UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ULRICH HETZER, JAN KEUNECKE, TORSTEN SCHLAAFF, and GEORGE G. GELFER

Appeal 2007-3979
Application 10/842,694
Technology Center 2800

Decided: February 27, 2008

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and KEVIN F. TURNER, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-3, 5-7 and 9-11. Claim 4 has been canceled and claim 8 was indicated by the Examiner to contain allowable subject matter subject to being rewritten in independent form. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing on this appeal was conducted on February 13, 2008.

We affirm.

Appellants' claimed invention relates to a method for determining warm up cycle data of an inkjet printhead in which warm up data and data representative of a first condition are stored before the first use of a newly installed ink cartridge. Parameter data is accumulated and stored for at least two second conditions related to a fast start during repeated use of the inkjet printhead and the appropriate warm up data for the second conditions are tabulated and used for a fast start of the inkjet printhead. (Specification 5-8). Claim 1 is illustrative of the invention and reads as follows:

1. A method for determining data for a warmup cycle of an ink jet printhead before operating said ink jet printhead comprising the steps of:

storing warmup data and data representing a first condition in a memory of an apparatus employing an ink jet printhead upon installation of an ink cartridge for said ink jet printhead in said apparatus, before a first use of said newly installed ink cartridge;

accumulating and storing parameter data for at least two second conditions for a fast start, executed in less than 30 seconds, of said ink jet

printhead during repeated use of said ink jet printhead said second conditions being selected from the group consisting of temperature-related data, history-related and user-related data; and

determining warmup data for said second conditions from said parameter data and employing said warmup data for said second conditions in said fast start of said ink jet printhead.

The Examiner relies on the following prior art references to show unpatentability:

Smith	US 4,791,435	Dec. 13, 1988
Kneezel	US 5,107,276	Apr. 21, 1992
Wiklof	US 5,548,688	Aug. 20, 1996
Wade	US 5,714,989	Feb. 3, 1998

Claims 1-3 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Kneezel.

Claims 5 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Kneezel and further in view of Wiklof.

Claims 6, 10, and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Kneezel and further in view of Wade.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief and Answer for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived [see 37 C.F.R. § 41.37(c)(1)(vii)].

ISSUES

(i) Under 35 U.S.C § 103(a), with respect to appealed claims 1-3 and 7, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Smith and Kneezel to render the claimed invention unpatentable?

(ii) Under 35 U.S.C § 103(a), with respect to appealed claims 5 and 9, would one of ordinary skill in the art at the time of the invention have found it obvious to modify the combination of Smith and Kneezel by adding the teachings of Wiklof to render the claimed invention unpatentable?

(iii) Under 35 U.S.C § 103(a), with respect to appealed claims 6, 10, and 11, would one of ordinary skill in the art at the time of the invention have found it obvious to modify the combination of Smith and Kneezel by adding the teachings of Wade to render the claimed invention unpatentable?

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore, "'there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness' . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of

ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)(quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

With respect to the Examiner's 35 U.S.C. § 103(a) rejection of appealed independent claim 1 based on the combination of Smith and Kneezel, Appellants' arguments in response assert a failure to set forth a prima facie case of obviousness since all of the claimed limitations are not taught or suggested by the applied prior art references. Appellants' arguments focus on the contention that, in contrast to the claimed invention, the printhead control system disclosed by Smith determines warm up cycle data based only upon sensed temperature data. According to Appellants (Br. 13-17), there is no disclosure in Smith of the determination of warm up cycle data based on at least two predetermined conditions in addition to an initial condition, such as sensed temperature.

We do not find Appellants' arguments to be persuasive. As illustrated in Figures 2A-2B of Smith, multiple outputs from the read only memory 2b of microprocessor 2 to the pulse generator 24a of the printhead control logic circuit 24 are representative of stored data indicative of printhead conditions such as use profile, ink color, substrate location in addition to temperature. In addition, we find in Smith an explicit disclosure of the determination of the number of printhead warmup pulses being based on multiple conditions. As described by Smith at column 2, lines 6-12:

> At low temperatures low energy pulses are sent to a nozzle to heat it. These pulses are below the threshold which would cause a drop of ink to be fired. *The number of pulses used in this*

> *warmup process is based on the nozzle's temperature, the location of the nozzle in the substrate, the dye (color) in the nozzle, and the use profile of the nozzle.* (Emphasis added).

We also find to be without merit Appellants' related argument (Br. 13) that, since Smith illustrates in Figure 2A that information is only proceeding from the data processing section 2a to the read only memory 2b where data related to other print conditions are stored, there is no utilization of anything other than sensed temperature in determining warm-up data. It is immaterial in the context of the claimed subject matter whether information is actually read by the processor 2a from the read only memory 2b and further processed. In our view, there is an unambiguous disclosure in Smith of the processor 2a, at the very least, directing the flow of printhead multiple condition data to the pulse generator of the printhead control circuit which in turn uses the data to control the generation of warm up pulses. (Smith, col. 2. ll. 8-12).

We further find no error in the Examiner's finding (Ans. 5, 11, and 12) that Kneezel's teaching of using ambient temperature as a control factor to prevent printhead temperature fluctuation and to achieve fast starting would serve as an obvious enhancement to the system of Smith. As described by Kneezel at column 12, lines 20-23, fast starting is achieved within 1-4 seconds which is within the claimed "less than 30 seconds."

Appellants' arguments (Br. 14-16) attack Kneezel as not disclosing that conditions in addition to ambient temperature are used in determining warm up data. We find such contention to be unpersuasive since the Examiner has relied upon Smith, not Kneezel, for a teaching of multiple printhead condition data in addition to temperature condition data being used

to determine printhead warm up data. It is apparent from the Examiner's line of reasoning in the Answer that the basis for the obviousness rejection is the combination of Smith and Kneezel. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F. 2d 413, 425 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F. 2d 1091, 1096 (Fed. Cir. 1986).[1]

For the above reasons, since it is our opinion that the Examiner has established a prima facie case of obviousness based on the combination of Smith and Kneezel which has not been overcome by any convincing arguments from Appellants, the Examiner's 35 U.S.C. § 103(a) rejection of independent claim 1, as well as dependent claims 2, 3, and 7 not separately argued by Appellants, is sustained.

We also sustain the Examiner's obviousness rejection of dependent claims 5, 6, and 9-11 in which the Wiklof and Wade references have been separately added to the combination of Smith and Kneezel to address, respectively, the user-selected parameter data and multiple cartridge features of these claims. Appellants have made no separate arguments as to the patentability of these claims but, instead, have relied on arguments made against claim 1, which we found to be unpersuasive as previously discussed.

[1] We make the observation that, although Appellants argue the alleged lack of ambient temperature sensed condition data in Smith, there is no ambient temperature condition recited in independent claim 1.

CONCLUSION

In summary, we have sustained the Examiner's 35 U.S.C. § 103(a) rejections of all of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-3, 5-7, and 9-11 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

gvw

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