

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDTRONIC VASCULAR, INC., MEDTRONIC VASCULAR GALWAY
UNLIMITED COMPANY, MEDTRONIC LOGISTICS LLC,
MEDTRONIC, INC., and MEDTRONIC USA, INC.,
Petitioner,

v.

TMT SYSTEMS, INC.,
Patent Owner.

IPR2021-01533
Patent 7,101,393 B2

Before ERICA A. FRANKLIN, JAMES A. TARTAL, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Medtronic Vascular, Inc., Medtronic Vascular Galway Unlimited Company, Medtronic Logistics LLC, Medtronic, Inc., and Medtronic USA, Inc. (collectively, “Petitioner”) filed a Petition requesting an *inter partes* review of claims 1, 2, 4, 10, 11, and 26 of U.S. Patent No. 7,101,393 B2 (Ex. 1101, “the ’393 patent”). Paper 4 (“Pet.”). Along with the Petition, Petitioner filed a Petitioner’s Ranking and Explanation of Material Difference Between Petitions (“Ranking Paper”). Paper 3. TMT Systems, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 12 (“Prelim. Resp.”). Pursuant to our authorization, Petitioner filed a Reply (Paper 13, “Reply”), and Patent Owner filed a Sur-reply (Paper 16, “Sur-reply”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2020). For the reasons provided below, we exercise our discretion under 35 U.S.C. § 314 to deny institution of an *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies Medtronic Vascular, Inc., Medtronic Vascular Galway Unlimited Company, Medtronic Logistics LLC, Medtronic, Inc., and Medtronic USA, Inc. as real parties-in-interest. Pet. 3. Patent Owner identifies TMT Systems, Inc. as the real party-in-interest. Paper 6, 1.

B. *Related Proceedings*

Petitioner and Patent Owner provide notice of a district court litigation involving the ’393 patent: *TMT Sys., Inc. v. Medtronic, Inc. and Medtronic USA, Inc.*, No. 6:20-cv-00973-ADA (W.D. Tex.) (the “District Court case”). Pet. 3; Paper 6, 1. The parties further identify another petition filed by

Petitioner in IPR2021-01532, challenging claims 1, 2, 4, 10, 11, and 26 of the '393 patent. Pet. 1, 3; Paper 3, 1; Paper 6, 1.

C. The '393 patent

The '393 patent is directed to “an endovascular apparatus having an expandable attachment device for securing the endovascular apparatus to an interior wall of a lumen.” Ex. 1101, 1:7–11. The Specification explains that the device is useful for treating aneurysms or arterial blockages, wherein the expandable attachment device is attached to an endovascular apparatus, such as a prosthetic graft, stent, or tubular sleeve. *See id.* at 1:7–2:67. The Specification explains that “[i]n the past aortic aneurysms were treated almost exclusively by surgical repair” in which “the aneurysm would be resected and replaced by an artificial artery known as a prosthetic graft.” *Id.* at 1:25–28. “Because of the substantial risks associated with such an invasive surgery, however, other treatments for aortic aneurysms have been proposed including endovascular grafting.” *Id.* at 1:28–31.

The Specification describes that for prior endovascular grafts that are introduced into the patient percutaneously, “the graft must be collapsible into a small profile for negotiating the vascular system” and “[u]pon reaching the site of the aneurysm the graft and its attachment devices can be expanded into a desired shape.” *Id.* at 1:43–47. According to the Specification, “[a] variety of expandable attachment devices have been proposed for securing an endovascular graft to an interior wall of a vessel most of which use stents with hooks or barbs to penetrate the intima of the vessel.” *Id.* at 1:48–51.

With regard to the invention, the Specification explains that “an endovascular apparatus having a new expandable attachment device is desired” and that it “should be small with a low profile and should expand to

many times its initial diameter.” *Id.* at 1:54–57. The Specification further explains that the expandable attachment device “should exert enough radial force when expanded to fix into the aorta and thereby reduce blood leaks around the apparatus.” *Id.* at 1:57–60.

The ’393 patent describes such an expandable attachment device that “includ[es] a plurality of telescoping arms that are joined together to form an expandable ring” such that the “ring may function similarly to stents.” *Id.* at 1:66–2:2. According to the Specification,

The expandable attachment device comprises a plurality of telescoping arms that are attached to form an expandable ring. ***Each telescoping arm is similar to an expandable presentation pointer.*** Alternatively, each telescoping arm ***may function*** like an accordion.

Id. at 2:36–40 (emphasis added).

Figure 4C of the ’393 patent is reproduced below.

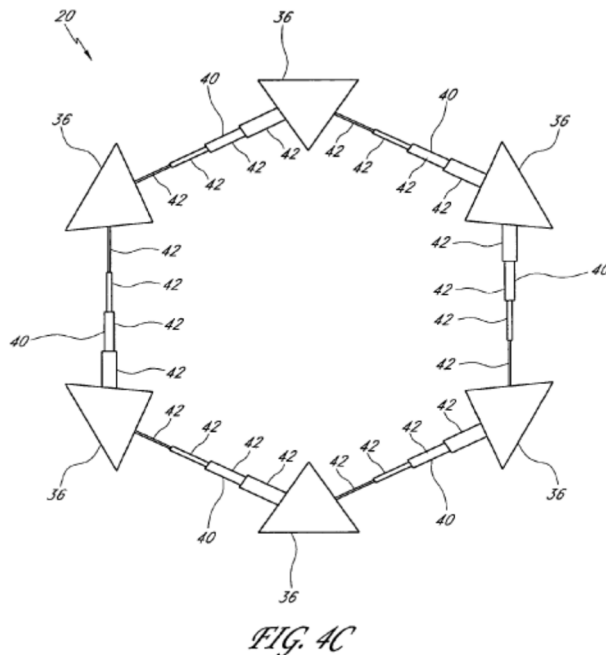


Figure 4C is a top view of an expandable attachment device in a fully expanded state. *Id.* at 3:13–14.

As shown in Figure 4C, expandable attachment device 20 includes a plurality of fixation components 36 positioned about its perimeter and “telescopic arm 40 is used to attach each fixation component 36 to an adjacent fixation component 36.” *Id.* at 5:1–5, 12–14. The Specification explains that

[t]he telescoping arm 40 may be pivotably attached to a fixation component 36 at one or both ends of the arm 40. A telescoping arm 40 is made up of a plurality of segments 42. The segments 42 may be in slideable contact with one another and may be incrementally sized so as to fit within one another. For example, each telescoping arm 40 may be constructed from what is referred to generally as “nested tubes.”

...

[T]he attachment device may take variety of shapes depending upon the configuration of the telescoping arms 40 and the fixation components 36. For example, referring to FIGS. 12A–D, the telescoping arms 40 may be positioned in a single plane. Alternatively, referring to FIGS. 13A–U, the telescoping arms 40 may be positioned in multiple planes in, for example, what is referred to herein as an “M configuration.” One possible advantage of the M configuration is that it may produce superior radial force for holding the attachment device in position. In addition, the M configuration may produce the same ratio of expansion (i.e., the ratio of the final outer diameter of the attachment device in its expanded state to the initial outer diameter of the attachment device in its collapsed state) as the “single plane configuration” using fewer parts.

Id. at 5:14–21, 31–46.

Figure 12A of the ’393 patent is reproduced below.

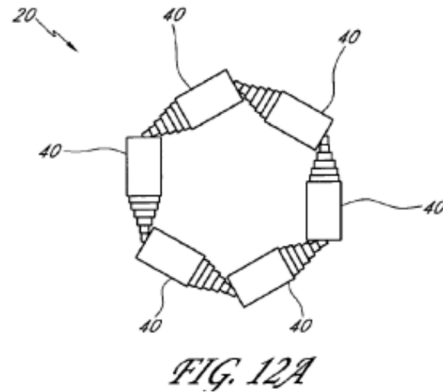
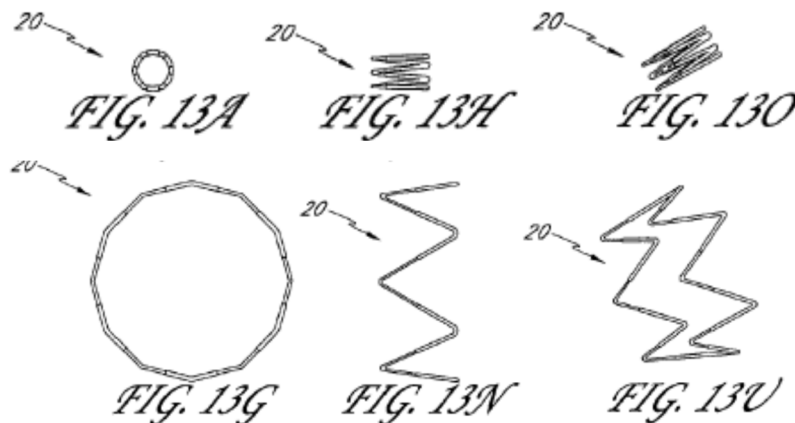


Figure 12A “is a schematic top view of an expandable attachment device according to a second aspect in a partially expanded state.” *Id.* at 3:29–31. Figure 12A shows that “telescoping arms 40 may be positioned in a single plane.” *Id.* at 5:34–35. Figures 13A, 13G, 13H, 13N, 13O, and 13U of the ’393 patent are reproduced below.



Figures 13A and 13G “are schematic top views of an expandable attachment device according to a third aspect in various states of expansion.” *Id.* at 3:38–40. Figures 13H and 13N “are schematic side views of the expandable attachment device” of Figures 13A and 13G, respectively. *Id.* at 3:41–42. Figures 13O and 13U “are schematic isometric views of the expandable attachment device” of Figures 13A and 13 G, respectively. *Id.* at 3:43–44. Figures 13A, 13G, 13H, 13N, 13O, and 13U show the telescoping arms positioned in multiple planes, i.e., in an “M configuration.” *Id.* at 5:36–38.

Figure 9 of the '393 patent is reproduced below.

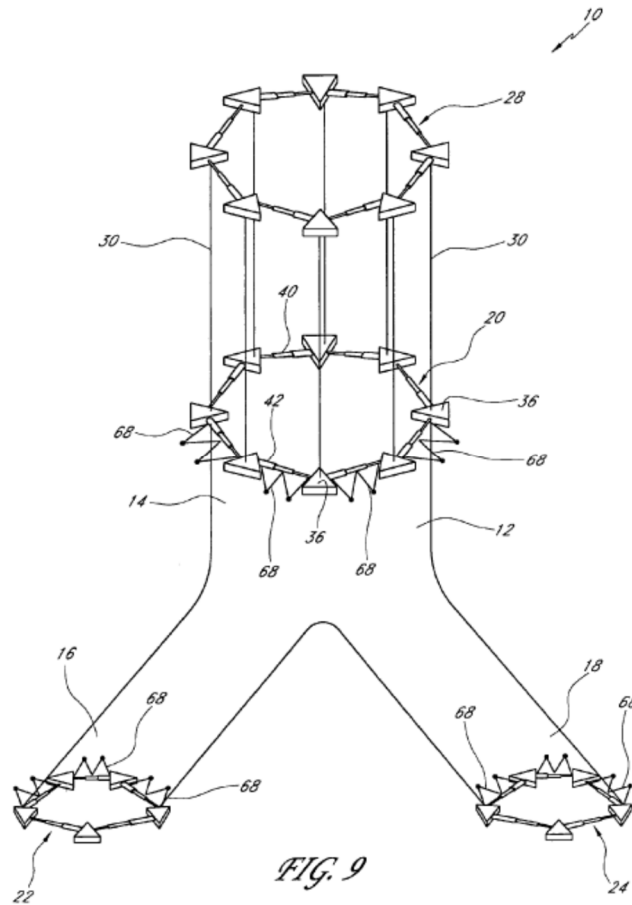


Figure 9 “is an endovascular apparatus according to a fourth aspect.” *Id.* at 3:23–24. Figure 9 shows a plurality of “M springs 68” that are used “as graft expanders” to “reduce leakage around the perimeter of the tubular sleeve 12.” *Id.* at 6:22–28. “In the embodiment shown in FIG. 9, the M springs 68 are not attached to the segments” of telescoping arms 40 and “are located on the exterior” of tubular sleeve 12. *Id.* at 6:30–33. The Specification further discloses that

[i]n another embodiment, the M springs 68 may be . . . attached to the fixation components 36. Of course, in place of the “M springs” 68, springs in the shape of a “V” may be used. Alternatively, in another embodiment . . . , the M springs 68 may be replaced by telescoping arms 40 in an “M configuration.”

Id. at 6:33–40.

D. Illustrative Claim

Petitioner challenges independent claims 1 and 26, along with dependent claims 2, 4, 10, and 11 of the '393 patent. Independent claim 1, set forth below, is illustrative.

1. An attachment device that is expandable from a first state to a second state for securing an endovascular apparatus to an interior wall of a lumen, the device comprising:

a plurality of telescoping arms, the arms being operatively connected to one another so as to form a perimeter of variable length, wherein the telescoping arms are operatively coupled to one another at an angle so that multiple telescoping arms form the shape of a M.

Ex. 1101, 7:16–23.

E. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1, 2, 4, 10, 11, and 26 are unpatentable on the following four grounds.

Claims Challenged	35 U.S.C. §	References
1, 2, 4, 10, 11, 26	102(e) ¹	Stelter ²
1, 2, 4, 11, 26	102(a), (b), (e)	Quiachon ³
10	103(a)	Quiachon, Lau ⁴
1, 2, 4, 10, 11, 26	102(a), (b), (e)	Hartley ⁵

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the '393 patent issued has an effective filing date prior to March 16, 2013, the pre-AIA version of § 103 applies.

² Stelter et al., US 6,695,875 B2, issued Feb. 24, 2004 (Ex. 1108, “Stelter”).

³ Quiachon et al., US 5,824,044, issued Oct. 20, 1998 (Ex. 1104, “Quiachon”).

⁴ Lau et al., US 5,919,225, issued July 6, 1999 (Ex. 1107, “Lau”).

⁵ Hartley et al., WO 99/29262 A1, published June 17, 1999 (Ex. 1105, “Hartley”).

Petitioner also relies on the Declaration of Elliot L. Chaikof, M.D., Ph.D. (Ex. 1103).

II. DISCRETIONARY DENIAL

Institution of *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (explaining that section “314(a) invests the Director with discretion on the question whether to institute review”) (emphasis omitted). When determining whether to exercise our discretion under § 314(a), we consider, among other factors, whether a petitioner has filed multiple petitions challenging the same patent.

As explained above in Section I.B., Petitioner has concurrently filed two petitions challenging the same claims of the ’393 patent. Our discretionary determination whether to institute review takes into consideration guidance in the Patent Trial and Appeal Board Consolidated Trial Practice Guide November 2019 Update⁶ for situations where a petitioner has concurrently filed parallel petitions challenging the same patent. The Trial Practice Guide explains:

Based on the Board’s prior 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 (e.g., before the first preliminary response by the patent owner) may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns. *See* 35 U.S.C. § 316(b). In addition, multiple petitions by a petitioner are not necessary in the vast majority of cases.

⁶ Patent Trial and Appeal Board Consolidated Trial Practice Guide November 2019 (“Trial Practice Guide” or “CTPG”), 59–61 (available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>).

CTPG 59. The Trial Practice Guide recognizes 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,” but characterizes such circumstances as “rare.” *Id.*

Additionally, the Trial Practice Guide states:

To aid the Board in determining whether more than one petition is necessary, if a petitioner files two or more petitions challenging the same patent, then the petitioner should, in its petitions or in a separate paper filed with the petitions, identify: (1) a ranking of the petitions in the order in which it wishes the Board to consider the merits, if the Board uses its discretion to institute any of the petitions, 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 identifies one petition that satisfies petitioner’s burden under 35 U.S.C. § 314(a).

Id. at 59–60. Pursuant to that guidance, Petitioner filed its Ranking Paper. Paper 3. In that filing, Petitioner refers to the petition in IPR2021-01532 as “Petition A” and the petition in this proceeding as “Petition B.” *Id.* at 1. For this discussion, we adopt Petitioner’s labels for those petitions.

According to Petitioner, “[t]he petitions are materially different because they are premised on two fundamentally different views of what the Challenged Claims (1, 2, 4, 10, 11, and 26) cover.” *Id.* Petitioner asserts that Petition A relies on a proposed construction for the terms “telescoping arm” and “telescoping arms” that Petitioner maintains is the proper construction that has been consistently applied during the prosecution of the ’393 patent. *Id.* at 1–2. According to Petitioner, that construction is one in

which a “telescoping arm” is “an arm that telescopes,” and “a plurality of telescoping arms” refers to “more than one telescoping arm.” *Id.* at 3.

Petitioner asserts that Petition B, on the other hand, relies on the claim construction proposed by Patent Owner in the District Court case. *Id.* According to Petitioner, Patent Owner seeks to expand the scope of the challenged claims by contending that “the term ‘telescoping arm’ does not require any arm that telescopes; instead, Patent Owner posits that ‘telescoping arms’ refer to a set of arms (none of which individually telescopes) that radially expand.” *Id.* at 3–4.

Petitioner acknowledges that it relies on overlapping prior art references in both petitions. *Id.* at 4. However, Petitioner asserts that such prior art is applied differently in each petition based on the “very different claim constructions” asserted in each petition. *Id.* Further, Petitioner contends that the overlapping prior art “significantly lowers the burden associated with considering both petitions.” *Id.* Thus, Petitioner requests that the Board institute an *inter partes* review in each case, “[i]n view of the material differences and strength of each petition.” *Id.* at 5.

Patent Owner argues that Petitioner does not assert “an accepted basis” for relying on two petitions to challenge the same six claims of the same patent. Prelim. Resp. 35. In particular, Patent Owner asserts that the Trial Practice Guide “nowhere indicates that mere alternative arguments that are different from each other constitute sufficient justification for filing multiple petitions.” *Id.* (quoting *Square, Inc. v. 4361423 Canada Inc.*, IPR2019-01630, Paper 13, 10 (PTAB Apr. 2, 2020)). Patent Owner also refers to exemplary cases wherein the Board did not find arguments based on different or competing claim constructions warranted multiple petitions. *Id.* (citing *Fitbit, Inc. v. Koninklijke Philips N.V.*, IPR2020-00772, Paper 14,

26 (PTAB Oct. 19, 2020); *Medacta USA, Inc. v. RSB Spine, LLC*, IPR2020-00275, Paper 22, 11 (PTAB May 22, 2020); *Louisiana-Pacific Corp. v. Huber Engineered Woods LLC*, IPR2020-00609, Paper 12, 11 (PTAB Aug. 20, 2020)). According to Patent Owner, Petition B should be denied because it is “largely duplicative of Petition A and fails to justify a ‘rare’ exception to rule against the filing of two parallel petitions challenging the same patent.” Prelim. Resp. 36 (citing CTPG 59).

Based upon our consideration of the current record in IPR2021-01532 and IPR2021-01533, including Petitions A and B, the Ranking Paper, and Patent Owner’s arguments, we agree with Patent Owner that multiple petitions are not warranted. Petitioner’s only asserted explanation for filing two petitions to challenge the same six claims of the ’393 patent, based on overlapping prior art, is that “[t]he petitions are materially different because they are premised on two fundamentally different views of what the Challenged Claims (1, 2, 4, 10, 11, and 26) cover.” Paper 3, 1. More specifically, Petitioner explains that the petitions rely on different proposed constructions for two related claim terms: “telescoping arm” and “telescoping arms.” *Id.* at 1–2. Petitioner, however, has not explained or demonstrated why it could not have presented its arguments for each proposed claim construction in a single petition. Nor do we recognize any reason why a single petition would not have been sufficient under the circumstances.

As noted, Petitioner challenges only six claims of the ’393 patent in each petition: claims 1, 2, 4, 10, 11, and 26. Petitioner does not allege that the number of claims justifies two petitions. Indeed, we note that Petitioner does not separately address the disputed terms when challenging each claim. Instead, in each petition, Petitioner asserts how the prior art teaches or

suggests the recited “telescoping arm” and “telescoping arms” in relation to the two independent claims challenged, claims 1 and 26, and then merely incorporates by reference those discussions when addressing the four dependent claims. Thus, we find that the few number of claims challenged and the efficient manner by which Petitioner addressed the prior art in view of its proposed construction for the disputed terms would seem to have facilitated Petitioner’s ability to additionally address the prior art in view of alternative proposed claim constructions in the same petition. Petitioner has not persuasively established otherwise in its Ranking Paper.

Further, as Petitioner has acknowledged, there is substantial overlap in the prior art relied upon for the petitions, as may be seen in the Ranking Table, *see* Paper 3, 5, the substance of which is set forth below:

Rank	Petition	Prior Art References	Ground	Claims
1	IPR2021-01532 (“Petition A”)	Quiachon in view of Lazarus	Obviousness	1, 2, 4, 11 and 26
		Quiachon in view of Lazarus and Lau	Obviousness	10
		Hartley in view of Lazarus	Obviousness	1, 2, 4, 11 and 26
2	IPR2021-01533 (“Petition B”)	Stetler	Anticipation	1, 2, 4, 11 and 26
		Quiachon	Anticipation	1, 2, 4, 11 and 26
		Quiachon in view of Lau	Obviousness	10
		Hartley	Anticipation	1, 2, 4, 11 and 26

Petitioner’s Ranking Table identifies the prior art references cited and the grounds asserted for each challenged claim in Petition A and Petition B. Paper 3, 5. To address the recited “telescoping arm[s],” Petitioner relies on Quiachon in combination with Lazarus for the construction proposed in Petition A, whereas, Petitioner simply relies on Quiachon alone for the

construction proposed in Petition B. Similarly, Petitioner relies on Hartley in combination with Lazarus for the construction proposed in Petition A, whereas, Petitioner simply relies on Hartley alone for the construction proposed in Petition B.

Also as shown in the Ranking Table, Petitioner relies on Lau in the same manner in both petitions, i.e., to address an additional limitation of claim 10. While Petitioner only relies on the remaining cited prior art, Stelter, in Petition B, the ground asserting that reference serves as an additional challenge to the claims that are already challenged in Petition B in the grounds involving Quiachon alone and in view of Lau. Thus, the prior art relied on in each petition largely overlaps and is presented in a way that would seem to have facilitated Petitioner's ability to additionally apply that art based upon alternative proposed claim constructions in the same petition. Petitioner has not persuasively established otherwise in its Ranking Paper.

Therefore, having considered the record and specific circumstances in IPR2021-01532 and IPR2021-01533, we agree with Patent Owner that Petition B is "largely duplicative" of Petition A and that Petitioner has not sufficiently demonstrated that applying substantially the same prior art to address different proposed claim constructions for two related terms to challenge six claims of the same patent warrants two petitions.

Because we institute an *inter partes* review of all claims of the '393 patent on all grounds presented in Petition A, and Petitioner has not shown persuasively that a second petition challenging those claims is warranted, we exercise our discretion under 35 U.S.C. § 314(a) to deny instituting an *inter partes* review of the challenged claims based upon Petition B.

III. CONCLUSION

For the foregoing reasons, we exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition requesting institution of an *inter partes* review of claims 1, 2, 4, 10, 11, and 26 of the '393 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), the Petition is *denied* and no *inter partes* review is instituted.

IPR2021-01533
Patent 7,101,393 B2

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