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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* JOHN FOULSHAM and JAMIE BELL

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Appeal 2019-005392  
Application 14/436,138  
Technology Center 2800

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Before CATHERINE Q. TIMM, JEFFREY T. SMITH, and  
JEFFREY R. SNAY, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–7, 9–12, and 15–19.<sup>2</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 the real party in interest as Protean Electric Limited. (Appeal Br. 2.)

<sup>2</sup> Pending claims 13 and 14 are objected to as being dependent upon a rejected base claim, but are not rejected. (Non-Final Act. 15.)

## STATEMENT OF THE CASE

Claims 1 and 19 illustrate the subject matter on appeal and are reproduced below:

1. A stator or rotor for an electric motor or generator comprising: a circumferential support having a protrusion; a tooth arranged to receive coil windings, wherein the tooth includes a recess in which is housed the protrusion of the circumferential support, wherein the protrusion and the recess in the tooth are arranged to have a tubular-shaped channel formed between adjacent surfaces of the recess and the protrusion when the protrusion is housed in the recess; and a material is placed within the tubular-shaped channel, wherein the material is arranged to harden after being placed within the tubular-shaped channel to form a retention pin that acts as an interlocking element for retaining the tooth to the support.
  
19. A method of manufacturing a stator or rotor comprising: providing a plurality of teeth, wherein each tooth includes a recess with a channel formed in a surface of the recess, and a circumferential support having a plurality of protrusions circumferentially distributed about the support, wherein the plurality of protrusions each have a channel formed on a surface of the protrusions; placing coil windings around each of the plurality of teeth and mounting the protrusions formed on the circumferential support into a recess of a respective tooth so that the channel formed in the surface of the recess and the channel formed on the surface of the protrusions are on adjacent surfaces combine to form a plurality of tubular-shaped channels between the adjacent channels; and placing material between the within the tubular-shaped channels, wherein the material is arranged to harden after being placed within the tubular-shaped channels, and wherein the hardened material forms retention pins that act as interlocking elements for retaining the plurality of teeth to the support.

Appeal Br. 14 and 17–18, Claims Appendix.

The following rejections are presented for our review<sup>3</sup>:

I. Claim 19 is rejected under 35 U.S.C. § 112, second paragraph as indefinite.

II. Claims 1–7, 9–11, and 16–19 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto et al. (JP 2000-134831, pub. May 12, 2000) in view of Mongeau et al. (US 7,990,015 B2, iss. Aug. 2, 2011), and Hsu (US 7,550,892 B2, iss. June 23, 2009).

III. Claims 12 and 15 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto, Mongeau, Hsu, and Jaganjac (GB 2477520 A, pub. Aug. 10, 2011).

IV. Claims 1, 2, 5–7, 9–11, and 16–19 rejected under 35 U.S.C. § 103 as unpatentable over Yamamoto in view of the Forbes et al. (US 4,712,035, iss. Dec. 8, 1987).

V. Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto, Forbes, and GB 681,578 (pub. Oct. 29, 1952) (“GB ’578”).

VI. Claims 12 and 15 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto, Forbes, and Jaganjac.

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<sup>3</sup> The complete statement of the rejections on appeal appears in the Final Office Action. (Non-Final Act. 2–15.)

OPINION

*Indefiniteness*

The Examiner determines the recitation “placing material between the within the tubular-shaped channels” is unclear and therefore rejects claim 19 as indefinite. (Non-Final Act. 2.) We summarily sustain.

Appellant does not contest this rejection (*see* Briefs generally). 37 C.F.R. § 41.37(c)(1)(iv); *see also* Manual of Patent Examining Procedure (MPEP) § 1205.02 (9th ed. Jan. 2018) (“If a ground of rejection stated by the examiner is not addressed in the appellant’s brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it, unless the examiner subsequently withdrew the rejection in the examiner’s answer.”).

*Prior Art rejections*

*Rejections over Yamamoto, Mongeau, and Hsu*

After review of the respective positions provided by Appellant and the Examiner, we AFFIRM the Examiner’s rejections of claims 1–7, 9–11, and 16–19 under 35 U.S.C. § 103(a) as obvious over Yamamoto, Mongeau, and Hsu as well as the rejection of claims 12 and 15 over those references further in view of Jaganjac.<sup>4</sup>

We consider the record to determine whether Appellant has identified reversible error in the Examiner’s rejections. *See In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an

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<sup>4</sup> The complete statement of the rejections on appeal appears in the Non-Final Office Action. (Non-Final Act. 2–9.)

applicant to identify the alleged error in the examiner's rejections," citing *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential)).

Appellant argues for reversal of all of the rejected claims as an undifferentiated group. *See generally* (Appeal Br. 6–9.) We, therefore, select claim 1 as representative of the claims on appeal. 37 C.F.R. § 41.37(c)(1)(iv) (2018).

Because we discern no reversible error in the Examiner's factual findings, analysis, and conclusion, we adopt them as our own. We add the following for emphasis only.

Appellant argues none of the cited references, Yamamoto, Mongeau, and Hsu, disclose or suggest "the language of independent claims 1, 18, and 19, once the material, which is placed within the tubular-shaped channel formed between the adjacent surfaces of the recess (within the tooth) and protrusion (from the stator or rotor), is hardened, it forms a retention pin for retaining the tooth to the support." (Appeal Br. 7) (emphasis omitted.) Appellant argues that Mongeau does not teach that his resin/deformable compound hardens and at most, the combination of Mongeau and Hsu discloses applying a material between the entirety of the interfacing surfaces between two elements in order to strengthen the assembly as a whole. (Appeal Br. 7.) Appellant further argues it is impossible for the hardening material of Mongeau and Hsu to form a pin, a rod, or some similarly shaped item within a hole or opening. (Appeal Br. 8.)

Appellant's arguments are not persuasive because they are not supported by factual evidence. Appellant has not refuted the Examiner's position that Mongeau teaches the use of either an elongated rod or a resin deformable compound placed within a tubular recess created by combining

the tooth and tip components. (Non-Final Act. 3; Mongeau col. 7, ll. 24–38.) Appellant has not directed us to evidence that established that the resin materials of the claimed invention are distinct from the resins described by Mongeau and Hsu or that the resin cured under conditions that are different from the claimed invention.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 103 rejections of claims 1–7, 9–11, and 16–19 under 35 U.S.C. § 103(a) as obvious over Yamamoto, Mongeau, and Hsu as well as the rejection of claims 12 and 15 over those references further in view of Jaganjac.

*Rejections over Yamamoto and Forbes*

After review of the respective positions Appellant and the Examiner provide, we determine that Appellant has demonstrated reversible error in the Examiner’s rejections under 35 U.S.C. § 103 that rely on Yamamoto and Forbes. We limit our discussion to independent claim 1.

The dispositive issue for this rejection is:

Did the Examiner reversibly err in determining, from the teaching of Yamamoto and Forbes, the that it would have been obvious to replace Yamamoto’s pre-formed pins with a material arranged to harden, after being placed within the tubular recess created by combining the tooth and tip component, to form a retention pin that acts as an interlocking element for retaining the tooth to the support as required by independent claims 1, 18, and 19?

Appellant argues Yamamoto only teaches the use of a preformed pin placed within the opening created from the alignment a tooth and yolk elements. (Appeal Br. 10.) Appellant argues Forbes only teaches applying a

material between two elements to prevent engagement of the elements.

Appellant specifically states:

Forbes teaches applying a material between two elements to prevent engagement of the elements. Particularly, a hardenable adhesive material 83 is applied between the entirety of the interfacing surfaces of a projection row 65r of a salient pole piece 57 and a notch row 45r of a yoke section 35 “to at least assist in insuring or enhancing the aforementioned displacement preventing engagement of the projections and notch rows.” See, e.g., FIG. 9 and col. 8, lines 37-44. In another embodiment, application of the material 83 is extended to being placed between a base section 61 of the salient pole pieces 57 and outer circumferential surface 47 of the yoke section 35 adjacent the notch row 45r. See, e.g., FIG. 9 and col. 8, lines 45-48. Thus, in any given scenario presented in Forbes, it is impossible for the hardened adhesive material to form a pin within a hole or opening.

(Appeal Br. 10, emphasis omitted.)

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“[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.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (quoted with approval in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)).

The Examiner has failed to direct us to evidence that Forbes teaches the resin material is suitable for hardening after being placed within the tubular recess created by combining the tooth and tip component to form a retention pin that acts as an interlocking element for retaining the tooth to the support as required by independent claims. As depicted in Figure 9, Forbes teaches the hardenable adhesive material 83 is applied between the



entirety of the interfacing surfaces of the projection row and the notch row to prevent displacement. (Forbes col. 8, ll. 37–44.) Consequently, the Examiner has failed to properly explain how the combination of Yamamoto and Forbes renders obvious the limitations of independent claims 1, 18, and 19.

Accordingly, we do not sustain the Examiner’s 35 U.S.C. § 103 rejections of all the claims on appeal that rely on the combination of Yamamoto and Forbes alone or with additional references. The additional references fail to cure the deficiency discussed above.

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
19	112, second paragraph	Indefiniteness	19	
1–7, 9–11, 16–19	103(a)	Yamamoto, Mongeau, Hsu	1–7, 9–11, 16–19	
12, 15	103(a)	Yamamoto, Mongeau, Hsu, Jaganjac	12, 15	
1, 2, 5–7, 9–11, 16–19	103(a)	Yamamoto, Forbes		1, 2, 5–7, 9–11, 16–19
3, 4	103(a)	Yamamoto, Forbes, GB ’528		3, 4
12, 15	103(a)	Yamamoto, Forbes, Jaganjac		12, 15
<b>Overall Outcome</b>			1–7, 9–12, 15–19	

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TIME PERIOD FOR RESPONSE

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

AFFIRMED