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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* YOSHIKIYO TAMAI, TAKESHI FUJITA,  
YASUSHI KITANI, and HIROYUKI TAKEBE

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Appeal 2017-009621  
Application 14/004,348  
Technology Center 3600

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Before JILL D. HILL, JEREMY M. PLENZLER, and  
SCOTT C. MOORE, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1 and 2. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

### CLAIMED SUBJECT MATTER

Claim 1 is independent. Claim 2 depends from claim 1. Claim 1 is reproduced below:

1. An automobile frame component made of thin steel sheets, comprising:

a closed section including:

a frame component having a substantially hat sectional shape, the frame component including a flange portion, a vertical wall portion, and an arc portion connecting an inner end of the flange portion and the vertical wall portion;

another frame component or a panel part disposed facing the flange portion of the frame component; and

a welded portion connecting the arc portion of the frame component and the other frame component or panel part, the welded portion extending along the other frame component or panel part in a direction parallel to the flange portion of the frame component, the welded portion continuously welded using a one-side welding method to improve stiffness of the automobile frame component, wherein

a radius of curvature of the arc portion is denoted as R mm,

an inter-sheet gap amount between the flange portion and the other frame component or panel part is denoted as a mm,

a distance between the inner end of the flange portion and the welded portion in a direction parallel to a surface of the flange portion is denoted as X mm, and

only those values of R, a, and X that satisfy all of the following formulas are selected:

$X > 1.5 \text{ mm};$

$R \geq 2\text{mm};$

$1 \text{ mm} \geq a > 0 \text{ mm};$

$+\sqrt{(2Ra - a^2)} \text{ mm} > 1.5 \text{ mm};$  and

$+\sqrt{(2Ra - a^2)} \text{ mm} \geq X.$

## REJECTIONS

1. Claims 1 and 2 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

2. Claims 1 and 2 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the best mode requirement.

3. Claims 1 and 2 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

4. Claims 1 and 2 are rejected under 35 U.S.C. § 103 as being unpatentable over AAPA<sup>1</sup>, Musselman (EP 1454702 A1, published Sept. 8, 2004), and Diguet (WO 2010/061138 A1, published June 3, 2010)<sup>2</sup>.

## OPINION

### *Enablement*

The claimed invention must be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). When rejecting a claim for lack of enablement, the Examiner bears the initial burden of setting forth a reasonable explanation as to why the scope of protection provided by the claim is not enabled adequately. *In re Wright*, 999 F.2d 1557, 1561–62 (Fed. Cir. 1993).

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<sup>1</sup> The Examiner references JP 2010-253545 (referred to as “Kobayashi” by Appellants) as part of Applicant’s Admitted Prior Art (“AAPA”), which also includes the discussion from Applicant’s Specification.

<sup>2</sup> The Examiner explains that the Office Action references “US 2012/0048836 which serves as an English translation of the Diguet WO 2010/061138 document.” Final Act. 7. For consistency, we cite to that English language version when citing to Diguet.

The basis for the enablement rejection is that “X>1.5mm is claimed without explanation of how such was attained without creating blowholes.” Final Act. 2. The Examiner explains that “Applicant’s disclosure (p. 4) refers to patent literature JP 2010-253545 and states that the state of the art at the time of invention was such that X was kept below 1.5mm in order to avoid creating blow holes.” *Id.*

Appellants respond that the scope of protection provided by the claim does not preclude blowholes. *See* Appeal Br. 5 (“Appellants have not claimed an automobile frame component that is manufactured ‘without creating blowholes.’ Likewise, the concept of ‘preventing blowholes’ is mentioned nowhere in the [S]pecification except as part of a discussion of a prior art reference.”). We agree.

Moreover, the Examiner does not persuasively explain why it would require undue experimentation for one of ordinary skill in the art to make and/or use the invention. Final Act. 2–3. For example, the Examiner does not address any of the *Wands* factors. *See Wands*, 858 F.2d at 737.

For at least these reasons, the Examiner has failed to establish sufficiently that the arrangement recited in claims 1 and 2 is not enabled.

#### *Best Mode*

“Compliance with best mode is a question of fact composed of two subsidiary factual inquiries. ‘First, the factfinder must determine whether, at the time of filing the application, the inventor possessed a best mode for practicing the invention.’” *Bayer AG v. Schein Pharms., Inc.*, 301 F.3d 1306, 1320 (Fed. Cir. 2002) (internal citations omitted). “Second, if the inventor subjectively considered one mode to be preferred over all others, then ‘[t]he second inquiry is whether the inventor’s disclosure is adequate to

enable one of ordinary skill in the art to practice the best mode of the invention.” *Id.* (internal citations omitted).

The basis for the best mode rejection is, again, that “applicant’s claimed invention recites  $X > 1.5\text{mm}$  without any disclosure of how applicant avoided the blow hole problem prone to values of  $X$  exceeding 1.5mm.” Final Act. 3. The Examiner explains that “[e]vidence of concealment of the best mode is based upon applicant’s disclosure (pp. 2 and 4) wherein applicant states that the prior art must keep  $X < 1.5\text{ mm}$  in order to avoid creating blow holes.” *Id.*

Again, as Appellants explain, neither the claims, nor the Specification requires a component free of blowholes. Appeal Br. 6. Moreover, the Examiner has not established sufficiently that Appellants possessed a best mode for practicing the invention.

For at least these reasons, the Examiner has failed to establish sufficiently that the arrangement recited in claims 1 and 2 fails to comply with the best mode requirement.

#### *Indefiniteness*

The basis for the Examiner’s indefiniteness rejection is that “the claim ranges are not clearly/fully discernable such that one cannot discern exactly what the claims seek to prevent others from making/selling.” Final Act. 4. The Examiner explains that “Applicant’s equations have not taken into account the disclosed plate separation shown in the figures between elements 3a and 5 in the disclosed/claimed equations” and further questions

“whether or not applicant’s claimed invention has blow through holes or not.” *Id.* at 4–5.<sup>3</sup>

Appellants respond that

[c]laim 1 clearly sets out three dimensions, along with a definition for each dimension, and defined bounds for each dimension. Were this not enough, claim 1 expressly states that “only those values of R, a, and X that satisfy all of the following formulas are selected.” From these express recitations in the claim, one of ordinary skill would clearly understand the range of positions in which the welded portion may be located.

Appeal Br. 7.

With respect to “plate separation” issue raised by the Examiner, Appellants explain that “[o]ne of the three dimensions recited in claim 1 is ‘an inter-sheet gap amount between the flange portion and the other frame component or panel part,’ which is denoted as ‘a.’” *Id.* As for the “blow through” issue, Appellants explain, again, that “the present claims do not recite an automobile frame component that is manufactured ‘without creating blowholes,’ nor does the application require that such a feature be part of the claimed invention.” *Id.* at 8.

As seen above in the reproduced version of claim 1, plate separation is defined as “a,” with a range of values of “ $1 \text{ mm} \geq a > 0 \text{ mm}$ .” The relationship between plate separation and the other variables recited in the claim is defined by the subsequent equations in the claim. The Examiner fails to identify anything unclear about the plate separation recited in the claim that would make the claim indefinite.

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<sup>3</sup> The Examiner withdrew the “plate thickness” issue in the Answer. Ans. 24.

As explained by Appellants, the claim does not require that the frame be free of blowholes. The Examiner has failed to establish sufficiently that the failure of the claims to reference blowholes or blow through renders the claims indefinite.

For at least these reasons, the Examiner has failed to establish sufficiently that the claims are indefinite.

*Obviousness*

The Examiner finds that “AAPA . . . discloses the claimed invention . . . except that applicant’s weld location values ‘X’ are chosen to exceed 1.5mm without being so large as to necessitate a welding gap ‘a’ greater than 1mm above which welding failure occurs.” Final Act. 6. The Examiner explains that “this increase of X above 1.5mm without increasing ‘a’ to the point of weld failure (1mm) was known to be desirable/obvious” based on the teachings of Musselman and Diguet. *Id.* at 6–7. The Examiner finds that Musselman “discloses a value of X1 of 1.6mm and 1.7mm . . . and further teaches the importance of not making the weld gap too large so as to avoid weld failure.” *Id.* at 6 (citing Musselman, Table 1, ¶ 22). The Examiner also finds that “Diguet teaches that the weld location ‘X’ should be modified to adapt for different design criteria such as plate thickness, and by way of example expressly discloses a weld location ‘X’ of 1.72mm.” *Id.* at 6–7 (citing Diguet ¶¶ 42–43).

The Examiner determines that “[i]ncreasing the value of X to only those values that do not result in the welding gap ‘a’ being too large to support a good weld simply requires trial and error well within the skill of any competent welder.” Final Act. 7. The Examiner reasons that “it would have been obvious . . . to modify AAPA/JP 2010-253545 to change the weld

location ‘X’ to be greater than 1.5mm but not so large as to result in failed welds for the purpose of adapting to different plate thicknesses (e.g., thicker plates being stronger).” *Id.*

Appellants respond that “the Examiner’s proposed modification of AAPA is improper because Kobayashi expressly teaches away from the exact modification proposed by the Examiner” because “Kobayashi expressly teaches that the position of 1.5 mm and greater results in strength reduction.” Appeal Br. 11 (citing Kobayashi ¶¶ 34–37); *see also* Reply Br. 5. The Examiner does not respond to Appellants’ “teaching away” argument, other than asserting that “the evidence that  $X > 1.5\text{mm}$  on the curved portion is obvious far outweighs the preferences of the base reference AAPA/Kobayashi.” Ans. 25. Appellants have the better position.

A teaching away requires “criticiz[ing], discredit[ing], or otherwise discourag[ing] the solution claimed.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). The Examiner proposes only “to modify AAPA/[Kobayashi] to change the weld location ‘X’ to be greater than 1.5mm but not so large as to result in failed welds for the purpose of adapting to different plate thicknesses (e.g., thicker plates being stronger).” Final Act. 7. There is no dispute that AAPA/Kobayashi discourages values of X that are greater than 1.5 mm in its particular arrangement. That other references (e.g., Musselman and Diguët) may discuss values of “X” greater than 1.5 mm in the specific arrangements discussed in those references does not mean that one skilled in the art would have modified Kobayashi’s teachings to have “X” less than 1.5 mm, particularly when Kobayashi specifically counsels against such a modification.

The Examiner also asserts that “applicant has gone to great pains to argue repeatedly that the claimed invention does not forbid the undesirable burn/blow through/holes implied to exist in  $X > 1$  of AAPA/Kobayashi” and “if this is true then applicant’s invention would be nothing more than a reproduction of AAPA to include the weak failure prone defects implied by AAPA to exist at  $X > 1$ .” Ans. 26. That assertion, by itself, however, does not establish obviousness of the claimed arrangement.

For at least the reasons set forth above, the Examiner has failed to establish that the claim arrangement would have been obvious.

#### DECISION

We REVERSE the Examiner’s decision to reject claims 1 and 2.

REVERSED