

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

**SCHOELLER-BLECKMANN OILFIELD
EQUIPMENT AG,**
Appellant

v.

CHURCHILL DRILLING TOOLS US, INC.,
Appellee

2016-1494

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2014-
00814.

Decided: November 9, 2016

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GREGORY S. LAMPERT.

J. DAVID CABELLO, Blank Rome LLP, Houston, TX, for
appellee. Also represented by JAMES H. HALL, STEPHEN D.
ZINDA.

Before TARANTO, LINN, and STOLL, *Circuit Judges*.

LINN, *Circuit Judge*.

Schoeller-Bleckmann Oilfield Equipment AG (“Schoeller”) appeals from a decision in an inter partes review (“IPR”) of the United States Patent and Trademark Office Patent Trial and Appeal Board (“Board”) holding invalid as anticipated and obvious claims 13-15, 17, and 18 of Schoeller’s U.S. Patent No. 7,866,397 (“’397 patent”). *Churchill Drilling Tools US, Inc. v. Schoeller-Bleckmann Oilfield Equip. AG*, IPR2014-00814 (P.T.A.B. Oct. 9, 2015) (“Op.”). Because we see no reason to disturb the claim construction of “ball-like portion,” we affirm the Board’s decision of unpatentability of claims 17 and 18.

BACKGROUND¹

The ’397 patent is directed to a mechanism for allowing and restricting the flow of liquid through a drill string to activate and deactivate a downhole tool.

The ’397 patent includes several relevant embodiments of its invention. The first, shown in Figures 1-5 uses a ball activator, which is dropped down the drill string to land on a seat, which, in turn, restricts the flow of fluid, and builds pressure above the seated ball. The pressure builds until it is sufficient to slide the entire sleeve down, exposing side ports to allow a flow of fluid. This embodiment does not allow a return to the default flow state.

Another embodiment uses “a deformable activator in the form of [a] ball-dart combination, which takes the place of the large non-deformable ball 14.” ’397 patent, col. 8, ll. 59-61. Figures 8 and 9 show such a deformable

¹ Because we write for the parties, familiarity with the facts of the case is presumed.

activator, which can be “launched down the drill string to engage a seat provided in the axially shiftable sleeve.” *Id.*, col. 6, ll. 34-40. This activator has “a ball-like portion 51 which engages the seat 13, and a dart-like portion 52 projecting downwardly therefrom.” *Id.*, col. 8, ll. 64-65. This mechanism may be deactivated by launching a set of small non-deformable balls, which block the flow control device, increasing pressure, which “eventually causes downward movement (accompanied by sufficient inward deformation of actuator 50) through the seat 13 and the sleeve 12.” *Id.*, col.9, ll. 36-38.

A further embodiment is pictured in Figures 9a and 9b, which show deformable activators 50a and 50b. To activate the bypass mode, a non-deformable ball blocks the passageway through the center of the activator and the slideable sleeve slides down the drill string to align the bypass ports. To deactivate the bypass mechanism, deactivating balls are launched, which further increases pressure by blocking the bypass ports, until the pressure deforms “the deformable portion 51 of the activator [which] then yields under this load, thereby allowing the entire activator to pass downwardly through the valve seat.” *Id.*, col.10, ll. 19-21.

On May 23, 2014, Churchill filed a petition for IPR. The Board instituted review as to claims 13-15, 17, and 18, as (1) anticipated by prior art WO 02/14650 A1, PCT/GB01/03492 (published Feb. 21, 2002) (“WO 02/14650”); (2) anticipated by U.S. Patent No. 4,310,050 (“Bourgoyne”); and (3) obvious over a combination of both.

After claim construction, the Board issued a final written decision, holding claims 13-15, 17, and 18 unpatentable on all three grounds.

We have jurisdiction over an appeal from a final decision in an IPR under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 319.

DISCUSSION

Schoeller contests the Board’s claim construction² of “ball-like portion” and contends that under a proper construction of that term, claims 17 and 18 are neither anticipated nor obvious.³ Schoeller’s anticipation and obviousness challenges regarding claims 17 and 18 are dependent on its construction of the term “ball-like portion.”

We review the Board’s ultimate claim construction de novo as an issue of law, and review any factual determinations underlying its claim construction and based on extrinsic evidence for substantial evidence. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1279–80 (Fed. Cir. 2015) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015)), *aff’d*, *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016).

Claim 17 depends from claim 13, and reads as follows, with the limitations from claim 13 included in braces and the terms at issue emphasized:

17. {An activating mechanism for controlling the operation of a downhole tool and which comprises:

² Schoeller initially argued that the broadest reasonable interpretation standard was not the proper standard for claim construction in an IPR, but the Supreme Court has now definitively approved that standard, *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016).

³ Schoeller does not appeal the Board’s construction of “‘deformable activator’ in claim 13” or its “decision cancelling claims 13-15.” Appellant’s Br. 1 n.1. Schoeller does appeal the Board’s construction of “deformable” with regard to claims 17 and 18, but for the reasons discussed below, we need not, and do not, address that issue.

a hollow main body adapted for mounting in a drill-string and through which fluid to the tool can be routed;

an actuating sleeve defining a through-flow passage and slidably mounted in the main body for movement between positions corresponding to a through-flow mode and a by-pass mode of the mechanism;

biasing means acting on the sleeve to urge it to its position corresponding to the through-flow mode of the mechanism;

a seat providing access to said passage in the through-flow mode of the mechanism; and

a deformable activator capable of being launched down the drill-string to engage the seat and thereby cause pressure upstream of the seat to increase so that the activator moves the sleeve to its position corresponding to the by-pass mode of the mechanism;

in which the activator and the seat are arranged to co-operate with each other, when the activator engages the seat, in such a way that restricted flow of fluid through the sleeve is maintained when the mechanism is in its by-pass mode;}

[and] in which **the deformable activator comprises a ball-dart combination**, in which a **ball-like portion at least is deformable** and is capable of seating on said seat, and a dart-like portion is capable of projecting downwardly through the seat.

'397 patent, col. 15, ll. 22-44; *id.*, col. 16, ll. 1-5. Claim 18 adds that "the activator is hollow and is provided with an

internal flow control device.” *Id.*, col. 16, ll. 6-8. Claims 17 and 18 are not argued separately on appeal.

The first disputed issue is whether the Board properly construed “ball-like portion” in Claim 17 as “a structure with at least one outer curve.” More concretely, the issue is whether “ball-like portion” is limited to the “deformable ring” 51 shown in Figures 8, 9, 9(a), and 9(b), or whether it also encompasses a deformable ball.

Schoeller argues that the ’397 patent exclusively uses “ball-like” portion to refer to the deformable ring of the ball-dart combination shown in Figures 8, 9, 9(a), and 9(b), and that when referring to an actual ball as used in the embodiments shown in Figures 1-5, the specification uniformly uses some variation of the term “ball.” Schoeller particularly points to the following passages:

FIG. 3*b* shows initiation of adjustment of the tool to its activated mode, which is caused by launching activating ball 14 from the surface and down the drill string, to engage seat 13.

. . . .

FIGS. 8 and 9 are longitudinal sectional views of a deformable activator in the form of a ball-dart combination, which takes the place of the large non-deformable ball 14 described above. There is therefore shown in FIGS. 8 and 9 a deformable activator which is designated generally by reference 50 having a *ball-like portion* 51 which engages the seat 13, and a dart-like portion 52 projecting downwardly therefrom. The *ball-like portion* 51 engages the seat 13, and the dart-like projection 52 projects downwardly therefrom and through the seat.

’397 patent, col. 8, ll. 1-4; *id.*, col. 8, l. 59 through col. 9, l. 1 (emphasis added). Schoeller does not explain, however, why the passage noted above with respect to Figures 8

and 9 is limiting. There is no doubt that the deformable ring 51 shown in Figures 8, 9, 9(a), and 9(b) is “ball-like,” but this does not necessarily indicate that “ball-like” is thereby *limited* to a deformable ring. We have repeatedly stated that it is inappropriate to construe claim terms as limited to preferred embodiments without a clear intent to redefine the term or a clear disavowal of claim scope. *See, e.g., Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Relying on *In re Abbott Diabetes Care*, 696 F.3d 1142 (Fed. Cir. 2012), Schoeller argues that the ’397 patent manifests an implicit definition of “ball-like” as excluding a ball, and including only a ring that interacts in a particular way with the dart-like portion, namely by “forming a seal at the outer circumference of the cylindrical dart.” Appellant’s Br. 32. Schoeller argues that claim 17 requires a particular interaction between a “ball-like portion” and a “dart-like portion,” and that because those terms are only used in reference to the components in Figures 8, 9, 9(a), and 9(b), the claim must cover only that particular interaction between the elements.

Schoeller reads *Abbott* too broadly. In *Abbott*, the claims themselves suggested the exclusion of wires from the “electrochemical sensor” and the only discussion of wires in the specification of the patents at issue was to disparage their use in the prior art. *Abbott*, 696 F.3d at 1149. As we stated, “Abbott’s patents ‘repeatedly, consistently, and exclusively’ depict[ed] an electrochemical sensor without external cables or wires while simultaneously disparaging sensors with external cables or wires.” *Id.* at 1150 (quoting *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1303 (Fed. Cir. 2004)). The same is not true of the instant ’397 patent, which does not disparage the use of a deformable ball as a “ball-like” portion.

Similarly, in claiming the interaction between the “ball-like” and the “dart-like” portions of the deformable activator, claim 17 requires only that the “ball-like portion at least is deformable and is capable of seating on said seat,” and the “dart-like portion is capable of projecting downwardly through the seat.” ’397 patent, col. 16, ll. 3-5. The claim does *not* require or imply that the “ball-like” portion form a seal on the outer circumference of the dart.

Moreover, the ’397 patent itself appears to allow a ball as a species of the “ball-like portion”:

Preferably, the deformable activator comprises a ball-dart combination, in which a **ball-like** portion at least is deformable and is capable of seating on the seat, and a dart-like portion can project downwardly through the seat. A ball-dart combination can readily be launched down a drill string, and with suitable weighting of the combination, the dart can pull **the ball** downwardly, under gravity, and with the dart eventually projecting downwardly through the seat and **the “ball”** engaging the seat.

’397 patent, col. 5, ll. 44-53 (emphasis added). Schoeller attempts to parse the two sentences above as referring to two different embodiments, relying on the use of the indefinite article “a” instead of the definite article “the” in the second sentence. This argument is inapposite—both sentences are referring to the “deformable activator,” and that portion of the specification is talking about generalities and not particular embodiments. Schoeller also argues that because the second mention of the word “ball” is in quotes, this means that “ball” is referring to the genus that includes both “actual balls” and “ball like-portions.” We find this argument unconvincing, as it fails to account for the first use of “the ball,” and is contrary to

the natural reading of “ball-like portion” as the genus of both a ball and a ring.

We also note that the ’397 patent repeatedly uses the phrase “ring” or “deformable ring” to refer specifically to element 51 in Figures 8, 9, 9(a), and 9(b). *See* ’397 patent, col. 10, ll. 23-25 (“The deformable activators 50, 50a, 50b disclosed herein effectively are a form of deformable dart, and having an external resilient ring . . .”); *id.*, col. 10, ll. 27-28 (“[T]he deformable ring can shear under load . . .”); *id.*, col. 10, ll. 30-31 (“The ring therefore forms a seal on the outer circumference of the dart . . .”). If the patentee had wanted to limit the scope of claim 17 to those embodiments, the patentee had a narrow term readily available from the specification.

For these reasons, we affirm the Board’s construction of “ball-like portion” under the broadest reasonable construction standard as a “structure with at least one outer curve.”

Schoeller does not contest on appeal that claims 17 and 18 are anticipated by WO 02/14650 under the construction affirmed above. The Board’s decision of unpatentability of claims 17 and 18 is therefore affirmed on that basis. We need not and do not address the Board’s conclusions that Bourgoyne also anticipated claims 17 and 18, or that the combination of WO 02/14650 and Bourgoyne rendered obvious claims 17 and 18. Finally, we do not address the Board’s construction of “deformable,” which relates only to the Bourgoyne anticipation issue we do not reach.

AFFIRMED