

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SUNG-JAE KIM

Appeal No. 2001-0865
Application 08/998,781¹

HEARD: August 15, 2002

Before BARRETT, LEVY, and BLANKENSHIP, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-20.

We affirm-in-part.

¹ Application for patent filed December 29, 1997, entitled "Method for Adjusting an Optimum Printing Speed," which claims the foreign filing priority benefit under 35 U.S.C. § 119 of Republic of Korea Application 74197/1996, filed December 27, 1996.

BACKGROUND

The invention relates to a method for achieving an optimum printing speed by performing a print environment recognition operation (e.g., sensing of temperature) at a print recognition time determined in accordance with the transmission time it takes to transmit data to the printer.

Claim 1 is reproduced below.

1. A method for printing at an optimum printing speed, comprising the steps of:

converting image data from a host computer into print data having a predetermined size;

calculating a transmission time required for transmitting the print data to a printer from said host computer according to a predetermined formula comprising said predetermined size of the print data divided by a predetermined transmission speed of signals transmitted from said host computer to said printer;

determining an optimum printing speed according to said transmission time;

performing a print environment recognition operation at a print recognition time, said print recognition time being determined in accordance with said transmission time, said print environment recognition operation being performed while the print data are being received by said printer, said print environment recognition operation sensing information to be used to prepare said printer to record the print data on a recordable medium; and

recording the print data onto the recordable medium at the optimum printing speed.

The examiner relies on the following references:

Saruwatari	5,170,210	December 8, 1992
Zimmerman et al. (Zimmerman)	5,490,237	February 6, 1996

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Wakabayashi et al. (Wakabayashi) 5,537,517 July 16, 1996

Claims 1-5, 7-17, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zimmerman and Saruwatari.

Claims 6, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zimmerman and Saruwatari as applied in the rejection of claim 5, further in view of Wakabayashi.

We refer to the final rejection (Paper No. 11) and the examiner's answer (Paper No. 19) (pages referred to as "EA__") for a statement of the examiner's rejection, and to the brief (Paper No. 18) (pages referred to as "Br__") and reply brief (Paper No. 21) (pages referred to as "RBr__") for a statement of appellant's arguments thereagainst.

OPINION

Grouping of claims

It is argued that none of the claims stand or fall together. However, only claims which are separately argued are entitled to be treated separately. See 37 CFR § 1.192(c)(8)(iii) (1998) (argument section of brief must specify the errors in the rejection and the specific limitations in the claims which are not described in the prior art).

Appellant argues (Br8-11) that Zimmerman fails to teach or suggest at least the following three features set forth in independent claims 1, 3, 5, 7, and 13 (the limitations of claim 1 are quoted as representative): (1) "performing a print

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environment recognition operation at a print recognition time"; (2) "said print recognition time being determined in accordance with said transmission time"; and (3) "said print environment recognition operation being performed while the print data are being received by said printer." No other limitations of the independent claims are argued. Arguments not raised are waived. Cf. In re Baxter Travenol Labs., 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) ("It is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art."); In re Wiseman, 596 F.2d 1019, 1022, 201 USPQ 658, 661 (CCPA 1979) (arguments must first be presented to the Board before they can be argued on appeal). Therefore, the independent claims are treated as standing or falling together with claim 1 based on these three argued limitations (although we mention a slight difference in wording in claim 13).

Appellant separately mentions claims 2, 6, 9 and, thus, these claims will be grouped separately.

Thus, we find the following groups: (1) claims 1, 3-5, 7, 8, 13, 16, 17, and 20 stand or fall with claim 1; (2) claims 2, 14, and 15 stand or fall with claim 2; (3) claims 6, 18, and 19 stand or fall with claim 6; and (4) claims 9-12 stand or fall with claim 9.

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Claims 1, 3-5, 7, 8, 13, 16, 17, and 20

Appellant argues (Br8-11) that Zimmerman fails to teach or suggest at least the following three features in independent claims 1, 3, 5, 7, and 13 (the limitations of claim 1 are quoted as representative): (1) "performing a print environment recognition operation at a print recognition time"; (2) "said print recognition time being determined in accordance with said transmission time"; and (3) "said print environment recognition operation being performed while the print data are being received by said printer."

The examiner admits that Zimmerman does not teach these limitations (EA4). We agree. Zimmerman discloses a print engine start operation, but does not disclose sensing of any environmental conditions as part of the printer operation.

Appellant finds that Saruwatari discloses detecting environmental conditions around the photosensitive drum of an image formation apparatus, but argues that it does not teach or suggest that detection of the environmental conditions is to be performed at a print recognition time, wherein the print recognition time is determined in accordance with a transmission time, as recited in claims 1, 3, 5, 7, and 13 (Br11-12); i.e., it does not teach differences (1) and (2). It is argued that Saruwatari never describes that a print environment recognition operation is performed while print data are being received by a

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printer (claims 1, 3, 5, and 7) and it never describes that a print environment recognition operation commences before the expiry of the transmission time, wherein the transmission time is the time required to transmit data to a printer (claim 13) (Br12); i.e., it does not teach difference (3).

The examiner finds that Saruwatari teaches (abstract; col. 1, lines 60-65) detecting environmental conditions such as temperature, humidity, and atmospheric pressure at the time of forming an image, which the examiner interprets to be the print recognition time (EA4). Thus, the examiner states, "Saruwatari has at least disclosed the claim limitation 'a detection of the environmental conditions is to be performed at a print recognition time' and the print recognition time is the time that the image forming apparatus forms an image" (EA9). Presumably, the examiner refers to the limitation "performing a print environment recognition operation at a print recognition time."

The examiner states that in order to form an image in Zimmerman, image data would have to be transmitted from the host to the printer and, therefore, the image forming time would have to depend on (be determined by) the transmission time, and the print environment recognition operation would be performed during that transmission time (EA4-5; EA9). It is further stated that the "optimum" time for a printer to print a page is the time (transmission time) that it takes to transmit the print data for

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a page; e.g., it is not possible to print a page in 12 seconds while it takes 13 seconds to transmit the page. Therefore, the examiner concludes (EA9) that the combination of Zimmerman and Saruwatari discloses "a print environment recognition operation at a print recognition time, said print recognition time being determined in accordance with said transmission time." The examiner further finds (EA9) that the print recognition operation would be performed during the transmission time and, thus, the combination of Zimmerman and Saruwatari disclose the limitation of "said print environment recognition operation being performed while the print data are being received by said printer."

Saruwatari discloses, with reference to figure 4, measuring temperature, humidity, and atmospheric pressure conditions; adjusting the amount of charge added to the drum by the electrification charger in response to the temperature and atmospheric pressure conditions; adjusting the amount of toner supplied to the developing unit (the toner density) in response to the humidity condition; and adjusting both the amount of charge and the toner density in response to detected image densities. We find that the temperature, humidity, and atmospheric pressure (three environmental conditions) are detected at least from the time the print engine is started, while the image density (another environmental condition) must, of course, be measured sometime after printing has begun and the

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image has been formed. The examiner considers the time of forming an image in Saruwatari to be a "print recognition time"; see EA4. However, since "print recognition time" has a specific meaning in the claims and is "determined in accordance with said transmission time" which time is not discussed in Saruwatari, it is more accurate to say that Saruwatari discloses "performing a print environment recognition operation" at a print engine start time because it checks environmental conditions when the print engine is started. The fact that Saruwatari also teaches performing an additional print environment recognition operation (sensing the image density) after the print engine is started is not precluded by the claim language.

Saruwatari discloses that control of the image forming apparatus based on the detection of environmental conditions allows formation of a high quality image even if environmental conditions change over time (abstract; col. 4, lines 32-41). We find that this constitutes a suggestion to modify the printer of Zimmerman to use the print environment recognition operations of Saruwatari, at the print engine start time (the "print recognition time") for the purpose of maintaining a high quality image in the printer. Thus, we are not persuaded by appellant's arguments (e.g. Br16) that there is no motivation for the proposed combination. Nor do we agree that the combination is

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based on an obvious-to-try argument (e.g., Br28-29) because there is a certainty that the combination will work.

The print engine start time in Zimmerman, which is the time of "performing a print environment recognition operation at a print recognition time" as modified by Saruwatari, is the time when the I/O buffer reaches the buffer threshold. This "print recognition time" is "determined in accordance with said transmission time." That is, the system calculates the transmission time, which is how long it takes to send the data for a certain transmission speed (e.g., 8.0 million pixels/page (1.0 million bytes/page) and a data transfer rate of 50 Kbytes/sec would take 20 seconds), and determines an appropriate buffer threshold "in accordance with" this time (e.g., 400,000 bytes to store 40% of the page) (see col. 5, lines 26-39, and note 50 Kbyte data rate at line 39). The buffer threshold is "determined in accordance with said transmission time" because the size of the buffer threshold is dependent on the transmission time; longer transmission times (due to slower transmission data rates) require larger buffer thresholds and vice versa. Thus, we conclude that the combination of Zimmerman and Saruwatari would have suggested "performing a print environment recognition operation at a print recognition time, said print recognition time being determined in accordance with said transmission time."

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The print engine starts when the buffer threshold is reached, at the "print recognition time," and this time is always less than the transmission time. Thus, the "print environment recognition operation," which is performed at the same time as the print engine start in the combination of Zimmerman and Saruwatari, is performed while the print data is being received by the printer and before the expiry of the transmission time. Accordingly, we conclude that the combination of Zimmerman and Saruwatari teaches "said print environment recognition operation being performed while the print data are being received by said printer" (claims 1, 3, 5, and 7) and "said print environment recognition operation being commenced before the expiry of [the transmission time]" (claim 13).

For the reasons stated above, we conclude that the combination of Zimmerman and Saruwatari are sufficient to establish a prima facie case of obviousness. Appellant's arguments as to the individual teachings of the references (Br8-12) are merely an attack on the references individually rather than the combination and are not persuasive. See In re Merck & Co., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986) (one cannot show non-obviousness by attacking the references individually where the rejection is based on a combination of references). Appellant's arguments (e.g., Br13-14) that there is no motivation for the combination and that

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the combination fails to suggest all the limitations of the claims have been considered en route to our decision as discussed above and are not persuasive.

Appellant argues that the examiner never made a finding on the level of ordinary skill in the art (RBr3-5).

We find that the references are representative of the level of ordinary skill in the art. See In re Oelrich, 579 F.2d 86, 91, 198 USPQ 210, 214 (CCPA 1978) ("the PTO usually must evaluate both the scope and content of the prior art and the level of ordinary skill solely on the cold words of the literature"); In re GPAC Inc., 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995) (the Board did not err in adopting the approach that the level of skill in the art was best determined by the references of record); Okajima v. Bourdeau, 261 F.3d 1350, 1355, 59 USPQ2d 1795, 1797 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown.'"). Appellant has not said what he considers to be the level of skill in the art, how such would be determined to his satisfaction, or how a different level of skill would affect the outcome.

For the reasons stated above, we conclude that appellant has failed to show error in the prima facie case of obviousness. The

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rejection of claims 1, 3-5, 7, 8, 13, 16, 17, and 20 is sustained.

Claims 2, 14, and 15

Appellant argues that the examiner erred in the finding that claim 2 is taught by Zimmerman (Br12-13; RBr19-22). Although this argument is right at the edge of failing to address why the limitation in claim 2 is patentable, we address it.

We find that the combination of Zimmerman and Saruwatari do not teach a "printer preparation period, said printer preparation period corresponding to a period of time for preparing said printer to form an image on the recordable medium." The time that elapses until the buffer threshold is reached is not used to prepare the printer for recording. Accordingly, the examiner has failed to establish a prima facie case of obviousness as to claim 2. The rejection of claims 2, 14, and 15 is reversed.

Claims 9-12

The examiner finds that Zimmerman does not mention the limitations of claim 9, but concludes that it would "have been obvious that the preparation time is to be transmitted first before data is transmitted because the printer has to know the time first before it can start the print engine" (EA6).

Appellant argues that the examiner erred as to the rejection of claim 9 because the printer does not need to know the

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transmission time before it can start the print engine (Br31; RBr22-25).

Zimmerman does not transmit the transmission time, but only uses the transmission time to set the buffer threshold. Zimmerman starts the print engine at a time when the buffer threshold is reached (the "print recognition time") and does not need to know the transmission time. Thus, we conclude that the examiner has failed to establish a prima facie case of obviousness as to claim 9. The rejection of claims 9-12 is reversed.

Claims 6, 18, and 19

The examiner finds that the combination of Zimmerman and Saruwatari do not teach use of a counter to track data of a predetermined size but, because Zimmerman is a page printer, he must have a counting device to track a page of data (EA7). The examiner finds that Wakabayashi teaches use of a counter to count the amount of data transmitted and concludes that it would have been obvious to use a counter to track a page of data "because a counter is an efficient way of counting the amount of data and efficiency is desirable in Zimmerman's print system" (EA7).

Appellant argues that the examiner erred as to the rejection of claim 6 because the fact that a counter is known per se is not evidence of obviousness (Br29-30; RBr25-27).

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Zimmerman does not need a counter to determine when to print the print data; Zimmerman prints when the buffer is filled to the buffer threshold. Thus, we find no motivation to add a print transmittal routine, which functions as claimed, to Zimmerman. We conclude that the examiner has failed to establish a prima facie case of obviousness as to claim 6. The rejection of claims 6, 18, and 19 is reversed.

Argument that final rejection was premature

Appellant argues that the final rejection is premature and should be withdrawn (Br17-25). This is a procedural issue that is not within the Board's jurisdiction, which is limited to those matters involving the rejection of claims. In re Hengehold, 440 F.2d 1395, 1404, 169 USPQ 473, 480 (CCPA 1971). Such matters are reviewable by petition to the Commissioner.

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CONCLUSION

The rejection of claims 1, 3-5, 7, 8, 13, 16, 17, and 20 is sustained.

The rejections of claims 2, 6, 9-12, 14, 15, 18, and 19 are reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

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Administrative Patent Judge)	
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)	BOARD OF PATENT
STUART S. LEVY)	APPEALS
Administrative Patent Judge)	AND
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