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22850	7590	11/23/2016	EXAMINER	
OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			KOSHY, JOPHY STEPHEN	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MASAKI KAIZUKA, YOSUKE SHINDO, and  
MANABU FUJITA<sup>1</sup>

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Appeal 2016-006943  
Application 14/384,065  
Technology Center 1700

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Before BRADLEY R. GARRIS, JULIA HEANEY, and  
MONTÉ T. SQUIRE, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134, Appellants appeal from the Examiner's rejection under 35 U.S.C. § 103(a) of claim 1 as unpatentable over Ofuji/JP 388 (JP 02001049388 A, published Feb. 20, 2001, English abstract) in view of Berns/NPL ("*Ferrous Materials*" *Steel and Cast Iron*, Springer, 2008). We have jurisdiction under 35 U.S.C. § 6. An oral hearing for this appeal was held Nov. 10, 2016.

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<sup>1</sup> Kabushiki Kaisha Kobe Seiko Sho (Kobe Steel, Ltd.) is identified as the real party in interest. App. Br. 2.

We REVERSE.

Appellants claim a bearing steel comprising various concentrations of various ingredients and having certain boundary ingredients that satisfy a formula (1) requiring, in effect, a boundary Di value of 9 or more (claim 1; Spec. ¶¶ 17–18).

A copy of claim 1, taken from the Claims Appendix of the Appeal Brief, appears below.

1. A bearing steel, comprising iron and, by mass percent:

C: 0.95-1.10%;

Si: 0.15-0.35%;

Mn: 0.2-0.50%;

Cr: 1.30-1.60%;

P: from greater than 0 to 0.025%;

S: from greater than 0 to 0.025%;

Ni: 0.02-0.25%;

Cu: 0.02-0.25%;

Mo: from 0% to less than 0.08%;

Al: 0.001%-0.050%;

Ti: from greater than 0 to 0.0015%;

O: from greater than 0 to 0.001 %; and

N: from greater than 0 to 0.020%,

wherein boundary Si, boundary Mn, boundary Cr, boundary Cu, boundary Ni, and boundary Mo included in a matrix phase boundary surface region from a surface of spheroidized cementite to 20 nm away satisfies formula (1):

$$9.0 \leq 1.4 \times \text{boundary Si} + 1.8 \times \text{boundary Mn} + 5.5 \times \text{boundary Cu}$$
$$+ 4.2 \times \text{boundary Ni} + 4.8 \times \text{boundary Cr} + 5.5 \times \text{boundary Mo} \quad (1),$$

where boundary Si, boundary Mn, boundary Cu, boundary Ni, boundary Cr, and boundary Mo represent the mass% content of Si, Mn, Cu, Ni, Cr and Mo, respectively, which are included in the matrix phase boundary surface region from the surface of spheroidized cementite to 20 nm away.

The Examiner finds that JP 388 teaches or would have suggested a bearing steel having the claimed ingredients and concentrations but not the

claimed boundary ingredients satisfying formula (1) with a boundary  $D_i$  of 9 or more (Ans. 3–4). More specifically, the Examiner finds that JP 388 is silent regarding Appellants’ disclosed annealing process of specific primary, secondary, and tertiary soaking treatment steps followed by a cooling step (*see* Spec. ¶ 11) for obtaining the claimed  $D_i$  values (*id.* at 5) but that the annealing and cooling teachings of NPL “read on the process steps [disclosed by Appellants]” (*id.* (citing NPL 59–61 generally)). The Examiner concludes that it would have been obvious to process the bearing steel of JP 388 with the annealing and cooling teachings of NPL, thereby resulting in steel having boundary  $D_i$  values of 9 or more and thus satisfying formula (1) of claim 1 (*id.*).

Appellants emphasize that the particular step-wise soaking treatment of Specification paragraph 11 is necessary in order to obtain a bearing steel satisfying formula (1) of claim 1 (App. Br. 8) and argue that “NPL . . . does not teach or provide any *meaningful* guidance so that a person of ordinary skill in the art would have performed the specific *step-wise soaking treatment* as that described in the instant application” (*id.* at 10). In particular, Appellants argue that “NPL . . . does not provide guidance or suggestion as to how each temperature cycling about  $A_{c1}$  is combined with the sequence of the different annealing conditions so as to lead a person of ordinary skill in the art to use a step-wise soaking treatment such as the one described in the instant application” (*id.* at 11).

Appellants’ argument has persuasive merit. Contrary to the Examiner’s above quoted conclusory statement, the annealing and cooling teachings of NPL do not read on the process steps disclosed by Appellants for obtaining the  $D_i$  values of claim 1. Moreover, the Examiner fails to provide the record, including the Response to Argument section of the

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Answer, with articulated reasoning having rational underpinning to support a determination that NPL would have suggested the required temperatures and times for each of the sequential soaking treatments disclosed by Appellants. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections 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”) quoted with approval in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

For this reason, the Examiner fails to establish a prima facie case of obviousness, and accordingly we do not sustain the § 103 rejection of claim 1.

DECISION

The decision of the Examiner is reversed.

REVERSED