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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NEIL W. MESSMER, ROBIN ATKINS, STEVE MARGERM, and PETER W. LONGHURST

Appeal 2019-001393
Application 14/740,862
Technology Center 2600

Before ERIC S. FRAHM, JUSTIN BUSCH, and JAMES W. DEJMEK, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals from a Non-Final Rejection of claims 2–4 and 6–12.[2] Appellant has canceled claims 1 and 5. *See* Appeal Br. 15–17. Oral arguments were heard on May 19, 2020. A transcript of the hearing was placed in the record on June 8, 2020. We have jurisdiction over the

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[1] Throughout this Decision, we use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42 (2017). Appellant identifies Dolby Laboratories Licensing Corporation as the real party in interest. Appeal Br. 1.

[2] Subsequent to the Notice of Appeal, but prior to filing the Appeal Brief, Appellant canceled claim 9. *See* Amdt 3 (filed Sept. 7, 2018). Because the amendment was not entered into the record, the rejection of claim 9 is still properly before the Board.

remaining pending claims under 35 U.S.C. § 6(b). *See Ex parte Lemoine*, 46 USPQ2d 1420, 1423 (BPAI 1994) (precedential).

We affirm in part.

STATEMENT OF THE CASE

Introduction

Appellant's disclosed and claimed invention generally relates to image processing (i.e., color management) of content such that the image displayed on a target display is rendered "with the same or substantially the same fidelity as it was intended by the creator of the images or video." Spec. 1:9–11, 20–22, 3:22–24. In a disclosed embodiment, source video may be color graded for various attributes (e.g., luminance or contrast) using a reference display device, the reference display device having certain characteristics (i.e., a gamma response curve). Spec. 4:3–8. The target display and the reference display may have different characteristics that may result in a less than desirable rendering of the content. *See* Spec. 4:22–5:32. According to the Specification, metadata may be used to capture parameters associated with the color graded content and transmitted along with the content for use by the target display. Spec. 6:10–7:32.

Claim 2 is exemplary of the subject matter on appeal and is reproduced below with the disputed limitation emphasized in *italics*:

> 2. A method for processing image data for a target display through a set of metadata associated with the image data, said method comprising:
>
> receiving the image data as a bitstream at a destination device, from a remote source of the image data;
>
> decoding the image data;

determining, by the destination device, if a set of metadata associated with the image data is received, *wherein the set of metadata includes a representation of parameters of a reference display used to color grade source content for the image data, the metadata comprising a set of levels usable for color management to tailor the source content for the target display in accordance with differences between the reference display and the target display*; and

in response to determining that the set of metadata associated with the image data is received, calculating, by the destination device, using the parameters of the reference display used to color grade the source content for the image data, color management algorithm parameters for displaying the image data at the target display, and

wherein the metadata includes at least:

a. a white point, represented as x,y chromaticity coordinates for the reference display,

b. three primaries, each represented as x,y chromaticity coordinates for the reference display,

c. a minimum luminance level for the reference display, and

d. a maximum luminance level for the reference display; and

in response to determining that a level of the set of levels associated with the image data is not received in the bitstream, processing the image data without using the level not received.

The Examiner's Rejection

Claims 2–4 and 6–12 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Dougall et al. (US 2012/0054664 A1; Mar. 1, 2012) ("Dougall"); Bellis, II et al. (US 2007/0046826 A1; Mar. 1, 2007) ("Bellis"); Myers (US 2010/0073390 A1; Mar. 25, 2010); and Hind et al. (US 7,206,791 B2; Apr. 17, 2007). Non-Final Act. 3–12.

ANALYSIS[3]

Claims 2–4 and 6–11

Appellant asserts that Dougall, as relied on by the Examiner fails to teach a set of metadata associated with image data, wherein the set of metadata includes a representation of parameters of a reference display used to color grade source content for the image data, the metadata comprising a set of levels usable for color management to tailor the source content for the target display in accordance with differences between the reference display and the target display. Appeal Br. 3–10; Reply Br. 1–4. In particular, Appellant argues the parameter sets of Dougall do not relate to a reference display but rather to particular display models being used on the receiving end. Appeal Br. 4–7 (citing Dougal ¶¶ 29, 40, 73, Figs. 1, 4). In other words, rather than providing a set of metadata that corresponds to a reference display used to color grade the image, Dougall merely sends metadata intended to optimize the display at the receiving end based on the display being used at the receiving end. Appeal Br. 4–7. Moreover, Appellant asserts that Dougall is silent with respect to using a reference display at all. Appeal Br. 6.

In addition, Appellant argues claim 2 recites the metadata includes "a set of levels usable for color management to tailor the source content" and that the Examiner's reliance on Bellis is misplaced. Appeal Br. 12. More specifically, Appellant asserts Bellis describes controlling the intensity of

[3] Throughout this Decision, we have considered the Appeal Brief, filed September 12, 2018 ("Appeal Br."); the Reply Brief, filed December 3, 2018 ("Reply Br."); the Examiner's Answer, mailed October 5, 2018 ("Ans."); and the Non-Final Office Action, mailed March 14, 2018 ("Non-Final Act."), from which this Appeal is taken.

physical LED light sources by adjusting the current levels (i.e., not a set of levels included in digital metadata) provided to the LEDs. Appeal Br. 12–13 (citing Bellis ¶¶ 18–19). Further, Appellant argues that an ordinarily skilled artisan would not have been motivated to modify the metadata of Dougall to include Bellis's approach for controlling LED intensities. Appeal Br. 13. Rather, Appellant argues the Examiner relies on improper hindsight reasoning to support the proffered combination. Appeal Br. 13.

Claim construction is an important step in a patentability determination. A legal conclusion that a claim is obvious involves a two-step inquiry wherein first, the claims are properly construed, and second, the properly construed claims are compared to the prior art. *See Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003); *see also In re Crish*, 393 F.3d 1253, 1256 (Fed. Cir. 2004). Conditional steps employed in a method claim need not be found in the prior art if, under the broadest reasonable construction, the method need not invoke the steps. *Ex parte Schulhauser*, No. 2013-007847, 2016 WL 6277792, at *3–6 (PTAB April 28, 2016) (concluding the broadest reasonable interpretation of a claim encompassed situations in which conditional method steps "need not be reached") (precedential).

As an initial matter of claim construction, we note that claim 2 recites, *inter alia*, "*in response to determining that the set of metadata associated with the image data is received*, calculating, by the destination device, using the parameters of the reference display . . ., color management algorithm

parameters for displaying the image data at the target display, ..." Claim 2 (emphasis added).[4]

The "in response to determining" limitation is a conditional limitation. That is, the subsequent calculation is performed *only if* it has been determined that the set of metadata associated with the image data has been received. Because the broadest reasonable interpretation of the claim does not require performing the conditional method steps of calculating color management algorithm parameters for displaying the image data using the specific received metadata, the Examiner does not need to present evidence of obviousness for these steps. *See Schulhauser*, 2016 WL 6277792, at *4 ("The Examiner did not need to present evidence of the obviousness of the remaining method steps of claim 1 that are not required to be performed under a broadest reasonable interpretation of the claim."); *see also Ex parte Katz*, No. 2010-006083, 2011 WL 514314, at *4–5 (BPAI Jan. 27, 2011).[5]

[4] We note that the last limitation of claim 2 recites "in response to determining that a level of the set of levels associated with the image data is not received in the bitstream, processing the image data without using the level not received." We interpret this limitation to indicate that a set of levels of metadata associated with the image data has been received, but that a particular level was not included.

[5] *See also Applera Corp.–Applied Biosystems Group v. Illumina, Inc*., 375 F. App'x 12, 21 (Fed. Cir. 2010) (unpublished) (affirming a district court's interpretation of a method claim as including a step that need not be practiced if the condition for practicing the step is not met); *Cybersettle, Inc. v. Nat'l Arbitration Forum, Inc*., 243 F. App'x 603, 607 (Fed. Cir. 2007) (unpublished) ("It is of course true that method steps may be contingent. If the condition for performing a contingent step is not satisfied, the performance recited by the step need not be carried out in order for the claimed method to be performed.").

In addition, our reviewing court has held that non-functional descriptive material cannot lend patentability to an invention that would have otherwise been unpatentable. *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983) (when descriptive material is not functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability). The content of non-functional descriptive material is not entitled to weight in the patentability analysis. *Cf. In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994) ("Lowry does not claim merely the information content of a memory").

Independent claim 2 also recites "determining, by the destination device, *if* a set of metadata associated with the image data is received, wherein the set of metadata includes a representation of parameters of a reference display used to color grade source content for the image data, the metadata comprising a set of levels usable for color management to tailor the source content for the target display in accordance with differences between the reference display and the target display." Claim 2 (emphasis added).

However, because we conclude that, as presently drafted, the limitations that use or process the particular type of metadata information are conditional (and need not be performed), the description of the received metadata (i.e., what the metadata represents) merely describes the content of the information. In other words, the particular content of the set of metadata does not affect any step or alter any structure recited in the claim. Therefore, the content of the set of metadata is non-functional descriptive material that does not distinguish the claim from the prior art in terms of

patentability.[6,7] *See Ngai*, 367 F.3d at 1339. Thus, as drafted, this step merely requires determining *if* a set of metadata associated with the image data has been received.

Having determined independent claim 2 recites non-functional descriptive material (as well as conditional limitations), we are mindful to read the claim as a whole in our analysis. *See Gulack*, 703 F.2d at 1385 ("[T]he board cannot dissect a claim, excise the printed matter from it, and declare the remaining portion of the mutilated claim to be unpatentable. The claim must be read as a whole.") (footnote omitted).

Based on the foregoing discussion, we construe claim 2 as follows:

> 2. A method for processing image data for a target display through a set of metadata associated with the image data, said method comprising:
>
> receiving the image data as a bitstream at a destination device, from a remote source of the image data;
>
> decoding the image data;
>
> determining, by the destination device, if a set of metadata associated with the image data is received, wherein the set of metadata includes [*non-functional descriptive material*].

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[6] The pending claims are distinguishable from those in *Lowry* in which data structures stored in memory contained both information used by application programs and information regarding their physical interrelationships within a memory. *Lowry*, 32 F.3d at 1583. Unlike in *Lowry*, we find the content of the set of metadata is descriptive and does not relate to the structure of any claimed element. *See* Lowry, 32 F.3d at 1583.

[7] In addition, "[a]n[ ]intended use or purpose usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates." *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed. Cir. 2003).

In light of our construction of claim 2, Appellant's arguments are not persuasive of Examiner error at least because they are directed to the non-functional descriptive material portion of claim 2, which, as discussed above, does not patentably distinguish over the prior art. *See Ngai*, 367 F.3d at 1339.

In addition,[8] we note that Dougall generally relates to "optimizing multimedia content or a display of the media content in accordance with an optimal or ideal picture." Dougall, Abstract; *see also* Dougall ¶ 2. Dougall describes a system in which a remote content server transmits multimedia content along with parameters/parameter settings that may be used by a local display device when displaying the content. Dougall ¶ 4. Figure 1 of Dougall is illustrative and is reproduced below:

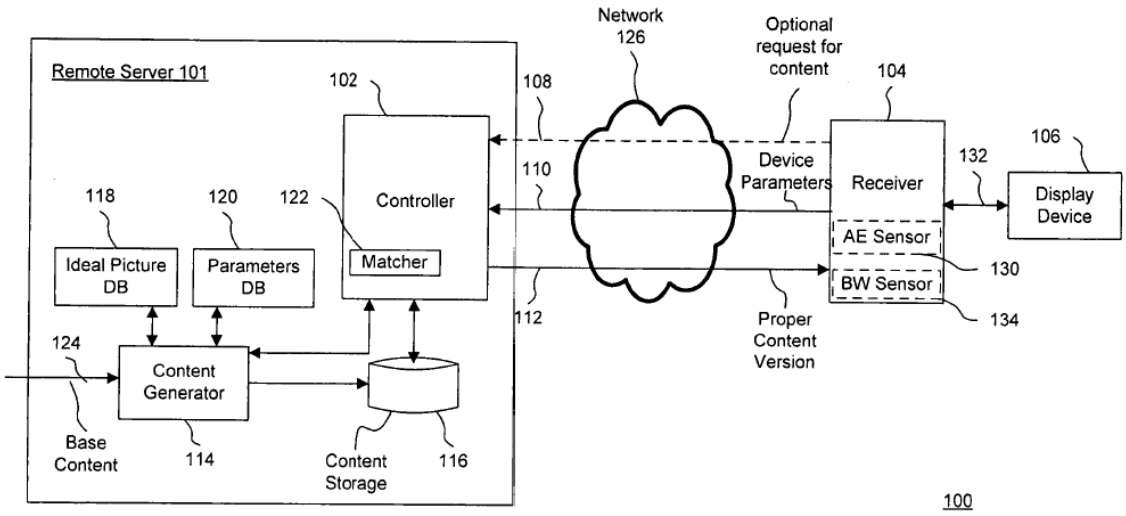

FIG. 1

[8] If Appellant amends the claims to resolve the conditional limitations and non-functional descriptive material issues identified herein, in furtherance of compact prosecution before the Office, we provide the following analysis of the cited references.

Figure 1 of Dougall is a block diagram of an exemplary content delivery system for delivering optimized multimedia content from a remote server to a local display device. Dougall ¶ 9.

In this embodiment, a receiver (104) connected to local display device (106) can identify local parameters of the display device and send this information via a communication channel (110) to a remote server (101). Dougall ¶ 27. As shown, remote server (101) may comprise a controller (102), content storage (116), content generator (114), a parameters database (120), and an ideal picture database (118). Dougall describes the ideal picture database (118) as "a predetermined optimal parameters model and can specify parameter settings corresponding to the original intent of a director such that the content can be displayed in a manner that is equivalent to a theatrical setting." Dougall ¶ 29.[9] The parameter settings may relate to display settings such as color setting, brightness, and contrast. Dougall ¶ 29; *see also* Dougall ¶¶ 32, 47. Dougall also describes the parameters database (120) may include similar parameters that correspond to particular types of display devices. Dougall ¶ 29. "[T]he sets of parameter settings can be generated so that they parallel the parameters in the ideal picture database . . . ., for example the color specifications set by a director of the multimedia content." Dougall ¶ 64.

> Further, each set of parameter settings can include metadata indicating how the parameter controller 226, discussed further below, in receiver 204 should adapt the media content transmitted by the server to the display device 106. For example, as discussed further below, such adaptation can include

[9] *Compare* Dougall ¶ 29, *with* Spec. 3:22–24 (describing an aspect of the invention is to render images or video "with the same or substantially the same fidelity as it was intended by the creator of the images or video").

> performing color transformations to tailor the content to the display device capabilities.

Dougall ¶ 32

In a disclosed embodiment of Dougall, device parameters of a display device (106) received by the controller (102) at the remote server (101) may be matched with known parameters in the parameters database for the identified display device (106) so that content generator (114) may tailor a version of content for the identified display device (106). *See* Dougall ¶¶ 30, 33. Alternatively, instead of transmitting a tailored version of content, Dougall describes that the remote server (101) can transmit the base content and a set of parameter settings to the receiver. Dougall ¶ 32; *see also* Dougall, Fig. 2. In yet another embodiment, Dougall describes that the controller (402) at the remote server (401) can transmit content along with "all of the sets of parameter settings." Dougall ¶ 40, Fig. 4.

Based on our review of Dougall, we find Dougall teaches, *inter alia*, a receiver (104) (i.e., a destination device) receiving image data as a bitstream (over network (126)) from a remote source of the image data (i.e., remote server (101)); the receiver (104) decoding the image data; and determining if metadata associated with the image data is received (Dougall describes the receiver selecting from a plurality of parameter settings/metadata to tailor the received content (*see, e.g.*, Dougall ¶ 32)). Moreover, we find Dougall teaches, or reasonably suggests, that a set of parameters (such as when *all* sets of parameters are transmitted) are transmitted that represent the ideal picture database parameters—i.e., those parameter settings that correspond to the original intent of a director (content originator) such that the content can be displayed in a manner equivalent to a theatrical setting (i.e., a reference display). *See* Dougall ¶ 29.

In addition, we note that in describing various levels of metadata, Appellant describes "Level 2 metadata may divide the luminance range of the source content into specific luminance regions." Spec. 16:30–17:2. As relied on by the Examiner, Bellis teaches adjusting the intensity (i.e., luminance) of an LED by adjusting the current level to drive the LED. *See* Bellis ¶ 20 (describing a color manager providing current control information to a light source driver to provide a light source with selected current levels).

As described above, Dougall teaches parameter settings including metadata to indicate how received content should be tailored. Dougall ¶ 32; *see also* Dougall ¶ 50 (describing the remote server sending color correction metadata to be used by the destination device to tailor the content to be displayed). We agree with the Examiner that "it would be obvious to one of ordinary skill in the art at the time of invention to modify the method in Dougall as modified above [(i.e., including Bellis's set of levels to vary the luminance of the display)] to provide metadata comprising a set of levels usable for color management to tailor the source content for the target display in accordance with differences between the reference display and the target display and a level of the set of levels associated with the image data." Non-Final Act. 6.

Regarding Appellant's hindsight argument (Appeal Br. 12–13), Appellant has not identified knowledge gleaned only from the present application that was not within the level of ordinary skill at the time the claimed invention was made. *See In re McLaughlin*, 443 F.2d 1392 (CCPA 1971). As the Examiner further explains, Bellis, which includes a color manager (*see* Bellis, Fig. 1), is relied on to teach a color manager sending

control information such that the light source can adjust the current intensity level of the current image. Ans. 9. "As such, the set of levels for the light source is usable for the color management to adjust the source content." Ans. 9. Further, as discussed above, Dougall teaches sending parameter settings that may be used to adjust the media content transmitted by the remote server to the destination device, wherein such adjustment can include performing color transformations to tailor the content. Ans. 9. The Examiner finds the set of level adjustments (as taught by Bellis) can provide appropriate color management to adjust the current source content for a user (as taught by Dougall). Ans. 10.

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of independent claim 2 under pre-AIA 35 U.S.C. § 103(a). In addition, we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 103(a) of claims 3, 4, and 6–11, which depend directly or indirectly therefrom and were not argued separately. *See* Appeal Br. 10, 13; *see also* 37 C.F.R. § 41.37(c)(1)(iv).

Claim 12

Claim 12 depends from claim 2 and recites "the reference display used to color grade the source content is located at the remote source."

Appellant asserts that in rejecting independent claim 2, the Examiner relies on the display device (106) of Dougall as teaching the recited reference display, but that Dougall's display device (106) is not located at the remote source, as required by Appellant's claim 12. Appeal Br. 10–11 (citing Dougall, Fig. 1).

In response, the Examiner focuses on the location of the parameters (i.e., ideal picture database (118) and parameters database (120)) that are either transmitted to the local display device (106) or are used to generate content before being transmitted. *See* Ans. 7–8 (citing Dougall ¶¶ 29, 54, 68). However, the Examiner does not provide persuasive evidence or technical reasoning that a reference display (such as a display used to color grade the content and generate the parameters that are stored in the ideal picture database) is located at the remote site in Dougall.

On this record, we do not sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 103(a) of claim 12.

CONCLUSION

We affirm the Examiner's decision rejecting claims 2–4, 6–11 under pre-AIA 35 U.S.C. § 103(a).

We reverse the Examiner's decision rejecting claim 12 under pre-AIA 35 U.S.C. § 103(a).

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
2–4, 6–12	103(a)	Dougall, Bellis, Myers, Hind	2–4, 6–11	12

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED IN PART