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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/765,365	02/12/2013	Pavan Chintalapati	H0037900 (123.0010)	2967
113151	7590	09/25/2020	EXAMINER	
Garrett/LKGlobal Law Dept. 2525 W. 190th St. Torrance, CA 90504			SCHLEIS, DANIEL J	
			ART UNIT	PAPER NUMBER
			1784	
			NOTIFICATION DATE	DELIVERY MODE
			09/25/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAVAN CHINTALPATI, BALASUBRAMANI NANDAGOPAL,
PRAVEEN GURUPRASANNA, MARC WILSON,
VIJAYMAHANTESH PATIL, and JEAN-JACQUES LAISSUS

Appeal 2019-006417
Application 13/765,365
Technology Center 1700

Before JEFFREY B. ROBERTSON, DEBRA L. DENNETT, and
MERRELL C. CASHION, JR., *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 1–4, 6–13, 15–18, 20, and 23–25. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM and designate our affirmance as a NEW GROUND OF REJECTION pursuant to 37 CFR § 41.50(b) because we rely on findings and reasoning different from the ones the Examiner provides.

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 GARRETT TRANSPORTATION I INC. Appeal Br. 1.

Appellant's invention is generally directed to stainless steel alloys comprising 0.4%–0.8% molybdenum. Spec. ¶¶ 1, 8. Claim 1 is illustrative of the subject matter claimed and is reproduced below:

1. An austenitic stainless steel alloy, comprising, by weight:

about 16% to about 21 % chromium;

about 4.5% to about 5.5% nickel;

about 3% to about 4% manganese;

about 1 % to about 2% silicon;

about 0.8% to about 1.2% tungsten;

0.4% to 0.8% molybdenum;

about 0.4% to about 0.6% niobium;

about 0.4% to about 0.5% carbon;

about 0.03% phosphorous or less;

about 0.03% sulfur or less;

about 0.01 to about 0.15% nitrogen; and

a balance of iron and unavoidable impurities.

Independent claims 10 and 20 also relates to stainless steel alloys having about 0.4% to about 0.8% molybdenum but recite additional features.

Appellant requests review of the following rejections from the Examiner's Non-Final Office Action dated March 9, 2018:

I. Claims 1–4, 6–13, 15–18, and 20 rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Briggs (US 2,429,800, issued October 28, 1947) and Roychowdhury (Roychowdhury, S., et al., *Understanding the Effect of Nitrogen in Austenitic Stainless Steel on the Intergranular Stress Corrosion Crack Growth Rate in High Temperature Pure Water* 60 ACTA MATERIALIA, 610–621(2012)).

II. Claims 23–25 rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Briggs, Roychowdhury, and Samuelsson (US 2011/0250088 A1, published October 13, 2011).

III. Claims 23–25 rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Briggs, Roychowdhury, and Roscoe (WO 2012/161661 A1, published November 29, 2012).

Appellant presents arguments only for independent claims 1, 10, and 20 as well as dependent claims 7 and 16. *See generally* Appeal Br. Independent claims 1, 10, and 20 each require identical components of austenitic stainless steel alloy, including 0.4% to 0.8% molybdenum while dependent claims 7 and 16 recite a stainless steel comprising 0.5% to 0.7% molybdenum. Appeal Br. 9–11. We select independent claim 1 and dependent claim 7 as representative of the subject matter claimed and decide the appeal based on the arguments Appellant makes in support of the patentability of claims 1 and 7.

OPINION

The Examiner's Rejections under 35 U.S.C. § 103(a)

After review of the respective positions Appellant provides in the Appeal and Reply Briefs and the Examiner provides in the Non-Final Office

Action and the Answer, we AFFIRM the Examiner's prior art rejections of claims 1–4, 6–13, 15–18, 20, and 23–25 under 35 U.S.C. § 103(a). We adopt the Examiner's factual determinations with respect to the cited art but conclude that the Examiner's explanation lacks sufficient clarity to sustain the rejection.² However, we find the references the Examiner relies upon do establish a prima facie case of obviousness. Our reasoning follows.

The subject matter of independent claim 1 recites a stainless steel comprising 0.4% to 0.8% molybdenum. The subject matter of claim 7 recites a stainless steel comprising 0.5% to 0.7% molybdenum. Briggs discloses stainless steels having at least 1% molybdenum. Briggs col. 2, ll. 1–7.

It is well established that a prima facie case of obviousness exists where the prior art and claimed ranges overlap, as well as in those cases where the claimed range and the prior art range, though not overlapping, are sufficiently close 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.

² The premise of the Examiner's rejection is based on Briggs's "group consisting of molybdenum and tungsten" including mixtures of those two metals and, thus, a concentration of 1% encompassing the mixture would mean that Briggs's amount for molybdenum would fall within the claimed range for this metal. Ans. 8–11; Briggs col. 1, ll. 45–54. As Appellant argues, the noted language ("at least 1 to about 10% of metal of the group consisting of molybdenum and tungsten") does not include mixtures of those two metals and, thus, this disclosure by Briggs does not disclose a molybdenum content of less than 1%. Reply Br. 1. *Gillette Co. v. Energizer Holdings Inc.*, 405 F.3d 1367, 1371–73 (Fed. Cir. 2005) (holding that the phrase "group consisting of" is a closed term that is by its nature closed); *Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1359, (Fed. Cir. 2016) (a layer "selected from the group consisting of" specific resins is closed to resins other than those listed).

Cir. 2003) (“In cases involving overlapping ranges, we and our predecessor court have consistently held that even a slight overlap in range establishes a prima facie case of obviousness. We have also 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 also Titanium Metals Corp. v. Banner*, 778 F.2d 775, 783 (Fed. Cir. 1985).

Here, the lower endpoint for Briggs’s range of the amount of molybdenum (1%) is close enough to the higher endpoints for the claimed range of the amount of molybdenum (0.7% or 0.8%) that one skilled in the art would have reasonably expected Briggs’s stainless steel to have the same properties as the claimed stainless steel absent a showing to the contrary. Therefore, a prima facie case of obviousness exists.

The Specification discloses that the amount of molybdenum “*should be maximized to 0.8%, and preferably less than 0.7%.*” Spec. ¶ 33 (emphasis added). This language merely points to preferred embodiments for the disclosed stainless steel compositions and does not set forth any criticality to the claimed molybdenum amounts.

The Specification also discloses that an excessive amount of molybdenum can result in deteriorating the corrosion resistance and impact resistance. *Id.* However, the Specification does not define what percentage of molybdenum is considered an excessive amount.

The Specification also lacks comparative data between stainless steel compositions having the claimed molybdenum content of 0.4–0.8 % or 0.5–0.7% versus stainless steel compositions having a molybdenum content of 1% to ascertain the criticality of the claimed molybdenum content with

respect to the properties of the stainless steel compositions.

Therefore, absent evidence to the contrary, one skilled in the art would have reasonably expected that Briggs’s stainless steel and the claimed stainless steel to have the same properties.

Accordingly, we AFFIRM the Examiner’s prior art rejections of claims 1–4, 6–13, 15–18, 20, and 23–25 under 35 U.S.C. § 103(a) for the reasons we give above. We designate our affirmance as a NEW GROUND OF REJECTION pursuant to 37 CFR 41.50(b) because we rely on findings and reasoning different from the ones the Examiner provides.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed	New Ground
1–4, 6–13, 15–18, 20	103(a)	Briggs, Roychowdhury	1–4, 6–13, 15–18, 20		1–4, 6–13, 15–18, 20
23–25	103(a)	Briggs, Roychowdhury, Samuelsson	23–25		23–25
23–25	103(a)	Briggs, Roychowdhury, Roscoe	23–25		23–25
Overall Outcome			1–4, 6–13, 15–18, 20, 23–25		1–4, 6–13, 15–18, 20, 23–25

TIME PERIOD FOR RESPONSE

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

Section 41.50(b) also provides:

When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

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AFFIRMED; 37 C.F.R. § 41.50(b)