

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KATUN CORPORATION,
Petitioner,

v.

TOSHIBA TEC CORPORATION and
TOSHIBA AMERICA BUSINESS SOLUTIONS, INC.,
Patent Owner.

Case IPR2016-01149
Patent 8,554,091 B2

Before STACEY G. WHITE, JENNIFER MEYER CHAGNON, and
MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Katun Corporation (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1, 3, and 11 of U.S. Patent No. 8,554,091 B2 (Ex. 1001, “the ’091 patent”). Toshiba Tec Corporation and Toshiba America Business Solutions, Inc. (collectively, “Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we deny institution of an *inter partes* review.

I. BACKGROUND

A. *Related Proceedings*

The parties identify one case involving the ’091 patent: *Toshiba Tec Corp. v. Katun Corp.*, 8:15-cv-01979-DDP-JC (C.D. Cal. Nov. 25, 2015). Pet. 11; Paper 6, 2.

Petitioner further identifies the following petition for *inter partes* review involving the same parties: IPR2016-01010. Pet. 11.

B. *The ’091 patent*

The ’091 patent relates to an image control technique for an image forming apparatus with a toner cartridge mounted on it. Ex. 1001, at [57], 1:18–19. The image forming apparatus (e.g., copier) includes a memory as well as various other components, such as a photoconductive drum, a developing device, a cleaner, a charger, and a fixing device. *Id.* at 2:6–3:15, 4:27–28. The copier’s memory stores inquiry data. *Id.* at 4:53–55.

The toner cartridge also includes a memory, which stores inquiry data and control tables. *Id.* at 4:8–9. The control tables contain image formation parameters, which are set values for the operations of the various copier components. *Id.* at 4:4–7, 4:12–22; *see also id.* at Figs. 5–6. These set values depend on the physical properties (or characteristics) of the toner as well as the temperature or humidity of the copier or the number of printed sheets. *Id.* at 4:12–16, 4:30–35, 5:15–21, Figs. 5–6.

When the copier is turned on, it compares inquiry data stored in its memory with inquiry data stored in the toner cartridge’s memory. *Id.* at 4:50–56. If the data do not match (i.e., the copier does not recognize the toner cartridge mounted on it), the copier does not change any of its image formation parameters, and it proceeds with a normal printing operation. *Id.* at 4:59–62. If the data do match, the copier selects and reads one of the control tables in the toner cartridge’s memory and writes the selected control table to the copier’s memory. *Id.* at 4:66–5:3. The copier then sets its image formation parameters using the set values provided in the selected table and proceeds with a printing process according to the new image formation parameters. *Id.* at 5:27–40. According to the ’091 patent, this technique provides the optimal process condition control, and “the toner cartridge [] can be used for a long time.” *Id.* at 5:41–47, 6:1–7.

C. Illustrative Claim

Petitioner challenges claims 1, 3, and 11. Claims 1 and 11 are independent. Claim 1 is illustrative of the claims under challenge:

1. A toner cartridge for use with an image forming apparatus having an acquiring unit configured to acquire identification data from the toner cartridge when the toner cartridge is mounted on

the image forming apparatus; a reading unit configured to read parameter information including image formation process parameters dependent on toner characteristic or ambient conditions, from the toner cartridge when the acquired identification data matches identifying data previously stored in the image forming apparatus, and not read the parameter information from the toner cartridge when the acquired identification data does not match the identifying data; and a control unit configured to control an image forming process based on the parameter information including the image formation process parameters when the acquired identification data matches the identifying data, and control the image forming process without regard to the image formation process parameters when the acquired identification data does not match the identifying data, the toner cartridge comprising:

a memory configured to store the identification data of the toner cartridge and the parameter information including the image formation process parameters dependent on toner characteristic or ambient conditions.

D. Asserted Grounds of Unpatentability

Petitioner challenges claims 1, 3, and 11 of the '091 patent on the following grounds. Pet. 12, 25–58.

Reference(s)	Basis	Claim(s) Challenged
Tahashi ¹	§ 102	1
Tabb ²	§ 102	1, 3, and 11
Tabb and Okubo ³	§ 103	3 and 11
Best ⁴	§ 102	1
Best and Okubo	§ 103	3 and 11

¹ Tahashi, Japanese Publ'n No. H6-149051, published May 27, 1994 (Ex. 1009).

² Tabb, U.S. Publ'n No. US 2004/0141763 A1, published July 22, 2004 (Ex. 1028).

³ Okubo, U.S. Patent No. 7,149,437 B2, issued Dec. 12, 2006 (Ex. 1014).

⁴ Best, U.S. Patent No. 6,181,885 B1, issued Jan. 30, 2001 (Ex. 1010).

Reference(s)	Basis	Claim(s) Challenged
Hanano ⁵	§ 102	1
Hanano and Watanabe ⁶	§ 103	3 and 11

In support of its arguments, Petitioner proffers the Declaration of Dr. Elliot Stern (Ex. 1019). *See id.*

E. Claim Construction

We construe claims in an unexpired patent by applying the broadest reasonable interpretation in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Under this standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). A “claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer,” however, and clearly set forth a definition of the claim term in the specification. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

In light of Petitioner’s challenges to patentability of the claims, we address the preambles of independent claims 1 and 11 as well as the claim term “image formation process parameters.”

⁵ Hanano, U.S. Patent No. 7,756,427 B2, issued July 13, 2010 (Ex. 1013).

⁶ Watanabe, U.S. Patent No. 5,915,143, issued June 22, 1999 (Ex. 1016).

1. Preambles

The preamble of independent claim 1 recites:

A toner cartridge for use with an image forming apparatus having an acquiring unit configured to acquire identification data from the toner cartridge when the toner cartridge is mounted on the image forming apparatus; a reading unit configured to read parameter information including image formation process parameters dependent on toner characteristic or ambient conditions, from the toner cartridge when the acquired identification data matches identifying data previously stored in the image forming apparatus, and not read the parameter information from the toner cartridge when the acquired identification data does not match the identifying data; and a control unit configured to control an image forming process based on the parameter information including the image formation process parameters when the acquired identification data matches the identifying data, and control the image forming process without regard to the image formation process parameters when the acquired identification data does not match the identifying data.

The preamble of independent claim 11 recites similar language. Petitioner argues that the preambles of these claims are not limiting because “the entire preamble of each independent claim after ‘[a] toner cartridge’ follows the clause ‘for use with,’” which is “classic language setting forth an intended use which is not limiting.” Pet. 17 (citing *TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323–24 (Fed. Cir. 2015)). Petitioner also argues that “the claims set forth a structurally complete invention without the printer.” *Id.* Patent Owner counters by pointing out that the preambles provide antecedent basis for several claim terms, including “toner cartridge,” “identification data,” “parameter information,” and “image formation process parameters,” thereby breathing life and meaning into the claims. Prelim. Resp. 19 (citing *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 866 (Fed. Cir. 1985)).

According to Petitioner, however, “[i]t changes nothing about this Petition if those words are limiting, and it does not make any of the printer components or match/no match behavior limiting,” as “[i]t is possible that portions of a preamble are limiting and that other portions are not limiting.” Pet. 19 (citing *TomTom*, 790 F.3d at 1323).

We are not persuaded that the preambles of claims 1 and 11 merely state an intended use or that the claims define a structurally complete invention without the image forming apparatus. “A claim’s preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim.” *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1284 (Fed. Cir. 2011); see *Bell Commc’ns Research, Inc. v. Vitalink Commc’ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995) (“[W]hen the claim drafter chooses to use *both* the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects.”). The preamble generally is construed to be limiting if it “recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1305 (Fed. Cir. 2005) (quoting *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). “For example, the preamble may be construed as limiting when it recites particular structure or steps that are highlighted as important by the specification.” *Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1372 (Fed. Cir. 2014). “Additionally, ‘[w]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.’” *Id.* (citing *NTP*, 418 F.3d at 1306).

These considerations support the conclusion that the preambles here are limiting. First, the specification of the '091 patent describes the invention as providing “*an image forming apparatus* mounted with a toner cartridge” including “a toner cartridge which stores a plurality of control data depending on toner” and various components “which select[] one of the plurality of control data in the memory unit [of the toner cartridge],” “acquire[] image formation-related information,” and “set[] image formation parameters on the basis of the image formation-related information.” Ex. 1001, 1:53–61, [57] (emphasis added); *see also id.* at 1:47–49 (“the invention provides an image forming apparatus that can properly make image control depending on a toner cartridge”). Thus, we are persuaded that portions of the preambles relating to the image forming apparatus and its components are limiting.

The specification of the '091 patent also describes the invention as “relat[ing] to an image control technique depending on toner filled in a toner cartridge.” *Id.* at 1:19–20. For each of the embodiments described in the '091 patent, the image control technique includes comparing acquired inquiry data from the toner cartridge with inquiry data stored in the image forming apparatus to determine whether the two data match. *See id.* at 4:54–5:3 (describing the technique for a first embodiment of the invention), 6:32–45 (describing the technique for a second embodiment of the invention), 7:32–37 (describing the technique for a third embodiment of the invention). If there is no match, then the image forming apparatus operates without changing image formation parameters; and, if there is a match, then the image forming apparatus changes the image formation parameters and operates based on information from the toner cartridge. *See id.* at 4:59–5:3,

5:41–47, 6:38–67, 7:38–8:39. Given that the “match/no match behavior” is a part of the image control technique for each of the embodiments described in the ’091 patent, we determine that such behavior is “highlighted as important” by the ’091 patent specification. *See Proveris Scientific*, 739 F.3d at 1372. Thus, we are persuaded that portions of the preamble relating to the “match/no match behavior” also are limiting.

Second, the remaining portions of the preambles provide antecedent basis for the claim terms “toner cartridge,” “identification data,” “parameter information,” “image formation process parameters,” “toner characteristic,” and “ambient conditions.” Accordingly, we are persuaded that these portions of the preambles are limiting.

In view of the foregoing, we determine that the preambles of claims 1 and 11, in their entirety, are limiting.

2. “*image formation process parameters*”

Each of the challenged claims 1, 3, and 11 recites “image formation process parameters.” The specification of the ’091 patent defines this claim term: “The image formation parameter means set values for the operations of the photoconductive drum 11a, the developing device 13a, the cleaner 16a, the charger 17a, and the fixing device 19 performing the printing operation.” Ex. 1001, 4:4–7. Examples of these set values include “charging voltage values of the charger 17a for the printing operation and the like.” *Id.* at 4:12–15.

Despite acknowledging such definition, Petitioner argues that the claim term is not limited to voltages and means instead “parameters used by the control unit to control the printing process.” Pet. 21. In support of its

argument, Petitioner points out that “the ’091 patent teaches that IFPPs [image formation process parameters] may be voltage *biases*,” which are “*offset[s]* to a reference value.” *Id.* Petitioner also points out that “the patent recites examples of IFPPs that are not voltages.” *Id.*

Patent Owner counters that “image formation process parameters” means “set values for controlling the operation of the printing components of the image forming apparatus,” consistent with the ’091 patent specification. Prelim. Resp. 21. According to Patent Owner, “all the examples of values stored in the control tables are set values that control the individual components of the image forming apparatus.” *Id.* at 21–22.

We agree with Patent Owner. The ’091 patent teaches the image formation parameters to be *set* values. Ex. 1001, 4:4–7. As Petitioner observes, these values may be control voltages, bias voltages, or physical property values (i.e., non-voltage values). Pet. 21; Ex. 1001, 4:12–26 (“set values such as a developing bias value of the developing device 13a, a toner concentration (or the intensity of laser beam), a peeling output voltage value of the cleaner 16a, . . . and a value relating to the operation of the photoconductive drum 11a may be defined”), 8:14–23 (“The image formation parameters are parameter data in which the control voltages . . . and the physical property values . . . are set for each material characteristic of the toner varying depending on the environment conditions.”). Petitioner’s proposed construction, however, does not take into account that the values are “set.”

Thus, we determine that, under a broadest reasonable construction in light of the ’091 specification, the recited term “image formation process

parameters” means “set values for controlling the operation of the printing components of the image forming apparatus.”

II. DISCUSSION

A. Grounds Based on Tahashi or Tabb

Petitioner argues several grounds in the alternative, and these alternatives are based on our determination as to whether the preambles of claims 1 and 11 are limiting. Pet. 25–58. As discussed above, we determine the preambles to be limiting. Thus, we decline to institute the grounds predicated on the assumption that we would determine that those preambles are not limiting. Specifically, we decline to institute the following asserted grounds: (1) Tahashi anticipates claim 1; (2) Tabb anticipates claims 1, 3, and 11; and (3) Tabb and Okubo render obvious claims 3 and 11. *See* Pet. 25–34.

B. Anticipation by Best

Petitioner argues that Best anticipates claim 1. Pet. 12, 35–38, 41–44. For the reasons explained below, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its asserted ground.

1. Best

Best describes a printer (or copier) with a toner container. Ex. 1010, 2:26–28. When the toner container is mounted on the printer, the printer determines whether the toner container has a memory. *Id.* at 2:32–35. If the toner container has a memory, then the printer reads the data in the memory. *Id.* at 2:35–38, 8:24–28. The data includes operating data, such as the toner

type. *Id.* at 7:44–45, 8:1–2. After reading the operating data, the printer calls up previously-stored, corresponding system data (e.g., toner concentration) and calculates process data (e.g., the contrast value KW) based on the toner type. *Id.* at 8:6–10, 9:39–42. The printer then uses these data as settings for the next electrophotographic process (printing operation). *See id.* at 8:9–10, 9:39–42, 16:1–21 (claim 39), Fig. 6.

2. Analysis

Claim 1 recites a “toner cartridge comprising[] a memory configured to store . . . image formation process parameters.” For this limitation, Petitioner argues that Best’s toner container 57 discloses a “toner cartridge,” Best’s chip card 64 discloses a “memory,” and Best’s operating data discloses “image formation process parameters.” Pet. 35–37, 42. Regarding the recited image formation process parameters, Petitioner points out that Best’s operating data “are used to control printing” and concludes that “these data are IFPPs.” *Id.* at 36–37 (citing Ex. 1010, at [57] (abstract), 1:9–13, claim 39). Petitioner relies on Dr. Stern’s declaration testimony to support its argument. *Id.* at 37 (citing Ex. 1019 ¶ 131). In his declaration, Dr. Stern additionally identifies Best’s toner concentration as an “image formation process parameter.” Ex. 1019 ¶ 131 (“These operating data are IFPP because a control unit uses these data to the ‘process control arrangement’ Further, because the required toner concentration is a parameter commonly used by EP printer control units to control print quality, it is an IFPP.”).

We are unpersuaded by Petitioner’s argument. As discussed above, we construe “image formation process parameters” to mean “set values for

controlling the operation of the printing components of the image forming apparatus.” While Best’s operating data may be stored on the chip card of the toner container, they are not *set* values. Best explains that the operating data include toner type and counter reading. Ex. 1010, 8:1–2. Referring to Figure 6, Best further explains that, “in Step S7, specific electrophotographic values such as a value KW for the setting of the contrast are then set *dependent on the identified toner type.*” *Id.* at 9:39–42 (emphasis added), Fig. 6. Moreover, Figure 6 of Best shows that step S7 – setting electrophotographic values – takes place in a control panel process controller (or PC-control panel), which is a part of the printer, not the toner container. *Id.* at Figs. 4–6. Thus, as Patent Owner points out, “the memory on the toner container of Best does not contain [the recited] ‘image formation process parameters.’” Prelim. Resp. 36.

As to Dr. Stern’s declaration testimony that Best’s toner concentration satisfies the recited image formation process parameter, Petitioner’s reliance on such testimony is an improper incorporation by reference of arguments asserted in a declaration, which we will not consider here. *See* 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”).

Petitioner further argues that Best’s IS data also discloses “image formation process parameters.” Pet. 38. According to Petitioner, “the ‘IS’ data read from the toner cartridge memory leads, through steps S6, S7, and S8 to the setting of ‘electrophotography setting[s]’ in step S9.” *Id.* at 37–38. We are unpersuaded by Petitioner’s argument. Best’s IS data indicates the presence of a chip card on a toner container, whereas NIS data indicates the absence of a chip card on a toner container. *See* Ex. 1010, 9:21–25. If a

chip card is present, data from the chip card is forwarded to the printer. *See id.* at 9:25–29. As discussed above, the printer uses that data to set electrophotographic values for operating the printer. *See id.* at Fig. 6.

Although Best’s IS data may lead to the setting of electrophotography values in the printer, Petitioner does not provide persuasive explanation as to how the IS data is a set value for controlling the operation of a printing component of the printer, as required by our construction of “image formation process parameters.”

In view of the foregoing, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing in showing that Best anticipates claim 1.

C. Obviousness over Best and Okubo

Petitioner argues that claims 3 and 11 would have been obvious over Best and Okubo. Pet. 12, 38–47. Claim 3 depends from claim 1, while independent claim 11 combines limitations from claims 1 and 3. Petitioner’s arguments and evidence regarding these claims do not remedy the deficiencies discussed above with respect to claim 1 in relation to Best. *See* Pet. 39 (arguing that, “[w]ith respect to Claims 3 and 11, Best lacks only humidity control and storing IFPPs i[n] a table,” and “Okubo . . . fills these gaps”). For the reasons discussed above, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on its assertion that claims 3 and 11 would have been obvious over Best and Okubo.

D. Anticipation by Hanano

Petitioner argues that Hanano anticipates claim 1. Pet. 12, 47–50. For the reasons explained below, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its asserted ground.

1. Hanano

Hanano describes an image forming apparatus with a toner container mounted on it. Ex. 1013, at [57]. The toner container has an information providing section (or RFID tag) that provides toner quality information. *Id.* at 5:16–18, 5:26–27. When the toner container is mounted on the image forming apparatus, the image forming apparatus acquires the toner quality information from the toner container. *Id.* at 6:62–7:2. The image forming apparatus then sets an appropriate printing function based on the toner quality information. *Id.* at 7:3–8. For example, the image forming apparatus sets a “high printing function.” *Id.* at 7:8–10. If the image forming apparatus cannot acquire the toner quality information, however, it will set a “low printing function.” *Id.* at 7:11–16.

2. Analysis

As discussed above, claim 1 recites a “toner cartridge comprising[] a memory configured to store . . . image formation process parameters.” For this limitation, Petitioner argues that Hanano’s toner container 20 discloses a “toner cartridge,” Hanano’s RFID tag 31 (or information providing section 30) discloses a “memory,” and Hanano’s toner quality information discloses “image formation process parameters.” Pet. 47–48, 56. Regarding the recited image formation process parameters, Petitioner explains that

“Hanano uses information read [from] the toner cartridge memory to set a high quality image mode.” *Id.* at 50. Petitioner also points out that “Applicant admitted as much: ‘Hanano is configured to control the image forming process based on the information in the memory 30 of the toner cartridge 20.’” *Id.* at 49–50 (citing Ex. 1006, 173).

We are unpersuaded by Petitioner’s argument. As Patent Owner indicates, “[i]f the image forming system [in Hanano] is able to read the toner quality information from the toner cartridge memory, then the control section of the system will change the printing operation on the basis of that toner quality.” Prelim. Resp. 46 (citing Ex. 1013, 7:29–46); *see also* Ex. 1013, at [57] (“The control section [of the image forming apparatus] is operable, based on the toner-quality information acquired by the information acquisition section, to identify the quality of the toner contained in the toner container and set a printing function based on the identified toner quality.”). Given the cited portions of Hanano, Petitioner does not provide persuasive explanation as to how Hanano’s toner quality information is a *set* value for controlling the operation of a printing component of the image forming apparatus, as required by our construction of “image formation process parameters.”

In view of the foregoing, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing in showing that Hanano anticipates claim 1.

E. Obviousness over Hanano and Watanabe

Petitioner argues that claims 3 and 11 would have been obvious over Hanano and Watanabe. Pet. 12, 50–53, 56–58. Claim 3 depends from

claim 1, while independent claim 11 combines limitations from claims 1 and 3. Petitioner's arguments and evidence regarding these claims do not remedy the deficiencies discussed above with respect to claim 1 in relation to Hanano. See Pet. 52 (arguing that, "[w]ith respect to Claims 3 and 11, Hanano lacks only humidity control and storing IFPPs in a table," and "Watanabe . . . fills these gaps"). For the reasons discussed above, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on its assertion that claims 3 and 11 would have been obvious over Hanano and Watanabe.

F. Priority Date

Petitioner argues that "the earliest possible priority date for the challenged claims is August 6, 2008," and, therefore, Hanano qualifies as prior art. Pet. 13, 47. Patent Owner counters that "Hanano cannot qualify as prior art" because "the claimed subject matter of the '091 Patent has priority to App. I's filing date, October 29, 2007." Prelim. Resp. 11, 45. Because we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on any of its assertions based on Hanano for the reasons discussed above, it is unnecessary for us to reach this issue.

III. CONCLUSION

For the foregoing reasons, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail on any of the asserted grounds as to any of the challenged claims of the '091 patent.

IV. ORDER

For the reasons given, it is

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

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