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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* LUC DIEZ, JEAN-MICHEL MATAIGNE, BERTRAND ORSAL,  
and HUBERT SAINT RAYMOND

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Appeal 2019–001972  
Application 13/121,833  
Technology Center 1700

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Before ROMULO H. DELMENDO, JEFFREY T. SMITH, and  
LILAN REN, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner’s final decision to reject claims 1–5 and 39.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies ArcelorMittal as the real party in interest. Appeal Br. 2.

The following rejections are presented for appeal: <sup>2</sup>

I. Claims 1–5 and 39 are rejected under 35 U.S.C. § 103 as unpatentable over the combination of Nitto (Nitto et al., US 4,369,211, issued January 18, 1983 (hereinafter “Nitto”)) and JP 2008-095129 A, published April 24, 2008 (hereinafter “JP ’129”).

II. Claims 1–5 and 39 are rejected under 35 U.S.C. § 103 as unpatentable over the combination of Nitto, JP ’129, and Komatsu (Komatsu et al., US 6,235,410 B1, issued May 22, 2001 (hereinafter “Komatsu”)).

Appellant’s invention relates to a process for manufacturing a metal strip of steel sheet coated with a zinc-based metal layer for corrosion protection. (Spec. 1.) Claim 1 is illustrative of the subject matter on appeal and is reproduced below:

1. A process for manufacturing a metal strip coated with a metal coating for corrosion protection, comprising:
  - making the metal strip pass through a bath of molten metal including zinc or zinc alloy or aluminum or aluminum alloy; then
  - wiping the coated metal strip using nozzles that spray a gas on each side of the strip to adjust a thickness of the metal coating, said gas having an oxidizing power lower than that of an atmosphere consisting of 4% oxygen by volume and 96% nitrogen by volume; and then making the strip pass through a confinement device defined:
    - at the bottom, by the wiping line and the upper faces of said wiping nozzles,

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<sup>2</sup> The complete statement of the rejection on appeal appears in the Examiner’s Answer (mailed Nov. 2, 2018 (“Ans.”). (Ans. 3–7).

at the top, by the upper part of two confinement boxes placed on each side of the strip, just above said nozzles, and having a height of at least 10 cm in relation to the wiping line and

on the sides, by the lateral parts of said confinement boxes,

the atmosphere in said confinement device having an oxidizing power lower than that of an atmosphere consisting of 4% oxygen by volume and 96% nitrogen by volume and higher than that of an atmosphere consisting of 0.15% oxygen by volume and 99.85% nitrogen by volume.

Appeal Br. Claims App. A.

### OPINION<sup>3</sup>

Upon consideration of the evidence of record and each of Appellant's contentions as set forth in the Appeal Brief, as well as the Reply Brief, we determine that Appellant has not demonstrated reversible error in the Examiner's rejections of claims 1–5 and 39. *In re Jung*, 637 F.3d 1356, 1365–66 (Fed. Cir. 2011) (explaining the Board's long-held practice of requiring Appellant(s) to identify the alleged error in the Examiner's rejection). We sustain the rejections of these claims generally for the reasons expressed by the Examiner in the Answer. (Ans. 3–20.) We add the following primarily for emphasis.

I. Claims 1–5 and 39 are rejected under 35 U.S.C. § 103 as unpatentable over the combination of Nitto and JP '129.

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<sup>3</sup> We limit our discussion to the independent claim 1 as separately argued by Appellant. 37 C.F.R. § 41.37(c)(1)(iv). Claims 2–5 stand or fall with independent claim 1

The Examiner finds Nitto and JP '129 both describe processes for manufacturing a metal strip having a metal coating for corrosion protection including passing the metal strip through about the molten metal, wiping the coated metal strip by means of nozzles that spray gas on each side of the strip. (Ans. 3–5.) The Examiner finds Nitto discloses the metal strip passes through a confinement zone having an oxidizing atmosphere consisting of 4% oxygen by volume and 96% nitrogen by volume. (Ans. 3.) The Examiner determines that Nitto describes the oxygen content range required by the claimed invention and concludes a person of ordinary skill in the art would have determine the optimum oxygen concentration through routine experimentation to obtain the recognized benefits. (Ans. 4.) The Examiner recognized Nitto failed to disclose the confinement box was arranged above the gas wiping nozzles. (Ans. 4.) The Examiner finds JP '129 describes all the requirements by the claimed invention, including the molten metal bath, the gas wiping nozzles, and the confinement zone located above the gas nozzles. The Examiner finds JP '129 fails to disclose the claimed atmosphere. (Ans. 4.) The Examiner finds Nitto and JP '129 both describe the combination of gas wiping nozzles and confinement zones; however, Nitto's confinement zone encompasses the wiping nozzles and extends to the surface of the molten metal. (Ans. 4; *see* Nitto Fig. 12.) The Examiner finds JP '129 describes the confinement box could have various locations including above the wiping nozzles, as required by the claimed invention, and encompasses the wiping nozzles and extends to the surface of the molten metal as described by Nitto. (Ans. 4; *see* JP '129 Figs. 2, 5.) The Examiner finds JP '129 discloses the placement of the confinement zones above the gas nozzles provides the benefit of preventing splashing during

wiping. (Ans. 4; *see* JP '129 ¶¶ 13, 22–25.)

The Examiner concludes that it would have been obvious to a person of ordinary skill in the art to perform a process for manufacturing a metal strip having a metal coating for corrosion protection including passing the metal strip through a bath of molten metal, wiping the coated metal strip by means of nozzles that spray gas on each side of the strip having a confinement zone, including oxygen atmosphere, located above the gas wiping nozzles as required by the claimed invention based on the teachings of Nitto and JP '129. (Ans. 4–5.)

Appellant argues Nitto describes advantages for having a confinement zone with a controlled atmosphere—to prevent contamination from ambient atmosphere—located from within the metal bath extending upward and encompassing the gas wiping nozzles. (Appeal Br. 2–9; Nitto Figs. 12–19.) Appellant argues combining the teachings of JP '129 with Nitto would frustrate and destroy the very purpose of Nitto. (Appeal Br. 11–12.) Appellant also argues the combination of JP '129 and Nitto would not obviate the subject matter of claim 1 because JP '129 achieves the alleged benefits without Nitto. (Appeal Br. 15–16.)

Appellant's arguments are premised on the bodily incorporation of the teachings of JP '129 into Nitto and vice versa. Contrary to Appellant's arguments, it is not necessary to physically incorporate the teachings of one reference into another to render obvious the claimed invention. *See In re Bush*, 296 F.2d 491, 496 (CCPA 1961) (“In a case of this type where a rejection is predicated on two references each containing pertinent disclosure which has been pointed out to the applicant, we deem it to be of no significance, but merely a matter of exposition that the rejection is stated to

be on A in view of B instead of on B in view of A, or to term one reference primary and the other secondary.”); *See also In re Moutett*, 686 F.3d 1322, 1333 (2012).

The Examiner has established, as evidenced by Nitto and JP ’129, that processes for manufacturing a metal strip having a metal coating for corrosion protection including passing the metal strip through a bath of molten metal, allowing the strip to pass through air, wiping the coated metal strip by means of nozzles that spray gas on each side of the strip, passing the strip through a confinement box located above the wiping nozzles for controlling the atmosphere were all known to persons of ordinary skill in the art. JP ’129 exhibits the location of the confinement box above the wiping nozzles and encompassing the wiping nozzles were recognized alternatives. (JP ’129 Figs. 1, 5.) Nitto exhibits the effect of controlling the atmosphere to which the coated strip has been exposed. (Nitto col. 13.)

It has been established that the predictable use of known prior art elements performing the same functions they have been known to perform is normally obvious, and the combination of familiar elements is likely to be obvious when it does no more than yield predictable results. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[T]he [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”). *See also In re Fritch*, 972 F.2d 1260, 1264–65 (Fed. Cir. 1992) (a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in the art would have reasonably been expected to draw therefrom). The present record establishes all the claimed elements were

known in the prior art. A person of ordinary skill in the art would have had to combine the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable.

Appellant argues the combination of Nitto and JP '129 does not teach the step of “passing the strip through air after the step of making the strip pass through a bath and before the step of wiping” as recited in claim 39. (Appeal Br. 13–14.)

Appellant’s argument is not persuasive because this embodiment is disclosed by JP '129. (JP '129 Fig. 1.)

II. Claims 1–5 and 39 are rejected under 35 USC § 103 as unpatentable over the combination of Nitto, JP '129, and Komatsu.

To address this rejection, Appellant first argues that Komatsu fails to remedy the deficiencies of Nitto and JP '129 that Appellant discusses in connection with the arguments Appellant provides for claim 1. (Appeal Br. 16.) Because Appellant’s arguments directed to Nitto and JP '129 are unpersuasive of reversible error in the Examiner’s rejection of claim 1 for the reasons discussed above, they are also unpersuasive of reversible error in this rejection of claims 1–5 and 39.

Appellant’s arguments that the teachings of Nitto and Komatsu are in conflict are not persuasive as the cited references describes suitable atmosphere for the confinement box. A person of ordinary skill in the art following the teachings of the cited references would have had sufficient skill to select the appropriate atmosphere. Appellant has not directed us to

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evidence that the claim atmosphere provides unexpected results.

### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–5, 39	103	Nitto, JP '129	1–5, 39	
1–5, 39	103	Nitto, JP '129, Komatsu	1–5, 39	
<b>Overall Outcome</b>			1–5, 39	

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

AFFIRMED