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METROLEX IP LAW GROUP, PLLC 900 17th Street, NW. Suite 320 Washington, DC 20006			HOCK, ELLEN SUZANNE	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YUKI HORIUCHI and DAISUKE SUZUKI

Appeal 2020-000126
Application 14/945,531
Technology Center 1700

Before JEFFREY T. SMITH, MERRELL C. CASHION, JR., and
JANE E. INGLESE, *Administrative Patent Judges*.

CASHION, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision to finally reject claims 1, 2, and 5, which constitute all the claims pending in this application. Claim 3 has been cancelled. Claim 4 has been withdrawn. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as "YAZAKI CORPORATION." Appeal Br. 3.

The invention generally relates to a covering material for an electric wire or conductor. Spec. ¶¶ 1, 4, 5. Claim 1 is illustrative of the subject matter claimed and is reproduced below:

1. A covering material for an electric wire, the covering material having a composition containing a polyvinyl chloride,

wherein the composition of the covering material comprises a characteristic such that a change curve of a loss modulus with respect to temperature for the composition of the covering material containing the polyvinyl chloride has no peak within a temperature range of -30°C to 60°C, which is a temperature range in a usage environment for the electric wire, and

wherein the composition of the covering material comprises more than or equal to 35 parts by weight and less than or equal to 50 parts by weight of a plasticizer and 2 to 20 parts by weight of a flexible resin with a melt flow rate of 1.0 g/10 min or less, the plasticizer and the flexible resin combined with respect to 100 parts by weight of the polyvinyl chloride such that the composition comprises the characteristic.

Appeal Br. 19 (Claims Appendix). Independent claim 5 recites a covered electric wire comprising the covering of claim 1. *Id.* at 20.

Appellant requests review of the Examiner's rejection of claims 1, 2, and 5 under 35 U.S.C. § 103 as unpatentable over Furukawa (US 2012/0172511 A1, published July 5, 2012) and Showa Denko K. K. (Chlorinated Polyethylene Elaslen® Grade List, effective date Dec. 1, 2013). Appeal Br. 12; Final Act. 3.

OPINION²

After review of the respective positions Appellant provides in the Appeal Brief³ and the Examiner provides in the Final Office Action and the Answer, we reverse the Examiner's prior art rejection of claims 1, 2, and 5 under 35 U.S.C. § 103 for the reasons Appellant provides. We add the following.

Independent claim 1 recites a covering material for an electric wire, the covering material having a composition containing a polyvinyl chloride, a flexible resin, and more than or equal to 35 parts by weight and less than or equal to 50 parts by weight of a plasticizer with respect to 100 parts by weight of polyvinyl chloride.

We refer to the Examiner's Final Office Action for a complete statement of the rejection of claim 1. Final Act. 3–6.

There is no dispute that Furukawa teaches a covering material having a composition containing a polyvinyl chloride, a flexible resin, and 15–30 parts by weight of a plasticizer, where Furukawa's range for the plasticizer content does not overlap the claimed range of amounts for the plasticizer. Final Act. 3; *see generally* Appeal Br.; Furukawa ¶ 10.

Appellant argues Furukawa discloses a plasticizer outside the recited range for plasticizers. Appeal Br. 17. In other words, Appellant contends that, contrary to the Examiner's reasoning (Final Act. 3), the upper limit of Furukawa's range for plasticizer content (30 parts per 100 parts of polyvinyl chloride) is not close enough to the lower limit of the claimed range for

² We limit our discussion to claim 1 with the understanding that it applies equally to claims 2 and 5.

³ Appellant did not file a Reply Brief.

plasticizer content (35 parts per 100 parts of polyvinyl chloride) that one skilled in the art would have expected the compositions for the covering materials of the prior art and the claimed invention to have the same properties.

We agree with Appellant that there is reversible error in the Examiner's determination of obviousness.

Our reviewing court has “held that a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties.” *See In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003); *see also Titanium Metals Corp. v. Banner*, 778 F.2d 775, 783 (Fed. Cir. 1985) (affirming a rejection of a claim directed to an alloy having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium as obvious over a reference disclosing alloys of (1) 0.75% nickel, 0.25% molybdenum, balance titanium, and (2) 0.94% nickel, 0.31% molybdenum, balance titanium, because the “proportions are so close that prima facie one skilled in the art would have expected them to have the same properties.”). However, it is not a matter of obviousness for one of ordinary skill in the art to optimize the concentration of a component in a composition outside the range disclosed by the prior art. *In re Sebek*, 465 F.2d 904, 907 (CCPA 1972) (where the prior art indicates that an optimum should be sought within a range, the determination of optimum values outside that range may not be obvious). That is because, “[w]here differences clearly exist and there is no evidence that they are either not meaningful or one of skill in the art would know to discard the limits set by the prior art, proximity alone is not enough to establish a prima facie case of obviousness.” *In re Patel*, 566 Fed. Appx.

1005, 1010 (Fed. Cir. 2014).

Although Furukawa discloses an upper limit of 30 parts for the amount of plasticizer that is close to the lower end point of 35 parts of the claimed plasticizer weight range, Furukawa also discloses that if the content of plasticizer is more than 30 parts by mass, the covering material would not have a sufficient damage-resistance property. Furukawa ¶ 21. Given this disclosure, the Examiner fails to explain adequately why one of ordinary skill in the art would discard the upper limit of Furukawa's range to include a higher amount of plasticizer. Nor does the Examiner does not identify any teaching in Furukawa that the disclosed range end points are approximate or flexibly applied. *See Patel*, 566 Fed. Appx. At 1010. Thus, the Examiner does not explain adequately how one skilled in the art would arrive at the claimed covering material from the combined teachings of Furukawa and Showa Denko K. K.

Accordingly, we REVERSE the Examiner's prior art rejection of claims 1, 2, and 5 under 35 U.S.C. § 103 for the reasons Appellant presents and we give above.

Because the Examiner did not present a prima facie case of obviousness, we do not reach Appellants' evidence of unexpected results.

DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 5	103	Furukawa, Showa Denko K. K.		1, 2, 5

REVERSED