

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZHUHAI COSMX BATTERY CO., LTD.,
Petitioner

v.

NINGDE AMPEREX TECHNOLOGY LTD.,
Patent Owner

IPR2023-00585
Patent 11,329,352

**PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE**

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Cases	Page(s)
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Petitioner's Reply confirms that its Petition fails to make a *prima facie* case for unpatentability and should be denied, and that the *Fintiv* factors also favor denial.

Factor 3 weighs against institution in view of the significant expenditure of resources in the litigation. Petitioner does not dispute that claim construction and discovery, including expert discovery, will be **complete** by the anticipated institution date and that dispositive motions will be filed by October 30. Ex. 1015 at 3. Instead, Petitioner tries to create a controversy by arguing that Patent Owner has taken conflicting positions between Patent Owner's Preliminary Response (Paper 9 ("POPR")) and in the district court regarding the stage of the litigation. Reply at 1. Petitioner mischaracterizes Patent Owner's statements. Any statements in the district court explain that Petitioner would suffer minimal prejudice if the court granted its motion to amend contentions because claim construction and discovery had not been completed *at the time the motion was filed* in June 2023. Ex. 1018 at 5, 14-15. In contrast, the statements in the POPR relate to the substantial work and time that will be invested *by the anticipated institution date*, per *Fintiv* factor 3. POPR at 67-68; *Apple v. Fintiv, Inc.*, IPR2020-0019, Paper 11 at 9-12 (P.T.A.B. Mar. 20, 2020). As explained in the POPR and as is clear in the scheduling order, substantial investment will be made by October 28, 2023. POPR at 67-68; Ex. 1015 at 3-5.

Petitioner's arguments of diligence should be met with skepticism. Petitioner was served on June 24, 2022. *See* Ex. 1014 at 17. Petitioner waited nine months to

file its petition, choosing not to file a post-grant review, and then waiting nearly two months *after* the '352 Patent became IPR eligible to file its petition.

Factor 4 barely favors institution. The narrowness of the late stipulation (which would take effect *after* expert discovery closed) significantly diminishes its weight. *Compare* Reply at 1-2 to *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18-19 (P.T.A.B. Dec. 1, 2020) (precedential). A *Sand Revolution*-style stipulation cannot overcome the gaps between the trial date and the final written decision to warrant institution. *LG Elecs., Inc. v. Ancora Techs., Inc.*, IPR2021-00581, Paper 16 (P.T.A.B. June 10, 2021); *see also Qualcomm Inc. v. UNM Rainforest Innovations*, IPR2021-00377, Paper 13 at 10-12 (P.T.A.B. July 19, 2021).

Factor 6 weighs strongly against institution. The combination of Wang and Deng fails at least because Deng is directed to a flat metal plate type battery that relies on internal resistance welds. POPR at 15-35. The POPR made clear that Deng is both not analogous art and that the POSITA would not have combined Deng's teachings with those in Wang because Deng's teachings were inapplicable to Wang's lithium-ion battery. *Id.* at 20-30. Petitioner's arguments fail.

The Petition never addresses the type of battery or weld disclosed by Deng. *See e.g., id.* at 16-30. In its Reply, Petitioner newly argues that Deng allegedly discloses a method for connecting an electrode and a tab of "a battery" ***generally*** and that Deng is allegedly not limited to resistance welding. Reply at 2-3.

The plain language of Deng undercuts Petitioner's new theory. As explained by Dr. Kaschmitter, lithium-ion batteries and flat metal type batteries such as nickel metal hydride batteries have notable differences in structure and thickness of the electrode and current collector (Ex. 2001, ¶¶ 38-42), and a POSITA reading Deng would understand, based on the relative sizes and dimensions of Deng's electrode and electrode tab, Deng's manner of welding a large electrode tab in a direction perpendicular to the welding direction, and Deng's disclosure of "resistance welding," that Deng's battery is a flat metal plate type battery and not a lithium-ion battery (Ex. 2001, ¶¶ 76-79). Public information about Deng's assignee confirms that Deng is limited to a flat metal plate type battery. *See* Ex. 2009; Ex. 2001 ¶ 80.

Deng's disclosure of resistance welding solidifies a POSITA's understanding that Deng is directed to a flat metal plate type battery. Petitioner's *sole* rebuttal is that resistance welding is mentioned "only once in its background section." Reply at 3. Petitioner never address the fact that Deng discloses mitigating heat accumulation and warping in a welding area when welding a thick, plate-like electrode plate to a thick electrode tab (Ex. 1005, [0002], [0007], Figs. 1a-1b; Ex. 2001, ¶¶ 82-83), which Dr. Kaschmitter confirms is a characteristic of the high current and high temperature used in resistance welding. Ex. 2001, ¶ 84. The evidence demonstrates that Deng's method is not directed to a lithium-ion battery and cannot be combined with one.

Petitioner also cherry picks references to "a secondary battery" (Reply at 3-4)

but in doing so ignores its own expert's interpretation of the '352 Patent. Dr. von Sacken requires the POSITA to have a bachelor's degree "in a discipline relating to *lithium-ion* secondary batteries." Ex. 1002, ¶ 40. Moreover, Petitioner ignores that claim 1 recites "wherein the secondary battery is a wound-type secondary battery," which a POSITA would understand, in the context of the '352 Patent's repeated reference to lithium-ion batteries (Ex. 1001, 1:11, 1:18, 1:26, 14:25, 14:29; *see also* Ex. 1003 at 341) refers to a wound-type lithium-ion battery. Ex. 2001, ¶ 50.

Petitioner also argues that "ATL's assertion that Deng's notch is not 'disposed on a side edge' of the tab receiving groove is irrelevant." Reply at 4. But Petitioner's argument ignores claim language requiring that the claimed first notch be "disposed on a side edge of the first electrode tab receiving groove" that "receiv[es] the first electrode tab." Ex. 1001, Claim 1. The Petition merely asserts that the "modified Wang anode would be disposed on a 'side edge' of the first electrode tab receiving groove" because *that is how it was done in the '352 Patent*—clear hindsight bias. *See* Pet. at 32. Finally, Petitioner simply ignores that Deng does not teach a notch because the alleged Deng notch does not actually receive a tab. POPR at 16-20.

Petitioner's remaining arguments fail. Petitioner attempts to shift the burden, arguing that Patent Owner cannot assert that ultrasonic welding "would not result in any deformation . . ." Reply at 4. Regardless, Patent Owner shows, with evidence, that ultrasonic welding is chosen for its low operating temperature so as to not

damage or deform thin copper and aluminum current collectors. Ex. 2001, ¶ 47.

Petitioner's arguments that claim 4 contradicts Patent Owner's arguments are wrong. Claim 4 simply recites dimensions of the notch *relative to the electrode tab receiving groove* and does not impact Patent Owner's arguments. Ex. 1001, Claim 4; POPR at 30-32. Petitioner's arguments regarding patch coating (Reply at 5) are also misguided as they focus on the structure of the claimed groove, rather on the lack of motivation to remove burrs. POPR at 2, 10-11, 32-33, 35-43.

Petitioner fails to address Zhou's many shortcomings. *See e.g.*, POPR at 44-45 (addressing fictional groove); 57-59 (asserting that a POSITA would not etch a select area of Wang's current collector using Zhou's gas plasma etching). In rebuttal, Petitioner inaccurately asserts that Zhou's etching "solves the same 'burr' problem as the '352 patent." Reply, 5. The Zhou burrs are created by slitting rather than laser ablation and are not in a groove created by patch coating. POPR at 54-57. Indeed, patch coating to create grooves prevents burrs altogether. *Id.* Petitioner's argument that the claimed notch "is in the *electrode plate*, which includes both the active substance layers *and* the current collector" is non-sensical. Petitioner fails to demonstrate a notch in the current collector alone and, thus, likewise fails to demonstrate a notch in a current collector as part of the electrode plate.

In conclusion, four *Fintiv* factors weigh against institution, one is neutral, and one weighs only marginally for institution, which cannot outweigh the other factors.

Dated: August 21, 2023

Respectfully submitted,
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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY TO PATENT OWNER'S PRELIMINARY RESPONSE** was served by filing this document through the P-TACTS system as well as delivering a true and correct copy by electronic mail on Petitioner's lead and backup counsel at the following email addresses:

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