

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIGHTRICKS LTD.,
Petitioner,

v.

PLOTAGRAPH, INC. and SASCHA CONNELLY,
Patent Owners

IPR2023-00569
U.S. Patent No. 11,301,119

**PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA
CONNELLY'S PRELIMINARY RESPONSE**

TABLE OF CONTENTS

Table of Contents

I.	Introduction.....	1
II.	Petitioner Has No Reasonable Likelihood of Showing Unpatentability of Any Claim of the ‘119 Patent	2
A.	Overview of the ‘119 Patent	2
1.	The Specification.....	2
2.	Exemplary Claim.....	8
B.	The Cited Art.....	9
1.	The AEM Reference	9
2.	The IMU Reference	14
3.	The Okabe Reference	15
4.	The Li Reference	16
C.	Claim Construction	16
D.	Legal Standards.....	17
E.	Petitioner Fails to Invalidate Any Claim of the ‘119 Patent	18
1.	The prior art does not teach or suggest the step of identifying a first set of pixels that lie along a link between the first starting point and first ending point....	19
2.	The prior art does not teach or suggest the step of shifting the first set of pixels in the first direction along the first length of the non-linear pathway	22
3.	The prior art does not teach or suggest the step of shifting a set of pixels by rendering them “in a loop”	24
III.	Conclusion	27

TABLE OF AUTHORITIES

Cases

CFMT, Inc. v. YieldUp Int’l Corp., 349 F.3d 1333 (Fed. Cir. 2003)	33
Dynamic Drinkware, LLC v. Nat’l Graphics, Inc., 800 F.3d 1375 (Fed. Cir. 2015)	33
Harmonic Inc. v. Avid Tech, Inc., 815 F.3d 1356 (Fed. Cir. 2016)	33
In re CSB-Sys. Int’l, Inc., 832 F.3d 1341 (Fed. Cir. 2016)	22
In re: Power Integrations, Inc., 884 F.3d 1370 (Fed. Cir. 2018).....	22, 32
Microsoft Corp. v. Biscotti, Inc., 878 F.3d 1052 (Fed. Cir. 2017)	33
Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005)(en banc).....	22
Plotagraph, Inc. v. Lightricks Ltd., Civil Action No. 4:21-cv-03873 (S.D. Tex. 2022)...	28
SAS Institute, Inc. v. ComplementSoft, LLC, 825 F.3d 1341 (2016)	33
Synopsys, Inc. v. Mentor Graphics Corp., 814 F.3d 1309 (2016)	33

Statutes

35 U.S.C. §312.....	1
35 U.S.C. §314.....	32
35 U.S.C. §315(b)	1, 5

Plotagraph, Inc. and Sascha Connelly (collectively “Patent Owner”) hereby submit this Preliminary Response to the Petition filed by Lightricks Ltd. (“Petitioner”) on March 22, 2023 in case IPR2023-00569 for review of claims 1-20 of U.S. Patent No. 11,301,119 (the ‘119 Patent).

I. Introduction

Petitioner filed a Petition for *Inter Partes* Review of U.S. Patent No. 11,301,119 Under 35 U.S.C. §312 (“the ‘119 Patent”, Exh. 1001) on March 22, 2023 (IPR2023-00569, Paper No. 1 (“Petition”)). The Board should deny the Petition because there is no likelihood that Petitioner can show unpatentability of any claim of the ‘119 Patent. The cited prior art fails to teach or suggest a number of elements that are required by all of the claims of the ‘119 Patent. First, the prior art fails to teach or suggest the element of identifying a first set of pixels that lie along the first link between the first starting point and the first ending point. Second, the prior art doesn’t teach or suggest the step of shifting the first set of pixels in a first direction along the first length of the non-linear pathway. Third, the prior art doesn’t teach or suggest rendering the first set of pixels being shifted in a loop.

Dr. Greenspun’s supporting Declaration for Petitioner describes use of the Adobe After Effects CS6 and ImageMagick programs to perform

processes which allegedly can move a pixel (Deform pin) from a starting point to an ending point and then return it to the starting point. This movement is then repeated. However, this fails to select a “set of pixels” as the claims require. There is no selection of any pixels which lie along the link which extends between the starting and ending points. Dr. Greenspun’s movement of the Deform pin is from a starting point to an ending point and then repeating this movement. This does not suffice to shift the pixels between the starting and ending points. Such movement of a Deform pin is also not shifting of a set of pixels “in a loop” as required by the claims and as described in the ‘119 Patent specification.

II. Petitioner Has No Reasonable Likelihood of Showing Unpatentability of Any Claim of the ‘119 Patent

A. Overview of the ‘119 Patent

1. The Specification

The specification of the ‘119 Patent describes how a user can use the tools of paths (or digital links) with starting and ending points and masks to automate the shifting of pixels within a digital image. In specification of the ‘119 Patent (entitled “Automated Pixel Shifting within a Digital Image”) the example of a photo of a house with grass in front is used to illustrate.

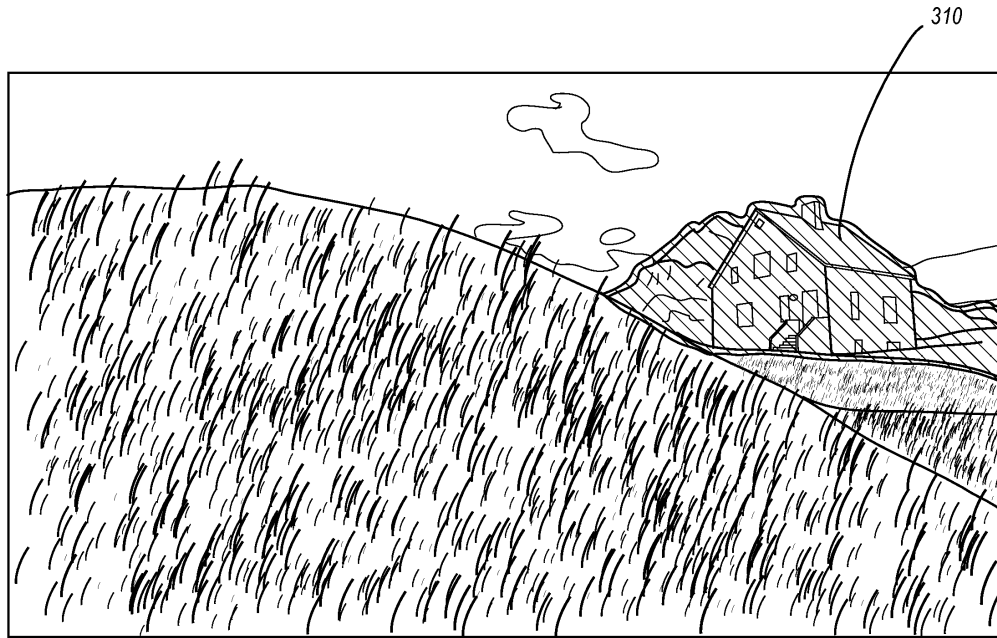
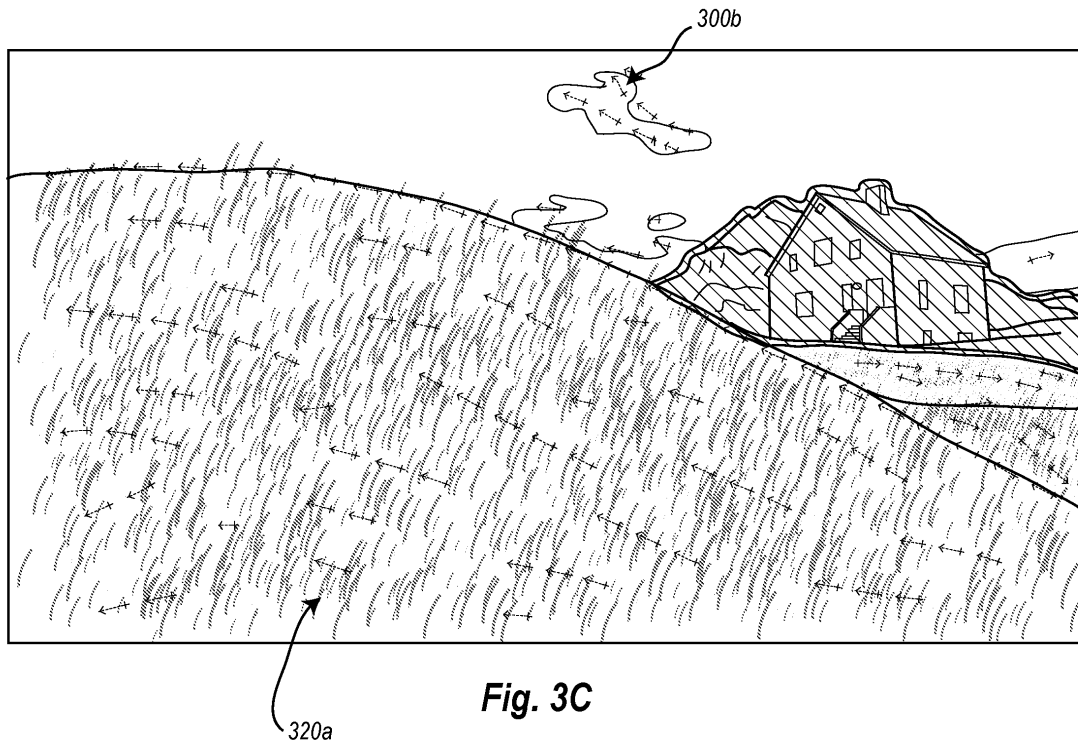


Fig. 3B

“FIG. 3B [of the ‘119 Patent] illustrates a mask 310 covering the house and the mountain behind the house, but excluding the sky and the grass in front of the house.” (‘119 Patent, col. 5, lines 31-33). “The mask prevents pixels covered by the mask from being shifted.” (*Id.*, col. 5, lines 35-36). The mask may be created using several techniques. In one, “the software architecture 200 performs an edge detection method to identify edges that form boundaries around the [user] selected area” (*Id.*, col. 5, lines 26-28). Alternatively, a user may use a manual mask painting option to create the mask. (*Id.*, col. 5, lines 39-42). In another embodiment, “stabilizer points are useable for creating a fence around an area that should not be shifted.” (*Id.*, col. 5, lines 41-43).

The patent specification then explains how digital links or paths having starting and ending points are used as tools which allow the computer to make the grass and sky in the photo appear to move.



First, a starting point for shifting of pixels is selected. A user can select starting points manually and/or “direct the software architecture 200 to automatically add a portion of the points” (*Id.*, col. 6, lines 9-10). “For example, in FIG. 3C, various beginning points (also referred to herein as “starting points”) comprise the points nearest to the base of the grass and represented by crosses. . . .” (*Id.*, col. 6, lines 19-22). Second, an ending point is selected.

The ending point is received through a user selection of an ending portion of the user interface. . . . For example, in FIG. 3C various ending points are selected on the outer periphery of the grass and are represented by arrows.

(*Id.*, col. 6, lines 28-34). Then, “. . . the software architecture creates a link between the starting point and first ending point.” (*Id.*, col. 6, lines 36-37). The links in FIG. 3C are the lines which extend between the crosses and arrows in the picture. “A link comprises a direction extending from the first starting point to the first ending point” (*Id.*, col. 6, lines 39-40).

The patent specification then describes selecting sets of pixels and illustrate the pixel shifting process which is carried out by the computer using the digital link(s).

FIG. 5A depicts the pixels 500, 510, 520 in their original state within the digital image. Once the software architecture 200 begins shifting the set of pixels in the direction of the link (extending from the starting point to the ending point) the pixels 500, 510, 520 are moved. . . . FIG. 5C depicts pixels 500, 510, 520 another step along the shift. In FIG. 5D the pixels 500, 510, 520 are shown at yet another step in the shift, but in this step the pixels 500, 510, 520 are beginning to loop around.

(*Id.*, col. 7, line 43-col. 8, line 16).

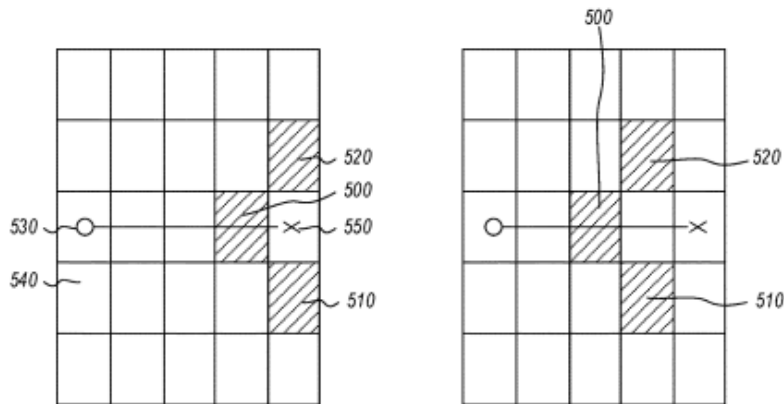


Fig. 5A

Fig. 5B

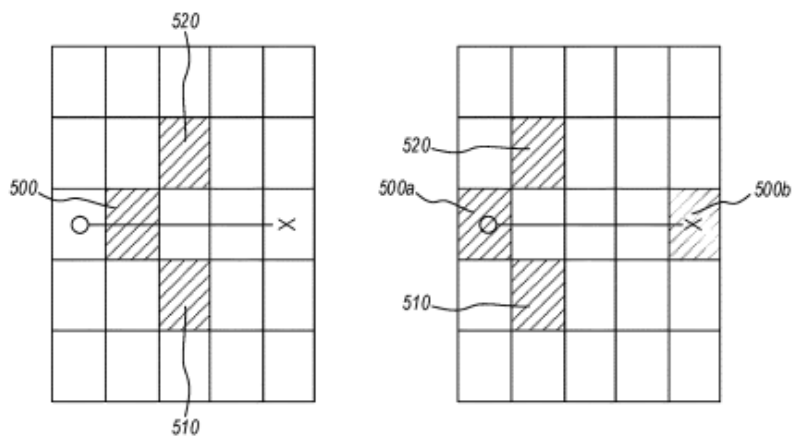


Fig. 5C

Fig. 5D

It can be seen from Figures 5A-5D that a set of three pixels, having been selected for shifting, is being shifted right to left. The specification is clear that the pixels wrap around and begin to appear at the starting point (550) as they are disappearing at the ending point (530).

For example, pixel 500a is at the left of the shift, while corresponding pixel 500b is reappearing at the right of the shift to begin the shifting loop. In various additional or alternative

embodiments, the set of pixels only begin to loop as pixels 500, 510, 520 leave the screen. For example, only pixel 500a reaches the end of the link (i.e., ending point 530), pixel 500a disappears on the next step. Upon disappearing, pixel 500b then reappears at the beginning of the link (i.e., starting point 550) to start the loop. Additionally, in at least one additional or alternative embodiment, the pixels 500, 510, 520 fade in and out at the beginning and ending of each loop. For example, upon reaching the end of the link, pixel 500a fades out of the image by slowly 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.

Id., col. 8, lines 16-32.

The specification also describes an alternative embodiment for shifting pixels in a loop.

For example, in at least one embodiment, the pixels immediately begin cycling as soon as the shifting begins. For example, instead of what is shown in FIGS. 5A-5D, as soon as pixel 500 is shifted to its new position depicted in FIG. 5B, pixel 500B would appear in the position depicted in FIG. 5D. As such, the pixels begin looping and blending into each other immediately.

Id., col. 8, lines 35-41.

2. Exemplary Claim

Claim 1 of the '119 Patent is reproduced here:

1. A computer system for automating the shifting of pixels within a digital image, comprising:

one or more processors; and

one or more computer-readable media having stored thereon executable instructions that when executed by the one or more processors configure the computer system to perform at least the following:

access, from memory, a digital image file, wherein the digital image file comprises information that corresponds to individual pixels within the digital image;

apply a mask to a particular portion of the digital image, wherein the mask prevents pixels covered by the mask from being shifted;

receive a first starting point through a user interface;

receive a first ending point through a user interface;

create a first link between the first starting point and the first ending point, wherein the first link comprises:

a non-linear pathway extending a first direction between the first starting point and the first ending point; and

a first length between the first starting point and the first ending point;

identify a first set of pixels that lie along the first link between the first starting point and the first ending point;
and

shift the first set of pixels in the first direction along the first length of the non-linear pathway, wherein shifting the first set of pixels comprises rendering in a loop the first set of pixels being shifted.

(‘119 Patent, claim 1).

B. The Cited Art

1. The AEM Reference

Ground 1 is the challenge to claims 1-20 over the “AEM” reference. “AEM” is how Petitioner refers to the User Manual for the Adobe After Effects CS6 software program (AECS6”).

With regard to the operation of selecting a set of pixels, Petitioner contends that:

AEM teaches selecting certain pixels of [a] layer to be transparent or nontransparent (i.e., modifying the “alpha channel” of the layer) by applying either a “mask” or a “matte,” where the former is created using, e.g., the “Pen” tool or “Auto-trace” function, and the latter is created using, e.g., the “Roto Brush” tool.

Petition at 27.

Petitioner also contends that AEM teaches a user to shift the set of pixels using “. . . a ‘mesh algorithm’ that ‘triangulates the mesh using defined

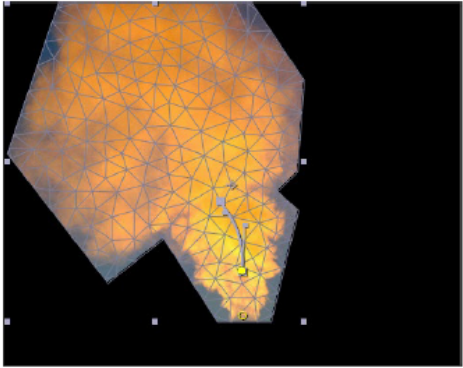
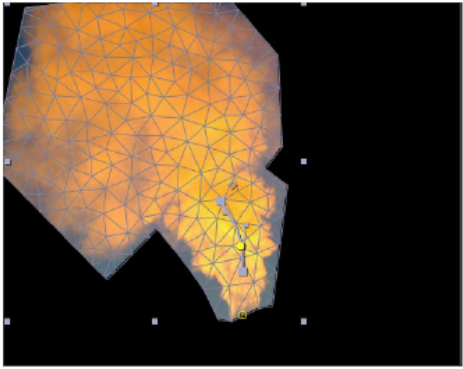
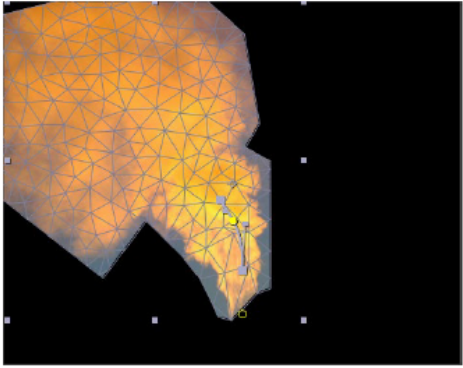
points and then calculates an affine transformation for every angle.” Petition at 29. Petitioner asserts that:

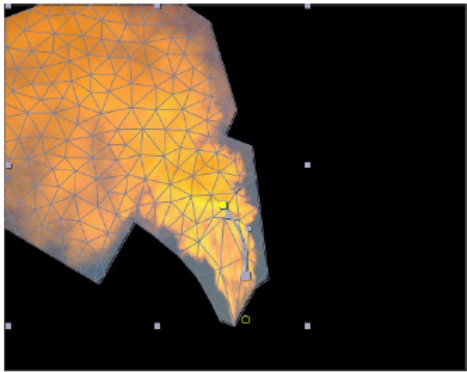
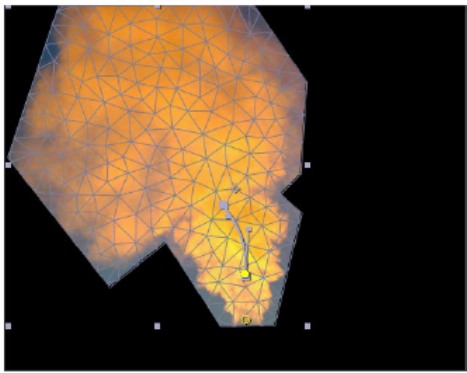
AEM similarly teaches that, when a user places an initial Deform pin, AECS6 creates a mesh from the layer’s non-transparent pixels. AEM, 219, 220-21; Section VI.A.2.e; Greenspun, ¶109. And when a non-linear motion path for the Deform pin is also created, AECS6 animates the corresponding change to the shape of the layer’s mesh (which includes the “first set of pixels,” *see* Section VI.A.2.g), and thus the movement of the layer’s nontransparent pixels accommodating the Deform pin’s repositioning—i.e., the claimed “shift the first set of pixels in the first direction along the first length of the non-linear pathway.” .

...

Petition at 30-31.

Petitioner relies upon the testimony of Dr. Greenspun to purportedly demonstrate the use of Adobe After Effects to shift a set of pixels “in a loop.” The Petition notes that: “[t]he following table includes a series of cropped screenshots of AECS6 showing the result of applying a “loopOut()” expression to the exemplary composition in Section VI.A.2.g’s second screenshot.” Petition at 31. Patent Owner reproduces the first five of these cropped screenshots below for illustration:

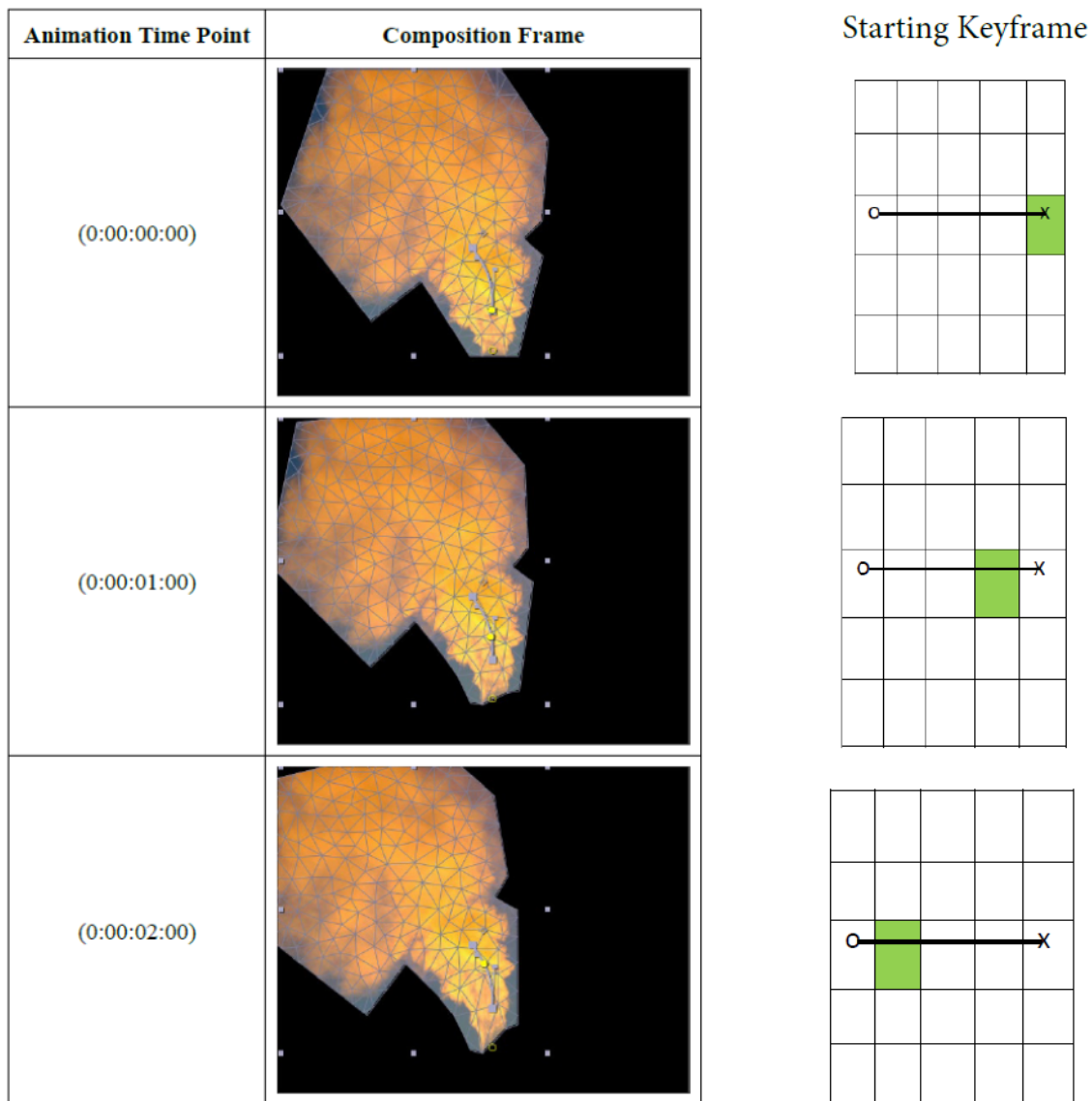
Animation Time Point	Composition Frame
(0:00:00:00)	
(0:00:01:00)	
(0:00:02:00)	

Animation Time Point	Composition Frame
(0:00:02:23)	
(0:00:03:01)	

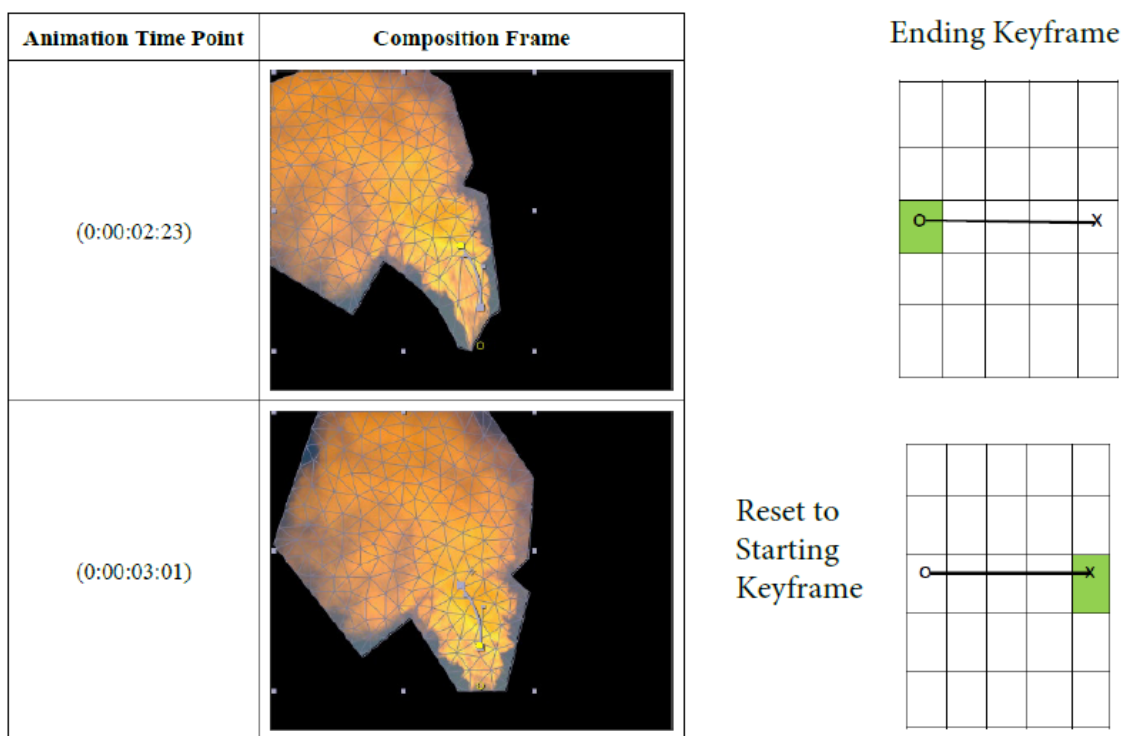
Petition at 32-33. What you are looking at is a small yellow dot (i.e., the “Deform pin”) which is at a starting point of a grey path at the beginning of a shift at Animation Time Point (00:00). The Deform pin is allegedly shifted to intermediate points along the path at Animation Time Points (01:00) and (02:00). At Animation Time Point (02:23) the Deform pin has reached the ending point of the grey path. At Animation Time Point (03:01) the Deform pin has been returned to its starting point as the keyframes are reset to the beginning (see Petition at 33).

Patent Owners submit that movement of a Deform pin using the AEM reference could be modeled using the 5x5 grid featured in Figure 5 of the ‘119

Patent, and it would appear as follows with a Deform pin being represented as a single green pixel¹:



¹ Dr. Greenspun's shifting of the Deform pin is indistinguishable from the shifting of a single pixel.



Petitioner is moving a pixel from a starting point (represented by the “x”) to an ending point (represented by the “o”) and then returning it to the starting point.

2. The IMU Reference

Grounds 2 and 3 of the Petition allege that the instruction manual for ImageMagick Usage (Version 6)(i.e., “IMU”) “teaches how to incrementally apply IMV6’s effects to an image to produce a sequence of frames that, when played sequentially, result in an animation.” Petition at 51. Further, the Petition alleges that “. . . IMU teaches applying a ‘-loop’ operator to specify the ‘[n]umber of times the GIF animation is to cycle through the image sequence before stopping.’” Petition at 53. IMU, then, teaches precisely the

same sequential process that AEM does. A number of frames are played sequentially which presumably show the movement of a pixel from a starting point to an ending point. Then the frames are replayed from the beginning. Petitioner provides no illustration for the movement of a pixel using IMU as it did with AEM. Therefore, Patent Owners submit that the 5x5 grid modeling of movement of a pixel using IMU would be the same as it would for AEM, as set forth above.

3. The Okabe Reference

The Petition cites Okabe as teaching an algorithm that is “able to generate a flow animation in the in the target image corresponding to the flow direction and speed specified by the user’s strokes, and permits ‘infinite repetition’ of such an animation.” Petition at 55. Like AEM and IMU, this is just a series of sequential frames, as illustrated by Okabe’s Figure 1:



Petition at 54. These sequential frames are animated by “infinite repetition.” The Petition does not point to any portion of Okabe as teaching shifting pixels in a loop as the ‘119 Patent claims recite.

4. The Li Reference

Ground 3 of the Petition contends that claims 1-3, 8-10, and 15-17 are obvious in view of IMU in combination with Okabe and Li. But Petitioner does not contend that Li teaches or suggests rendering and re-rendering pixels in a loop. The Petition cites Li as teaching “. . . that its “‘Lazy Snapping’ [tool] allows a user to easily perform ‘image cutout’ – separating and removing an image’s background, leaving only the foreground visible – by using a ‘novel image segmentation algorithm’ to detect a boundary between the foreground and background based on ‘a quick *object marking* step’ and ‘a simple *boundary editing* step’ performed by the user.” Petition at 78-79. Li has nothing to do with shifting pixels “in a loop.”

C. Claim Construction

Patent Owners propose the construction of certain claim language below pursuant to the broadest reasonable interpretation (BRI) for the sole purpose of this *inter partes* proceeding. The scope of patent claims is determined giving claims their broadest reasonable construction consistent with the specification; the words of a claim are given their plain meaning unless the plain meaning is inconsistent with the patent specification as understood by a person of skill in the art at the time of the invention. “Even

under the broadest reasonable construction rubric, however, the board must always ‘consider the claims in light of the specification and teachings in the underlying patent.’” *In re: Power Integrations, Inc.*, 884 F.3d 1370, 1375 (Fed. Cir. 2018) (citing *In re CSB-Sys. Int’l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016)). The patent specification “is the single best guide to the meaning of a disputed term” in a claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005)(en banc).

D. Legal Standards

Petitioner has the burden to show that it is likely to prevail as to at least one claim of the ‘119 Patent. 35 U.S.C. §314. The Board may decline to institute the petition as to any claim that the Board determines that Petitioner has not shown it is likely to prevail on. *SAS Institute, Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1352 (2016); *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1316-17 (2016). “[P]etitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). This burden never shifts to the Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

Petitioner has the burden of proving that the prior art it relies upon shows every element of the challenged claims. “[A] prior art reference must provide every element of the claimed invention arranged as in the claims in order to anticipate.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017). Also, if a single element of a claim is absent from the prior art, the claim cannot be considered obvious. *See CFMT, Inc. v. YieldUp Int’l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (“Obviousness requires a suggestion of all limitations in a claim.”).

E. Petitioner Fails to Invalidate Any Claim of the ‘119 Patent

The references asserted by Petitioner do not teach or suggest all the elements of the independent claims of the ‘119 Patent. Petitioner does not select or identify a first set of pixels which lie along or are along a first link between a starting and ending point, as required by every claim. Petitioner’s references also do not shift a first set of pixels along a first length of a non-linear pathway, as each claim requires. Also, the references do not teach or suggest shifting a set of pixels “in a loop” as all claims recite.

Patent Owner notes that a number of the challenged claims require additional steps or elements which are also not taught or suggested by the Petitioner’s cited art. An example is claim 4 which recites “selecting a second

set of pixels” and “shifting the second set of pixels in the second direction.”

These elements are not discussed in this Preliminary Response, but Patent Owner reserves the right to challenge such additional elements should *inter partes* review be granted in this case.

1. The prior art does not teach or suggest the step of identifying a first set of pixels that lie along a link between the first starting point and first ending point

Each of the independent claims (1, 8, 15) recite the step of: “identifying [or identify] a first set of pixels that lie along the first link between the first starting point and the first ending point”. The prior art fails to teach or suggest this step.

The ‘119 Patent illustrates a set of pixels (500, 510, 520) in which two of the pixels (510, 520) are at the starting point (550) and pixel 500. This set of pixels lies along the link that extends between the starting point 550 and the ending point 530.

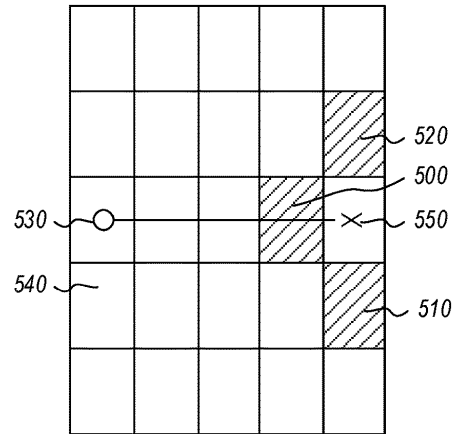
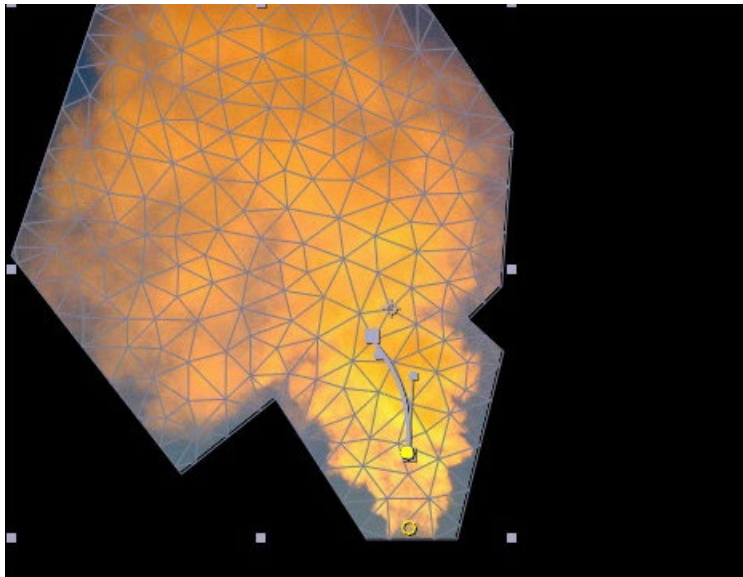


Fig. 5A

Petitioner does not select a set of pixels that meets any of these claim requirements. Petitioner only selects a Deform pin.



Petition at 32. This is essentially a single pixel which is located at the starting point of the shift in the same manner that pixels 510, 520 are in Figure 5. There are no pixels which, as the claims require, lie along the link (i.e., grey

path) between starting and ending point. The Deform pin is merely the pixel which is at the first starting point.

AEM fails to teach selecting or identifying a first set of pixels, as the claims require, that lie along a first link. AEM selects certain pixels to be transparent or nontransparent relating to “compositing,” i.e., creating a composite image from multiple images. Ex. 1003, 315-316. AEM states: “To create a composite from multiple images, you can make parts of one or more of the images transparent so that other images can show through.” *Id.* at 315. Therefore, each pixel in the composite image is either transparent or nontransparent such that every pixel is “selected” under Petitioner’s usage of the term “selecting.” The possibility that some of these pixels, in theory, could extend along a link between a starting point and an ending point would be mere happenstance. This reflects a recent finding by the Board in related case IPR2023-00152 involving this same prior art and expert testimony. *See* IPR2023-00152, Paper No. 7 at 12 (PTAB, June 20, 2023)(Denying Institution of *Inter Partes* Review)(mere happenstance that some pixels could extend along a non-linear motion path). Petitioner doesn’t point to any disclosure in AEM for actually selecting a set of pixels (either transparent or nontransparent) that extend along a link between a starting point and an ending point. *See Id.* AEM’s disclosure of designating pixels as transparent or non-

transparent does not meet the requirement of showing of “identifying” a set of pixels that lie along a link between a starting point and ending point.

The other cited prior art also fails to teach or suggest selecting a first set of pixels that lie along a first link between a first starting point and first ending point. Petitioner’s asserted Ground 2 relies upon an IMU-Okabe combination. Petitioner argues that because this combination would allow a user to apply a matte specifying a region of interest in an image the user desires to animate and a stroke specifying the direction and speed of a Shepard’s Distortion control point across the animation, “a user would have been allowed to select any or all pixels of the image to be included in this region of interest, including pixels that lie along the . . . stroke between the stroke’s starting and ending points . . .” Petition at 65. Patent Owner submits that selecting “any or all pixels of the image” is not sufficient to disclose the claim elements of selecting or identifying a first set of pixels that lie along or are along a first link between the first starting and ending points. *See* IPR2023-00152, Paper No. 7 at 12.

2. The prior art does not teach or suggest the step of shifting the first set of pixels in the first direction along the first length of the non-linear pathway

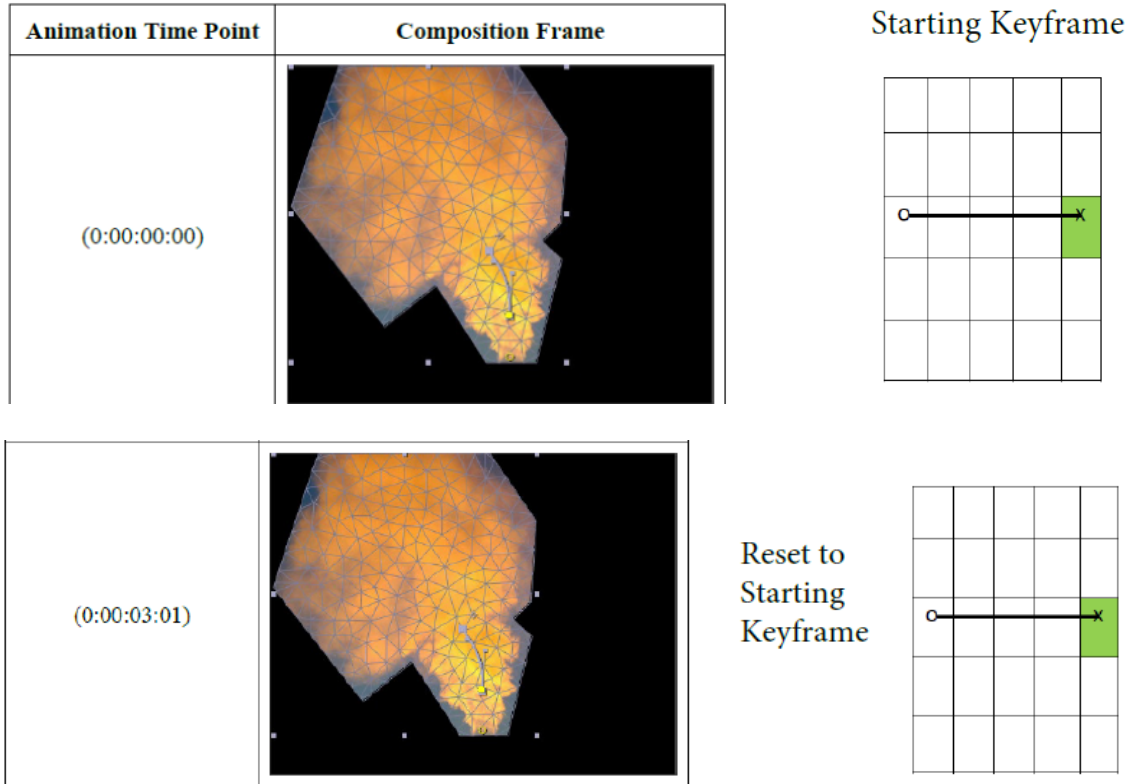
Independent claims 1, 8 and 15 each recite the step of “shift[ing] the first set of pixels in the first direction along the first length of the non-linear pathway.” Petitioner’s argument that AEM discloses these elements is that “[w]hen a non-linear motion path for the Deform pin is also created, AECS6 animates the corresponding change to the shape of the layer’s mesh (which includes the ‘first set of pixels,’ *see* Section VI.A.2.g), and thus, the movement of the layer’s nontransparent pixels accommodating the Deform pin’s repositioning—i.e., the claimed ‘shift the first set of pixels in the first direction along the first length of the non-linear pathway.’” Petition at 30-31. This argument does not establish that a first set of pixels is shifted in the first direction as claimed. Rather, AEM discloses creating a mesh by placing Deform pins wherein the mesh changes shape in response to moving one or more of the Deform pins. *See* IPR2023-00152, Paper No. 7 at 14. At least some of the pixels of the mesh move in response to the Deform pin being moved, but these pixels do not necessarily move along the pin’s motion path. *Id.* Neither the Petition nor Dr. Greenspun’s Declaration adequately explains how any of the sample AECS6’s screenshots demonstrate that any pixel other than the pixel corresponding to the Deform pin moves along the motion path. *Id.* at 15.

The proposed IMU-Okabe combination also does not teach or suggest the shifting elements. Petitioner argues that the ‘119 patent states that the claimed shifting can be performed using “a warping function, such as Shepard’s distortion,” and that “IMU explicitly teaches that IMV6 performs “Shepard’s Distortion” and, therefore, the claimed pixel shifting.” Petition at 66 (citing Exhibit 1001, col. 9, lines 27-29). The ‘119 patent actually discloses that “software architecture 200 uses alpha blending when shifting the pixels from the starting point to the ending point,” and “[a]dditionally, in at least one embodiment, the software architecture uses a warping function, such as Shepard’s distortion.” Ex. 1001, col. 8, lines 46-47. This fleeting reference to Shepard’s distortion in the ‘119 patent does not suggest that Shepard’s distortion is the only technique for performing the claimed shifting of the first set of pixels, nor is it sufficient to establish that any prior art disclosure of Shepard’s distortion would teach the claimed shifting. See also IPR2023-00152, Paper No. 7 at 21 (finding same regarding fleeting Shepard’s distortion reference in U.S. Pat. No. 10,558,342).

3. The prior art does not teach or suggest the step of shifting a set of pixels by rendering them “in a loop”

AEM does not teach or suggest shifting of any pixels by rendering in a loop because no pixel ever loops around any other pixels during shifting.

Merely returning the Deform pin back to its starting point is not shifting it “in a loop.” Consider where the Deform pin starts and where it finishes:



Petition at 32-33 (annotated). The Deform pin starts and ends up in the same position. But now consider where the leading pixel 500 starts (Fig. 5A) and where it ends up (Fig. 5D) after being shifted “in a loop” per the ‘342 Patent:

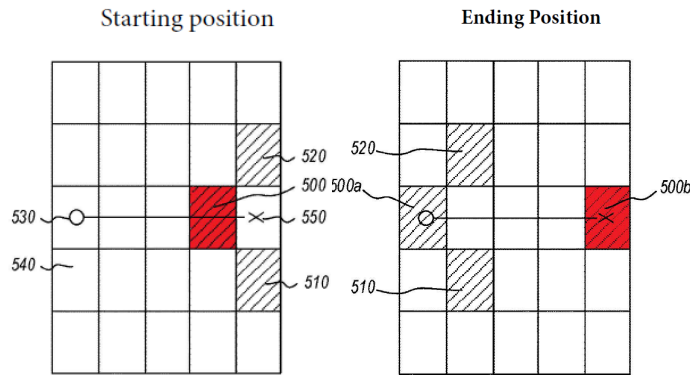


Fig. 5A

Fig. 5D

Do you see that? The pixel ends up one space behind (i.e., to the right of) where it started out. Also consider the starting and ending positions for the leading pixel 500 in the alternative embodiment described in the ‘119 Patent:

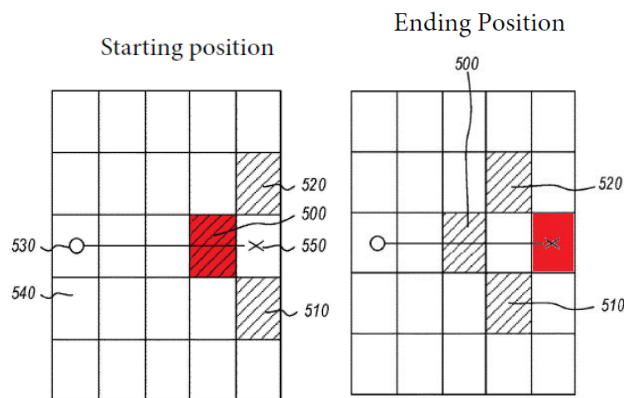


Fig. 5A

Fig. 5B

They are the same as for the first embodiment. The pixel being looped ends up behind (to the right of) where it started out. That is why merely returning a pixel to its starting point is not shifting it in a loop. *See also* IPR2023-00152,

Paper No. 7 at 16 (“ . . . we agree with Patent Owner that ‘[m]erely returning the Deform pin back to its starting [point] is not shifting it ‘in a loop.’”).

III. Conclusion

The Petition should be denied. Petitioner has no chance of invalidating any claim of the ‘119 Patent. The prior art fails to select a first set of pixels which lies along the link between starting and ending points, as the claims require. The prior art does not teach or suggest shifting the set of pixels in a first direction along a first length of a non-linear pathway. Also, the prior art Petitioner relies upon does not shift a set of pixels “in a loop” per the ‘119 Patent.

Dated this 5th day of July, 2023.

Respectfully submitted,

/s/ /Shawn Hunter/

Shawn Hunter

Reg. No. 36,168

David A. Walker

Reg. No. 52,334

SCHNEIDER WALLACE

COTTRELL KONECKY LLP

3700 Buffalo Speedway, Suite
960

Houston, Texas 77098

(713) 338-2560

shunter@schneiderwallace.com

[dwalker@schneiderwallace.co
m](mailto:dwalker@schneiderwallace.com)

Raymond R. Ferrera
Reg. No. 47,559
ADAMS AND REESE LLP
One Houston Center
1221 McKinney, Suite 4400
Houston, Texas 77010
(713) 308-0127
ray.ferrera@arlaw.com

Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e) the undersigned certifies that on July 5 2023, the foregoing PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA CONNELLY'S PRELIMINARY RESPONSE was served via electronic mail upon the following counsel of record for the Petitioner:

Robert Greeson
robert.greeson@nortonrosefulbright.com
Reg. No. 52,966
Norton Rose Fulbright US LLP
2200 Ross Avenue, Suite 3600
Dallas, Texas 75201-7932
(214) 855-7430

R. Ross Viguet
ross.viguet@nortonrosefulbright.com
Reg. No. 42,203
Norton Rose Fulbright US LLP
2200 Ross Avenue, Suite 3600
Dallas, Texas 75201-7932
(214) 855-8185

Lu Ling
lu.ling@nortonrosefulbright.com
Reg. No. 78,121
Norton Rose Fulbright US LLP
1301 McKinney, Suite 5100
Houston, Texas 77010
(713) 651-5327

Counsel for Petitioner Lightricks, Ltd.

By: /s/Shawn Hunter
Shawn Hunter

SCHNEIDER WALLACE
COTTRELL KONECKY LLP
3700 Buffalo Speedway, Suite
960
Houston, Texas 77098
(713) 338-2560
shunter@schneiderwallace.com

CERTIFICATE OF WORD COUNT

The foregoing PATENT OWNERS PLOTAGRAPH, INC. AND SASCHA CONNELLY'S PRELIMINARY RESPONSE 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 Preliminary Response contains 4368 words.

/s/ Shawn Hunter
Shawn Hunter