IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Kenneth Martin Jacobs	Group Art Unit: 3992
Appl. No.: 15/217,612	Examiner: HUGHES, DEANDRA M.
Issued: July 4, 2017	Confirmation No: 5884
U.S. Patent No.: 9,699,444 Issue Date: July 22, 2016 **Reexamination Control No.: 90/015,245**	Atty. Dkt. No.: 20311.0001.REEX00
Title: FASTER STATE TRANSITIONING FOR CONTINUOUS ADJUSTABLE 3DEEPS FILTER SPECTACLES USING MULTI-LAYERED VARIABLE TNT MATERALS	

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PATENT OWNER STATEMENT PURSUANT TO 37 C.F.R. § 1.530

Enclosed herewith is VDPP, LLC's Patent Owner Statement pursuant to 37 C.F.R § 1.530 with respect to the challenge of claims 1, 26 and 27 of U.S. patent No. 9,699,444 filed by Third Party Requester, Unified Patents, LLC.

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I. INTRODUCTION

U.S. patent No. 9,699,444 ("the '444 Patent") is directed to apparatuses configured to present two substantially similar image pictures to a viewer and alternate those images with a third visual interval-or "bridge frame"-that is substantially dissimilar to the images, which creates "the appearance of continuous, seamless and sustained directional movement," EXI001, 4:36- 42, 43:55-44:37. The apparatus has storage to store image frames, and a processor adapted to (1) obtain a "first image frame" from a "video stream," (2) "expand the first image frame" to generate a "modified image frame," (3) generate a non-solid color "bridge frame," (4) blend the "modified image frame with the bridge frame," and (5) display the "blended modified image frame."

Requester Challenges the patentability of Claims 126 and 27 of the '497 Patent based on nine (9) different alleged prior art references as follows.

US 6,744,440 B1 ("Nakamura");

US 6,061,103 ("Okamura");

US 6,853,385 ("Macinnis");

US 2010/0253611 A1 ("Takagi ");

US 2011/0228048 A1("Wei");

US 6,693,619 ("Miura");

US 8,576,336 ("Johnson");

"Premiere 5.1 for Macintosh & Windows: Visual Quicks tart Guide," Peachpit Press, 1999 ("Bolante");

"Adobe Premiere 5.0 User Guide for Macintosh and Windows," Adobe Systems Incorporated, 1998 ("Adobe Guide").

In the Request for reexamination, Requester alleged four (8) different combinations of the prior art references raised a substantial new question of patentability. In the Order Granting Request for *Ex Parte* Reexamination mailed on July 26, 2023, the Examiner concluded that one (1) alleged ground raise a substantial new question of patentability, as shown below.

Item	**References**	**Claims**	**SNQ**
1	Okamura and Macinnis	26-27	Yes
2	Bolante	26-27	No
3	Adobe Guide	26-27	No
4	Miura	26-27	No
5	Miura and Macinnis	26-27	No
6	Nakamura	1	No
7	Johnson and Macinnis	26-27	No
8	Takagi and Wei	26-27	No

II. Claim Construction

Because the present Request relates to an expired patent, the claims should be construed according to same standard applied by Article III courts, outlined *in Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). See In *re CSE-System Int'l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016). Under this standard, claims are given their ordinary and customary unless the patentee "has clearly set forth an explicit definition of the term" in the specification or disclaimed scope of coverage using expressions of "manifest exclusion or restriction" during prosecution. Id. at 1319-20.

In accordance with these principles, Patent Owner submits that the terms of the '147 Patent are clear on their face, except the following claim term which should be construed as follows:

1."removing a portion of the first image frame" (Claim 26)

Regarding the term "a portion of image frame," the '444 Patent describes:

Also, image pictures and **portions of the image picture** can be combined such that the combination is used as the second image picture. The **portion of the image picture is offset from the first image** picture when they are combined such that there is an appearance of movement. For example, a **window from image picture A** can be moved slightly while the **background remains the same**, the picture with the moved window is designated image picture B and the two combined to create the appearance of the window moving and/or enlarging or shrinking in size. In this case, both picture A and picture B are identical except for the **placement of the window** in the image picture. The same can also be done by using an identical background in both image pictures and superimposing on both pictures an image which is positiond slightly different in each picture. The image could be a window, as before, of a man walking, for example." The '444 Patent, 6:27-42.

Picture-frames A and B may be near-identical or have only some elements with close visual correspondence. Similarity of shape and location within the frame are important factors

determining the effect. …… While matching image elements in pictures A and B must occupy almost the exact screen-space in order to combine properly, it will be the differences between them (within close tolerances) that will **produce and determine the character of movement and dimensionality**. Computer graphics cut-and-paste techniques can be used to select and place, shrink and expand and otherwise manipulate matching elements (from any source) into effective screen-locations relative to each other. One or both pictures may be collaged or stitched together from multiple sources, **parts may be removed or inserted, lifted and reshaped or/and relocated**. The '444 patent, 46:37-61.

The cited portion of the '444 Patent shows that an image picture include background, people and objects, a portion (part) of an image picture means a people or an object such as a window. Since "The method of the present invention entails repetitive presentation to the viewer of at least two **substantially similar image pictures** alternating with a third visual interval or bridging picture that is substantially dissimilar to the other substantially similar pictures in order to create the appearance of continuous, seamless and sustained directional movement." The '444 patent, 4:36-42. **"removing a portion of image frame" means removing people or at least one object from background of an image frame, such that the modified image is substantially similar to the first image.**

III. REQUESTER HAS NOT SUCCESSFULLY RAISED A SUBSTANTIAL NEW QUESTION OF PATENTABILITY FOR THE GROUNDS ADVANCED IN THE REQUEST, AND THE REQUEST SHOULD BE DENIED

A. Requester Fails to Establish that the combination of the Okamura and Macinnis Raises a Substantial New Question of Patentability for Challenged Claims 26 And 27 in SNQ (1)

1. THE ASSERTED PRIOR ART

a. Okamura

Okamura describes a display apparatus Suitably constructed to obtain an observing image with high resolution, even though the apparatus has the delta arrayed pixels as in the general liquid crystal. Ex. 1006, 2:30-32.

In order to improve resolution, one embodiment of an image display apparatus comprises, an image display element having a plurality of pixels arrayed in matrix and divided into a plurality of regions, for displaying images by scanning these pixels with image signals, a first pixel shifting means for selectively shifting optical axes of images in respective regions, a second pixel shifting means having the same shifting amount as that of the first pixel shifting means, a viewing optical system for projecting it magnified virtual image on eyes of a viewer, and a control means for controlling a position of image displayed on the image display element in synchronism with the operation of the first and Second pixel shifting means. Ex. 1006, 2:46-59.

To perform the pixel shifting by selectively shifting the optical axis of images on the display element by the optical axis shifting means. Fig.35(reproduced below) shows "any images are not displayed on the display element at an instant of performing pixel shifting. That is, black is displayed. If the images having different sampling timing of a picture 1 and a picture 2 to each other are continuously displayed, a black picture is inserted between the picture 1 and the picture 2." Ex. 1006, 22:46-56.

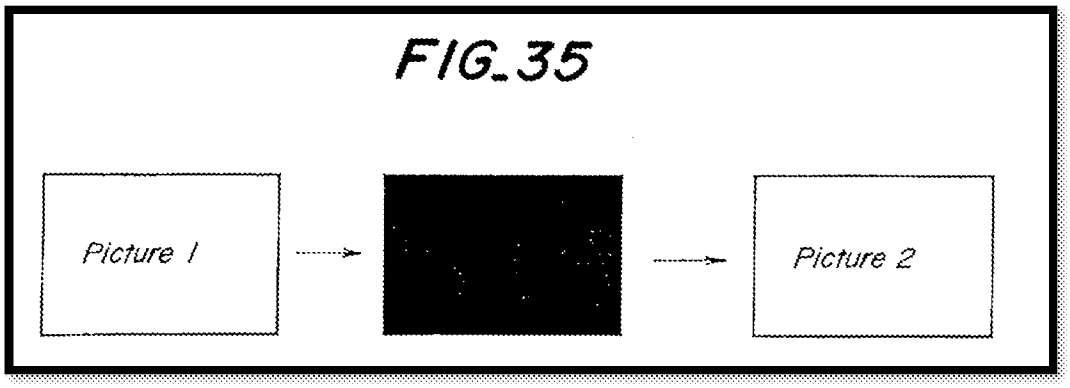

Fig. 35 - Ex. 1006

FIG. 36 (reproduced below) shows the change of the images on the display element in this embodiment. As shown in FIG. 36, at an instant (time) t1, a picture 1 is displayed on the display element, at a time t2, the picture 1 is **gradually rewritten** by a black image from upper side and at a time t3, the picture1 is wholly replaced by a black image. At this instant, the pixel shifting is performed, at a time t4, the black image is gradually rewritten by a picture 2 from upper side, and at a time t5, whole image of picture 2 is displayed. If such an operation is performed, the instant in which the picture 1 and the picture 2 are displayed simultaneously, is not present, the pixel shifting can be performed by wholly separating the pictures 1 and the picture 2, so that the resolution can be increased. Ex. 1006, 22:57-23:3.

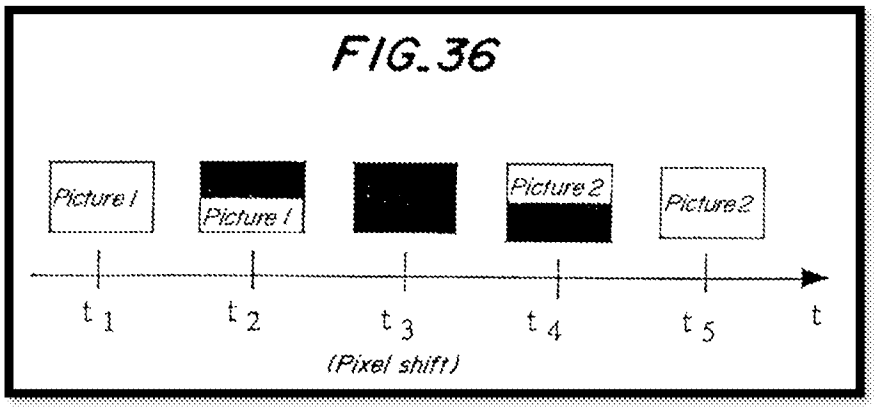

Fig. 36 - Ex. 1006

b. Macinnis

Macinnis discloses a video, audio, and graphics system that uses multiple processors to receive and decode digital video streams, including MPEG-2 video in high definition television ("HDTV") format and standard definition format. EXl 008 at Abstract. Macinnis describes how the ATSC (Advanced Television Systems Committee) Digital Television Standard required televisions capable of receiving digital broadcasts to decode MPEG-2 video by a process that includes upscaling (i.e., increasing the displayed size), which allows displays to modify the incoming signal to match the resolution and size of the display. EX1008 at 64:31-49. For this reason, Macinnis' s graphics-display system includes a video scaler that can both upscale and downscale (i.e., reduce the displayed size) digital video and analog video. See id. 69:5-17. In Maclnnis's preferred embodiment, the video scaler's "scale factors" can be adjusted continuously from a scale factor of four (for upscaling) to a scale factor of "much less than one" (for downscaling). EX1008, 6:38-44.

2. Claim 26

The Requester has divided claim 26 into elements for consideration as follows:

[26-Preamble] An apparatus comprising:

[26a] a storage adapted to: store one or more image frames; and

[26b] a processor adapted to: obtain a first image frame from a first video stream;

[26c] generate a modified image frame by performing at least one of expanding the first image frame, shrinking the first image frame, removing a portion of the first image frame, stitching together the first image frame with a second image frame, inserting a selected image into the first

image frame, and reshaping the first image frame, wherein the modified image frame is different from the first image frame;

[26d] generate a bridge frame, wherein the bridge frame is a solid color, wherein the bridge frame is different from the first image frame and different from the modified image frame;

[26e] display the modified image frame; and display the bridge frame.

a. **Element [26c]**

The combination of Okamura and Macinnis does not teach Element [26c]

Regarding the limitation [26c], Requester proffers that

Okamura discloses generating a modified image frame by performing at least one of expanding the first image frame or removing a portion of the first image frame ... wherein the modified image frame is different from the first image frame. For example, in connection with the images displayed, Okamura states that "[i]t is another object of the present invention to provide a display apparatus suitably constructed to obtain an observing image with high resolution ... " EX1006, 2:29- 31. As set forth above in Section I.C, changing the resolution of an image is encompassed by the claimed term expanding the image, and that the generation of an upscaled image of increased resolution is encompassed by generation of a modified image. Accordingly, the system of Okamura discloses generating a modified image that is different than an original image by increasing the resolution of the original image. Accordingly, Okamura generate[s] a modified image frame by increasing the resolution of video images to match the display resolution of its display panel. Id., 4:14-16, 22:42-45, 22:57-23:3. Req.,48-49.

Okamura also generates a modified image frame by removing a portion of the first image frame. As shown in FIG. 36 of Okamura, at time t2, half of the image frame of Picture 1 at t1 is

removed by rewriting it with black pixels so as to create a different image. Id, 22:57-23:3. Req., 49.

Macinnis discloses expanding a first image frame through the process of upscaling images contained in a video, or alternatively, shrinking a first image through the process of downscaling images contained in a video. EX1008, 3:50-56, 44:4-14, 44:45-53. As noted above, Okamura discloses increasing the resolution of an image to be displayed. It would therefore be obvious to a POSITA to enable the display apparatus of Okamura to upscale or downscale a video image as disclosed in Macinnis so as to achieve a desired image resolution for a particular video display. Req., 49.

First, Okamura and Macinnis do not disclose expanding a first image frame, since resolution conversion increases or decreases the amount of detail an image holds but does not expand/shrink the image frame itself.

Second, Okamura does not disclose "generates a modified image frame by removing a portion of the first image frame."

Requester errs byon equating "a portion of the first image" to "an **area** of the first image."

As set forth in section II. Claim Construction, "removing a portion of the first image frame" means "**removing people or at least one object from background of an image frame"** such that the modified image is substantially similar to the first image.

As shown in FIG. 36 of Okamura (illustrated above), at time t2, half of the image frame of Picture 1 at t1 is removed by rewriting it with black pixels so as to create a different image, Which means **half area** of the image frame of Picture 1 is removed, not **people or at least one object** is removed form background of the image frame of Picture 1. Since **half area** of the

image frame of Picture 1 is removed not necessary remove people or at least one object, but remove half area of background which do not need to be removed in the '444 Patent.

The function of claim 1 is to create an Eternalism. "No less than three basic units, two pictures and a bridge interval (A, B, C), are necessary to create an Eternalism, even when picture B might be only a slight modification, a shifting or size reduction or expansion or tilting, etc. of picture A." The '444 patent, 44:50-54. Eternalism make a viewer sees a **visual illusion** of an event impossible in actual life. The '444 patent, 4:1-2. The function of "half of the image frame of Picture 1 at t1 is removed by rewriting it with black pixels so as to create a different image" in Okamura is to avoid the instant in which the picture 1 and the picture 2 are displayed simultaneously, the pixel shifting can be performed by wholly separating the pictures 1 and the picture 2, so that the resolution can be increased. Ex. 1006, 22:57-23:3. The picture in Okamura can not cause **visual illusion.**

Thus, Okamura does not disclose "generates a modified image frame by removing a portion of the first image frame."

Furthermore, in Claim 26, "generates a modified image frame" is done before the "black frame," Okamura's teaching at figure 36 showing that at time t2 half of the image frame of Picture 1 at t1 is removed by rewriting that at time t2, half of the image frame of Picture 1 at t1 is removed by rewriting it with black pixels so as to create a different image essentially removes a portion of the image frame identified as Picture 1 of figure 36, It does NOT create a different image. It is not a different image that is created. Only the displayed frame image changes when it is sent for display on the Head Mounted Device (HMD). But, that is done in hardware - on the display. This does not result in any change to the underlying image (in software), but only refers

to changes in how the image is displayed (in hardware) to the viewer. Claims 26 of the '444 Patent, refers to changes to the image frame before they are displayed.

Therefore, the combination of Okamura and Macinnis does not teach the limitation [26c] as required by claim 26.

b. Element [26e]

The combination of Okamura and Macinnis does not teach Element [26e]

Regarding the limitation [26e], Requester proffers that in Fig. 36, Okamura discloses displaying the modified image at time t2 and displaying the bridge frame at time t3.

The words of the limitation [26e] recite "display the modified image frame; and display the bridge frame," which means there is no other image frame displayed between the modified image frame and the bridge frame.

The specification of the '444 Patent also supports above construe of the limitation [26e]. for example, the '444 Patent indicates:

FIGS. 20 a-20 c illustrates an alternative three pictures that are employed in the method of this invention. Picture D and Picture E both illustrate a capital A, however, in Picture D, the capital A is aligned with the center of the frame while in Picture E the A is off-set to the right of the center of the frame. Col. 38:62-68.

The three pictures are placed side-by-side to form a series. Finally, the series is copied a plurality of times to form a repeating series. The repeating series in FIG. 20c (reproduced below) creates the optical illusion that the letter A is moving from left to right. The '444 Patent, 39:6-10.

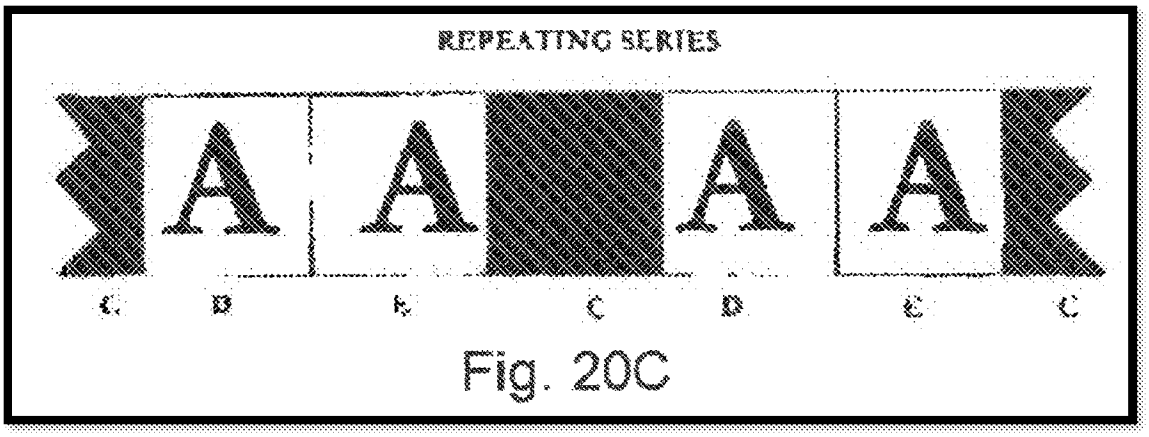

Fig. 20C - '444 Patent

In Fig. 20C, Picture E is a modified image frame of Picture D, there is no other image frame displayed between the modified image frame(Picture E) and the bridge frame (picture C).

In Okamura, contrary to the '444 Patent, there is other image frame displayed between the modified image frameand the bridge frame (picture C). Okamura describes that;

FIG. 36 shows the change of the images on the display element in this embodiment. As shown in FIG. 36, at an instant (time) t1, a picture 1 is displayed on the display element, at a time t2, the picture 1 is **gradually** rewritten by a black image **from upper side** and at a time t3, the picture1 is wholly replaced by a black image. At this instant, the pixel shifting is performed, at a time t4, the black image is gradually rewritten by a picture 2 from upper side, and at a time t5, whole image of picture 2 is displayed. If such an operation is performed, the instant in which the picture 1 and the picture 2 are displayed simultaneously, is not present, the pixel shifting can be performed by wholly separating the pictures 1 and the picture 2, so that the resolution can be increased. Ex. 1006, 22:57-23:3.

The description of cited portion of Okamura shows that in order to replace picture 1 by a black image, the picture 1 is **gradually** rewritten by a black image from upper side. **"gradually" means between t1 and t2 and between t2 and t3, there are many other pictures blending**

picture 1 and a black image, wherein the black image extends from upper side to down side gradually.

In the '444 patent, repeatly shows the pictures side-by side can creat a visual illusion. In Okamura, the picture 1 is **gradually** rewritten by a black image from upper side can avoid the instant in which the picture 1 and the picture 2 are displayed simultaneously, the pixel shifting can be performed by wholly separating the pictures 1 and the picture 2, so that the resolution can be increased. Ex. 1006, 22:57-23:3.

Thus, Okamura does not disclose "display the modified image frame; and display the bridge frame."

Therefore, the combination of Okamura and Macinnis does not teach the limitation [26e] as required by claim 26.

c. **Okamura does not anticipate claim 26**

Requester has not met his burden to show how Okamura teaches the limitations [26c] and [26e], claim 26 is not anticipated by Okamura, since "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051,1053 (Fed. Cir. 1987).

Further, to argue that Okamura alone discloses all elements of claim 26, Requester combines Fig.1 in embodiment 1, Fig. 32 in embodiment 10, Fig. 39 in embodiment 14, Fig. 9 in embodiment 2, Figs. 35and 36 in embodiment 12. Req., 42-51.

To the extent that Okamura discloses all elements of claim 26, Okamura will not anticipate claim 26 since combining "multiple, distinct teachings" across embodiments, albeit

within the four corners of a single document, was insufficient to anticipate a claim. *Microsoft Corp. v. Biscotti, Inc.,* 878 F. 3d 1052 - 2017.

d. **The combination of Okamura and Macinnis does not render obvious claim 26**

Requester fails to undertake a Graham analysis, because Petitioner's combination of Okamura and Macinnis lacks evidence of crucial limitations of claim 26, such as the limitations [26c] and [26e]. *Graham v. John Deere Co.,* 383 U.S. 1, 17–18 (1966). Therefore, combination of Okamura and Macinnis does not render claim 26 obvious because it has not established its prima facie case, since "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003).

To the extent that combination of Okamura and Macinnis discloses all elements of claim 26, the combination of Okamura and Macinnis does not render obvious claim 26.

Although Okamura discloses "bridge frame" as required by claim 26, "bridge frame" has different functions in Okamura and the '444 Patent.

In the '444 Patent, "bridge frame" is used to create the appearance of continuous, seamless and sustained directional movement, a space illusion. The '444 Patent describes the function of "bridge frame" as follows:

The method of the present invention entails repetitive presentation to the viewer of at least two substantially similar image pictures alternating with a third visual interval or bridging picture that is substantially dissimilar to the other substantially similar pictures in order to create the appearance of continuous, seamless and sustained directional movement. The '444 Patent, 4:36-42.

The appearance of transfixed continuous motion (a going without going anywhere) is created in this invention from a specific employment of flicker, the contrast created by viewing the slight shifting of a pictured form or forms between the image pictures in opposition to the **bridging picture**. The **present invention purposely makes flicker apparent**, utilizing the effects of emphatic flicker on the human optical/nervous system to create uncanny time and space illusions. The '444 Patent, 40:11-28.

In Okamura, "bridge frame" is used to wholly separating the shifted pictures 1 and the picture 2, so that the resolution can be increased.

FIG. 36 shows the change of the images on the display element in this embodiment. As shown in FIG. 36, at an instant (time) t1, a picture 1 is displayed on the display element, at a time t2, the picture 1 is gradually rewritten by a black image from upper Side and at a time t3, the picture 1 is wholly replaced by a black image. At this instant, the pixel shifting is performed, at a time t4, the black image is gradually rewritten by a picture 2 from upper side, and at a time t5, whole image of picture 2 is displayed. If such an operation is performed, the instant in which the picture 1 and the picture 2 are displayed simultaneously, is not present, the pixel shifting can be performed by wholly separating the pictures 1 and the picture 2, so that the resolution can be increased. Ex. 1006, 22:57-23:3.

In the twelfth embodiment, the black image is displayed at the instant in which the pixel shifting is performed, a flicker due to black display becomes a problem. In a thirteenth embodiment, in order to **prevent such a flicker due to the black display**, the image to be pixel-shifted and the image to be not pixel-shifted are not alternatively displayed. That is, in this embodiment, the pixel shifting is controlled in the following order; Shifted image-non Shifted image non shifted image-sifted image-shifted image. Particularly, in the control of pixel shifting,

the black image is displayed at the change of Shifting condition. If such a control is performed, the period in which the black image is displayed becomes two times, So that the flicker can be decreased. Ex. 1006, 23:4-17.

"bridge frame" will produce "flicker," the '444 Patent **purposely makes flicker apparent**, but In Okamura, **"flicker" due to the black display** (bridge frame) **should be avoid,** since "flicker" helps to produce space illusion in the '444 Patent, while "flicker" is only an unwelcome side effect to increase the resolution of LCD.

"It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846,850, 205 USPQ 1069, 1072 (CCPA 1980)

Since the "bridge frame" in Okamura has a different function than the '444 patent, the combination of Okamura and Macinnis does not render obvious claim 26.

3. Claim 27

Claim 27 depends from claim 26 and is not anticipated by Okamura, and is not obvious over Okamura and Macinnis for at least the same reasons.

B. Requester Fails to Establish that the prior arts Raise a Substantial New Question of Patentability for Challenged Claims1, 26 and 27 in SNQs (2)-(8)

Patent owner agrees the examiner that:

The teachings of Bolante do not form the basis of the SNQ (2). Order Granting Request for *Ex Parte* Reexamination, at 11.

The teachings of Adobe Guide do not form the basis of the SNQ (3). *Id.*, at 12.

The teachings of Miura do not form the basis of the SNQ (4). *Id.*, at 14.

The teachings of the combination of Miura and Macinnis do not form the basis of the SNQ (5), *Id.*, at 15.

The teachings of Nakamura do not form the basis of the SNQ (6). *Id.*, at 16.

The combination of Johnson and Macinnis do not form the basis of the SNQ (7). *Id.*, at 17.

The combination of Takagi and Wei do not form the basis of the SNQ (8) *Id.*, at 18.

IV. CONCLUSION

Therefore, the Examiner should find all Challenged Claims are patentable over the prior art cited in the Reexamination Request and conclude this reexamination proceeding.

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