tubular body.” See *id.* ¶¶ 68–69.

Although Patent Owner contends that Anderson fails to disclose the “fluid flowing” limitation even if the upper body 12 corresponds to the claimed “tubular body” (PO Resp. 62–63) as discussed below, Patent Owner also argues persuasively that upper body 12 and lower body 14 together correspond to the claimed “tubular body.” PO Resp. 62. Patent Owner’s contention was supported by Mr. Shale during his deposition at which, upon looking at Figure 1 of Anderson, Mr. Shale identified the tool as item 10 and “[t]he body would be 12 and 14,” corresponding to upper body 12 and lower body 14. Ex. 2021, 222:25–223:8. Based on the information presented in this case, Petitioner has not shown by a preponderance of the evidence that upper body 12 of Anderson, alone, discloses the “tubular body” recited in claim 27 of the ’099 patent.

Petitioner further asserts that the “fluid flowing” limitation is disclosed by Anderson’s actuator plug 16, which is “selectively actuated by use of a drop ball 48,” and “prevents or allows a fluid flowing through the upper body 12 to translate the movable blades 20.” Pet. 57 (citing Ex. 1009, 2:34–52). Petitioner does not otherwise explain in the Petition how “fluid flowing through the upper body 12” of Anderson “prevent or allows” translation of the movable blades 20 of Anderson. In his declaration, Mr. Shale does not address directly or otherwise explain how Anderson discloses the “fluid flowing” limitation.” Accordingly, we find Mr. Shale’s declaration fails to provide persuasive support for Petitioner’s contention that Anderson discloses that “the expandable downhole tool is selectively actuatable to allow or prevent a fluid flowing through the tubular body to

translate the at least one moveable arm,” as required by claim 27, beyond what Anderson, itself, discloses.

Patent Owner argues that Anderson does not disclose “fluid flowing through the tubular body to translate the at least one moveable arm.” PO Resp. 57–63. Patent Owner reasons that regardless of whether the recited “tubular body” corresponds to only upper body 12 or collectively to upper body 12 and lower body 14 of Anderson, there is no dispute that “there is a portion of the movement of Anderson’s blades 18 between the collapsed and expanded positions during which fluid is not flowing.” *Id.* at 62–63 (citing Ex. 2021, 224:6–12, 226:10–25, 231:10–23).¹⁰ Specifically, Patent Owner contends that during translation of the blades from a collapsed position to an expanded position, “all flow paths through the body are blocked for a portion of the blades’ movement.” *Id.* at 59.

Mr. Underwood likewise explains, and we find persuasive, that “during the initial movement of the plug 16, the longitudinal bore 28 is sealed so that fluid cannot flow therethrough.” Ex. 2019 ¶ 191. Further, according to Mr. Underwood, “fluid in the upper body 12 of Anderson’s tool is sealed in and unable to flow through or out of the upper body 12 for so

¹⁰ Anderson identifies, with regard to Figure 1, “a plurality of fixed cutting blades 18, and a plurality of movable cutting blades 20.” Ex. 1009, 3:41–43. During his deposition, Mr. Shale confirmed that his declaration identifies element 20 of Anderson as the movable blades, but then suggests element 18 might be the moveable blades and element 20 a fluid way. Ex. 2021, 223:12–24. In its Response, Patent Owner then refers to Mr. Shale’s testimony in the context of confirming “blades 18” move when actuator plug 16 moves. PO Resp. 62. We understand the references to “blades 18” (which are “fixed cutting blades”) as moving blades reflect confusion over the identification of elements in Figure 1, and that the blades of Anderson that move are “movable cutting blades 20.” *See* Ex. 1009, 3:41–43.

long as the ball 48 is seated on the actuator plug 16 and the plug 16 is sealed to the upper body 12.” *Id.* ¶ 193. Mr. Underwood also explains that “[e]ven if some slight motion of fluid occurs entirely within the upper body 12 of Anderson, it may not be said to be flowing through the upper body because fluid is contained and blocked within the upper body until the seal is broken.” *Id.* ¶ 194; *see also id.* ¶ 195 (stating that “[t]he blades 20 of Anderson start to expand during this portion of the stroke of the actuator plug 16 when the fluid is unable to flow out of the upper body”).

Petitioner argues in its Reply that claim 27 does not require “that flow must be present at all times.” Pet. Reply 24. Patent Owner, however, does not contend that “flow must be present at all times.” As explained by Mr. Underwood, which we find persuasive, “[w]hile [c]laim 27 does not require fluid to be flowing during actuation, the tool must allow fluid flowing through the tubular body to translate the arms between the expanded and collapsed positions after actuation.” Ex. 2019 ¶ 199. Petitioner did not offer an alternative interpretation of claim 27 in the Petition from what Mr. Underwood suggests; Petitioner simply asserted that Anderson discloses “a fluid flowing through the upper body 12 to translate the movable blades 20.” Pet. 57.

Petitioner also contends that Figure 2 of Anderson illustrates a “second configuration that allows fluid to translate the arm.” Pet. Reply 25. Petitioner fails to explain how Anderson’s Figure 2 supports the contention in light of the detailed argument presented by Patent Owner, as supported by Mr. Underwood, and fails to offer testimony to rebut Mr. Underwood’s opinion. *See* Ex. 2019 ¶¶ 191–198.

Finally, Petitioner argues for the first time in its Reply that fluid flows “through” the tool of Anderson at all times because Mr. Underwood “confirmed that fluid is flowing into the top of the body when pressure is applied to the ball, and fluid is flowing out of the bottom of the tool body as the ball moves downward, even before the ports below the ball are opened.” *Id.* at 25 (citing Ex. 1021, 110:4–111:10). As a threshold matter, Petitioner’s argument is improper as it introduces, for the first time in the Reply, the argument, essentially, that flow “through” a tool includes flow of fluid into the top of the tool into one temporary cavity, and flow out of the bottom of the tool from another temporary cavity. The Petition, however, contains no such argument and only asserts that flow “through” the upper body 12 of Anderson corresponds to the claimed element. Pet. 57.

Moreover, even if we were to consider Petitioner’s argument, we find it not persuasive. The argument is unsupported by Mr. Shale or any other witness on behalf of Petitioner. Contrary to Petitioner’s argument, Mr. Underwood’s testimony is clear – in his opinion fluid is not flowing “through” the body of Anderson during the time the plug was moving and translating the blades because fluid entering the upper body could not exit the upper body. Ex. 1021, 109:20–111:10. In other words, the same fluid that entered the upper body could not exit the lower body, even if different fluid previously present in the lower body continued to exit the lower body during that same time period. *Id.* We, therefore, determine that Petitioner has not shown by a preponderance of the evidence that Anderson discloses that the downhole tool “is selectively actuatable to allow or prevent a fluid flowing through the tubular body to translate the at least one moveable arm . . . between a collapsed position and an expanded position,” as required

by claim 27. For all of the reasons provided above, we find that Petitioner has not shown by a preponderance of the evidence that Anderson anticipates claim 27.

E. CONCLUSION

Petitioner has not shown by a preponderance of the evidence that Myers anticipates claims 22, 27, 46, 47, 50–52, 54, and 55; has not shown by a preponderance of the evidence that Myers and Bostock render obvious claims 22, 48, and 49; and has not shown by a preponderance of the evidence that Anderson anticipates claim 27.¹¹

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 22, 27, 46–52, 54, and 55 of U.S. Patent No. 7,314,099 C1 have not been shown by a preponderance of the evidence to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

¹¹ During oral argument Petitioner asserted for the first time that we should not reach claims 51 and 55 in this proceeding, purportedly because under *In re Smith Int'l*, issued by the Federal Circuit on September 26, 2017, “the law has changed” in some manner that affects Petitioner’s contentions. Tr. 6; *see also id.* at 5, 10. Petitioner did not request an opportunity to brief the issue prior to the oral argument. *Id.* at 6–7. Petitioner does not contend that any impact of *In re Smith Int'l* extends to its contentions with regard to claims 22 and 27 of the ’099 patent. *Id.* at 5–6, 10. Because we find claims 51 and 55, which depend from claim 22, have not been shown to be unpatentable for the reason claim 22 has not been shown to be unpatentable, Petitioner’s request that we not reach claims 51 and 55 is moot.

IPR2016-01452
Patent 7,314,099 C1

For PETITIONER:

J. Jeffrey Gunn
Joseph Walkowski
H. Dickson Burton
Stephen Pulley
TRASK BRITT, P.C.
jjgunn@traskbritt.com
jawalkowski@traskbritt.com
hdburton@traskbritt.com
sepulley@traskbritt.com

For PATENT OWNER:

Bruce Rose
Christopher Douglas
Zachary Higbee
ALSTON & BIRD LLP
bruce.rose@alston.com
christopher.douglas@alston.com
zack.higbee@alston.com

John Keville
Tyler VanHoutan
Andrew Sommer
WINSTON & STRAWN LLP
jkeville@winston.com
tvanhouton@winston.com
asommer@winston.com