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Row 2: 26304, 7590, 12/02/2016, KATTEN MUCHIN ROSENMAN LLP, 575 MADISON AVENUE, NEW YORK, NY 10022-2585, EXAMINER KELLEHER, WILLIAM J
Row 3: ART UNIT 3658, PAPER NUMBER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* PETER GUTMANN

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Appeal 2014-009344  
Application 12/599,049<sup>1</sup>  
Technology Center 3600

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Before JOHN C. KERINS, GEORGE R. HOSKINS, and  
FREDERICK C. LANEY, *Administrative Patent Judges*.

LANEY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Peter Gutmann (Appellant) appeals under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–16. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> According to Appellant, the real party in interest is Sona BLW Prazisionsschmiede GmbH. Br. 1 (filed April 21, 2014).

## INVENTION

Appellant's invention relates to a "differential housing made of two sheet metal shells, in which differential bevel gears are supported on driving pins fixed to the housing and mesh with axle bevel gears, and wherein a carrier shell having a drive gear fastened to the outer circumference thereof and a cover shell are fitted together along a common joint plane to form the differential housing." Spec. 1.

Claims 1, 15, and 16 are independent claims. Claim 1, reproduced below with emphasis added, is illustrative of the claimed invention and reads as follows:

1. A differential of lightweight construction for motor vehicles, the differential comprising:
  - a carrier shell and a cover shell, each shell made from sheet metal, each shell having a finished wall thickness of 2-5 mm,
  - the carrier shell and the cover shell fitted together along a common joint plane to form a differential housing,
  - the carrier shell having an outer carrier shell surface to which a driving gear is fastened, the differential housing comprising a housing hole;
  - a driving pin and a plurality of bevel gears, the driving pin having a first end received and fastened in the housing hole, the plurality of bevel gears supported on the driving pin, each bevel gear of the plurality of bevel gears meshing with an axle bevel gear; and
  - a circumferential ring adjacent to the joint plane for reinforcing the differential housing.*

Br. 14 (Claims App.) (emphasis added).

## REJECTIONS

- I. The Examiner rejected claims 1 and 8–13 under 35 U.S.C. § 103(a) as unpatentable over Victoria (US 6,061,907, iss. May 16, 2000).
- II. The Examiner rejected claims 2, 3, 6, 7, 15, and 16 under 35 U.S.C. § 103(a) as unpatentable over Victoria and Orr (US 6,699,154 B2, iss. Mar. 2, 2004).
- III. The Examiner rejected claims 4 and 5 under 35 U.S.C. § 103(a) as unpatentable over Victoria and Schubert (US 4,815,748, iss. Mar. 28, 1989).
- IV. The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as unpatentable over Victoria and Cilano (US 5,415,599, iss. May 16, 1995).

## ANALYSIS

### Rejections I–IV

Claims 1, 15, and 16 are independent and claims 2–14 depend from claim 1. Br. 14–16 (Claims App.). Each claim, either directly or through dependency, requires a differential with “a circumferential ring” that is “adjacent to the joint plane for reinforcing the differential housing.” *Id.* “Joint plane” refers to the fitting together of the carrier shell and the cover shell *along a common joint plane* to form a differential housing. *Id.*

For each independent claim 1, 15, and 16, the Examiner finds the recited circumferential ring limitation in Victoria’s representation that, “[e]ach end shaft 45 has a recess suited to receive a retaining ring, which is installed at the outer surface of the housing so that a retaining ring elastically engages and is seated in each recess.” Final Act. 3, 6, 7 (citing Victoria, col.

4, ll. 56–59); *see also* Ans. 12–15. In the alternative, the Examiner finds the support ring 42 of Orr discloses the claimed circumferential ring, as well as, the radial ring 18 of Bostbarga. Final Act. 11; *see also* Ans. 14–15.

Appellant argues these finding are incorrect because none of the Victoria, Orr, and/or Bostbarga structures are circumferential rings adjacent the joint plane to reinforce the differential housing. Br. 10–12.

The dispute between the Examiner and Appellant is resolved largely by deciding the meaning of “a circumferential ring” that is “adjacent to the joint plane for reinforcing the differential housing.” During examination of a patent application, pending claims have the broadest reasonable meaning the specification supports. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The claim terms have the ordinary and customary meaning a skilled artisan would apply to them within the context of the claims, as informed by the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). When assessing the meaning of disputed claim language, we always look to the specification for guidance. *See In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). However, “[e]ven when guidance is not provided in explicit definitional format, ‘the specification may define claim terms ‘by implication’ such that the meaning may be ‘found in or ascertained by a reading of the patent documents.’” *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004).

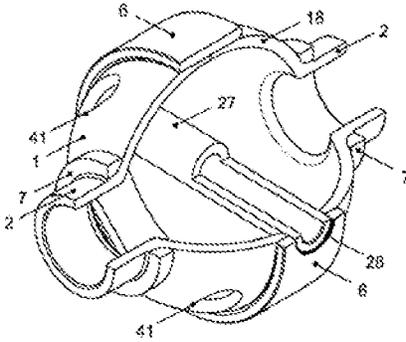
We note first that Appellant’s Specification does not expressly define any of the disputed terms, but it does provide guidance. In particular, the Specification states, “[o]n the outside of the sheet metal shells, adjacent to the joint plane, there are formed cylindrical faces as seating faces, which

bear against corresponding inner seating faces of the circumferential rings.” Spec. 3. “The circumferential rings ensure special stiffening of the differential housing in the region of the common separating plane, and so the sheet metal shells themselves can have a relatively small sheet metal thickness.” *Id.* As shown in Figure 2, “cover shell 18 is placed in such a way on carrier shell 1 that the two sheet metal shells lie one on the other in their entire joint plane 4” and are formed to provide a generally flat surface to serve as a seating face for the circumferential ring 6. *Id.* at 9, Fig. 2. “[C]ircumferential ring 6 acts to stiffen the sheet metal shells forming the differential housing in the region of separating plane 4.” *Id.*

With the Specification’s description of the invention as a backdrop, and within the context of the claims, the ordinary and customary meaning of “a circumferential ring” is a device that extends around the external surface of a differential housing. See *Ring Definition*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/ring> (last visited on Nov. 23, 2016) (“a circular band for holding, connecting . . .”); *Circumferential Definition*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/circumferential> (last visited on Nov. 23, 2016) (“the external boundary or surface of a figure or object”). We note that the Examiner states, “the independent claims do not include the structural limitation ‘**on the outside of metal shells**’ in the independent claims.” Ans. 13. As our construction indicates, we disagree. Because the term “circumferential” modifies the term “ring,” and given the context of the claims and the entire disclosure, a skilled artisan would understand “circumferential” as structurally limiting the ring to the external surface of a differential housing.

Regarding the phrase, “adjacent to the joint plane for reinforcing the differential housing,” a skilled artisan would understand it as describing the placement of the circumferential ring along the plane where the carrier shell and cover shell meet to strengthen the differential housing by providing additional material at that location. *See Adjacent Definition*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/adjacent> (last visited on Nov. 23, 2016) (“having a common endpoint or border”); *Joint Definition*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/joint> (last visited on Nov. 23, 2016) (“a place where two things or parts are joined”); *Reinforcing Definition*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/reinforcing> (last visited on Nov. 23, 2016) (“to strengthen by additional assistance, material, or support”). We note that the Examiner states, “none of the independent claims include language related to a **common** joint plane.” Ans. 15. This is also not correct, however, because the claims state, “the carrier shell and the cover shell fitted together *along a common joint plane* to form a differential housing” and “*the joint plane*” is referring to that common joint plane.

To summarize, the limitation, “a circumferential ring adjacent to the joint plane for reinforcing the differential housing,” requires a device that extends around the external surface of a differential housing and is positioned along the plane where the carrier shell and cover shell meet to strengthen the differential housing by providing additional material at that location. Element 6 in Figure 5, reproduced below, illustrates an example of such a device:



Above Figure 5 depicts a “perspective view of the components of a differential housing fitted together according to Fig[ure] 2.” Spec. 7–8.

We now consider the Examiner’s findings that several of the cited prior art references disclose this limitation. First, the Examiner relies on the retaining rings of Victoria. Final Act. 3, 6, 7 (citing Victoria, col. 4, ll. 56–59); *see also* Ans. 12–15. Victoria describes the retaining rings as being located at each end of shaft 48<sup>2</sup>, which has recesses suited to receive them. Victoria, col. 4, ll. 49–52. The retaining rings, however, do not extend around the external surface of a differential housing, nor are they positioned along the plane where the carrier shell and cover shell meet to strengthen the differential housing by providing additional material at that location. *Id.*

Second, the Examiner relies on the support ring 42 in Orr. Final Act. 11; *see also* Ans. 14–15. Orr describes the support ring as being *inside* the differential housing 20 and “placed between the pinion gears **24** to provide radial support for the pinion gears **24** and maintain engagement of the pinion gears **24** with the ring gear **36**.” Orr, col. 3, ll. 6–16 and 45–49, Fig. 2.

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<sup>2</sup> Although Victoria identifies the pinion shaft as both 48 and 45 in the written description, Figure 2 only uses the number 48 to identify the pinion shaft. In fact, the number 45 does not identify any part in the figures. Therefore, we view the identification of 45 for the pinion shaft as a typographical error, which was intended to identify pinion shaft 48.

Orr's support ring 42, however, does not extend around the external surface of a differential housing, nor is it positioned along the plane where the carrier shell and cover shell meet to strengthen the differential housing by providing additional material at that location. *Id.* Additionally, the Examiner fails to identify in what manner the Victoria structure would be modified in order to include a support ring of the type shown in Orr.

Finally, the Examiner identifies radial ring 18 from Bostbarga. Final Act. 11; *see also* Ans. 14–15. Bostbarga's housing is comprised of a cage 2 and an obturator 3. Bostbarga, col. 2, ll. 39–40, Fig. 2. Obturator 3 *sits within* cage 2 and the parts use corresponding threads, 12 and 24, to bring them together. *Id.* at col. 3, ll. 20–32, col. 4, ll. 26–37, Fig. 2. Cage 2 “is a forged part in one piece” that includes a “radial ring 18 which forms a flange for fixing by clamping a crown wheel . . . provided for drive of the differential.” *Id.* at col. 3, ll. 8–15, Fig. 2. Although radial ring 18 does extend around the external surface of a differential housing, it is not positioned *along the plane where the carrier shell and cover shell meet* to strengthen the differential housing by providing additional material at that location. In view of the above deficiencies, a preponderance of the evidence does not support the Examiner's findings that Victoria, Orr, and/or Bostbarga disclose “a circumferential ring” that is “adjacent to the joint plane for reinforcing the differential housing.” Therefore, we do not sustain the rejection of claims 1, 15, and 16 as unpatentable.

The Examiner's use of the teachings of Cilano or Schubert, respectively, does not cure the above deficiencies. As a result, we do not sustain the Examiner's rejection of dependent claims 2–14 as unpatentable for the same reason.

Appeal 2014-009344  
Application 12/599,049

SUMMARY

The Examiner's rejection of claims 1–16 as unpatentable is reversed.

REVERSED