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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/241,145	09/30/2008	Akin MALAS	P07155	6593
20411	7590	11/21/2016	EXAMINER	
The Linde Group 200 Somerset Corporate Blvd. Suite 7000 Bridgewater, NJ 08807			MELLOTT, JAMES M	
			ART UNIT	PAPER NUMBER
			1712	
			MAIL DATE	DELIVERY MODE
			11/21/2016	PAPER

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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* AKIN MALAS

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Appeal 2015-005873  
Application 12/241,145  
Technology Center 1700

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Before LINDA M. GAUDETTE, ELIZABETH M. ROESEL, and  
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's decision<sup>2</sup> finally rejecting claims 1, 2, 6–12, and 18. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The invention relates to an improved gas wiping process for removing excess coating from a product. Specification filed Sept. 30, 2008 (“Spec.”) ¶ 1. According to the Specification, it was known in the art at the time of the invention to apply a molten coating onto a metal sheet surface, and then remove excess coating material by delivering low-pressure, high-volume air streams (i.e., a wiping gas) to the coated metal sheet surface. *Id.* ¶¶ 2–3. It was also known in the art to use nitrogen instead of air for coating removal. *Id.* ¶ 5. The Specification discloses that nitrogen provides a coating with improved surface quality as compared to air, but a drawback of nitrogen is its relatively high cost. *Id.* The inventor is said to have discovered a coating method that achieves improved product quality, but at lower costs than known processes that utilize nitrogen alone as the wiping gas. *See* Br. 7–8.

Claim 1, the sole independent claim on appeal, is reproduced below (Br. 20 (Claims App’x)):

1. A method for coating a product, comprising:  
applying a molten coating to a surface of the product; and  
removing an excess portion of the molten coating from said product,  
said removing comprising:

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<sup>1</sup> Appellant identifies the real party in interest as Linde Aktiengesellschaft. Appeal Brief filed Jan. 13, 2015 (“Br.”), 3.

<sup>2</sup> Final Office Action mailed July 11, 2014 (“Final Act.”).

directing an air flow having a first composition to the product for removing a majority portion of said excess portion from said product,

and

directing an inert gas flow having a second composition different than the first composition to the product after the directing the air flow for removing a second portion of said excess portion from said product

The claims stand rejected as follows:

1. Claims 1, 2, 6–12, and 18 are rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.

2. Claims 1, 6–10, 12, and 18 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Tu (US 5,360,641, iss. Nov. 1, 1994) in view of Pierson (US 3,611,986, iss. Oct. 12, 1971).

3. Claims 2 and 11 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Tu and Pierson, and further in view of Kurokawa et al. (US 3,607,366, iss. Sept. 21, 1971) (“Kurokawa”).

*Rejection under 35 U.S.C. § 112, 1<sup>st</sup> paragraph*

The Examiner provides persuasive evidence and reasoning in finding that the Specification does not contain written descriptive support for a method for coating a product that includes a step of “directing an air flow having a first composition to the product for removing *a majority portion* of said excess portion [of molten coating] from said product” (claim 1 (emphasis added)). *See* Final Act. 3. Appellant does not dispute the Examiner’s finding, but requests that claim 1 be amended to change the term “majority” to “major.” Br. 10. Appellant’s proposed amendment to claim 1 is not authorized under the rules of practice before the Board. *See* 37 C.F.R. § 41.33(b). In the absence of arguments refuting the

Examiner's finding that claim 1 does not comply with the written description requirement of 35 U.S.C. § 112, we sustain the rejection of claim 1, and its dependent claims 2, 6–12, and 18, under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph.

*Rejections under 35 U.S.C. § 103(a)*

The Examiner finds the invention, as recited in claim 1, is disclosed in Tu's Figure 6 embodiment (Final Act. 5–6; Ans. 4), with the exception that “Tu does not teach that the composition of the first gas stream is an air flow and the second gas stream is an inert gas flow and that the air flow is directed to the product prior to directing the inert gas” (Final Act. 6). The Examiner finds Pierson discloses that air and nitrogen are both suitable wiping gases in a finishing process for a molten metallic coating. *See id.* (citing Pierson 4:34–38). The Examiner finds that, because Pierson teaches the interchangeability of air and nitrogen as wiping gases, one of ordinary skill in the art at the time of the invention would have recognized that “the use of the two gases together would have yielded predictable results,” and would have “use[d] air (which is comprised of nitrogen; an inert gas) as the first wiping gas during the process of Tu and nitrogen (inert gas) as the second gas during the process of Tu.” *Id.* at 6–7.

Appellant argues the Examiner reversibly erred in determining the invention of claim 1 would have been obvious because Tu and Pierson, alone or in combination, do not disclose or suggest removing an excess portion of molten coating from a product using two separate gas streams having “different” compositions (*see* claim 1, last paragraph). *See* Br. 13–14. The Examiner disagrees, contending Tu explicitly teaches that “gas jet 14 & gas jet 11 can be supplied by two separate gas supplies” and, therefore, given Pierson's teaching that nitrogen and air are art recognizable suitable wiping gases, one of ordinary skill in

the art would have used air for gas jet 11 and nitrogen for gas jet 14. Ans. 6–7. As further explained below, based on our review of the evidence relied on by the Examiner (*see, e.g.*, Final Act. 6 (citing Tu 5:24–48; Pierson 4:34–38)), we are persuaded by Appellant’s argument.

Tu discloses various embodiments for achieving a required strength relationship between two or more separate gas streams, including: (1) using the same gas source, but “varying the respective nozzle’s outlet widths and spacings from the [coated product]” (Tu 5:28–31; *see also id.* at 5:41–46); and (2) feeding each nozzle from separately controllable gas supplies (*id.* at 5:24–28), so that the strengths can be separately adjusted by control of respective supply pressures or by varying nozzle widths and spacings from the coated product (*id.* at 5:34–38). We disagree with the Examiner’s reading of this disclosure as a teaching or suggestion of supplying each nozzle with a different gas composition.

Pierson discloses that “[p]reheated air, superheated steam, or other oxidizing gases are preferred as the wiping agent since the oxide produced on the coating is beneficial in resisting the sagging of the coating.” Pierson 4:34–36. Pierson further states that “[o]ther gases such as nitrogen and argon can be used.” *Id.* at 4:37. Appellant argues “Pierson is in no way directed or even considers using two gas streams.” Br. 14. Even assuming, however, that the Examiner is correct in finding the ordinary artisan would have understood Pierson’s disclosure as teaching that a combination of gases could be used as wiping gases (*see* Final Act. 6–7), the Examiner has not explained sufficiently why the ordinary artisan would have had a reason to supply gas having one composition (e.g., air) to Tu’s gas jet 11 and gas having a different composition (e.g., an inert gas) to Tu’s gas jet 14 (*see* Ans. 4). Because the Examiner has not explained the rationale for making this

modification to Tu's method, we determine the Examiner relied on improper hindsight reasoning.

Appellant also argues the Examiner reversibly erred in determining the invention of claim 1 would have been obvious because "both Tu and Pierson disclose that the major portion of any excess coating is removed during the second or later aspect or stage of their respective processes," i.e., "the opposite of what is called for in claim 1[:] . . . a first composition air flow to remove a major portion of the excess portion of the molten coating from the product . . . , followed by . . . an inert gas with a second composition . . . for removing a second portion of the molten coating." Br. 14. The Examiner contends Appellant's argument is not persuasive because it is based on a comparison of the strengths of gas jets 11 and 18, whereas the rejection is based on the relative positions and strengths of gas jets 11 and 14. Ans. 4.

Tu describes smoothing a coating layer with weak jet 18, followed by stripping with strong jet 11. Tu 5:19–24; *see also id.* at 5:45–46 (stating that the stripping jet stream has a stronger effect than the smoothing jet stream). As depicted in Figure 6, jet 11 is positioned between jet 18 and jet 14. Jet 14, however, is not described as affecting the coating layer. Rather Tu describes jet stream 14 as "merely cooperat[ing] with the stripping jet stream 11 to maintain a stabilising gas pressure," and having "no substantial effect on the thickness of the reduced coating layer." *Id.* at 4:34–36, 38–39. Accordingly, we are persuaded by Appellant's argument that a preponderance of the evidence fails to support the Examiner's finding that Tu discloses a method wherein a gas flow is used to remove a majority (or major) portion of excess coating and, thereafter, a gas flow is used to remove a second portion of excess coating.

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In sum, for the reasons discussed above, Appellant has argued persuasively that the Examiner's conclusion of obviousness as to independent claim 1 is not supported by a preponderance of the evidence on this appeal record. We further agree with Appellant that the Examiner's findings with respect to Kurokawa do not cure the deficiencies in the Examiner's rejection of independent claim 1. Accordingly, we do not sustain the rejections of claims 1, 2, 6–12, and 18 under 35 U.S.C. § 103(a).

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).

AFFIRMED