UNITED STATES PATENT AND TRADEMARK OFFICE

Paper 10

Entered: May 1, 2019

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALVE CORPORATION, Petitioner,

v.

ELECTRONIC SCRIPTING PRODUCTS, INC., Patent Owner.

Case IPR2019-00064 (Patent 8,553,935 B2) Case IPR2019-00065 (Patent 8,553,935 B2) Case IPR2019-00085 (Patent 8,553,935 B2)¹

Before ANDREI IANCU, *Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office*, WILLIAM M. FINK, *Vice Chief Administrative Patent Judge*, and ROBERT J. WEINSCHENK, *Administrative Patent Judge*.

FINK, Vice Chief Administrative Patent Judge.

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

¹ These cases have not been joined or consolidated. Rather, this Decision governs each case based on common issues. The parties shall not employ this heading style.

I. INTRODUCTION

Valve Corporation ("Valve") filed three petitions (IPR2019-00064, Paper 2, "Pet."; IPR2019-00065, Paper 1; IPR2019-00085, Paper 3) requesting *inter partes* review of claims 1–21 of U.S. Patent No. 8,553,935 B2 (Ex. 1001, "the '935 patent"). This Decision addresses common issues presented by all three petitions. For purposes of this Decision, we treat the Petition in IPR2019-00064 ("the Petition") as representative and cite to the record in IPR2019-00064, unless otherwise indicated.

Electronic Scripting Products, Inc. ("Patent Owner") filed a Preliminary Response (IPR2019-00064, Paper 5, "Prelim. Resp.") to the Petition. Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition as an "unfair" follow-on petition. Prelim. Resp. 9–11. Pursuant to our authorization (Paper 7), Valve filed a Reply (Paper 6, "Reply") to Patent Owner's follow-on petition argument, and Patent Owner filed a Sur-reply (Paper 8, "Sur-reply") to the Reply.

Valve is not the first party to request an *inter partes* review of the '935 patent. HTC Corporation and HTC America, Inc. (collectively, "HTC") previously filed a petition requesting an *inter partes* review of the '935 patent in IPR2018-01032 ("the 1032 IPR"). 1032 IPR, Paper 2. The Board instituted *inter partes* review. 1032 IPR, Paper 6 ("1032 DI"). In IPR2019-00074, Valve filed a Petition and Motion to join the 1032 IPR, which we granted. 1032 IPR, slip op. at 10 (PTAB Jan. 18, 2019) (Paper 12). The statutory deadline for a final determination as to the patentability of claims 1–21 of the '935 patent in the 1032 IPR is September 13, 2019.

In General Plastic Industries Co. v. Canon Kabushiki Kaisha, Case IPR2016-01357, slip op. at 15–16 (PTAB Sept. 6, 2017) (Paper 19) (precedential), the Board articulated a non-exhaustive list of factors to be considered in determining whether to exercise discretion under § 314(a) to deny a petition that challenges the same patent as a previous petition. Under the first General Plastic factor, we consider "whether the same petitioner previously filed a petition directed to the same claims of the same patent." General Plastic, slip op. at 16. Here, Valve has joined the ongoing 1032 IPR proceeding, and therefore has filed a petition directed to the same claims of the same patent. Moreover, our application of the *General Plastic* factors is not limited solely to instances in which multiple petitions are filed by the same petitioner. When different petitioners challenge the same patent, we consider any relationship between those petitioners while weighing the General Plastic factors. Based on our consideration of the General Plastic factors, we determine that it is appropriate to exercise our discretion under § 314(a) to deny the Petition.

A. Related Proceedings

The '935 patent and a related patent, U.S. Patent No. 9,235,934 B2 (Ex. 1002, "the '934 patent"), are the subject of a patent infringement lawsuit, *Electronic Scripting Products, Inc. v. HTC America, Inc.*, No. 3:17-cv-05806-RS, filed on October 9, 2017, in the United States District Court for the Northern District of California ("the District Court litigation"). Pet. 1. Valve and HTC were named as co-defendants in that lawsuit and were accused of infringing the '935 patent based on HTC's VIVE devices that incorporate Valve's technology. Prelim. Resp. 8–9; Reply 1. In

response to Valve's motion challenging venue, however, Patent Owner voluntarily dismissed Valve without prejudice on January 25, 2018. Reply 1; Sur-reply 2.

As discussed above, HTC requested an *inter partes* review of the '935 patent in the 1032 IPR, and the Board instituted review. Pet. 1; Prelim Resp. 9; Ex. 1061, 32. HTC also requested an *inter partes* review of the related '934 patent in IPR2018-01031, which the Board denied. Ex. 1060, 16 (denying institution). Valve also requested *inter partes* review of the '934 patent in IPR2019-00062, IPR2019-00063, and IPR2019-00084, which the Board denied under 35 U.S.C. § 314(a). *E.g.*, *Valve Corp. v. Elec. Scripting Prods.*, *Inc.*, Case IPR2019-00062 (PTAB April 2, 2019) (Paper 11) ("Valve I").

B. The '935 Patent

The '935 patent relates to determining an absolute pose of a manipulated object in a real three-dimensional environment, particularly of a manipulated object used by human users to interface with the digital world. Ex. 1001, 1:24–28. An object's pose combines the three linear displacement coordinates (x, y, z) of any reference point on the object and the three orientation angles, also called the Euler angles (φ, θ, ψ) , that describe the object's pitch, yaw, and roll. *Id.* at 1:46–50.

Figure 21 of the '935 patent is reproduced below:

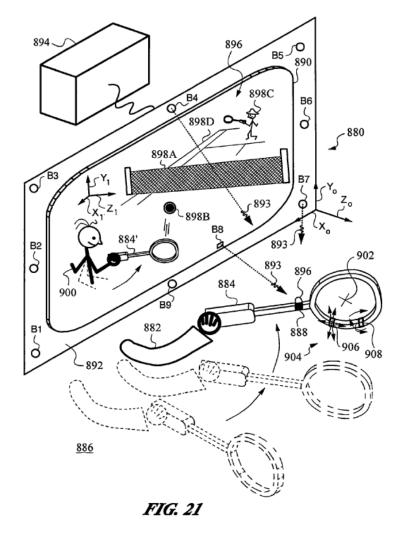


Figure 21 illustrates a "cyber game" in which user or player 882 interacts with game application 880 by moving manipulated object 884, in this case a tennis racket, in real three-dimensional environment 886. Ex. 1001, 37:9–13. Visual tennis match elements 898A–D and image 884′ of tennis racket 884 held by user 882 are displayed on screen 890. *Id.* at 37:29–44. The display of image 884′ changes in response to the detected absolute pose of racket 884. *Id.* at 38:12–20.

The absolute pose of racket 884 is detected using on-board optical measuring arrangement 888 and auxiliary motion detection component 904. Ex. 1001, 37:14–16, 37:65–66, 38:12–14. Optical measurement arrangement 888 infers absolute pose data $(x, y, z, \varphi, \theta, \psi)$ of racket 884 by sensing light 893 emitted from beacons B1–B9 disposed on and around screen 890. *Id.* at 37:14–21, 37:61–64. Auxiliary motion detection component 904 is an inertial sensing device that includes gyroscope 908 for providing information about changes in orientation (φ, θ, ψ) and accelerometer 906 for providing information about linear displacement (x, y, z). *Id.* at 37:65–38:11.

The combination of absolute pose data and relative motion data is used to determine the absolute pose, which is expressed in world coordinates (X_0, Y_0, Z_0) . *Id.* at 11:29–34, 38:12–14. Such absolute pose data and relative motion data can be combined using any suitable combination or data fusion techniques well-known in the art. *Id.* at 44:51–55.

C. Illustrative Claim

Of the challenged claims, claims 1 and 12 are independent. Claim 1 is illustrative of the claims at issue and is reproduced below.

- 1. A method for use with a system having a manipulated object, the method comprising:
- a) accepting light data indicative of light detected by a photodetector mounted on-board said manipulated object from a first plurality of predetermined light sources having known locations in world coordinates;
- b) accepting relative motion data from a relative motion sensor mounted on-board said manipulated object indicative of a change in an orientation of said manipulated object; and

> c), determining the pose of said manipulated object based on said light data and said relative motion data, wherein said pose is determined with respect to said world coordinates.

Ex. 1001, 51:13-26.

D. Evidence of Record

In Valve's three petitions for *inter partes* review of the '935 patent, Valve relies on the following references and declarations.

IPR2019-00064		
Reference or Declaration	Exhibit No.	
Declaration of Dr. Gregory Welch	Ex. 1003	
Masaki Maeda et al., Tracking of User Position and	Ex. 1047	
Orientation by Stereo Measurement of Infrared Markers		
and Orientation Sensing, PROC. EIGHTH INT'L SYMP. ON		
Wearable Computers 77 (2004) ("Maeda")		
Greg Welch et al., High-Performance Wide-Area Optical	Ex. 1004	
Tracking, Presence: Teleoperators & Virtual		
Environments 1 (Feb. 2001) ("Welch-HiBall")		

IPR2019-00065		
Reference or Declaration	Exhibit No.	
Declaration of Dr. Gregory Welch	Ex. 1003	
Anderson et al., U.S. Patent No. 7,063,256 B2 (filed Jan.	Ex. 1054	
23, 2004; issued June 20, 2006) ("Anderson")		
Welch-HiBall	Ex. 1004	

IPR2019-00085		
Reference or Declaration	Exhibit No.	
Declaration of Dr. Gregory Welch	Ex. 1003	
Masaki Maeda et al., A Wearable AR Navigation System	Ex. 1048	
Using Vision Based Tracking with Infrared, TECH. REP.		
IEICE (2004) ("Maeda II")		
Masaki Maeda et al., Proposal of a Three-dimensional	Ex. 1064	
User Position and Orientation Detection Technique		
Using Infrared Identifiers for a Wearable System, 65TH		

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(2003) ("Maeda I")	

E. Asserted Grounds of Unpatentability

In Valve's three petitions for *inter partes* review of the '935 patent, Valve asserts that the challenged claims are unpatentable on the following grounds.

IPR2019-00064		
Claims Challenged	Basis	Reference
1–21	§ 103(a)	Maeda
11 and 21	§ 103(a)	Maeda and AAPA and/or
		Welch-HiBall

IPR2019-00065		
Claims Challenged	Basis	Reference
1–21	§ 103(a)	Anderson
6, 11, 18, and 21	§ 103(a)	Anderson and AAPA
		and/or Welch-HiBall

IPR2019-00085		
Claims Challenged	Basis	References
1–21	§ 103(a)	Maeda I and Maeda II
6, 11, 18, and 21	§ 103(a)	Maeda I, Maeda II, and
		AAPA

II. ANALYSIS

A. 35 U.S.C. § 314(a)

Patent Owner argues that the Petition should be denied under 35 U.S.C. § 314(a) because the Petition challenges the same claims of the '935 patent as the petition in the 1032 IPR, and Valve is "similarly situated" to HTC, the petitioner in the 1032 IPR. Prelim. Resp. 3, 8–11. Patent Owner also argues that Valve "waited until HTC's petition on this patent was instituted (as a test case), and only then filed its own petition essentially

on the same grounds related to the same patent and building on the successful promotion of a fundamental misapprehension of the claims successfully perpetrated by HTC." *Id.* at 10–11 (emphasis omitted). Patent Owner, therefore, contends that the Petition "is unfair, and nothing more than a follow-on petition for the previously instituted [1032] IPR." *Id.* at 11. Valve responds that the Board should not deny the Petition under § 314(a) because HTC is an "unrelated" company and Valve "did not act in concert with HTC." Reply 1. Valve also responds that the timing of its Petition was the result of a recent change in the law regarding the one-year time bar under 35 U.S.C. § 315(b). *Id.* at 2.

For the reasons discussed below, we determine that it is appropriate to exercise our discretion under § 314(a) to deny the Petition.

1. Legal Framework

35 U.S.C. § 314(a) states that

[t]he Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), the Director has 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.").

As discussed above, in the precedential *General Plastic* decision, the Board articulated a non-exhaustive list of factors to be considered in determining whether to exercise discretion under § 314(a) to deny a petition

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that challenges the same patent as a previous petition. *General Plastic*, slip op. at 15–16. These factors are

- 1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
- 2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
- 3. whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
- 4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
- 5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
- 6. the finite resources of the Board; and
- 7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

Id. at 16.

2. Factor One

Under the first *General Plastic* factor, we consider "whether the same petitioner previously filed a petition directed to the same claims of the same patent." *Id.* at 16. Patent Owner argues that the Petition in this case challenges the same claims of the '935 patent as the petition in the 1032 IPR, and Valve is "similarly situated" to HTC, the petitioner in the 1032 IPR. Prelim. Resp. 3, 8–11. Valve responds that it is an "unrelated" company that "did not act in concert with HTC." Reply 1.

The petitions in these cases and the previous petition in the 1032 IPR (and Valve's petition in IPR2019-00074) all challenge claims 1–21 of the

'935 patent. *See*, *e.g.*, Pet. 4; 1032 IPR, Paper 2, 3. Valve did not file the petition in the 1032 IPR, but joined that ongoing proceeding as a petitioner. By joining the ongoing 1032 IPR, Valve has filed a petition previously directed to the same claims of the same patent under the first *General Plastic* factor.

In addition, as discussed above and in our decision in *Valve I*, our application of the *General Plastic* factors is not limited solely to instances in which multiple petitions are filed by the same petitioner. Rather, when different petitioners challenge the same patent, we consider any relationship between those petitioners while weighing the General Plastic factors. See NetApp Inc. v. Realtime Data LLC, Case IPR2017-01195, slip op. at 10 (PTAB Oct. 12, 2017) (Paper 9) ("[T]he General Plastic factors provide a useful framework for analyzing the facts and circumstances present in this case, in which a different petitioner filed a petition challenging a patent that had been challenged already by previous petitions."). Here, Valve and HTC were co-defendants in the District Court litigation and were accused of infringing the '935 patent based on the same product, namely HTC's VIVE devices that incorporate technology licensed from Valve. Prelim. Resp. 8–9; IPR2019-00085, Ex. 2010 ¶¶ 6–7. Indeed, in that lawsuit, Valve represented that "HTC's VIVE devices incorporate certain Valve technologies under a technology license from Valve," and that "Valve employees did provide HTC with technical assistance during the development of the accused VIVE devices." IPR2019-00085, Ex. 2010 ¶¶ 6–7. Although Valve was voluntarily dismissed from the District Court litigation after it filed a motion challenging venue (Reply 1; Sur-reply 2), Valve was aware of Patent

Owner's infringement allegations at the time HTC filed its petition in the 1032 IPR (*see* IPR2019-00085, Ex. 2010 ¶¶ 6–7).

We determine that the first *General Plastic* factor weighs against institution. As discussed above, the three petitions in these cases challenge the same claims of the '935 patent as the previous petition in the 1032 IPR, which is ongoing and in which Valve is now joined as a party at Valve's request. Moreover, similar to the circumstances in *Valve I*, Valve and HTC were co-defendants in the District Court litigation and were accused of infringing the '935 patent based on HTC's VIVE devices that incorporate technology licensed from Valve. Thus, there is a significant relationship between Valve and HTC with respect to Patent Owner's assertion of the '935 patent. The complete overlap in the challenged claims and the significant relationship between Valve and HTC favor denying institution.

3. Factor Two

Under the second *General Plastic* factor, we consider "whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it." *General Plastic*, slip op. at 16. This factor includes considering whether the prior art relied on in the later petition "could have been found with reasonable diligence." *Id.* at 20.

We determine that the second *General Plastic* factor weighs against institution for reasons similar to those discussed in *Valve I*. Valve knew or should have known of the Welch-HiBall reference around the time HTC filed its petition in the 1032 IPR because it was one of the two references relied upon by HTC. *See* 1032 DI. With respect to the other relied-upon references, Maeda, Maeda I, Maeda II, and Anderson, the timing of Valve's petitions suggests that it could have found these references through the

exercise of reasonable diligence around the time of HTC's petition on May 10, 2018. Specifically, by its own admission, Valve began preparing its petitions on or after August 16, 2018, and filed them less than two months later, which indicates that Valve found the Maeda and Anderson references quickly. *See* Reply 2. Valve's knowledge of the Welch-HiBall reference and its ability to quickly locate the Maeda and Anderson references favor denying institution.

4. Factor Three

Under the third *General Plastic* factor, we consider "whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition." *General Plastic*, slip op. at 16. The Board previously explained that

factor 3 is directed to Petitioner's potential benefit from receiving and having the opportunity to study Patent Owner's Preliminary Response, as well as our institution decisions on the first-filed petitions, prior to its filing of follow-on petitions. . . . Multiple, staggered petitions challenging the same patent and same claims raise the potential for abuse. The absence of any restrictions on follow-on petitions would allow petitioners the opportunity to strategically stage their prior art and arguments in multiple petitions, using our decisions as a roadmap, until a ground is found that results in the grant of review. All other factors aside, this is unfair to patent owners and is an inefficient use of the *inter partes* review process and other post-grant review processes.

Id. at 17–18 (internal citation and footnote omitted). Patent Owner argues that Valve "waited until HTC's petition on this patent was instituted (as a test case)" and then filed its Petition. Prelim. Resp. 10.

We determine that the third *General Plastic* factor weighs against institution for reasons similar to those discussed in *Valve I*. In the 1032 IPR, the Board instituted review based on the combination of Welch-HiBall and SIGGRAPH. *See* 1032 DI. Valve had access to Patent Owner's preliminary response and the Board's institution decision in the 1032 IPR before filing the Petition and used the institution decision as a guide to preemptively address anticipated arguments by Patent Owner based on the preliminary response in that proceeding. *See* Pet. 23–25 (noting the Board's determination that "Welch-HiBall was not considered by the Examiner."). Moreover, unlike the circumstances in *Valve I*, Valve had an *instituted* proceeding (i.e., the 1032 DI) as a roadmap to follow in preparing these follow-on petitions. As a result, it would have gained a substantial advantage in waiting for the preliminary response and institution decision in that proceeding before preparing these follow-on petitions.²

Accordingly, Valve's use of the Board's institution decision in the 1032 IPR as a roadmap for the Petition in this case implicates the fairness concerns discussed in *General Plastic* and favors denying institution.

5. Factors Four and Five

Under the fourth and fifth *General Plastic* factors, we consider "the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition" and "whether the petitioner provides adequate explanation for the time

² To the extent Valve is confident in the unpatentability challenges in the 1032 IPR, these further challenges are an inefficient use of Board resources (*see infra* § II.A.6).

elapsed between the filings of multiple petitions directed to the same claims of the same patent." *General Plastic*, slip op. at 16.

Patent Owner argues that Valve and HTC are similarly situated parties sued at the same time and involved in the same accused "VIVE devices," and, therefore, there is no justification for it having waited for the Board's institution decision in the 1032 IPR other than to use that IPR as a test case. Prelim. Resp. 10–11. Valve responds that the timing of its Petition was dictated by the Federal Circuit's decision in *Click-to-Call Technologies*, *LP* v. *Ingenio*, *Inc.*, 899 F.3d 1321 (Fed. Cir. 2018). Reply 1–2. Valve argues that, under the Board's established practice, the voluntary dismissal of a district court complaint without prejudice tolled the one-year deadline for requesting an *inter partes* review under § 315(b). *Id.* at 2. Valve contends that, as a result, it "had no intention of filing any IPR petitions" after its dismissal from the District Court litigation. *Id.* According to Valve, *Click*to-Call changed the Board's practice by holding that the voluntary dismissal of a district court complaint without prejudice does not toll the one-year deadline under § 315(b). *Id.* Thus, after *Click-to-Call*, Valve "immediately began preparing its own petitions"—including analyzing prior art and retaining an expert—"to avoid a bar if [Patent Owner] later alleged infringement." *Id.* Valve states that it pursued other grounds of unpatentability despite the Board's institution of the 1032 IPR. *Id.*

We determine that the fourth and fifth *General Plastic* factors weigh against institution for reasons similar to those discussed in *Valve I*. The *Click-to-Call* decision may have prompted Valve to file the Petition before

the deadline under § 315(b),³ but it does not excuse the five-month delay between the filing of HTC's petition and Valve's Petition. As discussed above, Valve could have found the prior art asserted in its Petition through the exercise of reasonable diligence at or around the time of HTC's petition. As also discussed above, Valve was a co-defendant with HTC in the District Court litigation and provides HTC with technology used in the accused VIVE devices. As a licensor of technology incorporated in the accused products, Valve's interests are aligned closely with HTC's interests, and Valve could have filed its Petition at or around the same time as HTC. The fact that Valve waited five months after HTC's petition to file the Petition in this case favors denying institution. If *Click-to-Call* had been decided differently, and Valve had waited even longer to file the Petition, Valve's delay still would favor denying institution.

6. Factors Six and Seven

Under the sixth and seventh *General Plastic* factors, we consider "the finite resources of the Board" and "the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review." *General Plastic*, slip op. at 16. The sixth and seventh factors are efficiency considerations. *Id.* at

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³ Valve also states it was "never served" (Reply 1), which, if true, would mean there is no time bar against Valve however *Click-to-Call* had been decided. This is also inconsistent with Valve's rationale for having to file a Petition when it did. *See* Reply 2 ("Valve filed its petitions because of the Federal Circuit's *en banc* decision."). In any event, as explained below, the issue is the five-month delay in filing, not what prompted it.

16–17; *see also* Trial Practice Guide Update⁴ 9 (referenced at 83 Fed. Reg. 39,989 (Aug. 13, 2018)) (noting that the Director's discretion under § 314(a) is informed by 35 U.S.C. § 316(b), which requires "the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter").

We determine that the sixth and seventh *General Plastic* factors weigh against institution for reasons similar and in addition to those discussed in *Valve I*. In general, having multiple petitions challenging the same patent, especially when not filed at or around the same time as in this case, is inefficient and tends to waste resources. Here, Valve waited until after the institution decision in the 1032 IPR, and then in addition to requesting joinder to the 1032 IPR, filed not one but three additional petitions challenging the '935 Patent, without a substantial explanation of why such additional challenges are necessary given the 1032 IPR.

Furthermore, we note that the efficient administration of the Office is particularly implicated on these facts because there is an ongoing proceeding that includes Valve and that will address all claims of the '935 patent. Having the Office address one set of challenges in the 1032 IPR on its procedural schedule (which Valve agreed to follow) and these three petitions on their own procedural schedule, which Valve seeks here, is an inefficient use of resources.

Finally, if a final decision in the 1032 IPR issues, Patent Owner may argue that Valve should be estopped from "maintain[ing] a proceeding

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⁴ Available at https://go.usa.gov/xU7GP.

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before the Office" with respect to the challenged claims on some or all of the grounds in these follow-on petitions. *See* 35 U.S.C. § 315(e)(1).

Specifically, § 315(e)(1) states that "[t]he petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a) . . . may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review." Because we granted Valve's request to join the 1032 IPR, Valve is now a petitioner in the 1032 IPR. Thus, if the 1032 IPR results in a final written decision, Patent Owner may argue that Valve reasonably could have raised at least some of the grounds in these petitions by requesting joinder of such grounds to the 1032 IPR.⁵ See Apple Inc. v. Papst Licensing GmbH, Case IPR2016-01860, slip op. at 7–9 (PTAB Jan. 10, 2018) (Paper 28) (terminating the proceeding because petitioner was estopped by virtue of being joined to a previous proceeding from which a final decision issued); Parallel Networks Licensing, LLC v. Int'l Bus. Machs. Corp., Case No. 1:13-cv-2072, 2017 WL 1045912, at *11–12 (D. Del. Feb. 22, 2017) (holding that estoppel applies to prior art that party was aware of but did not include in a petition when joining an ongoing IPR).

These serial and repetitive attacks implicate the efficiency concerns underpinning *General Plastic* and, thus, favor denying institution. Given the additional circumstances here, including the ongoing 1032 IPR proceeding

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⁵ To be clear, we need not decide here whether estoppel would apply at some point in the future, but merely point out that if we instituted review in some or all of these proceedings, a collateral dispute on estoppel is a real possibility.

on its own procedural schedule and also the possibility of an estoppel issue, the efficiency concerns underpinning *General Plastic* weigh even more strongly than in *Valve I* in favor of denying institution.

7. *Summary*

As discussed above, the evidence of record shows that all the *General Plastic* factors weigh against institution. As a result, we determine that it is appropriate to exercise our discretion under § 314(a) to deny institution.

III. CONCLUSION

For the forgoing reasons, we exercise our discretion under § 314(a) to deny institution of *inter partes* review.

IV. ORDER

It is hereby

ORDERED that the petitions are *denied*, and an *inter partes* review is not instituted.

For PETITIONER:

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