

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIGHTRICKS LTD.,
Petitioner,

v.

PLOTAGRAPH, INC. and SASCHA CONNELLY,
Patent Owners

IPR2023-00153
U.S. Patent No. 10,346,017

**PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA
CONNELLY'S SUR-REPLY**

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I. The Prior Art Does Not Shift a Set of Pixels “In a Loop” Under the Broadest Reasonable Interpretation

Petitioner’s challenge fails with respect to every challenged claim because the cited art does not and cannot shift a set of pixels “in a loop” as required by every claim. This is clear even under the broadest reasonable interpretation of the term “in a loop.” Petitioner’s proposed claim construction for shifting a set of pixels in a loop is erroneous. Petitioner doesn’t establish a plain and ordinary meaning for shifting “in a loop” as that term relates to shifting sets of pixels. Also, Petitioner improperly injects external evidence when the internal evidence provided by the specification is sufficient to explain the meaning of shifting a set of pixels in a loop.

A. Petitioner Does not Present Evidence of a Plain and Ordinary Meaning for “In a Loop”

Petitioner repeatedly relies upon the use of the loop term in reference to a “loopOut()” expression or “~loop” operator in AEM and IMU. See Paper 44 at 2-3. But Petitioner does not show that a computer code instruction was the ordinary or plain meaning of shifting “in a loop” at the time of invention to a person of ordinary skill in the art. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005)(en banc)(“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary

skill in the art at the time of the invention”). Petitioner has only shown what a loop code instruction would mean to a computer being programmed with it rather than what “loop” meant to a person of skill in the art at the time of the invention.

B. Petitioner’s Construction is Improper Because it Would Exclude Both Described Embodiments

Petitioner has noted, properly, that claim terms are not normally interpreted in a way that excludes embodiments disclosed in the specification. Paper 44 at 6-7. But Petitioner now contends that a “loop” in computer language refers specifically to repeating the steps or keyframes from starting point to ending point. See Paper 44 at 2-3. This cannot be a correct construction for shifting “in a loop” as it would necessarily exclude both of the embodiments described in the ‘017 patent for shifting of pixels. Recall that in the primary described embodiment the leading pixel does not return to its starting point but is rather looped around to the space to the right of where it started. This is the embodiment illustrated like this:

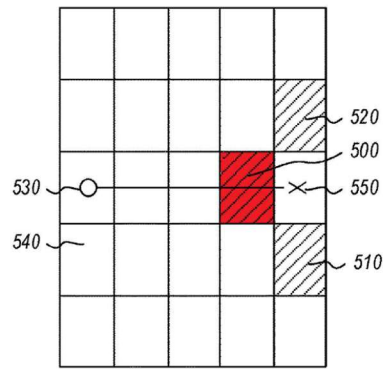


Fig. 5A

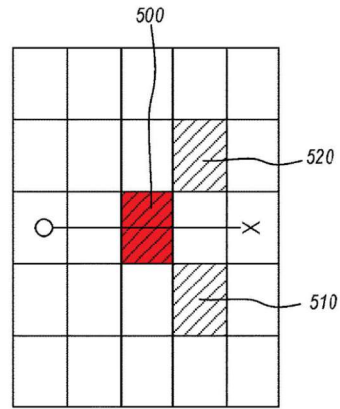


Fig. 5B

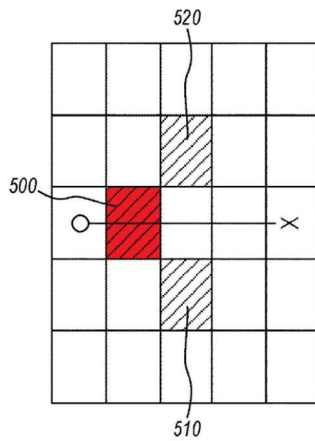


Fig. 5C

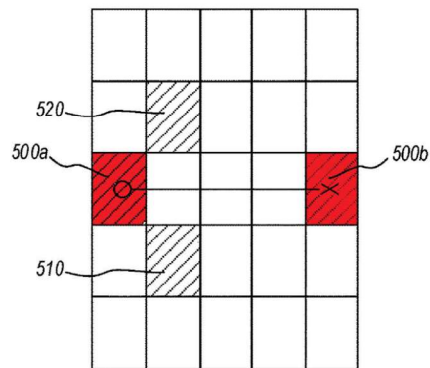


Fig. 5D

Recall also that in the secondary described embodiment a pixel is looped back to the starting point during the shift before it reaches the ending point. This is the embodiment illustrated like this:

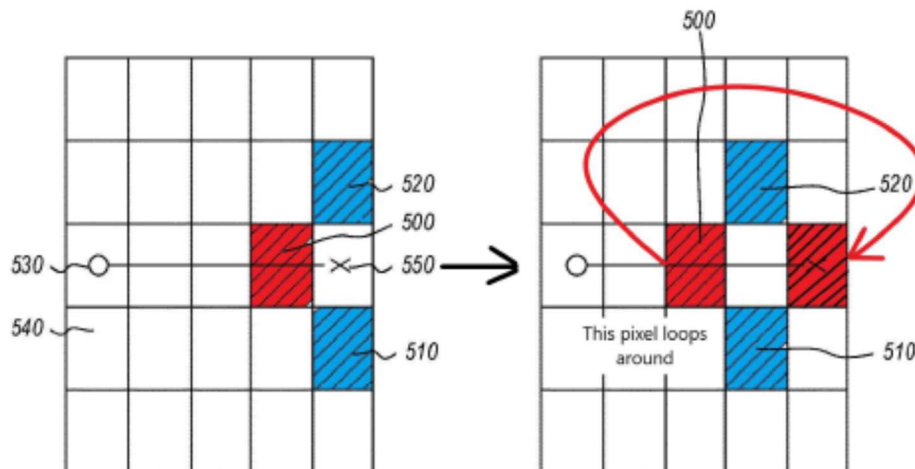


Fig. 5A

Fig. 5B

Neither of these shifting loops would be possible using Petitioner’s meaning of “loop.” Petitioner explained, for example, that “. . . when applied to a GIF animation created using, e.g., IMV6’s Shepard’s Distortion, ‘~loop’ by default causes the Shepard’s-Distortion-shifted pixels to reset **at the end** of the animation sequence, **not before**, and the shifting to repeat in expressly an ‘infinite **loop**.’” Paper 44 at 2 (emphasis in original). The computer “loop” commands require the pixels to move in exactly the same order each time going from starting point to ending point and then repeating. This does not allow for a pixel to loop around during the shift or for a pixel to return to a position that it did not start from – both of which are described in the specification for shifting in a loop. Because Petitioner’s proposed

construction for “in a loop” does not permit shifting in a loop as described for both embodiments in the specification, it is clearly wrong.

C. Petitioner’s Construction Improperly Relies on External Evidence

It is improper to consider the external evidence of what a “in a loop” means here. When the specification is clear about the scope and content of a claim term, there is no need to turn to extrinsic evidence for claim interpretation. *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326-28 (Fed. Cir. 2013); MPEP 2111.01(III). The interpretation of “in a loop” from the AEM and IMU materials is external evidence. It should not be relied upon. The meaning is clear here because the specification provides multiple examples of shifting a set of pixels in a loop.

D. Patent Owner’s Construction Does Not Read Limitations into the Claims

Further, Patent Owner is not reading limitations into a claim, as Petitioner contends, by reading the claim language in light of the specification to determine what meaning the term “in a loop” has. The Federal Circuit has held that “[i]n construing a claim, claim terms are given their ordinary and accustomed meaning unless examination of the specification, prosecution history, and other claims indicates that the inventor intended otherwise.” *Nike*

Inc. v. Wolverine World Wide, Inc., 43 F.3d 644, 646 (Fed. Cir. 1994).

Disavowal of claim scope can be done by implication where every embodiment in the specification excludes a particular feature. *In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1149-50 (Fed. Cir. 2012) held that the broadest reasonable interpretation of the claim term “electrochemical sensor” does not include a sensor having “external connection cables or wires” because the specification “repeatedly, consistently, and exclusively depict[s] an electrochemical sensor without external cables or wires while simultaneously disparaging sensors with external cables or wires.”

E. Patent Owner’s Construction is Consistent with the Specification

Petitioner argues in its Reply that Patent Owner’s construction of shifting “in a loop” is inconsistent with the ‘017 patent specification. See Paper 44 at 6. Petitioner says:

Here, only Plotagraph’s overly narrow construction in “inconsistent” with the specification. Specifically, **the specification expressly contemplates embodiments that loop after shifting a set of pixels using a “mesh algorithm”** (e.g., that of AEM’s Puppet effect) **or “Shepard’s distortion”** (e.g., IMU’s “Shepard’s Distortion”) (‘469 Patent, 9:20-29)—**both of which**, as Plotagraph acknowledges, **“move[] pixels by stretching or deforming the image”**. . . .

Id. (emphasis in original). This is simply a misreading of the specification. The '017 patent does mention that the software can use a warping mechanism, such as Shepard's distortion. However, that is not sufficient to create the shifting "in a loop" effect. According to the specification, Shepard's distortion is used in conjunction with alpha blending and animation blending:

In at least one embodiment, the software architecture 200 uses **alpha blending when shifting the pixels from the starting point to the ending point.** For example, the software application 200 may use a sin, cosine, or linear alpha blend to shift the set of pixels. **Additionally**, in at least one embodiment, the software architecture uses a warping function, such as Shepard's distortion. When using a mesh algorithm, the software architecture 200 triangulates the mesh using defined points and then calculates an affine transformation for every triangle. Further, the software architecture 200 supports **animation blending in order to achieve the seaming effect of a continuous motion.** This is achieved by blending animated frames two by two using one of a few predefined blend functions.

EX1001 at col. 8, lines 28-41 (emphasis added). Recall that, in the described embodiments for shifting in a loop, a pixel will "loop around" by disappearing during the shift and then reappearing at the starting point. See EX1001 at col. 8, lines 21-27. This is the "seaming effect" referred to in the specification. Shepard's distortion might be able to shift a pixel by translating it but it

certainly cannot be used to loop one around. For that you need alpha blending and/or animation blending to cause the pixels to disappear and reappear as described in the specification. “In computer graphics, . . . alpha blending is the process of combining one image with a background to create the appearance of partial or full transparency.” [Alpha compositing - Wikipedia](#) This allows the pixels to disappear and reappear. “. . . [P]ixel 500a fades out of the video frame by slowing [sic] growing transparent, such that the disappearance of pixel 500a is not abrupt or jarring. Similarly, pixel 500b can fade in such that its appearance is not abrupt or jarring.” EX1001, col. 8, lines 14-17. So Petitioner is simply wrong in concluding that Patent Owner’s proposed claim construction excludes embodiments disclosed in the specification. See Paper No. 44 at 7. The embodiments of shifting sets of pixels using mesh algorithm/Shepard’s distortion in conjunction with alpha blending/animation blending as described are clearly consistent with Patent Owner’s proposed construction of “in a loop.”

II. Petitioner’s Prior Art Still Fails to Select/Identify a Set of Pixels that are Shifted

Petitioner contends that AECS6’s Puppet deform effect is sufficient to shift a set of pixels as it is essentially the same as the “mesh algorithm” that is described in the ‘017 Patent. See Paper 44 at 12-16. But AEM fails to

select a set of pixels because it does not perform the selection/identification step which is described and claimed in the '017 Patent. According to the '017 patent, once a starting mesh and ending mesh have been created, sets of pixels are then identified or selected.

Once a user has established one or more starting and ending point pairs, the software architecture identifies sets of pixels that lie between the respective starting points and respective ending points. In at least one embodiment, a first set of pixels may comprise a group of pixels that intersect with the link between a starting point and an ending point and that are not covered by a mask. The size of the group of pixels may be user selectable or automatically determined. For example, a user may increase the threshold distances that the set of pixels extend beyond the link. As such at one extreme, the set of pixels may comprise a line of individual pixels extending from the starting point to the ending point, or at another extreme the set of pixels may comprise a relatively wide swatch of pixels that are parallel to the link that extends between the starting point and the ending point.

EX1001 at col. 6, lines 49-63. Claim elements 1g, 1n, 8f, 8m, 14g, and 14n all require selection or identification of a set of pixels. But Petitioner does not even attempt to show that AEM performs this step. Petitioner simply argues that some pixels are shifted with the mesh regardless of whether selection of sets of pixels has occurred or not. Paper 44 at 16 (“... even if a link’s set of pixels is compressed, reoriented, or otherwise stretched when translated by a

mesh algorithm, the set of pixels is still nevertheless ‘shifted’ as claimed.”). However, the claim elements requiring selection or identification of sets of pixels are entirely missing from the cited art.

III. Petitioner Does Not Show that any Pixels Other than the Deform Pin are Shifted from a Starting Point to an Ending Point or in a Particular Direction

Claim elements 8g, 8n, and 14o require that a set of pixels be shifted from a starting point to an ending point. Claim elements 1h and 1o require that a set of pixels be shifted in a first or second direction. Claim elements 14h requires shifting along a non-linear path. However, Petitioner’s evidence is insufficient to show that a set of pixels is actually moved either between a starting point and an ending point, in a particular direction, or along a non-linear path. The screenshots on pages 17-20 of Petitioner’s Reply, do nothing to show how any pixels other than the Deform pin is moved. Movement of individual pixels is not shown. The pink annotations merely highlight movement of the triangular mesh. Petitioner then contends that, because the “hexagonal outline” of the triangular mesh “deforms as the Deform pin moves along the motion path” that “the triangles’ pixels have reoriented and compressed together.” Paper 44 at 20. But the actual movement of any pixels aside from that of the Deform pin is not conclusively shown. The screenshots

are not of sufficient resolution to show actual pixels and allow a viewer to discern whether any of them are moving or how they are moved from frame to frame. One might presume that some of the pixels surrounding the Deform pin might possibly move from the starting point to the ending point, or in the same direction as the Deform pin, but that is not sufficient. “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.” MPEP 2112(IV.) citing *In re Rijckeart*, 9 F.3d 1531, 1534 (Fed. Cir. 1993).

IV. The IMU-Okabe Combination Fails to Teach Shifting a Set of Pixels Along a Non-Linear Pathway

Petitioner fails to effectively rebut Patent Owner’s contention that Okabe “teaches away” from the combination with IMU. Okabe teaches use of a patch-based solution rather than shifting pixels. Petitioner does try to claim that it “never asserted that Okabe teaches the claimed ‘shifting’ of pixels at all.” Paper 44 at 21. But it does not matter whether Petitioner relied on Okabe to teach shifting of pixels because the teachings of the prior art must be considered as a whole, including portions that would lead away from the claimed invention. See *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); MPEP 2141.02(VI.). Petitioner does not dispute that Okabe clearly teaches away from pixel shifting

in favor of a patch-based solution to create movement in a target image. As a result, the proposed combination would teach away from pixel shifting as well.

Dated this 29th day of March, 2024.

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e) the undersigned certifies that on 29 March 2024, the foregoing PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA CONNELLY'S SUR-REPLY was served via electronic mail upon the following counsel of record for the Petitioner:

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CERTIFICATE OF WORD COUNT

The foregoing PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA CONNELLY'S SUR-REPLY UNDER 37 C.F.R. §42.107 complies with the type-volume limitations of 37 C.F.R. §42.24(b)(2). Excluding the items listed in 37 C.F.R. §42.24(a)(1) as not included in the word count and using the word count of the word-processing system used to prepare the paper (Microsoft Word), the Response contains 2278 words.

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