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Potomac Law Group PLLC (IMGTEC) 8229 Boone Boulevard Suite 430 Vienna, VA 22182			IMPERIAL, JED-JUSTIN	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEVEN FISHWICK

Appeal 2019-002902
Application 15/000,197
Technology Center 2600

Before JOSEPH L. DIXON, MAHSHID D. SAADAT, and
DONNA M. PRAISS, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–4, 6–8, 10–12, and 15–22. Claims 5 and 9 are canceled. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a) (2017). Appellant identifies the real party in interest as Imagination Technologies Limited. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to rendering views of a scene in a graphics processing unit where groups of views may be rendered together such that tiles from a group of views are rendered in an interspersed order such that at least one tile from each of the views in the group is rendered before any of the views of the scene in the group are fully rendered. Abstract. Similar tiles from different views within a group may be rendered sequentially, and if a particular rendered tile is similar to the next tile to be rendered then data stored in a cache for rendering the particular tile is likely to be useful for rendering the next tile. Abstract. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of rendering views of a scene in a graphics processing unit which is configured to use a rendering space that is subdivided into a plurality of tiles, the method comprising:

rendering, in an interspersed order, tiles of the views of the scene such that, for each group of a plurality of groups of views of the scene, at least one tile from each of the views of the scene in the group is rendered before any of the views of the scene in the group are fully rendered, wherein the view from which a tile is rendered switches between different views in the group, and wherein at least some of the views of the scene in the group are frames representing instances of the scene at a sequence of different time instances

REFERENCES

The prior art relied upon by the Examiner is:

Heggelund et al.	US 2014/0354682 A1	Dec. 4, 2014
Pfaffe	US 2014/0375663 A1	Dec. 25, 2014

REJECTIONS

Claims 1–3, 6–8, 10–12, 15, 16, and 19–22 stand rejected under 35 U.S.C. § 102(a)(1) as being anticipated by Pfaffe.

Claims 4, 17, and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Pfaffe as applied to claim 3 above, and further in view of Heggelund.

OPINION

35 U.S.C. § 102

With respect to independent claims 1, 2, 19, and 20, we note that the claims contain similar limitations, and we address independent claim 1 as the illustrative claim for review.

Appellant contends that the Pfaffe reference fails to disclose frames representing instances of the scene at a sequence of different time instances. Appeal Br. 8. Appellant argues that the relied upon portions of the Pfaffe reference disclose that two views (i.e., left and right images) of the same scene are processed together, and then left and right images are displayed alternately on a display for a stereoscopic object at relatively high speeds (e.g., 120 frames per second). Appeal Br. 8. Consequently, the left and right images of Pfaffe are not “frames representing instances of the scene at a sequence of different time instances” as recited in claim 1. Appeal Br. 8. Appellant also argues Pfaffe discloses that the left and right images are images of an object captured simultaneously, but from two distinct viewpoints. Appeal Br. 8.

The Examiner interprets the disclosure of the Pfaffe reference and the Examiner finds that

the left eye image/frame and the right eye image/frame *may be viewed* as representing instances of the scene (i.e. an instance of the left view of the scene and an instance of the right view of the scene), and since the left and right views are displayed alternately, the two views *may be viewed* as representing those instances of the scene at a sequence of different time instances as the scene is being rendered.

Ans. 4. (Emphases added.) But, the language of independent claim 1 requires “at least some of the views of the scene in the group are frames representing instances of the scene at a sequence of different time instances.”

In response to Appellant’s argument concerning the left and right views, the Examiner finds that although the left image/frame and the right eye image/frame represent the scene at the same point in time since they are recaptured simultaneously from two distinct viewpoints, “it is because those viewpoints are displayed one after the other that it *may be viewed* that the views, when being displayed/rendered, represent instances of the scene at a sequence of different time instances.” Ans. 4 (emphasis added).

Additionally, the Examiner “believes that Appellant is arguing features that are not necessarily claimed” and “it seems that Appellant is arguing that the different views of the scene correspond to different instances of time in the scene, instead of ‘representing the instances of the scene at a sequence of different time instances’ (which Examiner interpreted as the instances of the scene being represented/displayed at different times).” Ans. 4.

In response to the Examiner’s broad and unreasonable interpretation, Appellant asserts that because the two views (of the same scene) are *displayed* to the left and right eyes of the viewer at different times, they

correspond to “instances of the scene at a sequence of different time instances.” Reply Br. 1–2. Appellant contends that if the scene includes a moving object, that moving object will be in the same position in the scene in both the left and right views because the left and right views represent the scene at the same time instant.

Appellant argues that the Pfaffe reference displays different views of *the same instance* of a scene to each eye of a viewer from slightly different viewpoints where the difference between these two frames thus is a spatial difference, not a temporal difference. Reply Br. 2.

We agree with Appellant that the portions of the Pfaffe reference relied upon by the Examiner disclose stereoscopic images at the same instance in time, but the claim requires

rendering, in an interspersed order, tiles of the views of the scene such that, for each group of a plurality of groups of views of the scene, at least one tile from each of the views of the scene in the group is rendered before any of the views of the scene in the group are fully rendered, wherein the view from which a tile is rendered switches between different views in the group, and wherein at least some of the views of the scene in the group are frames representing instances of the scene *at a sequence of different time instances*.

(Emphasis added).

We find the Examiner’s anticipation rejection to be speculative, and we agree with Appellant that the Pfaffe reference generally stores and displays data representing an instance of the scene at a single time instance rather than representing instances of the scene at a sequence of different time instances. (Appeal Br. 8–10; Reply Br. 1–4.)

Here, the Examiner’s anticipation rejection is not well supported by the express disclosure of the Pfaffe reference. Accordingly, we agree with

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Appellant that the Examiner's anticipation determination is in error because it is not supported by a preponderance of the evidence. *See In re Caveney*, 761 F.2d 671, 674 (Fed. Cir. 1985) (Examiner's burden of proving non-patentability is by a preponderance of the evidence); *see also In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) ("The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis."). We will not resort to such speculation or assumptions to cure the deficiencies in the factual basis in order to support the Examiner's anticipation rejection. Consequently, we do not sustain the rejection of independent claim 1 and its dependent claims based on anticipation. Independent claims 2, 19, and 20 contain similar limitations, and we do not sustain the anticipation rejection of these claims and their dependent claims for the same reasons.

35 U.S.C. § 103

With respect to dependent claims 4, 17, and 18, Appellant relies upon the arguments set forth with respect to independent claim 2 which are the same as the arguments with respect to independent claim 1. Because the Examiner has not identified how the Heggelund reference remedies the deficiencies noted above, we cannot sustain the Examiner's obviousness rejection of dependent claims 4, 17, and 18 for the same reasons.

CONCLUSIONS

The Examiner's anticipation and obviousness rejections are reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-3, 6-8, 10-12, 15, 16, 19-22	102	Pfaffe		1-3, 6-8, 10-12, 15, 16, 19-22
4, 17, 18	103	Pfaffe, Heggelund		4, 17, 18
Overall Outcome				1-4, 6-8, 10-12, 15-22

REVERSED