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Paper 21
Date: May 12, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FANTASIA TRADING LLC D/B/A ANKERDIRECT,
Petitioner,

v.

COGNIPOWER, LLC,
Patent Owner.

IPR2021-00073
Patent RE47,713 E

Before KEVIN F. TURNER, JEFFREY S. SMITH, and JOHN R. KENNY, *Administrative Patent Judges*.

KENNY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Fantasia Trading LLC D/B/A AnkerDirect ("Petitioner") filed a Petition to institute an *inter partes* review of claims 52–61 (the "challenged claims") of U.S. Patent No. RE47,713 E (Ex. 1001, the "'713 patent," "challenged patent") pursuant to 35 U.S.C. § 311 *et seq*. Paper 3 ("Pet."). CogniPower LLC ("Patent Owner") filed a Preliminary Response. Paper 12 ("Prelim. Resp."). With our authorization (Paper 14), Petitioner filed a Reply to the Preliminary Response (Paper 15), and Patent Owner filed a Preliminary Sur-reply to Patent Owner's Preliminary Response (Paper 18).

In addition, Petitioner filed a Notice Ranking and Explaining Differences Between Petitions for *Inter Partes* Review of U.S. Patent No. RE47,713. Paper 1 ("Ranking Notice"). This Notice addressed three concurrently filed petitions (IPR2021-00071 through IPR2021-00073). Patent Owner filed a response to this Notice. Paper 11.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2020). As part of our analysis, we may consider whether Petitioner has filed more than one petition directed to the challenged patent. For the reasons discussed below, we determine that Petitioner has not justified more than one petition directed to the '713 patent. Accordingly, we do not institute an *inter partes* review in this proceeding.

A. Related Matters

The parties identify the following related district court litigation: *CogniPower LLC v. Fantasia Trading, LLC D/B/A AnkerDirect*, C.A. No. 1:19-cv-02293 (D. Del.) ("Co-pending Litigation"). Pet. 44; Paper 5, 2.

Patent Owner identifies the following related IPRs: IPR2021-00071 and IPR2021-00072, which both challenge the '713 patent, and IPR2021-00067, IPR2021-00068, IPR2021-00069, and IPR2021-00070, which all challenge U.S. Patent No. RE47,031 E, of which the '713 patent is a continuation. Paper 5, 2–4; Ex. 1001, code (63).

B. Challenged Patent

The '713 patent relates to "switched-mode power converters" and discloses "a switched-mode power converter with regulation demand pulses sent across a galvanic isolation barrier." Ex. 1001, code (57), 1:33–35.

Figure 1 of the '713 patent is shown below:

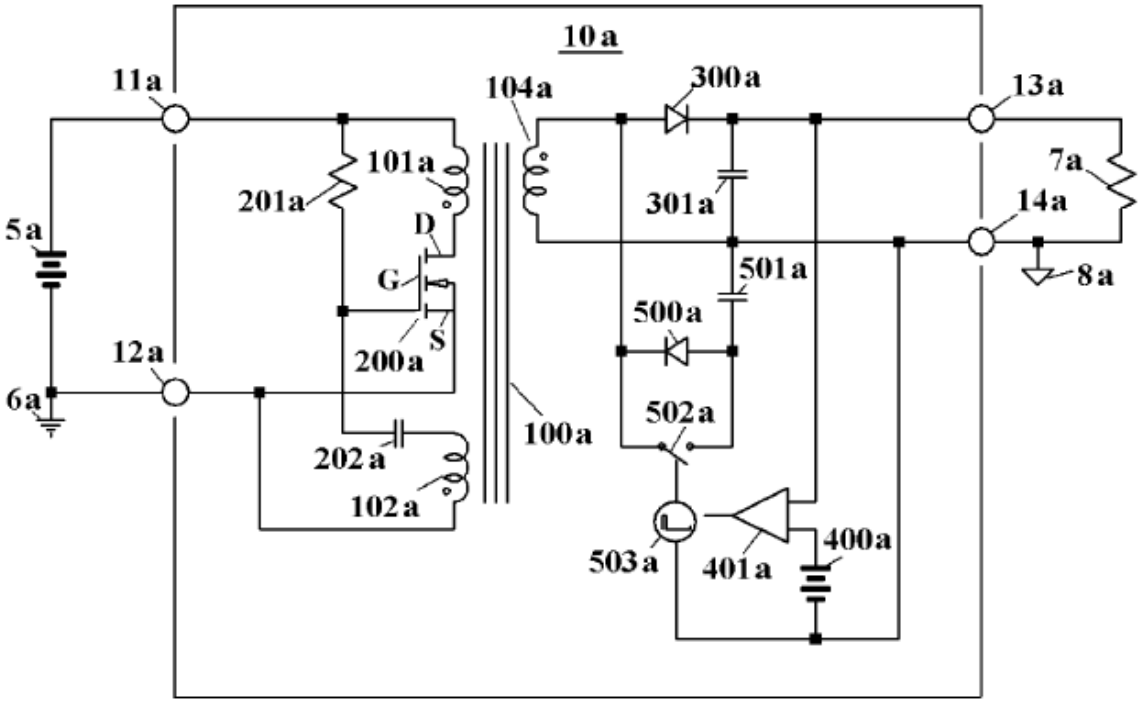

Fig. 1

Figure 1 is a schematic diagram of a power converter (10a). Ex. 1001, 2:34–35. "Terminals 11a and 12a constitute a power input port that places source 5a in circuit with primary winding 101a of transformer 100a and with

communicating switch 200a." *Id.* at 2:37–41. "[S]witch 200a is a MOSFET having a source S, a gate G, and a drain D." *Id.* at 2:41–43. "Transformer 100a also comprises a regeneration winding 102a which is referenced to source S of MOSFET 200a, is connected through a capacitor 202a to gate G of MOSFET 200a, and is poled to provide regenerative feedback to gate G of MOSFET 200a." *Id.* at 2:43–47. "MOSFET 200a, transformer 100a, capacitor 202a, and resistor 201a form an input-side blocking oscillator which acts as a driver circuit toggling ON and OFF MOSFET 200a." *Id.* at 2:50–53. "Transformer 100a also comprises a secondary winding 104a which may be connected to a floating common terminal 14a." *Id.* at 2:54–56. "[D]iode 300a and a capacitor 301a form a rectifier circuit to rectify and filter voltage pulses from winding 104a to supply power through a power output port comprising terminals 13a and 14a to an external load represented by resistor 7a connected in circuit therewith, one end of which may be referred to a floating common 8a." *Id.* at 2:56–61. "The power input port 11a/12a and the power output port 13a/14a may be galvanically isolated from each other." *Id.* at 2:61–63.

"Flyback pulses of transformer 100a occur when MOSFET 200a ceases conduction, i.e., turns OFF." Ex. 1001, 2:64–65. "Winding 104a is poled to cause diode 300a to rectify only these flyback pulses." *Id.* at 2:65–67. "Forward pulses, of opposite polarity to the flyback pulses, occur while MOSFET 200a is ON." *Id.* at 3:1–2. "Another diode 500a, poled to rectify forward pulses, and another capacitor 501a form an auxiliary rectifier circuit to rectify and filter forward pulses from winding 104a, and to store energy for triggering the input-side blocking oscillator formed by MOSFET 200a." *Id.* at 3:2–6.

"This magnetically-coupled blocking oscillator may be triggered through any transformer winding magnetically coupled thereto." Ex. 1001, 3:15–17. "Therefore, just as MOSFET 200a may be turned ON through winding 102a, it may as easily be triggered through winding 104a." *Id.* at 3:17–19. "To trigger thusly, diode 500a is briefly short-circuited by a switch 502a which is driven by a demand pulse generator 503a to source a pulse of energy from capacitor 501a into transformer 100a." *Id.* at 3:19–22.

"[T]ransformer 100a is used during the conduction of MOSFET 200a as a forward converter supplying the auxiliary rectifier circuit, and during the flyback of transformer 100a as a flyback converter supplying power to the power output port." Ex. 1001, 3:54–58. "Once the flyback pulse has reset the inductance of transformer 100a, i.e., has depleted energy from its magnetic field, transformer 100a is free, until the next ON time of MOSFET 200a, to be used as a magnetically coupled isolator to convey trigger information between its windings." *Id.* at 3:61–66. "[T]he information thus conveyed is a pulse from pulse generator 503a which, responsive to the output of comparator 401a, indicates the need for another energy-bearing cycle, and moreover retriggers the blocking oscillator to provide that energy-bearing cycle." *Id.* at 3:66–4:4.

"This converter may be fitted with a reference voltage 400a and a comparison circuit 401a." Ex. 1001, 4:8–9. "When the voltage at terminal 13a falls below the comparison voltage, comparison circuit 401a causes pulse generator circuit 503a to pulse, turning ON switch 502a, triggering an energy-bearing ON cycle of the blocking oscillator, and charging capacitor 301a." *Id.* at 4:9–13. "As load 7a drains capacitor 301a, terminal 13a

voltage repeatedly falls to the voltage of reference 400a, causing comparison circuit 401a to initiate energy-bearing ON cycles." *Id.* at 4:13–16.

C. Challenged Claims

Petitioner challenges claims 52–61, all of which depend directly or indirectly from claim 18, which reads:

> 18. An article of manufacture comprising a fly back converter, the flyback converter comprising:
>
> a primary side comprising an input port;
>
> a secondary side comprising an output port, wherein the secondary side is galvanically isolated from the primary side; and
>
> a power transformer configured to transfer input power received at the input port to provide output power at the output port, wherein:
>
> the primary side further comprises a primary-side switch configured to selectively enable the input power at the input port to be transferred via the power transformer to the output power at the output port;
>
> the secondary side further comprises a demand pulse generator that (i) determines when to turn on the primary-side switch based on output voltage or output current at the output port and (ii) generates corresponding demand pulses;
>
> the primary side comprises a primary-side magnetically coupled conductor;
>
> the secondary side comprises a secondary-side magnetically coupled conductor configured to be magnetically coupled to the primary-side magnetically coupled conductor to convey the demand pulses from the secondary side to the primary side;
>
> the primary-side switch is turned on in response to the demand pulses conveyed from the secondary side to the primary side, wherein the determination of when to turn

off the primary-side switch is originated on the primary side and not on the secondary side;

frequency with which the primary-side switch is turned on is adjusted by the demand pulses conveyed from the secondary side to the primary side to regulate the output voltage or the output current at the output port; and

the secondary side further comprises:

a first capacitor; and

a first rectifier poled to charge the first capacitor during forward power converter pulses of the flyback converter, wherein the demand pulses are generated using energy stored in the first capacitor.

Ex. 1001, 14:1–43.

D. Asserted Challenges to Patentability and Prior Art

Petitioner challenges the following claims based on the grounds in the table below.

Ground	Claims Challenged	35 U.S.C. §	References
1	52	103	Matsumoto[1] and Mao[2]
2	53–56, 58, 60, 61	103	Matsumoto, Mao, and Krupka[3]
3	57	103	Matsumoto, Mao, Krupka, and Tisinger[4]
4	59	103	Matsumoto, Mao, Krupka, and Szepesi[5]

Pet. 1–2.

[1] US 7,773,392 B2, issued Aug. 10, 2010 (Ex. 1010).
[2] US 6,466,461 B2, issued Oct. 15, 2002 (Ex. 1006)
[3] US 4,413,224, issued Nov. 1, 1983 (IPR2021-00073, Ex. 1019).
[4] US 5,418,410, issued May 23, 1995 (Ex. 1016).
[5] US 5,498,995, issued Mar. 12, 1996 (Ex. 1007).

Petitioner submits a declaration (Ex. 1003) from its proffered expert, Mr. Bohannon. Patent Owner submits a declaration (Ex. 2001) from its proffered expert, Mr. Sandler.

II. DISCRETION UNDER 35 U.S.C. § 314(a)

A. The Parties' Positions

Petitioner filed three petitions on the same day for *inter partes* review of the '713 patent. *See* IPR2021-00071 through -00073. The challenged claims and asserted grounds for each petition are set forth below:

Petition	IPR	Claims Challenged	Grounds
1	IPR2021-00071	18, 19–23, 25, 30, 31, 34–36, 41–43, 45, 48–51	Zhu[6] and Mao
		18, 19–23, 25, 30, 31, 35, 36, 41, 42, 45, 48–51	Szepesi and Mao
		18, 22, 23, 25, 30, 34, 41–43, 45, 48, 49, 51	Matsumoto and Mao
2	IPR2021-00072	24, 26–28, 32, 33, 38, 40, 44, 46, 47	Szepesi and Mao
		24, 29, 33, 38, 40, 47	Matsumoto and Mao
		44	Matsumoto, Mao, and Tisinger
3	IPR2021-00073	52	Matsumoto and Mao
		53–56, 58, 60, 61	Matsumoto, Mao, and Krupka
		57	Matsumoto, Mao, Krupka, and Tisinger
		59	Matsumoto, Mao, Krupka, and Szepesi

[6] US 2011/0096573 A1, published Apr. 28, 2011 (IPR2021-00071, Ex. 1005).

Petitioner asserts that "[b]ecause each Petition challenges a distinct set of claims, the Board should institute all three Petitions." Ranking Notice 1. Petitioner states that Patent Owner is currently asserting 59 of the 61 claims of the '713 patent in the Co-pending Litigation and that, due to the large number of claims being asserted, Petitioner "needs four petitions[7] to challenge the asserted claims due to word count constraints." *Id.* at 2.

Petitioner argues that Petition 1 challenges independent claims 1 and 48, and as many of the dependent claims as was practical to address in view of word limits. Ranking Notice 3. Petitioner further argues that Petitions 2 and 3 address dependent claims that include unique limitations and unique combination of limitations. *Id.*

Petitioner further asserts that the petitions are non-redundant because they each challenge distinct sets of claims and rely on different combinations of references that address the claim elements in materially different ways. Ranking Notice 2. In particular, Petitioner asserts that Petition 1 relies on primary references that were considered during reissue prosecution and found to disclose almost all the limitations of the claims (i.e., Zhu and Szepesi), but combines them with a secondary reference (i.e., Mao) that expressly discloses the specific limitations that the PTO believed were not present in the prior art. *Id.* at 3. Petitioner also asserts that Petition 1 relies on a new primary reference that was not considered during prosecution. *Id.* Petitioner identifies Matsumoto as not being before the PTO during reissue. Pet. 10. Petitioner further asserts that Petitions 2 and 3 also rely on primary references that were not before the PTO during reissue. Ranking Notice 3.

[7] Presumably, Petitioner meant to argue that three petitions are needed.

Petitioner further states that if the Board should exercise its discretion to deny any petitions, then the Board should institute at least Petition 1. Ranking Notice 1.

Patent Owner responds that Petitioner has split up the claims across multiple petitions to create the illusion that it did not have enough space to address each set of challenged claims in a single petition. Ranking Resp. 4. Patent Owner argues that Petition 1 challenges the independent claims with three different grounds with a dozen or so dependent claims. *Id.* Patent Owner further asserts that had Petitioner divided the three grounds from Petition 1 across its three petitions it would have had sufficient space to address all dependent claims with each petition. *Id.*

Patent Owner further asserts, contrary to Petitioner's contentions, that the claim elements are not challenged in materially different ways. Ranking Resp. 5. Patent Owner contends that each of the primary references (i.e., Zhu, Szepesi, Matsumoto) are relied on for disclosing the same claim elements of the same independent claims and that each reference is combined with Mao for the same reasons. *Id.* (citing Pet. 13, 29, 43).

B. Analysis

Under section 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) ("[Section] 314(a) invests the Director with discretion on the question whether to institute review . . . ." (emphasis omitted)); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding."); *see also*

37 C.F.R. § 42.4(a) ("The Board institutes the trial on behalf of the Director."). The Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019)[8] ("Trial Practice Guide") addresses the issue we face here—whether to institute on more than one concurrently-filed petition addressing the same patent—and states:

> Based on the Board's experience, one petition should be sufficient to challenge the claims of a patent in most situations. Two or more petitions filed against the same patent at or about the same time . . . may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns. *See* U.S.C. § 316(b). . . .

Trial Practice Guide, 59.

The Trial Practice Guide recognizes that

> that there may be circumstances in which more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art references. In such cases two petitions by a petitioner may be needed, although this should be rare. Further, . . . the Board finds it unlikely that circumstances will arise where three or more petitions by a petitioner with respect to a particular patent will be appropriate.

Id.

The Trial Practice Guide further instructs Petitioners that file more than one petition challenging the same patent to file (1) a ranking of the petitions in the order in which petitioner wishes the Board to consider the merits, and (2) a succinct explanation of the differences between the petitions, why the issues addressed by the differences are material, and why the Board should exercise its discretion to institute additional petitions if it

[8] Available at https://www.uspto.gov/TrialPracticeGuideConsolidated.

identifies one petition that satisfies petitioner's burden under § 314(a). *Id*. at 59–60.

Having considered the parties' arguments, we are not persuaded that the present petition is necessary to challenge the claims of the '713 patent. In a decision that is being issued contemporaneously with this Decision, we are instituting trial based on the petition in IPR2021-00071, Petitioner's top-ranked petition. Ranking Notice 1. Although Petitioner correctly argues that each of its three petitions challenge different claims, Petitioner has not shown that it was necessary to distribute its challenges across three petitions in order to present one ground of unpatentability for each challenged claim.

Notably, Petitioner does not argue that it could not have asserted at least one ground against each claim being challenged in a single petition. Rather, Petitioner asserts that it could not fit "*all of its grounds* against the asserted claims into a single petition." Ranking Notice 2 (emphasis added). Two of the Petitions, however, assert more than one ground for nearly every challenged claim with significant repetition of argument among the various petitions. For example, Petition 1 asserts that independent claims 18 and 48 are unpatentable over three grounds, namely Zhu and Mao, Szepesi and Mao, and Matsumoto and Mao. IPR2021-00071, Paper 3, 2. Petition 1 further asserts that dependent claims 22, 23, 25, 30, 41, 42, 48, 49, and 51 are unpatentable over three grounds, namely Zhu and Mao, Szepesi and Mao, and Matsumoto and Mao. *Id.* Petition 1 further asserts that dependent claims 19–21, 31, 35, 36, and 50 are unpatentable over two grounds, namely Zhu and Mao and Szepesi and Mao. *Id.* Petition 2 asserts that dependent claims 24, 33, 38, 40, and 47 are unpatentable over Szepesi and Mao and over Matsumoto and Mao. Pet. 2. Petition 2 further asserts that dependent claim

44 is unpatentable over Szepesi and Mao and over Matsumoto, Mao, and Tisinger. *Id.*

Additionally, there is a great deal of repetition or overlap among the different petitions that could have been avoided had each petition been directed to grounds that rely on one primary prior art reference (i.e., Zhu, Szepesi, Matsumoto). For example, the claim-by-claim analysis in Petition 2 had to repeat the analysis from Petition 1 of how (i) Szepesi and Mao and (ii) Matsumoto and Mao disclose the elements of claim 18. IPR2021-00072, Paper 3, 15–21, 30–39. Petition 2 also had to repeat the motivation-to-combine analysis and the description of references for Szepesi and Mao and for Matsumoto and Mao from Petition 1. *Id.* at 10–15, 27–29, 39–41. Similarly, in the Petition in this proceeding, Petitioner had to repeat the analysis from Petition 1 of how Matsumoto and Mao disclose the elements of claim 18 as well its analysis of the motivation to combine those references and its descriptions of those references. Pet. 10–21.

Given Petitioner's lack of assertion that it could not fit a single ground against the claims being challenged into a single petition, and given that the three petitions (1) present three alternative grounds to challenge independent claims 18 and 48; (2) present three alternative grounds to challenge dependent claims 22, 23, 25, 30, 41, 42, 45, 48, 49, and 51; (3) present two alternative grounds to challenge dependent claims 19–21, 24, 31, 33, 35, 36, 38, 40, 44, 47, and 50; and (4) contain significant overlap due to the repetition of arguments in multiple petitions, we determine Petitioner has not shown that it was necessary to distribute its challenges across three petitions in order to present one ground of unpatentability for each challenged claim.

We also determine that Petitioner has not shown material differences among the asserted grounds. Petitioner does assert that Petition 1 relies on primary references that were considered during reissue (i.e., Zhu and Szepesi) and a primary reference that was not (i.e., Matsumoto). Ranking Notice 3. Petitioner further argues that this Petition and Petition 2 each rely on a primary reference that was not considered during reissue. *Id.* Petitioner further asserts that this Petition and Petition 2 address dependent claims that include "unique limitations, and unique combinations of limitations, not addressed in Petition 1." *Id.*

These assertions, however, do not explain why it is necessary to assert multiple petitions that rely on multiple grounds when a single petition could have been presented to challenge the claims. For example, Petitioner provides no argument that different dependent claims require assertion of different primary references. Nor does Petitioner argue that the Director's discretion under 35 U.S.C. § 325(d)—to deny a petition because the same or substantially the same art was previously presented to the Office—would require that arguments under multiple prior art references be grouped in the same petition.

On this record, Petitioner has not demonstrated a need for multiple petitions to challenge the patentability of claims of the '713 patent. Thus, we exercise our discretion under 35 U.S.C. § 314 and *deny* the current Petition.

III. CONCLUSION

For the reasons discussed above, we deny institution of *inter partes* review.

IV. ORDER

It is:

ORDERED that no *inter partes* review is instituted.

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