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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* YUKI HORIUCHI

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Appeal 2018-002547  
Application 13/803,957  
Technology Center 1700

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Before MARK NAGUMO, GEORGE C. BEST, and JEFFREY R. SNAY,  
*Administrative Patent Judges.*

BEST, *Administrative Patent Judge.*

DECISION ON APPEAL

The Examiner finally rejected claims 1–6 of Application 13/803,957 under 35 U.S.C. § 103(a) as obvious.<sup>1</sup> Final Act. (April 6, 2017). Appellant<sup>2</sup> seeks reversal of these rejections pursuant to 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we *reverse*.

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<sup>1</sup> This is the '957 Application's second appearance before the Board. *See Ex parte Horiuchi*, Appeal No. 2015-002201, slip op. (PTAB August 1, 2016) (available at <https://go.usa.gov/xVa3T>).

<sup>2</sup> Yazaki Corp. is identified as the applicant and real party in interest. Appeal Br. 2.

## BACKGROUND

The '957 Application describes a resin composition that can be used to insulate low-voltage automotive cables. Spec. ¶¶ 1–2. Conventional insulating materials do not have sufficient heat resistance unless they are cross-linked by electron beam of radiation after they are molded on to the wire. *Id.* ¶ 2. The electron beam irradiation is a low throughput step that requires expensive equipment. *Id.* Thus, a resin that has sufficient heat resistance in the absence of a cross-linking treatment is desirable. One such alternative is a polyphenylene ether material. *Id.* ¶ 3. Such materials have excellent mechanical and electrical properties, including heat resistance and dimensional stability, but they have poor molding processability, impact resistance, and organic solvent resistance. *Id.*

The '957 Application's Specification describes a resin composition comprising a blend of polyphenylene ether, polypropylene-based resin, a styrene-based elastomer, a polyamide, and an acid-modified polyolefin. *Id.* ¶ 9. This blend is said to have high-temperature melt resistance characteristics and excellent thermal aging resistance and battery fluid resistance, and to be useful as an insulator in a heat-resistant electric wire. *Id.* ¶ 8.

Claim 1 is representative of the '957 Application's claims and is reproduced below from the Claims Appendix of the Appeal Brief.

1. A resin composition for a heat-resistant electric wire, the resin composition comprising:
  - from 25 to 60 parts by weight of a polyphenylene ether;
  - from 15 to 42 parts by weight of a polypropylene-based resin;
  - from 8 to 27 parts by weight of a styrene-based elastomer;

from 5 to 15 parts by weight of a polyamide; and  
from 1 to 10 parts by weight of an acid-modified  
polyolefin,

wherein the polyamide has a melting point of 201°C or  
more, and

wherein a sum of the polyphenylene ether, the  
polypropylene-based resin, the styrene-based elastomer, the  
polyamide, and the acid-modified polyolefin totals 100 parts by  
weight.

Appeal Br. 19.

## REJECTIONS

On appeal, the Examiner maintains the following rejections:

1. Claims 1, 2, and 6 are rejected under 35 U.S.C. § 103(a) as unpatentable over Norisue.<sup>3</sup> Final Act. 2.
2. Claims 3–5 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Norisue and Itoh.<sup>4</sup> Final Act. 4.

## DISCUSSION

**Rejection 1.** Appellant argues for reversal of this rejection based upon the limitations of claim 1 and does not present separate arguments for reversal the rejection of claims 2 and 6. We, therefore, select claim 1 as representative of the group of claims subject to this ground of rejection. 37 C.F.R. § 41.37(c)(1)(iv). Claims 2 and 6 will stand or fall with claim 1. *Id.*

In rejecting claim 1, the Examiner found that Norisue describes a thermoplastic resin comprising the component recited in claim 1. Final

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<sup>3</sup> EP 0 547 229 A1, published December 15, 1993.

<sup>4</sup> US 2002/0022686 A1, published February 21, 2002.

Act. 2–3. Moreover, the Examiner found that each component in Norisue’s resin other than the polyamide is present in an amount that falls within a range that overlaps the range set forth for that component in claim 1. *Id.* The Examiner found that Norisue describes a composition having a minimum of 16% polyamide. *Id.* at 3. Claim 1 requires the polyamide to be present in an amount between 5 and 15 parts per hundred.

Nevertheless, the Examiner, citing *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775 (Fed. Cir. 1985), concluded that Norisue renders the subject matter of claim 1 prima facie obvious. *Id.* (“A prima facie case of obviousness exists where the claimed ranges and prior art range do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.”).

Appellant argues, *inter alia*, that the Examiner erred by finding that Norisue describes a composition having a minimum of 16% polyamide and that the Examiner’s reliance on *Titanium Metals* is inappropriate. Appeal Br. 8. We address these arguments below.

As an initial matter, Appellant argues that the Examiner erred in calculating that Norisue describes a composition having a minimum of 16 parts per hundred polyamide. *Id.* at 8–9. According to Appellant, when the calculations are performed correctly, Norisue describes a composition having a minimum of 16.5 parts per hundred polyamide. *Id.* at 9 n.1. The Examiner’s Answer does not contest Appellant’s calculations. Answer 6. The Examiner, however, maintains the position that a person of ordinary skill in the art would reasonably have expected Norisue’s composition having 16.5 parts per hundred polyamide to have the same properties as the claimed composition, which has a maximum of 15 parts per hundred polyamide. *Id.* (citing *Titanium Metals*).

We, therefore, turn to Appellant's argument that the Examiner's reliance on *Titanium Metals* is misplaced. *See* Appeal Br. 13–17. In particular, Appellant argues that the Examiner erred by finding that a person having ordinary skill in the art reasonably would have expected claim 1's composition to have the same properties as Norisue's composition. *Id.* Appellant also argues that *Titanium Metals* is distinguishable from the facts at hand. *Id.* (citing *In re Patel*, 566 F. App'x 1005 (Fed. Cir. 2014)).

We agree with Appellant.

We begin by describing the facts of *Titanium Metals*. The claims at issue in *Titanium Metals* were directed to a titanium alloy comprising small amounts of nickel and molybdenum. 778 F.2d at 776. For ease of reference, we reproduce claims 1 and 3 below.

1. A titanium base alloy consisting essentially by weight of about 0.6% to 0.9% nickel, 0.2% to 0.4% molybdenum, up to 0.2% maximum iron, balance titanium, said alloy being characterized by good corrosion resistance in hot brine environments.

*Id.* As can be seen, claim 3 is directed to a preferred embodiment of the alloys recited in claim 1:

3. A titanium base alloy as set forth in Claim 1 having 0.8% nickel, 0.3% molybdenum, up to 0.1% maximum iron, balance titanium.

*Id.*

During prosecution, the Examiner rejected claims 1 and 2 as anticipated by a Russian journal article. *Id.* The Examiner rejected claim 3 as obvious in view of the same journal article. *Id.* The Patent and Trademark Office Board of Appeals affirmed the Examiner, but erroneously proceeded on the assumption that all three claims had been rejected as anticipated. *Id.* The applicant, being dissatisfied with this outcome, brought

an action under 35 U.S.C. § 145. *Id.* at 777. The District Court determined that none of the claims should have been rejected and ordered the Commissioner to issue a patent. *Id.* at 779.

On appeal, the Federal Circuit determined that it was confronted with the question of “the propriety of the rejection of claims 1 and 2 under § 102 and the rejection of claim 3 under § 103, both rejections having been held by the district court to have been erroneous.” *Id.* at 780. The Federal Circuit reversed the District Court, concluding that claims 1 and 2 were anticipated by the Russian journal article’s disclosure of a titanium base alloy containing 0.25 % by weight molybdenum and 0.75% nickel. *Id.* at 781. The Federal Circuit explained that claims 1 and 2 encompass such an alloy. *Id.*

With respect to claim 3, the Federal Circuit determined that the Russian journal article’s disclosure of two alloys having compositions very close to that of claim 3 rendered the subject matter of claim 3 prima facie obvious. *Id.* at 783. The Federal Circuit stated that “[t]he proportions [of the elements comprising the alloy] are so close that prima facie one skilled in the art would have expected them to have the same properties.” *Id.*

For ease of reference, we summarize the composition of these alloys as well as the alloys encompassed within claims 1 and 3 in the table below.

	Claim 1	Prior Art Alloy A	Claim 3	Prior Art Alloy B
<b>Mo</b>	0.2%–0.4%	0.25%	0.3%	0.31%
<b>Ni</b>	0.6%–0.9%	0.75%	0.8%	0.94%
<b>Fe</b>	≤ 0.2%	-	≤ 0.1%	-
<b>Bal.</b>	Ti	Ti	Ti	Ti

As can be seen from the table, when the compositions of Prior Art Alloy A and Prior Art Alloy B are considered at the claimed number of significant digits, both fall within the scope of claim 1. As a preferred

embodiment, the alloy recited in claim 3 also falls within the scope of claim 1. Thus, a person of ordinary skill in the art at the time of the invention would have had adequate reason to believe that the properties of all three alloys were substantially the same.

This is not the situation in the case at hand. The Examiner's Answer states that

the examiner has fully considered the appellant's arguments and re-calculations, however, the examiner *takes the position* that 16.5 parts is close enough to 15 parts that one of ordinary skill in the art would reasonably expect the same properties. A prima facie case of obviousness exists where the claimed ranges and prior art range is do not overlap but *are close enough* that one skilled in the art would have expected them to have the same properties, see Titanium Metals Corp. of America v. Banner, 778[ ]F.2d 775,[ ]227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.051. Moreover, *the applicant has not provided a showing/evidence that the calculated 16.5 parts a polyamide of EP '229 would not produce the same composition/properties as the present invention. Furthermore, the applicant has not established that the difference between 15 parts and 16.5 parts by weight of polyamide necessarily makes a difference in the properties of the composition.*

Answer 6–7 (emphasis added).

We cannot sustain the obviousness rejection of claim 1 on the basis of the reasoning set forth in the Examiner's Answer. As the passage quoted above makes clear, the rejection is based upon the Examiner's mere assertion that the prior art range and the claimed range "are close enough." Based upon this unsupported conclusory statement, the Examiner attempts to shift the burden of proof to Appellant and points out that Appellant has not made evidentiary showings regarding the properties of the claimed composition and the prior art composition. *Id.*

The Examiner has not done enough to establish a prima facie case of obviousness. As the Federal Circuit has pointed out, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). In this case, the Examiner has not provided any explanation or reasoning to support the assertion that 15 parts per hundred is “close enough” to 16.5 parts per hundred. Such an explanation must be provided or (as in *Titanium Metals*) be readily evident from the record before an applicant can be burdened with having to present evidence sufficient to rebut a prima facie case of obviousness. This is because the Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If the Examiner meets that burden, the applicant bears the burden of coming forward with evidence or argument. *Id.*

We, therefore, reverse the rejection of claim 1 as obvious over Norisue. Accordingly, we also reverse the rejection of claims 2 and 6.

**Rejection 2.** As discussed above, Appellant asserts that claims 3–5 are patentable based upon their dependence from claim 1. Because we have reversed the rejection of claim 1, we also reverse the rejection of claims 3–5.

## CONCLUSION

In view of the foregoing, we reverse the rejection of claims 1–6 of the '957 Application.

REVERSED