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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MASATO SUZUKI

Appeal 2017-007790
Application 14/619,192
Technology Center 2800

Before BRADLEY R. GARRIS, AVELYN M. ROSS, and JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to reject claims 1–8. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

STATEMENT OF THE CASE

Appellant claims a print control apparatus (independent claim 1), a print control method (independent claim 7), and a non-transitory computer

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[1] Appellant is the Applicant, Seiko Epson Corporation, which, according to the Appeal Brief, is the real party in interest. Appeal Brief filed November 10, 2016 ("App Br"), 4.

readable storage medium storing computer program (independent claim 8). App. Br. 13, 15–16. Claim 1 illustrates the subject matter on appeal and is reproduced below:

> 1. A print control apparatus which controls ejection of fluid from a nozzle array in which a plurality of nozzles are arranged in lines, and movement of the nozzle array in a direction intersecting a direction in which the nozzles are arranged in lines,
>
> wherein *a first determining section determines whether a number of the nozzles used to eject ink in one nozzle group*, which consists of a predetermined number of continuously arranged nozzles in the nozzle-array which continuously eject fluid, *exceeds a first predetermined threshold value* during one ejection of the nozzle-array in a single scanning pass,
>
> wherein *a second determining section determines*, when the first determining section has determined that the number of nozzles used to eject ink in the one nozzle group exceeds the first predetermined threshold value, *whether an ejection amount of the fluid ejected from the one nozzle group* to an ejection region in the single scanning pass *exceeds a second predetermined threshold value*,
>
> wherein when the ejection amount of the fluid ejected in the one nozzle group exceeds a second predetermined threshold value, the ejection of the fluid from the nozzle-array to the ejection region is performed in multiple scanning passes, wherein a number of passes of the multiple scanning passes is more than a number of passes originally required.

App. Br. 13 (Claims Appendix) (emphasis added).

Independent claim 7 recites a print control method that comprises, *inter alia*, determining whether a number of nozzles used to eject ink in one nozzle group consisting of nozzles in a nozzle array exceeds a first predetermined threshold value during one ejection of the nozzle-array in a single scanning pass, and determining whether an ejection amount of the

fluid ejected from the one nozzle group in a single scanning pass exceeds a second predetermined threshold value. Independent claim 8 recites a non-transitory computer readable storage medium storing computer program that causes a print control apparatus to perform, *inter alia*, determining whether a number of nozzles used to eject ink in one nozzle group consisting of nozzles in a nozzle array exceeds a first predetermined threshold value during one ejection of the nozzle array in a single scanning pass, and determining whether an ejection amount of the fluid ejected from the one nozzle group in a single scanning pass exceeds a second predetermined threshold value.

The Examiner sets forth the following rejections in the Office Action entered August 10, 2016 ("Office Act."), and maintains the rejections in the Answer entered February 27, 2017 ("Ans."):

I. Claims 1 and 5–7 under 35 U.S.C. § 103 as unpatentable over Kato et al. (US 6,371,608 B; issued April 16, 2002) in view of Takahashi (US 5,984,454; issued November 16, 1999);

II. Claims 2 and 3 under 35 U.S.C. § 103 as unpatentable over Kato in view of Takahashi and Otsuka (US 6,283,569 Bl; issued September 4, 2001);

III. Claim 4 under 35 U.S.C. § 103 as unpatentable over Kato in view of Takahashi and Mizutani (US 2009/0153606 Al; published June 18, 2009); and

IV. Claim 8 under 35 U.S.C. § 103 as unpatentable over Kato in view of Takahashi and Takahashi II (US 6,966,621 B2; issued November 22, 2005).

DISCUSSION

Upon consideration of the evidence relied upon in this appeal and each of Appellant's contentions, we reverse the Examiner's rejections of claims 1–8 under 35 U.S.C. § 103 for the reasons set forth below.

We need only consider independent claims 1, 7, and 8 because the remaining claims depend from claim 1.

The Examiner finds that Kato discloses a print control apparatus that controls ejection of fluid from a nozzle array. Office Act. 3 (citing Kato col. 4, ll. 30–33; Fig. 6A). The Examiner finds that Kato discloses determining if the duty threshold (predetermined threshold) has been exceeded, and the Examiner determines that Kato therefore teaches determining whether a number of nozzles used to eject ink in one nozzle group exceeds a first predetermined threshold value. Office Act. 3, 8, 13 (citing Kato col. 3, ll. 44–50, col. 4, ll. 33–63, col. 9, ll. 20–55, and Fig. 11). The Examiner further finds that Kato discloses determining whether an ejection amount of fluid ejected from the one nozzle group exceeds a second predetermined threshold value. Office Act. 4, 8–9, 13–14 (citing Kato col. 3, ll. 44–50, col. 4, ll. 33–63, col. 9, ll. 20–55, and Fig. 11). The Examiner thus finds that "Kato [] teaches the determining section and determining steps" recited in claims 1, 7, and 8. Ans. 4.

Appellant points out that Kato defines printing duty as "a ratio of a number of actual ejections for each color during the single scanning operation to a maximum number of ejections which can be executed for each color during the single scanning operation." App. Br. 10; Kato col. 9, ll. 24–28. Appellant argues that the printing duty disclosed in Kato is thus a percentage of actual ejections to maximum possible ejections for each color,

and is not the number of ejection nozzles engaged in an ejection process during a single pass as recited in claims 1, 7, and 8. App. Br. 10.

In response, the Examiner asserts that in order for one of ordinary skill in the art to determine the ratio of actual ejections to maximum possible ejections (the duty) "one of ordinary skill in the art would be required to know the number of nozzles capable of ejecting [i.e. maximum possible ejections] and the number of nozzles used to eject ink [i.e. actual ejections]." Ans. 2. Thus, the Examiner determines that the number of nozzles used to eject ink corresponds to the number of actual ejections, and the number of nozzles capable of ejecting ink corresponds to the maximum number of possible ejections. However, the Examiner does not identify any disclosure in Kato, or provide any other objective evidence, supporting this determination. Specifically, the Examiner does not identify any disclosure in Kato establishing that the number of actual ejections for each color during a single scanning operation, and/or the maximum number of ejections that can be executed for each color during the single scanning operation, are indicative of, or correspond to, the number of nozzles used to eject ink in one nozzle group during a single pass, as recited in claims 1, 7, and 8. Accordingly, the Examiner does not establish that Kato discloses or would have suggested determining whether a number of nozzles used to eject ink in one nozzle group exceeds a first predetermined threshold value during one ejection of a nozzle array in a single scanning pass, as required by claims 1, 7 and 8. Nor does the Examiner establish that the apparatus disclosed in Kato would be capable of determining whether a number of nozzles used to eject ink in one nozzle group exceeds a first predetermined threshold value during one ejection of a nozzle array in a single scanning pass, as required

by the functional language of claim 1. *In re Schreiber*, 128 F.3d 1473, 1477–79 (Fed. Cir. 1997)("Schreiber's contention that his structure will be used to dispense popcorn does not have patentable weight if the structure is already known" and "the Board [correctly] found that the Harz dispenser [for dispensing lubricating oil] would be capable of dispensing popcorn in the manner set forth in claim 1 of Schreiber's application.").

In addition, although the Examiner asserts that Kato discloses determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, the Examiner does not explain how the portions of Kato cited by the Examiner in support of this finding actually disclose, or would have suggested, this subject matter. Office Act. 4, 8–9, 13–14. Notably, as set forth above, the Examiner relies on the same portions of Kato for supposedly disclosing both determining whether a number of nozzles used to eject ink in one nozzle group exceeds a first predetermined threshold value during one ejection of a nozzle array in a single scanning pass, and determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value. However, the Examiner does not explain with particularity which of the cited disclosures correspond to each separate element of claims 1, 7, and 8. Office Act. 3–4, 8–9, 13–14. Accordingly, the Examiner does not articulate reasoning having rational underpinning as to why one of ordinary skill in the art would have understood Kato to disclose or suggest determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, as required by claims 1, 7, and 8. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) ("[R]ejections on obviousness grounds cannot be sustained by mere

conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.") Nor does the Examiner establish that the apparatus disclosed in Kato would be capable of determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, as required by the functional language of claim 1. *Schreiber*, 128 F.3d at 1477–79.

Although it appears that the Examiner may rely on Takahashi alone or in combination with Kato for disclosing or suggesting determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, the Examiner again does not explain how the portions of Takahashi cited by the Examiner alone or in combination with the relied-upon portions of Kato actually disclose, or would have suggested, this subject matter recited in claims 1, 7, and 8. Office Act. 5–7, 8–9, 13–14. Accordingly, the Examiner does not articulate reasoning having rational underpinning as to why one of ordinary skill in the art would have understood Takahashi alone or in combination with Kato to disclose or suggest determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, as required by claims 1, 7, and 8. *KSR*, 550 U.S. at 418. Nor does the Examiner establish that an apparatus disclosed or suggested by Takahashi alone or in combination with Kato would be capable of determining whether an ejection amount of fluid ejected from one nozzle group exceeds a second predetermined threshold value, as required by the functional language of claim 1. *Schreiber*, 128 F.3d at 1477–79.

We accordingly do not sustain the Examiner's rejections of claims 1–8 under 35 U.S.C. § 103.

DECISION

We reverse the Examiner's rejections of claims 1–8 under 35 U.S.C. § 103.

REVERSED