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K&L Gates LLP-Chicago P.O. Box 1135 CHICAGO, IL 60690			WILKINS III, HARRY D	
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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* LAWRENCE RALPH SWONGER

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Appeal 2018-007834  
Application 14/328,613  
Technology Center 1700

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Before KAREN M. HASTINGS, CHRISTOPHER C. KENNEDY, and  
DEBRA L. DENNETT, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellant<sup>1</sup> requests our review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 14–19, 21, 22, 24–26, 28, and 34–37 under 35 U.S.C. § 103 as unpatentable over at least the combined prior art of Jonghe et al. (US 2005/0100793 A1, published May 12, 2005), and Amendola et al. (US 2012/0006690 A1, published Jan. 12, 2012).<sup>2</sup> An oral

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<sup>1</sup> We use the word “Appellant” to refer to the “[A]pplicant” as defined in 37 C.F.R. § 1.42(a). Appellant is Clean Lithium Corporation, which is also identified as a real party in interest (Appeal Br. 2).

<sup>2</sup> The Examiner applied an additional reference, Kim (Young-Soo Kim et al., *A physical organogel electrolyte: characterized by in situ thermo-irreversible gelation and single-ion-predominant conduction*, Sci. Reports,

hearing was held on November 1, 2019. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM.

#### CLAIMED SUBJECT MATTER

Claim 14 is illustrative of the subject matter on appeal (emphasis added to highlight key disputed limitation):

14. A process for producing lithium comprising:  
providing an electrolytic cell comprising:  
*a solution consisting essentially of a sulfuric acid solvent and a lithium ion source selected from the group consisting of lithium carbonate, lithium chloride, spodumene, and combinations thereof;*  
an anode in contact with the solution;  
a cathode; and  
a composite layer between the cathode and the solution, the composite layer comprising a lithium ion glass ceramic material and a lithium ion conductive barrier film; and  
providing an ionizing electric current to the electrolytic cell to produce lithium metal at the cathode,  
wherein the composite layer isolates the lithium metal produced at the cathode from the solution as the lithium metal is formed.

Appeal Br. (Claims App. 20).

Independent claim 24 is likewise directed to a process for producing lithium.

#### OPINION

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

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1–6 (May 29, 2013)), to dependent claims 18 and 19 (Non-Final Act. 6). A discussion of this reference is not needed for disposition of this appeal.

Examiner's rejections (*e.g., generally* Ans.). *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 for the reasons expressed by the Examiner in the Non-Final Office Action and the Answer.

We add the following primarily for emphasis.

Appellant's arguments in support of patentability as to the appealed claims, including separately rejected dependent claims 18 and 19, are based on limitations found in claim 14.

It has been established that “the [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.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); *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).

Appellant argues that Jonghe teaches away from the claimed invention because it uses an aqueous solvent versus sulfuric acid solvent (Appeal Br. 7) and use of a sulfuric acid solvent would require “significant reengineering” (*id.*); that the use of the membrane in Jonghe is in a battery sandwich structure (Appeal Br. 8); that Jonghe's anode structure teaches away from the claimed composite layer (Appeal Br. 9); and that Jonghe's oxidation process is distinct from the electrochemical process of the claims (Appeal Br. 10). Appellant further argues that the Amendola process is ineffective for producing lithium (Appeal Br. 11) and the Examiner has not

given proper weight to the Swonger Declarations<sup>3</sup> that assert that the process of Amendola does not work (Appeal Br. 11, 12) and also assert that experts stated the claimed invention would not work which is evidence of nonobviousness (Appeal Br. 15). These arguments are reiterated in the Reply Brief.

All of these arguments are unpersuasive of reversible error for reasons given by the Examiner (Ans. 3–8).

The burden of rebutting the presumption of enablement of the cited prior art by a preponderance of the evidence falls on the applicant. *In re Sasse*, 629 F.2d 675, 681 (CCPA 1980); discussed further in *In re Antor Media Corp.*, 689 F.3d 1282, 1288 (Fed. Cir. 2012). Furthermore, if a declaration asserts inoperability in features of the reference which are not relied upon, the reference is still effective as to other features which are operative. *In re Shepherd*, 172 F.2d 560, 564 (CCPA 1949).

Appellant's Specification describes in the Background of the Invention section the Amendola patented system and process that Declarant Swonger<sup>4</sup> now asserts does not work (Spec. ¶ 10). Apparently, Appellant was not aware at the time of filing that the Amendola process did not work. Nonetheless, the Examiner is relying upon Amendola only for the knowledge that a sulfuric acid solution and spodumene (lithium ore) or lithium carbonate react to form a lithium ion containing solution (Non-Final

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<sup>3</sup> Appellant's Briefs refer to *Declaration I* of Swonger filed Aug. 30, 2016 (e.g., Appeal Br. 11) and *Declaration II* of Swonger filed Dec. 13, 2016 (e.g., Appeal Br. 12).

<sup>4</sup> As stated by Appellant, Mr. Swonger is the inventor of the instant application on appeal as well as one of the named inventors of the Amendola patent (e.g., Appeal Br. 12).

Act. 3; Ans. 7; Amendola ¶¶ 18, 32, 33, 53). Appellant has not persuasively shown in the Declarations that this reaction as described in Amendola does not work.

Whether the prior art teaches away from the claimed invention is a question of fact, *In re Harris*, 409 F.3d 1339, 1341 (Fed. Cir. 2005). It is well established that a prior art reference must be considered in its entirety, i.e., as a whole, when determining if it would lead one of ordinary skill in the art away from the claimed invention. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983).<sup>5</sup> One of ordinary skill in the art would have immediately inferred, using no more than ordinary creativity, that the use of the sulfuric acid/lithium ore reaction taught in Amendola would have been an appropriate *alternative* to the LiOH reaction taught in Jonghe (Ans. 3, 4). As pointed out by the Examiner, Jonghe also explicitly describes and permits the use of a sulfuric acid reactant (Ans. 6; Jonghe ¶ 40).

Many of Appellant's arguments also fail at the outset as they rely on limitations not present in the claims (e.g., Ans. 5 (wherein the Examiner discusses that the claims do not require electrical isolation of the cathode as argued by Appellant)). *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982). The claims are not limited to a continuous process (e.g., Appeal Br. 8 (Appellant argues that Jonghe does not continuously produce lithium)). Furthermore,

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<sup>5</sup> See also, *Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005) (Even “[a] statement that a particular combination is not a preferred embodiment does not teach away absent clear discouragement of that combination.”). Cf. *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1332 (Fed. Cir. 2008) (a reference can distinguish prior art in order to show the novelty of an invention without teaching away from combining the prior art with the invention disclosed in the reference.).

Amendola explicitly teaches its reaction may be used in a continuous or batch process to produce lithium (Amendola ¶ 53). Appellant's arguments are also based in part on a faulty presumption that sulfuric acid would have been added to the LiOH solution of Jonghe, or that bodily incorporation of all aspects of Amendola would be needed (e.g., Appeal Br. 11; Reply Br. 5). Notably, as previously discussed, the Examiner's position does not rely upon combining the sulfuric acid solvent and spodumene reactants of Amendola with the LiOH solution of Jonghe (e.g., Ans. 3, 4, 7). *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art"). Appellant, at most, has provided mere attorney arguments about the alleged necessary substantial reengineering of Jonghe. Further, such arguments in a brief cannot take the place of evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Appellant's allegations regarding the skepticism of experts also falls short of establishing nonobviousness (Appeal Br. 15; Ans. 7). A mere assertion by an interested party, such as the inventor here, that others expressed skepticism of the claimed invention (Appeal Br. 15), and knew about the applied prior art (Reply Br. 6) is not persuasive evidence. *Cf. In re Bulina*, 362 F.2d 555, 559 (CCPA 1966) ("[A]n affidavit by an applicant or co-applicant as to the advantages of his invention is less persuasive than one made by a disinterested person."); *see also Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (factfinder has discretion to give more weight to one item of evidence over another unless no reasonable trier of fact could have

done so). At a minimum, the qualifications of such experts would need to be identified and the alleged experts should provide their own testimony/declaration evidence, including an explanation of the basis for their skepticism.

In summary, Appellant has not directed our attention to any persuasive reasoning or credible evidence to establish that there is reversible error in the Examiner's obviousness determination of claim 14 (as well as independent claim 24 which relies on these same arguments) and all the other claims not separately argued, inclusive of separately rejected claims 18 and 19 (Ans. *generally*; Appeal Br. 16–19). *See KSR*, 550 U.S. at 417 (the predictable use of known prior art elements or steps performing the same functions they have been known to perform is normally obvious; the combination of familiar elements/steps is likely to be obvious when it does no more than yield predictable results); *Ball Aerosol and Specialty Container, Inc. v. Limited Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009) (under the flexible inquiry set forth by the Supreme Court, the PTO must take account of the “inferences and creative steps,” as well as routine steps, that an ordinary artisan would employ).

Accordingly, we sustain the Examiner's prior art rejections under 35 U.S.C. § 103 of all the claims on appeal for the reasons given above and presented by the Examiner.

CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
14–17, 21, 22, 24–26, 28, 34–37	103	Jonghe, Amendola	14–17, 21, 22, 24–26, 28, 34–37	
18, 19	103	Jonghe, Amendola, Kim	18, 19	
<b>Overall Outcome</b>			14–19, 21, 22, 24–26, 28, 34–37	

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)(1) (2017).

AFFIRMED