

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner,

v.

WIPQTUS, INC.
Patent Owner.

Case IPR2024-00023
Patent No. 10,038,339

**PETITIONER'S SUR-REPLY IN SUPPORT OF ITS OPPOSITION TO
PATENT OWNER'S REVISED MOTION TO AMEND**

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In the Preliminary Guidance, the Board determined that Patent Owner's original proposed substitute claims failed for multiple reasons, including lack of written-description support and obviousness over the grounds proposed by Petitioner. *See* Preliminary Guidance, Patent Owner's Motion to Amend, Paper 15 ("Preliminary Guidance"), 13, 22, and 27. The revised proposed substitute claims are very similar to the original proposed substitute claims, yet Patent Owner fails to identify any additional written description support from the earliest application but maintains its position that the amended claims are supported by the earliest application. Furthermore, as to obviousness, Patent Owner does not even address Petitioner's first ground of obviousness and, as to the second ground, Patent Owner improperly cites its expert declarations without presenting its arguments in the brief. Patent Owner's Revised Motion to Amend should be denied because the proposed claims are indefinite and lack enablement, as Patent Owner construes them, and are invalid for obviousness.

I. BURDEN OF PROOF

Rule 121 provides that "patent owner bears the burden of persuasion to show, by a preponderance of the evidence, that the motion to amend complies with the requirements of paragraphs (1) and (3) of 35 U.S.C. 316(d), as well as paragraphs (a)(2) and (3) and (b)(1) and (2) of this section." 37 C.F.R. § 42.121(d). Thus, among other things, Patent Owner has the burden of proving "support in the original

disclosure of the patent for each proposed substitute claim” and “support in an earlier-filed disclosure for each claim for which the benefit of the filing date of the earlier-filed disclosure is sought.” 37 C.F.R. § 42.121(b). As explained below, Patent Owner has failed to identify (1) disclosure in the priority document, the ’312 Provisional, that sufficiently supports its proposed claim constructions (*infra* §II); and (2) disclosures of “control logic to monitor the power delivered to the battery” which it argues is required by the amended claim. (*Infra* §III.)

Petitioner bears the burden to show that claims are unpatentable, 37 C.F.R. § 42.121(d), which is met as explained below.

II. CLAIM CONSTRUCTION AND INDEFINITENESS

The Board has correctly found in its Preliminary Guidance that “*change ... topology of said switch network*” covers “changing the connected and disconnected states” of the switches, as is consistent with the plain and ordinary meaning of the term “topology.” Paper 20, Petitioner Opposition to Patent Owner’s Revised Motion to Amend (“Second Opposition”), 3 (citing Preliminary Guidance, 17). Patent Owner’s narrowing construction should be rejected because it not only deviates from the plain and ordinary meaning of the term “topology,” but also is indefinite and is unsupported by the specification.

First, the Reply Brief confirms that Patent Owner’s proposed constructions — “*topology*” as “a group of circuit components that perform a *type* of rectification of

a *type* of power inversion”; and “*change ... topology of said switch network*” as “configured to change topology in a way that changes the *type* of rectifier or the *type* of inverter or a rectifier to an inverter or an inverter to a rectifier of the switch network circuit” — is indefinite because it is unclear to a POSA what constitutes a “type” of a rectifier or inverter. Second Opposition, 6-7; *see* Reply, 10-11. The term “type” is not used in the specification to describe inverter or rectifier category; instead, the specification refers to “classes” of inverter or rectifiers. EX1001, 4:20-21. When asked whether the classes of inverters meet the proposed construction of a “type of inverter,” Patent Owner’s expert Dr. Direen testified that he does not know. Direen-Depo-2(EX1020), p. 79.

The only explanation that Patent Owner provides about what “type” means is by distinguishing the switches being “fixed, that is open or closed” or “cycling.” Reply, 9. Patent Owner thus appears to acknowledge that the switches of the switch network can be “open” (i.e. in a disconnected state) or “closed” (i.e. in a connected state) so as to change the “topology” of the switch network— as is consistent with the plain and ordinary meaning of the term. But Patent Owner has provided no persuasive rationale for its position that changing the connected/disconnected state of the switches at a high frequency while “cycling” would not change topology. *See* Prelim. Guidance, 17 (“‘change . . . topology of said switch network’ appears to encompass changing the connected/disconnected states of the switches.”).

Lastly, Patent Owner argues that the '312 Provisional **“does support”** its proposed construction and “merely lacks [an] example.” Reply, 6-7. It does not. Not only is the sole example Patent Owner cites to support its construction absent in the '312 Provisional, Patent Owner also does not cite any disclosure from the '312 Provisional that was not already considered by the Board when issuing its Preliminary Guidance. *Compare* Revised Motion, 14-16 (citing '312 Provisional, [0004], [0017], [0032]) *and* Motion, 6 (same). In the Preliminary Guidance, the Board determined with respect to the “*while configured to receive power*” claim amendment, that “the limitation containing that language lacks written-description support in the portions of the '312 provisional . . . cited by Patent Owner because **those portions do not appear to disclose changing the impedance of the impedance network and the topology of the switch network during the power-receive mode**, i.e., while the apparatus remains in that mode.” Preliminary Guidance, 8. Below is a comparison of the citations regarding the '312 Provisional provided by Patent Owner to support the amendment to substitute claim 21 in the original Motion to Amend, the Revised Motion to Amend, and Reply Brief.

Original Motion to Amend Cited Support	Revised Motion to Amend Cited Support	Reply Brief Cited Support
'312 Provisional, [0004], [0007], [0032];	'312 Provisional, [0004], [0007], [0032];	Deposition Transcript of Dr. Randell Direen of Nov. 14, 2024 (EX1020, “Direen-Depo-2”), 53:6-56:19

Original Motion, 6	Revised Motion, 14-16	Reply, 6-7
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As illustrated in the table above, Patent Owner failed to provide any new citations to the '312 Provisional in the Revised Motion to Amend or Reply Brief. The only additional citations provided are to the deposition testimony of Dr. Direen. But that testimony does not show support in the '312 Provisional. Reply, 6-7 (citing EX1020, 53:6-56:19). In the cited testimony, Dr. Direen first admits that although the '312 Provisional discloses a “full synchronous full wave rectification mode” and a “half synchronous full wave mode,” the example that describes switching from one mode to another is missing in the '312 Provisional. Direen-Depo-2(EX1020), 53:6-54:16. Dr. Direen identified the following disclosure in paragraph 4 of the '312 Provisional: “the first circuit, based on input from the control logic circuit, is configured to change the impedance – the impedance network and topology of the switch network...” Direen-Depo-2(EX1020), 54:22-55:13. However, Dr. Direen fails to explain how this disclosure teaches changes switching between two different types of rectifiers, and he fails to identify any disclosure in the '312 Provisional that does provide such a teaching. Accordingly, Patent Owner provides no additional disclosure from the '312 Provisional to require a change from the Board's determination in the Prelim. Guidance that the “*while configured to receive power*” amendment, as construed by Patent Owner, lacks written description support.

The Board should reject Patent Owner's proposed constructions which are

indefinite, unsupported by the intrinsic record, and run contrary to its argument in the related litigation and the Board’s Preliminary Guidance. *See* Second Opposition, 3 (citing EX1016, 34-35, 37 and Preliminary Guidance, 17).

III. LACK OF ENABLEMENT

Patent Owner appears to stand by its contrived position that on the one hand, the amended claim [21.e] requires “control logic to monitor the power delivered to the battery” when evaluating the asserted prior art, (Reply, 1 (citing EX2008, ¶¶73, 75)), but on the other hand, claim [21.e] does **not** require “control logic to monitor the power delivered to the battery” when evaluating enablement by the specification. Reply, 3-4. A patent claim must be construed the same way for all inquiries. Patent Owner’s accusation of Petitioner “confus[ing] claim construction and enablement” is misguided because the claim as properly construed must be sufficiently enabled by the specification. *N. Am. Vaccine, Inc. v. Am. Cyanamid Co.*, 7 F.3d 1571, 1577 (Fed. Cir. 1993) (claims should not be construed “to cover that which is neither described nor enabled in the patent”).

Patent Owner’s Reply brief confirms that the claimed “control logic” is not taught or enabled by the disclosures of the ’339 patent. *See* Reply, 3-4. Patent Owner does not dispute its own expert’s testimony that “control logic” is not something within the knowledge of a POSA. Second Opposition, 6 (citing EX2008, ¶72). Patent Owner also fails to identify any specific disclosure in the ’339 patent of such “control

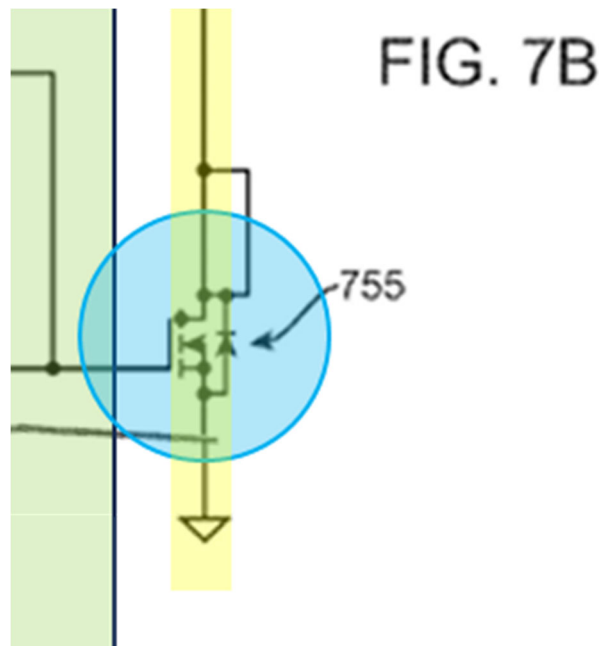
logic” other than general descriptions of “a state machine, a microcontroller” (Reply, 3), which, as explained in the Second Opposition, does not support how or why the control logic would “monitor the power delivered to the battery,” as opposed to other solutions such as monitoring local circuit conduction such as diode conduction. Second Opposition, 5-6 (citing Second Supplemental Declaration of Dr. Joshua Phinney (EX1021, “Phinney-Supp-2”), ¶20; EX1020, 97:10-20).

IV. INVALIDITY UNDER 35 U.S.C. §103

Patent Owner fails to properly oppose Petitioner’s two grounds of invalidity under 35 U.S.C. §103. Patent Owner does not offer any arguments against the first ground. *See* Reply, 11. As to the second ground, Patent Owner improperly block-cites Dr. Direen’s declarations without presenting its arguments in its Reply brief. Reply, 12 (citing EX2008, ¶¶72-79 and EX2011, ¶¶18-29). Such block citation should be disregarded as it violates 37 C.F.R. § 42.6(a)(3). *See Phishme, Inc., Petitioner, v. Phishline, LLC, Pat. Owner.*, No. IPR2015-01356, 2015 WL 9599235, at *16 (P.T.A.B. Nov. 19, 2015) (37 C.F.R. § 42.6(a)(3) prevents citation to paragraphs of expert declaration without argument or discussion).

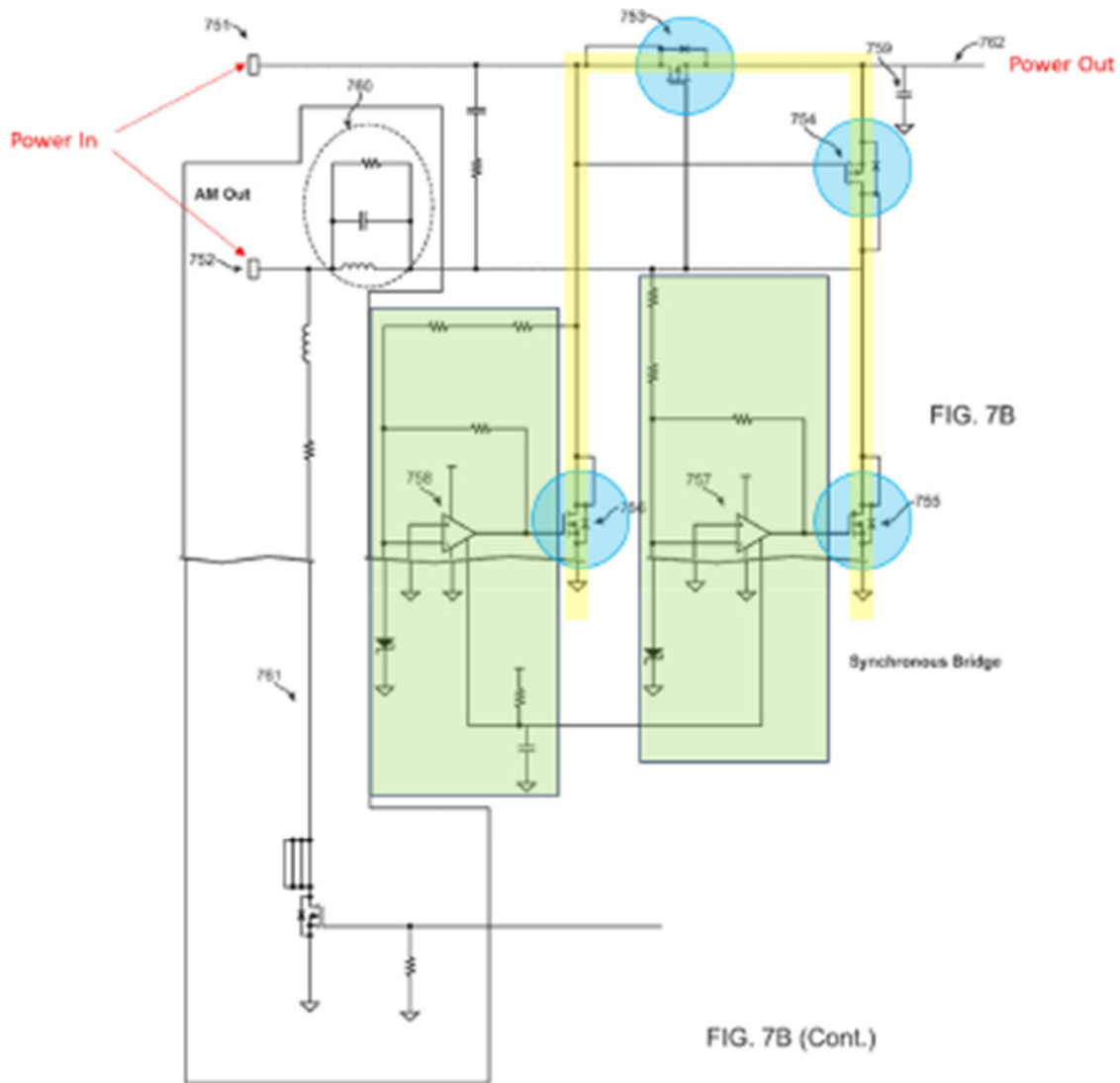
The only substantive argument against Ground 2 raised in Patent Owner’s Reply brief is that Corbridge merely provides alternative configurations of a non-synchronous rectifier and a synchronous rectifier but does not discuss changing between the two. Reply, 12. This argument is directly contrary to the express

teachings of Corbridge. As established by Petitioner, Corbridge does disclose changing between non-synchronous rectifiers and synchronous rectifiers. Second Opposition, 21-24. Corbridge first teaches that four switches 753, 754, 755, 756 comprising transistor diode pairs can selectively operate as “a rectifier formed by diodes” (i.e. nonsynchronous), “a synchronous bridge” (i.e. full synchronous), or a “half synchronous bridge.” Corbridge(EX1004), ¶¶85, 80; Phinney-Supp-2(EX1021), ¶84. More specifically, as shown in the enlarged excerpt of Fig. 7B below, Corbridge discloses “**transistor diode pairs,**” such as “transistor diode pair 755.” Corbridge(EX1004), ¶86.



Corbridge discloses that “transistor diode pair 755” first functions as a “diode” and then functions as a transistor when voltage is sufficient to drive the transistor. Corbridge(EX1004), ¶86 (“Op Amp 757 is configured and coupled to output a

voltage level to turn on the transistor of transistor diode pair 755 when the diode of transistor diode pair 755 becomes forward-biased.”). Thus, Corbridge specifically teaches that the Op Amps 757/758 “turn on the transistor of the transistor diode pair [755/756] when the diode of transistor diode pair [] becomes forward-biased.” Corbridge, ¶86. This is illustrated in Fig. 7B of Corbridge reproduced below:



Dr. Phinney explains that this means the “transistor diode pair” 755/756 first

operates as a diode, and when the diode becomes forward-biased to conduct electricity, the input electricity drives the Op Amp 757/758 to output a voltage to “turn on” the transistor. Phinney-Supp-2(EX1021), ¶85; Corbridge(EX1004), ¶86. The transistor requires a certain amount of voltage to drive it on and off. Phinney-Supp-2(EX1021), ¶85; Corbridge(EX1004), ¶86. This way, the Op Amp functions to drive the transistor when the incoming voltage is above a threshold, thus transitioning from non-synchronous rectification using the diode of the transistor diode pair to synchronous rectification using the transistor of the transistor diode pair. The Op Amps would be superfluous if the circuitry was unable to change between the non-synchronous rectifier and synchronous rectifier. Thus, even if the Board chooses to adopt the Patent Owner’s proposed construction of “*change ... topology of said switch network,*” the amended claims are obvious over Chatterjee in view of Corbridge, Cook, and the knowledge of a POSA because Corbridge teaches the aspect of changing rectification type while receiving power, and, it would have been obvious to modify Chatterjee’s switches in view of Corbridge to change rectification type while receiving power. Second Opposition, 17-18.

V. CONCLUSION

For reasons stated above and in the Second Opposition to Petitioner’s Revised Motion to Amend Claims, the Board should deny the Revised Motion to Amend.

Date: January 3, 2025

Respectfully Submitted,

/s/ Trenton Ward

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Lead Counsel

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing **Petitioner's Sur-Reply In Support of Its Opposition to Patent Owner's Revised Motion to Amend** was served electronically on January 3, 2025, on counsel of record for the Patent Owner as follows:

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Date: January 3, 2025

/s/ Trenton Ward