

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKESHI MISAWA

Appeal 2007-1100
Application 10/384,642
Technology Center 2600

Decided: June 28, 2007

Before JOHN C. MARTIN, JEAN R. HOMERE, and JOHN A. JEFFERY,
Administrative Patent Judges.

JEFFERY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1, 2, 4-6, and 9. Claim 3 has been canceled and claims 7 and 8 have been withdrawn from consideration. We have jurisdiction under 35 U.S.C. § 6(b), and we heard the appeal on June 6, 2007. We affirm.

STATEMENT OF THE CASE

Appellant invented an apparatus for displaying multiple images on a relatively small display screen. Specifically, an image display strip is provided that includes multiple image display areas in a straight horizontal or vertical line. The sizes of the image display areas progressively diminish as the distance from one of the display areas increases. As a result, smaller screens can display a larger number of images.¹ Claim 1 is illustrative:

1. An apparatus for controlling display of index images, comprising:

a first display controller for controlling a display device so as to display an image display strip on a display screen, said image display strip including a plurality of mutually adjacent image display areas formed in a straight line in either a horizontal direction or a vertical direction, the sizes of the adjacent display areas diminish as a distance in the horizontal direction or the vertical direction from one of the image display areas increases;

an image data reading device for reading a plurality of frames of image data that have been recorded on a recording medium;

a second display controller for controlling the display device in such a manner that a plurality of frames of images represented by the plurality of frames of image data recorded, which have been read by said image data reading device, are displayed in corresponding ones of the image display areas of the image display strip.

The Examiner relies on the following prior art references to show unpatentability:

Angiulo

US 2002/0135621 A1

Sep. 26, 2002

(filed Mar. 20, 2001)

¹ See generally Specification at 2:2 – 3:18.

Claims 1, 2, 4-6, and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Miyao in view of Angiulo.

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Briefs and the Answers for their respective details. In this decision, we have considered only those arguments actually made by Appellant. Arguments which Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention set forth in the claims on appeal. Accordingly, we affirm.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Discussing the question of obviousness of a patent that claims a combination of known elements, *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1395 (2007) explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it,

either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [*v. AG Pro, Inc.*, 425 U.S. 273, 189 USPQ 449 (1976)] and *Anderson's-Black Rock[, Inc. v. Pavement Salvage Co.]*, 396 U.S. 57, 163 USPQ 673 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 127 S. Ct. at 1740, 82 USPQ2d at 1396. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed.” *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007). Such a showing requires “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*, 127 S. Ct. at 1741, 82 USPQ2d at 1396 (quoting *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

If the Examiner’s burden is met, the burden then shifts to the Appellant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and

the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Regarding independent claim 1, the Examiner's rejection essentially finds that Miyao teaches every claimed feature except for (1) a second controller to control the display device to display multiple frames of images in the display areas, and (2) aligning the images as a straight vertical or horizontal strip instead of in the ring shape depicted in Mayo's Figure 1 (Answer 4-5).

Regarding the first difference, the Examiner indicates that Miyao teaches distributing tasks to separate controllers and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to distribute the burden of the first display controller to separate controllers to "further modulate the device" for easy replacement and substitution. Appellant does not challenge the Examiner on this point. Regarding the second difference, the Examiner cites Angiulo's Figure 7 as displaying thumbnail images in a straight horizontal strip and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to display the ring strip of Miyao as a straight horizontal strip to free up more of the display screen (Answer 4-6).

Appellant argues that the prior art does not teach or suggest forming the image display strip into multiple *mutually adjacent* image display areas in a straight line in either a horizontal or vertical direction as claimed. Appellant contends that Angiulo merely discloses multiple detached thumbnails – not multiple mutually adjacent image display areas formed in a straight line as claimed. Appellant emphasizes that skilled artisans would recognize that "mutual adjacency" requires a *common endpoint or border*.

Such an interpretation, according to Appellant, is supported by both the intrinsic record and extrinsic evidence. Appellant emphasizes that neither Miyao nor Angiulo disclose any type of common endpoint or border in either reference's display of images (Br. 9-12; Reply Br. 9-10; Supp. Reply Br. 4-6).

The Examiner argues that the broadest reasonable interpretation of "mutually adjacent" is not limited to display areas that share a common edge or border as Appellant argues, but rather is fully met by Miyao's overlapped display areas that are "mutually adjacent" to each other. The Examiner adds that Miyao shows a common border for adjacent display portions (e.g., overlapping rectangles containing letters "A" and "B" respectively) (Answer 9).

We will sustain the Examiner's rejection of independent claim 1. At the outset, we disagree with Appellant that the term "mutually adjacent" must be interpreted to require a common endpoint or border. Significantly, Appellant has not specifically defined the term "mutually adjacent" in the Specification; accordingly, we construe the term with its plain meaning (i.e., the ordinary and customary meaning given to the term by those of ordinary skill in the art). *See Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298, 67 USPQ2d 1132, 1136 (Fed. Cir. 2003) ("In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art."); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005) (en banc).

To determine the ordinary meaning of commonly understood words, it is entirely appropriate to cite a dictionary definition. *See Agfa Corp. v. Creo*

Products, Inc., 451 F.3d 1366, 1376, 79 USPQ2d 1385, 1392 (Fed. Cir. 2006); *see also In re Thrift*, 298 F.3d 1357, 1364, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002). Although Appellant proposes a dictionary definition of “adjacent” that requires a common endpoint or border (Br. 12), other dictionary definitions of the term are not so limiting. In fact, several dictionaries expressly disavow the need for contact between “adjacent” objects. One dictionary, for example, defines the term “adjacent” in pertinent part as “situated near or close to something or each other, *especially without touching.*”² Significantly, this same dictionary distinguishes the term “adjacent” from “adjoining” – a term that requires the objects to be next to each other:

Two houses are said to be ***adjoining*** when they are ***next to each other with a common wall***. Adjoining tables are next to each other, end to end, forming one surface (they are, to use a more technical word, *contiguous*). In other words, adjoining items *join*. ***Adjacent*** houses, on the other hand, ***can have a space between them*** or even be on opposite sides of the road, as long as there is nothing significant between them (such as another house) and they are close enough for you to pass easily from one to the other. Adjacent tables are next to each other ***but not necessarily touching.***³

² See MSN Encarta Dictionary, at http://encarta.msn.com/dictionary_/adjacent.html (last visited June 7, 2007) (emphasis added).

³ *Id.* (emphasis added); *see also* Merriam-Webster Online Dictionary, at <http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=adjacent> (last visited June 7, 2007) (distinguishing “adjacent” which “may or may not imply contact” from “adjoining” which definitely “implies having contact on

Based on this evidence, we find the plain meaning of the term “adjacent” is simply not limited to requiring a common endpoint or border as Appellant argues, but rather can encompass things that are not in contact. We therefore decline to adopt Appellant’s narrower construction of “adjacent.” *See In re Morris*, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997) (“Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO’s definition unreasonable when the PTO can point to other sources that support its interpretation.”).

Even if we adopt Appellant’s definition of “mutually” as “shared in common,”⁴ a reasonable construction of “mutually adjacent” image display areas would include image display areas that are situated near or close to each other, but not necessarily touching.

With this construction, we turn to the prior art. In our view, Miyao’s ring-like formation of partially overlapping image display areas in Fig. 1 reasonably constitutes an “image display strip” giving the term its broadest reasonable interpretation. Even with Appellant’s definition that a strip is “long” and “narrow,”⁵ it need not be straight. In short, image display strips can be annular or ring-shaped -- a fact evidenced by Appellant’s own

all or most of one side”); Webster’s Revised Unabridged Dictionary, 1913 ed., *at* <http://machaut.uchicago.edu/?resource=Webster%27s&word=adjacent&use1913=on> (last visited June 7, 2007) (“Things are *adjacent* when they lie close each other, *not necessary in actual contact*... Things are *adjoining* when they meet at some line or point of junction...”) (emphasis added).

⁴ *See* Br. 12.

⁵ *See* Br. 10.

disclosure.⁶ We find that Miyao’s ring-like formation of images reasonably constitutes a ring-shaped “strip” of images giving the term “strip” its broadest reasonable interpretation. The fact that the images overlap simply does not preclude the array constituting a strip. In any event, the horizontal array of images in Angiulo also reasonably constitutes a strip giving the term its broadest reasonable interpretation.

Furthermore, Miyao’s partially overlapping images reasonably constitute “mutually adjacent image display areas” as claimed. In Fig. 1, each image in the ring has a corresponding “display area.” Although the display areas partially overlap, they are nonetheless “mutually adjacent” giving the term its broadest reasonable interpretation.

Additionally, the display image size (i.e., the “display area”) decreases progressively from the foreground towards the back row (Miyao, col. 11, ll. 16-34). Accordingly, the sizes of the adjacent display areas diminish as their distance from the foreground image display areas increases in the vertical direction (i.e., from the lower portion of the LCD display to the upper portion of the display).

With this interpretation of Miyao, the fundamental issue before us is a relatively narrow one: whether it would have been obvious to the skilled artisan to display the array of image display areas in Miyao in a straight line in lieu of a ring.

Turning to Angiulo, thumbnail images in a photo gallery are displayed in an array which is oriented essentially along a straight horizontal line. Using the forward and back controls 190a, 190b, the user can scroll through

⁶ See Fig. 16 and Specification 5:1 (“The image display strip may be ring-shaped.”).

the images and select a desired thumbnail image. The selected thumbnail image is enlarged as shown in Fig. 7 (showing both selected thumbnail image 186a and corresponding enlarged image 186b). If no thumbnail image is selected, then the first thumbnail image in the photo gallery is shown both as a thumbnail image and an enlarged image (Angiulo, Fig. 7; ¶ 0065).

Significantly, both Miyao and Angiulo provide the ability to consecutively scroll through an array of images and automatically enlarge one image of the array. Although Miyao sequentially scrolls through the various images by simulating a rotation of the ring that contains the images, the images are nonetheless viewed consecutively with the first image in the array (i.e., the image in the front row) enlarged.

Taking into account the inferences and creative steps that one of ordinary skill in the art would employ,⁷ we conclude that the skilled artisan would have been motivated to combine the consecutive viewing and enlargement capability achieved by the ring-like array of images in Miyao with a linear array as suggested by Angiulo -- an arrangement that likewise provides a consecutive image viewing and enlargement capability.

We reach this conclusion emphasizing that the array of images in Miyao appears to the user as three-dimensional ring-like formation due to the particular perspective of the images displayed on the LCD screen. That is, the user's view of the images is such that the viewer appears to see the ring of images *at an angle* with respect to the plane that contains the ring of images. Thus, the images appear to be viewed from a position located in

⁷ See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. at 1741, 82 USPQ2d at 1396.

front of and above the images (i.e., the user “looks down” on the images from above).

But viewing this same ring-like array of images *from a plane perpendicular to the images themselves* (i.e., the plane perpendicular to the x and y axis of each image) effectively transforms the viewer’s overhead perspective of the ring-like array into a frontal perspective of a horizontal array of images with varying sizes. That is, changing the point of view to a head-on position directly in front of the ring-like formation would result in the images appearing in a horizontal strip across the screen, with the images other than the foregoing image decreasing in size with their horizontal distance from the midpoint of the strip.

In our view, the skilled artisan would readily have recognized that providing a frontal perspective resulting in a horizontal strip of images -- a feature suggested by Angiulo -- in lieu of the overhead perspective used in Miyao would, among other things, recover areas of the LCD display screen that would otherwise be occupied by images in the array. These recovered areas of the display screen could then be made available for other display purposes – a potentially useful feature given the relative scarcity of available display areas on small screens. Importantly, such a modification would not affect the ability to consecutively scroll through the array of images and enlarge a selected image; rather, the modification would merely affect the user’s perspective of the images in the array.

For at least these reasons, we will sustain the Examiner’s rejection of representative claim 1. Since Appellant has not separately argued the patentability of claims 6 and 9, these claims fall with representative claim 1.

See In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987); *see also* 37 C.F.R. § 41.37(c)(1)(vii).

We will also sustain the Examiner's rejection of claim 2. As we indicated previously, the display image size (i.e., the "display area") decreases progressively from the foreground towards the back row (Miyao, col. 11, ll. 16-34). Accordingly, the scaled-down images displayed within these display areas are likewise reduced in size in a progressive fashion, whether the ring-like display is viewed from the perspective used in Miyao's Figure 1 or frontally, when Miyao is modified in view of Angiulo in the manner explained above.

Furthermore, "scaling down" an image reduces an image at least in the horizontal or vertical directions, and often reduces the image in *both* the horizontal *and* vertical directions. For example, scaling down full-size images to thumbnail representations (e.g., a 200 x 200 pixel image to a 20 x 20 pixel image) reduces the size of the image both horizontally and vertically. For at least these reasons, the Examiner's rejection of claim 2 is therefore sustained.

Regarding claims 4 and 5, Appellant argues that Miyao does not display only a portion of the image as claimed, let alone a center portion, but rather displays a scaled-down, miniature version of the entire image (Br. 13; Reply Br. 12; Supp. Reply Br. 8). The Examiner argues that Miyao displays a center portion of the scaled-down images in the two images directly behind the image in the foreground.

We will sustain the Examiner's rejection of claims 4 and 5. In our view, the image data that is overlapped in the rows behind the front row fully meets displaying only a portion of the image data in those display

areas. Furthermore, the smaller, scaled-down images in the rows behind the front row inherently have less “image data” (i.e., fewer pixels) than their larger-size counterparts. Regarding claim 5, we agree with the Examiner that the center portion of the images in the second row is displayed.

Although other portions of those images displayed along with the center portion, we note that the claim merely calls for the displayed image data portion to *include* a center portion of the image. Such a recitation does not preclude displaying additional portions so long as the center portion is included. For the foregoing reasons, we will sustain the Examiner’s rejection of claims 4 and 5.

DECISION

We have sustained the Examiner's rejections with respect to all claims on appeal. Therefore, the Examiner’s decision rejecting claims 1, 2, 4-6, and 9 is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tdl/gw

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