

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN SILVER STAR INTELLIGENT TECHNOLOGY CO., LTD.,
Petitioner,

v.

IROBOT CORP.,
Patent Owner.

Case IPR2018-00898
Patent 8,600,553 B2

Before WILLIAM V. SAINDON, TERRENCE W. MCMILLIN, and
AMANDA F. WIEKER, *Administrative Patent Judges*.

WIEKER, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Shenzhen Silver Star Intelligent Technology Co., Ltd. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1, 4, 10–13, 22, and 25 (“the challenged claims”) of U.S. Patent No. 8,600,553 B2 (Ex. 1001, “the ’553 patent”). Paper 1 (“Pet.”). iRobot Corp. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”); *see also* Paper 8 (denying Petitioner’s request to file a Reply, for lack of good cause).

We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and the Preliminary Response 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.” 35 U.S.C. § 314; *see also* 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf of the Director.”).

For the reasons that follow, we do not institute an *inter partes* review of any of the challenged claims of the ’553 patent.

B. Related Proceedings

The parties identify the following matters related to the ’553 patent (Pet. 1–2; Paper 4, 2–3):

In re Certain Robotic Vacuum Cleaning Devices And Components Thereof Such As Spare Parts, Inv. No. 337-TA-1057 (USITC);

iRobot Corporation v. Hoover, Inc., et al., Case No. 1:17-cv-10647 (D. Mass.);

iRobot Corporation v. The Black & Decker Corp., et al., Case No. 1:17-cv-10648 (D. Mass.);

iRobot Corporation v. Bissell Homecare, Inc., et al., Case No. 1:17-cv-10649 (D. Mass.);

iRobot Corporation v. bObsweep, Inc., et al., Case No. 1:17-cv-10651(D. Mass.);

iRobot Corp. v. Shenzhen Zhiyi Technology Co. Ltd., Case No. 1:17-cv-10652 (D. Mass.); and

Shenzhen Zhiyi Technology Co., Ltd. v. iRobot Corp., IPR2017-02133 (PTAB) (the “–2133 IPR”).

C. The ’553 Patent

The ’553 patent is directed to autonomous coverage robots used, e.g., in vacuum cleaning, floor washing, patrolling, or lawn cutting. Ex. 1001, 1:16–30. In a described embodiment, “an autonomous coverage robot includes a drive system, a bump sensor, and a proximity sensor. The drive system is configured to maneuver the robot according to a heading (turn) setting and a speed setting.” *Id.* at 3:24–27. “The bump sensor is responsive to a collision of the robot with an obstacle in a forward direction. The proximity sensor is responsive to an obstacle forward of the robot at a proximate distance but not contacting the robot, e.g., 1–10 inches, preferably 1–4 inches.” *Id.* at 27–31.

D. Illustrative Claim

Of the challenged claims, claims 1, 11, and 25 are independent. Claim 1 is illustrative and is reproduced below.

1. An autonomous coverage robot comprising:
 - a drive system configured to maneuver the robot according to a heading setting and a speed setting;
 - a bump sensor responsive to a collision of the robot with an obstacle in a forward direction; and
 - a proximity sensor responsive to a potential obstacle forward of the robot;wherein the drive system is configured to reduce the speed setting in response to a signal from the proximity sensor

indicating detection of a potential obstacle, while continuing to advance the robot according to the heading setting;

wherein the drive system is configured to increase the speed setting if the drive system does not receive a subsequent signal indicating the presence of an obstacle while continuing to advance according to the heading setting and the reduced speed setting; and

wherein the drive system is configured to alter the heading setting in response to a signal received from the bump sensor indicating contact with an obstacle.

Ex. 1001, 17:59–18:11.

E. Applied References

Petitioner relies upon the following references:

Jones et al., U.S. Patent Application No. 2004/0049877 A1, filed Dec. 16, 2002, published Mar. 18, 2004 (Ex. 1005, “Jones–877”);

Kawakami, U.S. Patent No. 5,652,489, filed Aug. 24, 1995, issued July 29, 1997 (Ex. 1006, “Kawakami”);

Jones et al., U.S. Patent Application No. 2004/0207355 A1, filed May 5, 2004, published Oct. 21, 2004 (Ex. 1007, “Jones–355”);

Dale Heatherington, *Dale’s Homemade Robots – Suckmaster II Vacuum Robot*, <https://web.archive.org/web/20020620103553/http://www.wa4d.sy.net:80/robot/suckmaster2/index.html> (accessed Apr. 6, 2018) (Ex. 1008, “Suckmaster Article”); and

Suckmaster2.c, Suckmaster II vacuum robot control program (Ex. 1009, “Suckmaster Code”).

Pet. 6.

Petitioner also relies upon a Declaration of Dale Heatherington (Ex. 1010), an Affidavit of Christopher Butler (Ex. 1011), and a Declaration of Mingshao Zhang (Ex. 1015).

F. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1, 4, 10–13, 22, and 25 of the ’553 patent based on the following grounds. Pet. 8.

References	Basis	Claim(s) Challenged
Jones–877, Kawakami, and Jones–355	§ 103	1, 4, 10–13, 22, and 25
Suckmaster Article and Suckmaster Code	§ 103	1, 4, 11–13, 22, and 25
Suckmaster Article, Suckmaster Code, and Jones–355	§ 103	22

II. DISCUSSION

A. Discretion under 35 U.S.C. § 314(a)

The filing date accorded to the Petition is April 16, 2018. Paper 6, 1. The Petition is the first filed by Petitioner, challenging claims of the ’553 patent. Pet. 1.

Patent Owner contends that we should exercise our discretion to deny institution of this Petition under, *inter alia*, 35 U.S.C. § 314(a). Prelim. Resp. 9–30. Patent Owner argues that this Petition follows an unsuccessful petition filed in the –2133 IPR, which was filed on September 21, 2017, by Shenzhen ZhiYi Technology Co., Ltd., a different petitioner. Prelim. Resp. 1; Pet. 2.

Petitioner does not address § 314(a) in its Petition, although Petitioner acknowledges that the ’553 patent was challenged before the PTAB by Shenzhen ZhiYi Technology Co., Ltd. Pet. 2.¹

¹ After Patent Owner filed its Preliminary Response, Petitioner sought to file a reply brief addressing *General Plastic*. See Paper 8. However, as we explained during a conference call, “Petitioner’s failure to foresee the applicability of § 314(a) does not demonstrate good cause [to file a reply

1. Legal Framework

35 U.S.C. § 314(a) provides that:

The Director [of the USPTO] 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.

Section 314(a) does not require the Director to institute an *inter partes* review. *See 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.”). Rather, a decision whether to institute is within the Director’s discretion, and that discretion has been delegated to the Board. *See* 37 C.F.R. § 42.4(a); *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.”).

In a precedential decision in *General Plastic Industries Co., Ltd. v. Canon Kabushiki Kaisha*, the Board articulated a non-exhaustive list of factors to be considered in evaluating whether to exercise discretion, under 35 U.S.C. § 314(a), to deny a petition that challenges a patent that was previously challenged before the Board. These factors are:

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;

brief]” because “Petitioner should have been aware that [§ 314(a) . . . [would] be at issue.” *Id.* at 4; *see also* 37 C.F.R. § 42.108(c) (“A petitioner may seek leave to file a reply to the preliminary response Any such request must make a showing of good cause.”).

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.

Gen. Plastic, Case IPR2017-01357, Paper 19 (PTAB Sept. 6, 2017) (Section II.B.4.i designated as precedential on Oct. 17, 2017), slip op. at 16 (citing *NVIDIA Corp. v. Samsung Elec. Co.*, Case IPR2016-00134 (PTAB May 4, 2016) (Paper 9)). These factors are “a non-exhaustive list” and “additional factors may arise in other cases for consideration, where appropriate.” *Id.* at 16, 18. With that in mind, we weigh an additional factor:

8. the extent to which the petitioner and any prior petitioner(s) were similarly situated defendants or otherwise realized a similar-in-time hazard regarding the challenged patent.

Shenzhen Silver Star Intelligent Technology Co., Ltd. v. iRobot Corp., IPR2018-00761, Paper 15, 18 (PTAB Sept. 5, 2018) (Saindon, concurring).

2. *Application of the General Plastic Factors*

Factor 1

The first *General Plastic* factor queries “whether the same petitioner previously filed a petition directed to the same claims of the same patent.” *Gen. Plastic*, slip op. at 16.

The instant Petition and the –2133 Petition both challenge claims of the ’553 patent. Pet. 2; Prelim. Resp. 9. Claims 10 and 13 are challenged in the instant Petition, but were not challenged in the –2133 Petition. *Compare* Pet. 7, with –2133 IPR, Paper 1, 1. Accordingly, the petitions are directed to *some* of “the same claims of the same patent.”

Additionally, Patent Owner admits that “the instant Petitioner is different—in name—from the earlier petitioner” in the –2133 IPR. Prelim. Resp. 27. However, according to Patent Owner, Petitioner is “similarly situated to the previous petitioner” because both “were served with complaints alleging infringement of the ’553 patent at substantially the same time, and were codefendants [in ITC Inv. No. 337-TA-1057 (the “ITC Investigation”)] and likely members of a joint defense group.” *Id.*; *see also* Pet. 1–2.

Under our statute, 35 U.S.C. § 315(b), Petitioner is permitted to file a petition for *inter partes* review within one year of being served with a complaint for infringement, and Petitioner’s filing of the instant Petition conforms with § 315(b). *See* Exs. 1003, 1004.

As Patent Owner notes, however, Petitioner and the entity that filed the –2133 Petition are co-respondents in the ITC Investigation. *See* Ex. 1003, 11 (identifying Petitioner and Shenzhen ZhiYi Technology Co., Ltd. as proposed respondents); Prelim. Resp. 27; Pet. 1–2 (identifying

district court and ITC complaints filed by Patent Owner on April 17 and 18, 2017, against Petitioner and the –2133 petitioner). Although this commonality suggests that Petitioner may have known of its co-respondents’ actions at the PTAB, i.e., the filing of the –2133 Petition, and may have had incentives to monitor those proceedings and to work with the –2133 petitioner, that does not mean that Petitioner “previously filed a petition directed to the same claims of the same patent.”

Thus, we determine that Factor 1 weighs *in favor of institution*.

Factor 2

The second *General Plastic* factor queries “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.” *Gen. Plastic*, slip op. at 16.

Patent Owner argues that Petitioner filed its invalidity contentions in the ITC Investigation on September 29, 2017. Prelim. Resp. 14–15 (citing Ex. 2009). Patent Owner contends that those invalidity contentions identified the presently asserted Suckmaster Article and Suckmaster Code. *Id.* at 15; Ex. 2009, 11 (identifying “Suckmaster II Vacuum Robot (includes device, source code, and articles”). Patent Owner also contends that the invalidity contentions identified U.S. Patent No. 6,809,590 (“Jones–490”), wherein the presently asserted Jones–355 is a continuation application of Jones–490. Prelim. Resp. 15; Ex. 2009, 5; *compare* Ex. 1007, (63), *with* Ex. 2003, (21). According to Patent Owner, because the contentions were filed only eight days *after* the –2133 Petition was filed, it is likely that Petitioner knew of the references on September 21, 2017, when the –2133 Petition was filed. Prelim. Resp. 15.

The evidence of record clearly demonstrates that Petitioner knew of the asserted Suckmaster Article and Suckmaster Code at least as of September 29, 2017, when invalidity contentions were filed in the ITC Investigation. Ex. 2009, 11. However, the evidence does not establish definitively that Petitioner knew, or should have known, of these references on September 21, 2017, when the –2133 Petition was filed. Although Patent Owner may be correct that Petitioner may have known of the asserted prior art at that time, it has not been shown by evidence of record. Additionally, although Jones–490 may reflect the same subject matter and content as Jones–355, the evidence of record does not demonstrate when Petitioner became aware of the Jones–355 publication itself. 35 U.S.C. § 311(b) (“printed publications”).

However, Petitioner admits that the presently asserted prior art to Jones–877 and Kawakami was considered by the Examiner during prosecution of the application that issued as the ’553 patent, and the references are listed on the ’553 patent itself. Pet. 6; Prelim. Resp. 15; Ex. 1001, (56). Thus, Petitioner should have known of these references at least as of August 9, 2017, when Petitioner responded to the ITC complaint, asserting the invalidity of the ’553 patent. Ex. 2013, 37.

Thus, we determine that Factor 2 weighs *slightly against institution*.

Factor 3

The third *General Plastic* factor queries “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.” *Gen. Plastic*, slip op. at 16.

The Board explained the relevance of this factor in *General Plastic*:

[F]actor 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 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).

The instant Petition was filed on April 16, 2018. At that time, Petitioner had access to Patent Owner’s Preliminary Response in the –2133 IPR (filed January 5, 2018), and to the Board’s Decision denying institution of that petition (filed March 28, 2018). Thus, the timing of Petitioner’s filing in this case raises the potential for abuse, because Petitioner had ample opportunity to study the arguments raised by Patent Owner, and the Board’s findings and conclusions of law, regarding the commonly challenged claims of the ’553 patent. *See* Prelim. Resp. 16–23.

Indeed, it appears that Petitioner took advantage of “the opportunity to strategically stage their prior art and arguments,” to account for the Board’s decision in the –2133 IPR. *Gen. Plastic*, slip op. at 17–18. For example, in the –2133 IPR, the Board determined that Petitioner had not established sufficiently the prior art status of “Suckmaster II Vacuum Robot” (–2133 IPR, Ex. 1004) and “Suckmaster II vacuum robot control program” (–2133 IPR, Ex. 1005). –2133 IPR, Paper 8, 6. In this proceeding, Petitioner

appears to attempt to avoid a similar outcome by submitting a different version of the Suckmaster Article and a different declaration from the author of the Suckmaster Article, Mr. Dale Heatherington. Prelim. Resp. 20; *compare* –2133 IPR, Exs. 1004, 1006, *with* Exs. 1008, 1010. This approach suggest that Petitioner was aware of, and relied upon, the papers filed in the –2133 IPR when preparing this Petition.

Thus, we determine that Factor 3 weighs *strongly against institution*.

Factors 4 and 5

The fourth *General Plastic* factor considers “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 the fifth *General Plastic* factor queries “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.” *Gen. Plastic*, slip op. at 16.

As discussed above regarding Factor 2, the record establishes that Petitioner should have been aware of at least two of the five references asserted in the instant Petition at least as of August 9, 2017, when Petitioner responded to the ITC complaint, asserting the invalidity of the ’553 patent, and that Petitioner demonstrably was aware of an additional two references at least as of September 29, 2017, when it filed invalidity contentions in the ITC Investigation. Ex. 1004; Ex. 2009. Thus, Petitioner knew of two of the asserted references for almost seven months, and should have known of two additional references for over eight months, before filing this Petition. Petitioner does not provide any explanation related to the timing of its Petition. To the extent a reasonable explanation exists for Petitioner’s delay,

it was incumbent upon Petitioner to identify those circumstances in its Petition. *See* Prelim. Resp. 24–25; Paper 8.

Thus, we determine that Factor 4 weighs *strongly against institution*, and Factor 5 weighs *moderately against institution*.

Factors 6 and 7

The sixth *General Plastic* factor considers “the finite resources of the Board.” *Gen. Plastic*, slip op. at 16. The seventh *General Plastic* factor considers “the requirement . . . to issue a final determination not later than 1 year after the date on which the Director notices institution of review.” *Gen. Plastic*, slip op. at 16.

Patent Owner argues that the Petition presents redundant grounds, which would strain Board resources. Prelim. Resp. 25–26. Patent Owner also contends that the Petition present “numerous evidentiary questions” that could delay a final determination. *Id.* at 26–27.

We know of no reason why this proceeding would tax unduly the resources of the Board, or why we could not meet the requirement of 35 U.S.C. § 316(a)(11) to issue a final determination within one year after institution. Accordingly, we determine that these factors are *neutral* to the analysis.

Proposed Factor 8

We adopt the eighth factor considered in a prior *Shenzhen Silver Star* case, “the extent to which the petitioner and any prior petitioner(s) were similarly situated defendants or otherwise realized a similar-in-time hazard regarding the challenged patent.” *Shenzhen Silver Star*, IPR2018-00761,

Paper 15, 18 (Saindon, concurring); *see also id.* at 16–19 (explaining the reasons for proposed adoption of the factor). The purpose of proposed Factor 8 is to discourage tactical filing of petitions over time by parties that faced the same threat at the same time.² Factor 8 favors Patent Owner because Petitioner and the –2133 petitioner were co-respondents in the ITC litigation, and filed their invalidity contentions in that proceeding at the same time. *See* Ex. 1003; Ex. 2009. Accordingly, Petitioner and the –2133 petitioner both faced a similar-in-time hazard regarding the ’553 patent, yet Petitioner waited until after our Decision on Institution in the –2133 IPR to file this Petition. Absent mitigating explanation, of which we have none, this suggests an attempt to secure tactical advantage by waiting for the petitioner in the –2133 IPR to file a “test case.” Factor 8 weighs against tactical filing of petitions. Thus, proposed Factor 8 favors Patent Owner.

Summary

As detailed herein, we have considered the factors enumerated in *General Plastic*, in determining whether to exercise our discretion under 35 U.S.C. § 314(a). In summary, we determine that:

² As acknowledged and explained in more detail in IPR2018-00761, proposed Factor 8 does not preclude non-tactical filing situations where a later-filing petitioner files later due to circumstances outside that petitioner’s control, for example having been charged with infringement later in time, a change in the nature of the infringement charge (e.g., claims identified for the first time), availability of key personnel required for preparation of the petition, or unusually early filing of the earlier-filing petition. *Shenzhen Silver Star*, IPR2018-00761, Paper 15, 18–19 (Saindon, concurring) (“There are legitimate reasons why a petition may be filed after [a preliminary response or a decision on institution].”).

- i. two factors weigh strongly *against* institution (Factors 3 and 4);
- ii. one factor weighs moderately *against* institution (Factor 5);
- iii. one factor weighs slightly *against* institution (Factor 2);
- iv. one proposed factor weighs *against* institution (Proposed Factor 8);
- v. two factors are *neutral* (Factors 6 and 7); and
- vi. one factor weighs *in favor* of institution (Factor 1).

Considering these factors as a whole, and on this record, we determine that it is appropriate to exercise our discretion under 35 U.S.C. § 314(a) to deny institution of an *inter partes* review of the challenged claims of the '553 patent.

III. CONCLUSION

For the foregoing reasons, we exercise our discretion to deny institution of an *inter partes* review, pursuant to 35 U.S.C. § 314.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that the Petition is *denied* as to all challenged claims, and no trial is instituted.

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