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REINHART BOERNER VAN DEUREN P.C.
2215 PERRYGREEN WAY
ROCKFORD, IL 61107

EXAMINER
MORILLO, JANELL COMBS

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RockMail@reinhartlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BERNHARD KERNIG,
JOCHEN HASENCLEVER, HENK-JAN BRINKMAN,
GERD STEINHOFF, and CHRISTOPH SETTELE

Appeal 2017-005231
Application 13/112,588[1]
Technology Center 1700

Before ROMULO H. DELMENDO, KAREN M. HASTINGS, and JAMES C. HOUSEL, *Administrative Patent Judges*.

PER CURIAM.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

Appellants filed an appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1–5 and 7–10.

We have jurisdiction under 35 U.S.C. § 6(b).[2]

We AFFIRM.

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[1] Appellants identify Hydro Aluminium Deutschland GmbH as the real party in interest. Appeal Br. 2.

[2] Our Decision refers to Appellants' Specification (Spec.) filed May 20, 2011, Appellants' Appeal Brief (Appeal Br.) filed June 30, 2016, the Examiner's Answer (Ans.) notice emailed Dec. 1, 2016, and Appellants' Reply Brief (Reply Br.) filed Feb. 1, 2017.

The subject matter on appeal relates to an aluminum strip for the production of lithographic printing plate supports from an aluminum alloy (*see*, *e.g.*, claim 1). The inventors disclose that lithographic printing plate supports have to meet increasingly stringent technical requirements because printing machines must make larger numbers of prints. Spec. ¶ 3. Specifically, the printing plate supports must be as large as possible but are clamped transverse to the rolling direction of the printing machine, which makes the flexural fatigue strength of the supports important. *Id.* In addition, good roughening behavior and heat resistance must be maintained. *Id.* The inventors disclose an aluminum strip that allows the production of printing plate supports with improved flexural fatigue strength transverse to a rolling direction without affecting tensile strength (before or after annealing) or roughening properties. *Id.* ¶ 6.

Independent claim 1 is illustrative and is reproduced below from the Claims Appendix of the Appeal Brief.[3] The limitation at issue is italicized.[4]

> 1. Aluminium strip for the production of lithographic printing plate supports from an aluminium alloy with a thickness of 0.15 mm to 0.5 mm, characterised in that the aluminium alloy comprises the following alloy components in

[3] Appeal Br. 16.

[4] In this Decision we use both spellings of "aluminum" and "aluminium" (for instance, the claims use the latter) but recognize that each spelling refers to the same material.

weight per cent:

$0.4\% < Fe \leq 1.0\%$,
$0.31\% < Mg \leq 1.0\%$,
$0.07\% \leq Si \leq 0.25\%$,
$Mn \leq 0.25\%$,
$Cu \leq 0.04\%$,
$Ti < 0.1\%$,
$Cr < 0.01\%$,

the remainder being Al and unavoidable impurities, individually at most 0.05% and totalling at most 0.15%, *wherein the aluminium strip has an as-rolled tensile strength Rm of less than 200 MPa, and after an annealing process at a temperature of 280 °C for 4 minutes a tensile strength Rm of more than 140 MPa.*

REJECTIONS ON APPEAL[5]

I. Claims 1–5, 7, and 8 as being unpatentable under 35 U.S.C. § 103(a) over Rooy;[6] and

II. claims 9 and 10 as being unpatentable under 35 U.S.C. § 103(a) over Rooy in view of Shoji.[7]

B. DISCUSSION

Rejection I

Claims 1–5, 7, and 8 are rejected as being unpatentable under 35 U.S.C. § 103(a) over Rooy.

[5] The non-statutory obviousness type double patenting rejections of claims 1–5 and 7–10 have been withdrawn by the Examiner. Ans. 6.

[6] Rooy et al., US 4,818,300, issued Apr. 4, 1989 ("Rooy").

[7] Shoji et al., EP 0 239 995 A2, published Oct. 7, 1987 ("Shoji").

The Examiner finds Rooy discloses an aluminum alloy for a lithoplate having a composition of 0.55–0.75% Fe, 0.4–0.7% Mg, 0.055–0.085% Si, ≤ 0.20% Mn, ≤ 0.20% Cu, ≤ 0.05% Ti, and ≤ 0.10% Cr. Ans. 2. The Examiner finds this composition overlaps the composition recited in claim 1 and this constitutes a prima facie case of obviousness. *Id.* The Examiner finds Rooy discloses a final strip thickness of 0.012 inch (0.3 mm), which falls within the thickness range recited in claim 1. *Id.* at 3. The Examiner further finds the strip of Rooy would exhibit the tensile strength values recited in claim 1 because the strip of Rooy has a composition that overlaps the composition recited in claim 1, the strip of Rooy is processed in substantially the same way, and has a final thickness within the range recited in claim 1. *Id.* at 3–4.

Appellants contend that the Examiner has not demonstrated that the material disclosed by Rooy would exhibit the tensile strengths recited in claim 1 because the Examiner cites Shoji for a disclosure of a hot rolling thickness in the rejection of claims 9 and 10 and this demonstrates the process disclosed by Rooy is not substantially identical to Appellant's process. Appeal Br. 5–6; Reply Br. 7–10. Appellants further assert that various examples in Shoji demonstrate that similar compositions can exhibit very different mechanical properties and that similar mechanical properties can be exhibited by different compositions. Appeal Br. 6–8. In addition, Appellants contend Rooy does not disclose the tensile properties for its alloy or whether the processed alloy is in an as-rolled state or annealed state. Appeal Br. 7–9; Reply Br. 5–7.

These arguments are unpersuasive. Where the claimed and prior art products are identical or substantially identical, or are produced by identical

or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990); *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977). Once the Examiner provides a reasonable basis to believe that the characteristic is inherent, the burden shifts to the applicant to prove that the prior art products do not necessarily possess the characteristics of his claimed product. *Best*, at 1254-55 (*discussing In re Swinehart*, 439 F.2d 210 (CCPA 1971) and *In re Ludtke*, 441 F.2d 660 (CCPA 1971)).

Here, the Examiner determines claim 1 does not require a strip in both the as-rolled and annealed conditions with both recited tensile strengths values, but rather merely requires the material to be capable of the tensile strength values recited in claim 1. Ans. 6–7. We agree that claim 1 does not require the aluminum strip to be in both the as-rolled and annealed conditions but recites an aluminum strip that exhibits the claimed tensile strength values under the recited conditions (i.e., when as-rolled or when annealed, as recited in claim 1).

The Examiner further determines Rooy discloses an aluminum alloy that overlaps the claimed compositional range. *Id.* at 7. We agree because the composition disclosed at column 4, lines 1–14, of Rooy includes ranges overlapping those recited in claim 1. The Examiner finds Rooy discloses a final strip thickness of 0.012 inch (0.3 mm), which falls within the thickness range recited in claim 1, and that the strip of Rooy is for the same intended purpose. *Id.* at 3, 7. The disclosure of Rooy also supports these findings. Rooy 1:5–7, 2:65–68, 4:53–54.

The Examiner further finds Rooy discloses a substantially identical process as Appellants', which includes casting, homogenizing, hot rolling, and cold rolling to a final thickness. Ans. 7. Rooy discloses its material is cast, homogenized, and hot and cold rolled. Rooy 2:65–68, 3:5–14. With regard to a hot rolling thickness, the Examiner finds that Rooy discloses hot rolling to a suitable gauge and therefore discloses general guidelines for that parameter. Ans. 7–8. Rooy's disclosure supports this finding as well. Rooy 3:10–14. In view of this general guideline provided by Rooy, one of ordinary skill in the art would have been able to determine such suitable hot rolling thicknesses to perform the process disclosed by Rooy. The determination of obviousness must take into account not only the teachings within the references, but the knowledge of the ordinary artisan. *In re Samour*, 571 F.2d 559, 562 (CCPA 1978); *see also In re Sovish,* 769 F.2d 738, 743 (Fed. Cir. 1985) (In an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof.). Moreover, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR Int'l. Co. v. Teleflex Inc.,* 550 U.S. 398, 421 (2007).

Furthermore, the Examiner finds Rooy discloses its strip has an as-rolled strength of 179 MPa (26,000 psi) in the as-rolled condition. Ans. 9. Rooy discloses "a 5XXX alloy suitable for use in making a lithoplate by a method of this invention has a typical ultimate strength of 26,000 psi, yield strength of 24,000 psi and elongation of 6%." Rooy 4:56–59. As discussed above, Rooy discloses a process in which the aluminum alloy is cold rolled (i.e., in the as-rolled condition). Therefore, Rooy expressly discloses its alloy can achieve the as-rolled strength recited in claim 1.

Given that the composition, processing, final thickness, as-rolled tensile strength, and intended use of Rooy's material are substantially identical to Appellants', one would have had a reasonable basis to believe that Rooy's strip would possess the properties of Appellants' strip, including a tensile strength of more than 140 MPa when subjected to the anneal recited in claim 1. Thus, the Examiner has set forth a prima facie case of obviousness and the burden has shifted to Appellants to prove that Rooy's strip does not necessarily possess the characteristics of the claimed product. Appellants assert that Appellants' processing and Rooy's are not substantially identical and provides a table at pages 8–9 of the Reply Brief to support this argument. However, the table illustrates how Rooy's process includes the same steps of casting, homogenization, hot rolling, and cold rolling; that Rooy's specific parameters can overlap Appellants' (i.e., homogenization temperature); and the final thickness disclosed by Rooy falls within Appellant's claimed range. As discussed above, although Rooy does not disclose a hot rolling thickness, Rooy discloses a suitable one can be used and it would have been within the skill of a practitioner in the art to determine such a thickness. Further, the anneal listed in the table for cold rolling in Appellants' process is described as optional. *See* Spec. ¶ 21. Therefore, Appellants have not demonstrated that Rooy would not possess the claimed annealed strength. As discussed above, Rooy expressly discloses the claimed as-rolled strength.

Appellants further argue the ranges for the content of Cr, Zn, and Cu are species that are not disclosed by the broad genus ranges disclosed by Rooy. Appel Br. 11–12; Reply Br. 10–11. Here, the Examiner finds the composition disclosed by Rooy overlaps that claimed by Appellants. Ans. 2,

5, 9. Rooy discloses a composition that includes a maximum Cr amount of 0.10%, a maximum Cu amount of 0.20%, and a maximum Zn amount of 0.25% (Rooy 4:1–14), which overlaps the ranges recited in the claims.

Appellants' argument that the ranges disclosed by Rooy are broad and encompass a large number of possible species (Reply Br. 11), and thus do not demonstrate obviousness for the claimed ranges, is unpersuasive because the case law cited by Appellants regard different fact patterns. Specifically, *In re Baird* was concerned with a formula containing "a broad range of variables and thus encompasses a large number of different diphenols," which was estimated as "more than 100 million different diphenols." 16 F.3d 380, 381–82 (Fed. Cir. 1994). *In re Jones* was directed to the obviousness of a claimed salt in view of a genus of salts disclosed by the prior art. 958 F.2d 347, 349 (Fed. Cir. 1992). Here, obviousness of the claimed composition is predicated upon the overlap of numerical values disclosed by the prior art and those recited in the claims, not upon a general formula with variables or upon the disclosure of a class encompassing various species. A prima facie case of obviousness arises when the ranges of a claimed composition overlap the ranges disclosed in the prior art. *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003).[8] Moreover, some of the ranges recited by Rooy (e.g., those of Fe, Mg, Mn, and Ti) fall completely within the range recited in claim 1, which one may interpret as an indication that the alloy of Rooy is a species of the claimed composition.

[8] In addition, Appellants' arguments regarding the ASM International reference cited in the Advisory Action (Appeal Br. 12–14) are unpersuasive. The compositional ranges of Rooy demonstrate obviousness of the claimed compositional ranges.

In addition, Appellants argue criticality for the recited tensile strength values, that the claimed strip possesses improved transverse flexural fatigue strength without sacrificing roughening properties or burdening manufacturing of the material, and that recited ranges for Cu, Cr, and Zn contents are critical to roughening properties. Appeal Br. 9–11.

To the extent Appellants are asserting unexpected results for the claimed strip, the Examiner determines the asserted results are not commensurate in scope with the claimed ranges. Ans. 9–10. *See In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980). For instance, inventive examples I1–I4 disclosed in Appellants' Specification have Mg percentages of 0.31, 0.37, 0.43, and 0.45 (Spec. ¶ 25, Table 1) but the claimed range is more than 0.31% to 1.0%. In another example, inventive examples I1–I4 disclosed in Appellants' Specification have Fe percentages of 0.46, 0.46, 0.43, and 0.61 (*id.*) but the claimed range is more than 0.4% to 1.0%.

The Examiner further finds Appellants have not compared the asserted unexpected results with the closest prior art (i.e., Rooy). Ans. 9–10. Appellant compares the inventive examples in the Specification with two comparative examples, V1 and V2 (*id.*), but not with Rooy's aluminum strip. "[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art." *In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991).

In addition, Appellants do not establish unexpected results via factual evidence. Attorney argument does not suffice. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir, 1997) (attorney argument is not the kind of factual evidence that is required to rebut a prima facie case of obviousness); *see also*

In re De Blauwe, 736 F.2d 699, 705 (Fed. Cir. 1994) ("Mere argument or conclusory statements in the specification does not suffice.").

Based on the foregoing, Appellants' asserted evidence of unexpected results is entitled to little weight. A preponderance of the evidence supports the Examiner's obviousness determination for claim 1. Appellants do not argue claims 2–5, 7, and 8 separately from claim 1. Appeal Br. 9, 14.

For the reasons discussed above and those set forth in the Examiner's Answer, we sustain the Examiner's § 103 rejection of claims 1–5, 7, and 8.

Rejection II

Claims 9 and 10 are rejected as being unpatentable under 35 U.S.C. § 103(a) over Rooy in view of Shoji.

For claims 9 and 10, Appellants merely reiterate the arguments set forth in support of the patentability of claim 1 and contend Shoji does not remedy the deficiencies of Rooy discussed with regard to the rejection of claim 1. *Id.* at 14. For the reasons set forth above, there are no deficiencies in the rejection of claim 1 that require curing by Shoji.

For the reasons discussed above and those set forth in the Examiner's Answer, we sustain the Examiner's § 103 rejection of claims 9 and 10.

C. DECISION

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED