

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZHEJIANG LINGDI DIGITAL TECHNOLOGY CO., LTD.,
Petitioner,

v.

CLO VIRTUAL FASHION, INC.,
Patent Owner.

IPR2024-00980
Patent 11,222,448 B2

Before JAMESON LEE, WILLIAM V. SAINDON, and LISA A.
MURRAY, *Administrative Patent Judges*.

MURRAY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Zhejiang Lingdi Digital Technology Co., Ltd. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–4 and 14–18 (the “challenged claims”) of US Patent 11,222,448 B2. Paper 2 (“Pet.”); *see* Ex. 1001 (’448 Patent). CLO Virtual Fashion, Inc. (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2024) (“The Board institutes the trial on behalf of the Director.”). Section 314(a) of Title 35 of the United States Code provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the evidence and arguments in the Petition (including its supporting testimonial evidence) as well as the evidence and arguments in the Preliminary Response, we determine that the information presented does not show a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims of the ’448 Patent. We thus determine not to institute an *inter partes* review of any of the challenged claims on any of the grounds alleged in the Petition.

A. Real Parties in Interest

Zhejiang Lingdi Digital Technology Co., Ltd. and CLO Virtual Fashion, Inc. are identified as real parties in interest. Pet. 60; Paper 5, 2 (Patent Owner’s Mandatory Notice).

B. Related Matters

The parties identify the following as matters that may affect, or be affected by, a decision in this proceeding:

CLO Virtual Fashion Inc. v. Zhejiang Lingdi Digital Technology Co., Ltd. d/b/a Linctex, 2-23-cv-00274 (EDTX), filed June 14, 2023.

Zhejiang Lingdi Digital Technology Co., Ltd. v. CLO Virtual Fashion, Inc., IPR2024-00967 (PTAB), filed May 30, 2024.

Zhejiang Lingdi Digital Technology Co., Ltd. v. CLO Virtual Fashion, Inc., IPR2024-00970 (PTAB), filed May 30, 2024.

Pet. 1; Paper 5, 1 (Patent Owner’s Mandatory Notice); *see* Ex. 1017 (Compl. (E.D. Tex. June 14, 2023)).

C. The ’448 Patent

U.S. Patent No. 11,222,448 is entitled “Method and Apparatus for Measuring Measurement of Two-Dimensional Pattern Corresponding to Three-Dimensional Virtual Clothing.” It issued on January 11, 2022. The ’448 Patent is based on U.S. App. No. 17/027,426, filed on Sept. 21, 2020, and claims priority to application KR 10-2019-0101363, published Aug. 19, 2019. Ex. 1001, codes (30, 65).

The invention disclosed in the ’448 Patent is a method and apparatus for taking a measurement of a 2D pattern corresponding to 3D virtual clothing. In one embodiment, a 2D clothing pattern is displayed within a space. A plurality of points within that space are selected. Using data structures corresponding to each point, the “attribute of the area” containing the points is analyzed to determine whether: (1) the points are within a single pattern piece; (2) the points are within two different pattern pieces; (3) the points are along an outer arc of the same pattern piece; (4) one end of the

segment created by the points is within a pattern piece and the other end is in the space between the pattern pieces; or (5) the points are all in the space between the pattern pieces. Ex. 1001 at 2:16–43. In the second scenario, where a line segment extends from within one pattern piece to within another pattern piece, as shown in Figure 4 below, the length of the segment that is between the pattern pieces is subtracted from the total length. *Id.* at 2:50–62, 8:11–27, 12:5–34. The result is a measurement of the distance from the start point to the end point after the two pattern pieces are assembled into 3D virtual clothing. *See id.* Fig. 4, 1:55–60. For example, Figure 4 of the '448 Patent is reproduced below:

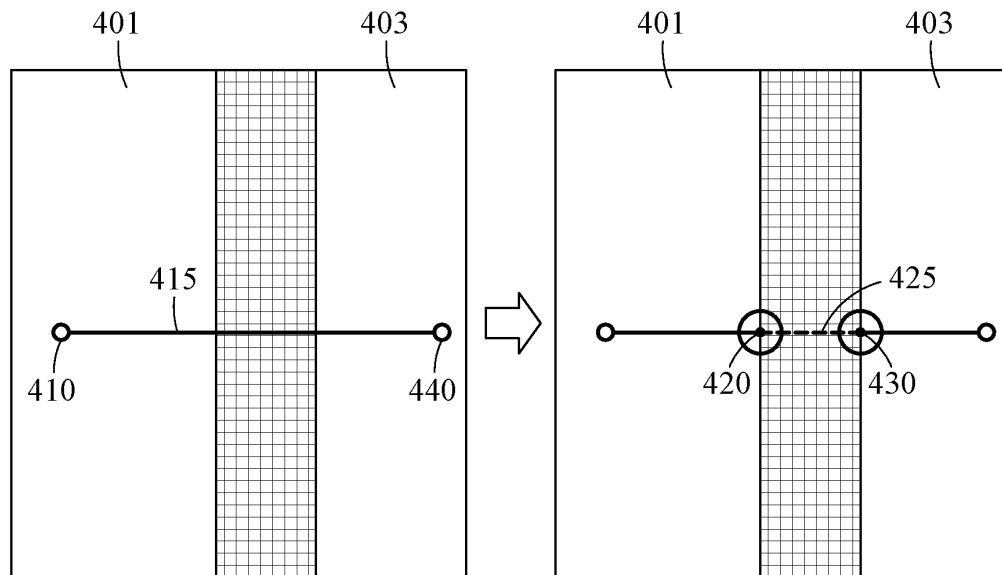


FIG. 4

Figure 4 depicts a rectangle on the left representing two pattern pieces with blank space between them and a line 415 superimposed over the pattern pieces. A rectangle on the right represents the same two pattern pieces connected by a dotted line 425 in the blank space between them. Figure 4 illustrates a scenario in which elements 401 and 403 are different pattern

pieces, and a line segment 415 crosses from a point 410 within element 401 to a point 440 within element 403. The distance 425 in the blank space between the edges of the two pattern pieces at points 420 and 430 is subtracted from the length of line segment 415 to determine a measurement from point 410 to point 440. *See* Ex. 1001 at 12:5–53 (describing Figure 4).

D. Illustrative Claim

Petitioner challenges claims 1–4 and 14–18 of the '448 Patent.

Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A method of taking a measurement of a two-dimensional (2D) pattern, comprising:

receiving a plurality of points in a space in which a 2D pattern of clothing is displayed;

determining attributes of areas in which the points are located, wherein the attributes indicate at least whether the points are located in a same pattern piece of the clothing or different pattern pieces of the clothing;

determining a length of a line segment using the points based on the determined attributes of the areas, the determined length of the line segment changed to account for separation between the pattern pieces responsive to determining that the points are located in different pattern pieces; and

outputting the length of the line segment.

Ex. 1001, 17:58–18:5.

E. Evidence

Petitioner relies on the following patent evidence.

Name	Patent Document	Exhibit(s)
Grinspun	US 2014/0114620 A1	1004

Petitioner relies on the following non-patent literature evidence.

Name	Non-Patent Literature Title	Exhibit(s)
Graphicextras	Graphicextras.com, “Photoshop CC: Smart guide align and spacing/distances video” (July 10, 2014), <i>available at</i> https://www.youtube.com/watch?v=dgok9GunPa0&t=227s	1005

Petitioner also relies upon the Declaration of Mr. Dan Perreault.
Ex. 1003 (“Perreault Decl.”).

F. Prior Art and Asserted Grounds

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103(a) based on the following combination of references:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 14–18	103	Grinspun, Graphicextras

Pet. 13.

II. ANALYSIS

For the reasons discussed below, we determine that there is not “a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

A. Legal Standard

A patent may not be obtained if “the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103. The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed

subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness, if present. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

When evaluating a claim for obviousness, we also must “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Under *KSR*, exemplary rationales that may support a conclusion of obviousness include:

- (A) combining prior art elements according to known methods to yield predictable results;
- (B) simple substitution of one known element for another to obtain predictable results;
- (C) use of known technique to improve similar devices (methods, or products) in the same way;
- (D) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (E) “obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (F) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and,
- (G) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

KSR, 550 U.S. at 418.

B. Level of Ordinary Skill in the Art

To determine whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. Various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962–63 (Fed. Cir. 1986)). “[O]ne or more factors may predominate.” *Id.*

Petitioner contends that one of ordinary skill in the art would have had “a minimum of a bachelor’s degree in an engineering, computer science, graphic design, or a related field plus 2–3 years of work and/or research experience in the field of computer aided design (CAD) software.” Pet. 12. Petitioner asserts that “[g]raduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.” *Id.* Patent Owner largely agrees with Petitioner’s proposal, but argues that the relevant experience would have had to have been in “creating computer programs for virtual or digital clothing design” because general CAD software is not suitable for the purposes of virtual clothing design. Prelim. Resp. 18–19.

We need not determine which definition is more consistent with the ’448 Patent and the asserted prior art. We have applied Petitioner’s definition in our analysis below. We determine that even under Petitioner’s definition of the level of ordinary skill in the art, Petitioner has not

established a reasonable likelihood of success with respect to any of the claims challenged in the Petition, for the reasons discussed below.

C. Claim Construction

Because the Petition was filed after November 13, 2018, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b).

The parties agree that no claim terms need to be construed for the purposes of a Decision on Institution, but disagree as to whether the preamble of method claim 1 is limiting. Petitioner argues that it is not, while Patent Owner argues that statements of intended purpose in the preamble to a method claim are generally construed as limiting. Pet. 31–32 (citing *Arctic Cat Inc. v. GEP Power Prods.*, 919 F.3d 1320, 1328–1330 (Fed. Cir. 2019)); Prelim. Resp. 19 (quoting *Eli Lilly and Co. v. Teva Pharma. Int’l GmbH*, 8 F.4th 1331, 1340 (Fed Cir. 2021)).

We determine that we do not need to resolve this potential claim construction dispute between the parties. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). For the reasons discussed below, even if we adopt Petitioner’s position that the preamble of claim 1 is not limiting, Petitioner still has not established a reasonable likelihood of success regarding its challenge to claim 1.

D. Ground 1: Obviousness of Claims 1–4 and 14–18 Under 35 U.S.C. § 103 Over Grinspun in View of Graphicxtras

Petitioner asserts that claims 1–4 and 14–18 of the '448 Patent are obvious under 35 U.S.C. § 103 over Grinspun in view of Graphicxtras. Pet. 13–59. We summarize aspects of the asserted prior art and then address the parties' arguments.

1. The Grinspun Reference

The primary reference, Grinspun, is a U.S. patent application disclosing methods, systems, and media for interactive garment modeling and editing. Ex. 1004 (Grinspun). Grinspun discloses a method and system in which, given a 2D pattern template for designing a garment, the 2D pattern pieces are displayed on a computer screen in one window and a 3D rendering of the assembled garment is displayed as draped over a 3D model in a second window. When a user changes an element of the pattern in one window, both windows are updated simultaneously. *Id.* Abstract. For example, Figure 3 of Grinspun is reproduced below:

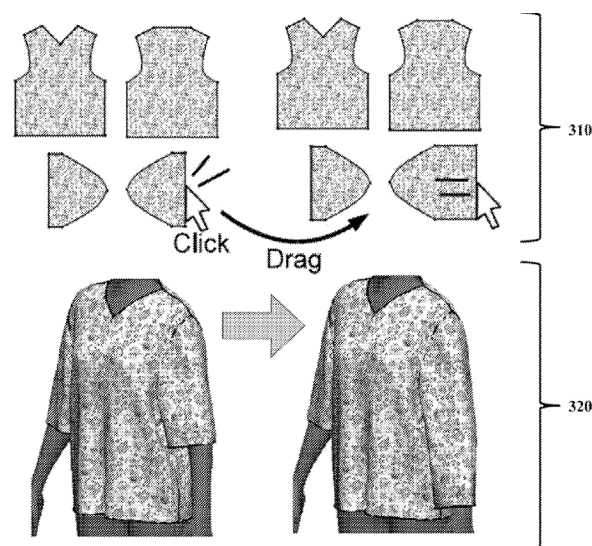


FIG. 3

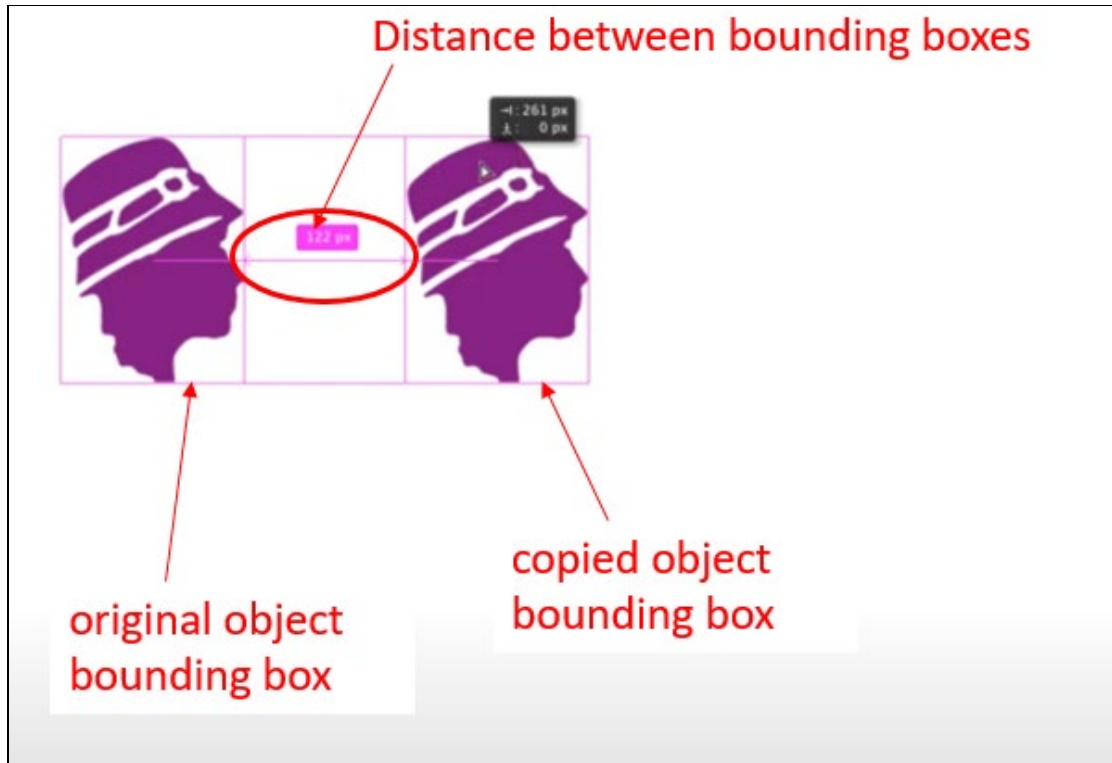
Figure 3 of Grinspun depicts 2D pattern pieces 310 at the top of the figure, and 3D representations of the resulting garments 320, displayed on an avatar. If the user clicks and drags on the hem of a virtual sleeve in either the 2D window or the 3D window, both the 2D sleeve pattern piece and the 3D representation of the sleeve will change in length at the same time. Ex. 1004 ¶¶ 19, 40–41. This is shown in Figure 3 by displaying the original 2D and 3D representations on the left, an arrow illustrating the direction of a click-and-drag motion in the middle, and the modified 2D and 3D representations on the right. *Id.*

2. The Graphicxtras Reference

Graphicxtras is a YouTube video demonstrating a Smart Guide feature added to the 2014 version of Adobe Photoshop CC. Patent Owner does not contest Petitioner’s representation that the video is dated July 10, 2014 and constitutes applicable prior art. *See* Pet. 2; Prelim. Resp. 15–18.

The Smart Guide feature depicted in Graphicxtras draws bounding boxes around graphic elements and displays the horizontal and/or vertical distances between those boxes. According to the video, this feature can be used when dragging elements around on the page to confirm that the elements are uniformly spaced apart. It cannot be used to calculate diagonal distances, distances within graphic elements, or distances from the exact boundary of one element to the exact boundary of another. *See* Prelim. Resp. 16–17; Ex. 2001 ¶¶ 71–74 (Govindaraj Decl.) (“Graphicxtras cannot (i) set any points of measurement inside the bounding boxes (they are fixed images), (ii) measure any line segments between points within a bounding box, or (iii) measure any line segments originating from a point within the bounding box.”).

For example, shown below is a figure that accompanies paragraph 73 of the Declaration of Dr. Muthu Govindaraj, Patent Owner's expert declarant. Ex. 2001 ¶ 73 (Govindaraj Decl.).



The figure depicts the Graphicxtras video at timestamp 1:25, as annotated in red by Dr. Govindaraj. *Id.* There are two purple graphic objects on the screen, each representing a person wearing a hat. There is a measurement displayed between the two objects and highlighted in pink. The measurement shows the distance between a rectangular bounding box drawn around the original first object and a similar bounding box drawn around the copied second object. *Id.*

3. Analysis of Independent Claims 1, 15–16

Petitioner and Patent Owner both focus on claim 1 of the '448 Patent, which is commensurate in scope with independent claims 15 and 16.

Claim 15 discloses a non-transitory computer-readable storage medium, and Claim 16 discloses an apparatus that performs the steps of claim 1. Ex. 1001 at 19:65–20:34. Petitioner’s theory of unpatentability is the same for all three challenged independent claims. *See* Pet. 54–58. Accordingly, our discussion of claim 1 below applies equally to claims 15 and 16.

a. Petitioner proposes a hypothetical modification of Grinspun that would incorporate the measurement capability described in Graphicxtras.

Grinspun teaches CAD software with an onscreen interface allowing users to “interactively edit two-dimensional flat patterns and instantaneously obtain feedback with [a] resulting three-dimensional draped representation.” Ex. 1004 ¶ 10. As Petitioner notes, “Grinspun also teaches that the onscreen interface can show multiple objects (patterns) spaced apart and organized/positioned by a user within the two-dimensional space (design window 110), yet the user does so without receiving onscreen measurement/spacing information.” Pet. 24. Petitioner contends that “[t]o the extent Grinspun does not expressly disclose displaying an onscreen measurement that changes to account for a separation distance between two objects within the two-dimensional space, such a feature was implemented in other conventional CAD software (such as Graphicxtras) to achieve known benefits[.]” *Id.*

Petitioner proposes a hypothetical modification of Grinspun that would incorporate the measurement capability described in Graphicxtras and suggests that one of ordinary skill in the art would have been motivated to make such a modification. Pet. 25–31; *see* Ex. 1003 ¶ 67 (Perreault Decl.). Petitioner’s expert declarant, Mr. Perreault, provides an annotated

illustration of this proposed modification at paragraph 72 of his declaration.
Ex. 1003 ¶ 72. Mr. Perreault's illustration is reproduced below.

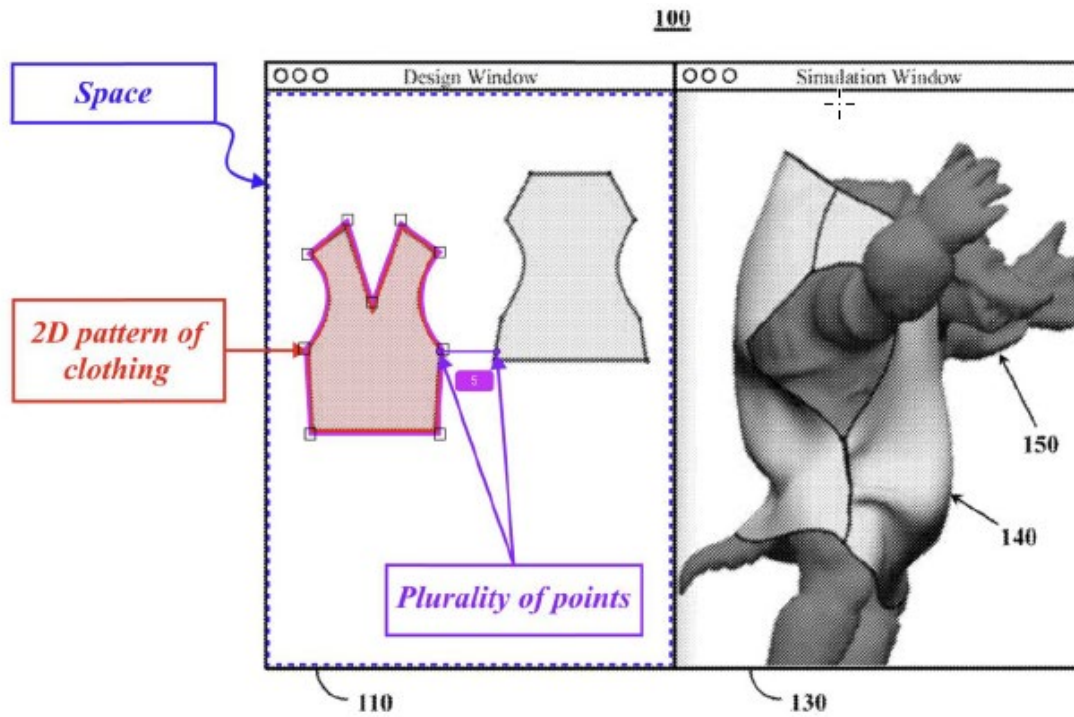
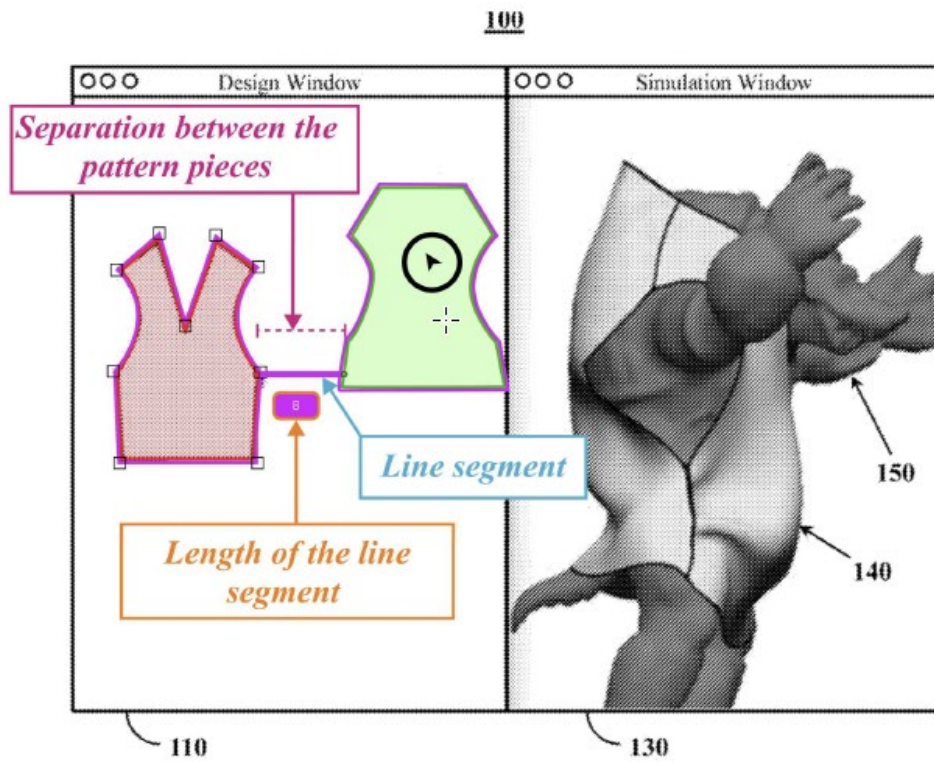
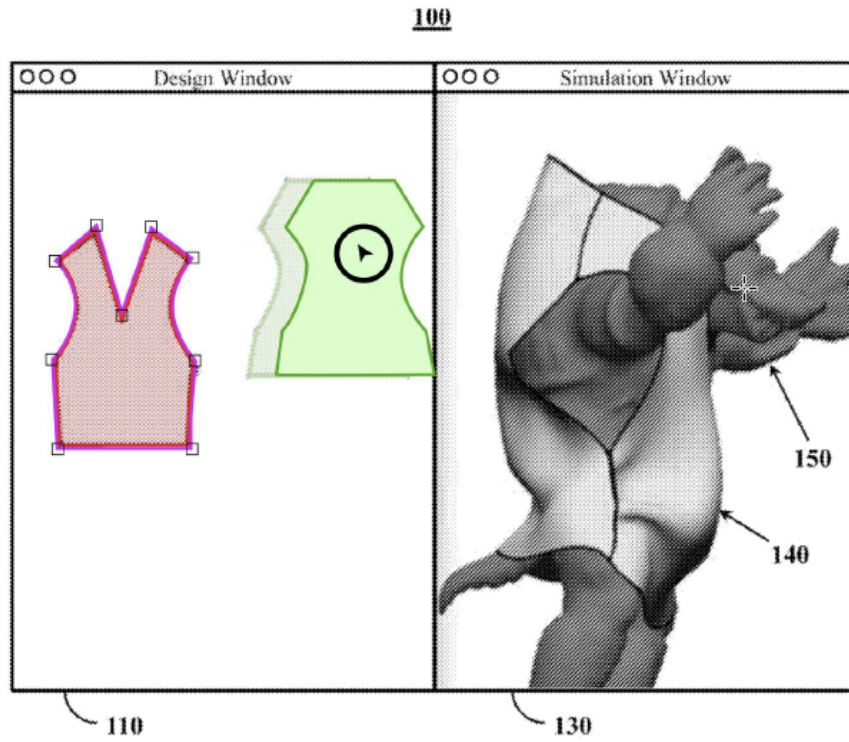


FIG. 1

The illustration depicts Figure 1 of Grinspun, which shows a CAD application 100 with a design window 110 on the left and a simulation window 130 on the right. The design window displays two 2D pattern pieces, and the simulation window displays a 3D representation of the resulting garment on a cartoon figure avatar. The illustration also depicts Mr. Perreault's modifications to Grinspun Figure 1. Mr. Perreault has added a red outline around the edge of one of the 2D pattern pieces in the display window, and drawn a line between the edge of that pattern piece to the edge of the second pattern piece. Arrows pointing to the beginning and end of that line are labeled "plurality of points." The area in the display window around the 2D pattern pieces is labeled "Space."

As shown above, Petitioner's expert declarant, Mr. Perreault, suggests that Figure 1 of Grinspun could be modified to show a CAD application that would identify a plurality of points outlining the borders of two 2D pattern pieces and would display the distance between two of those points in the white space between the pattern pieces. *Id.* As depicted in Mr. Perreault's declaration, the proposed combination would not modify the 3D rendering in the Simulation Window of Grinspun in any way. It would simply measure a distance in the empty space between two 2D pattern pieces. *See* Ex. 1003 ¶ 72.

Claim 1 includes the following limitation, which corresponds to Figure 4 of the '448 Patent: "determining a length of a line segment using the points based on the determined attributes of the areas, the determined length of the line segment changed to account for separation between the pattern pieces responsive to determining that the points are located in different pattern pieces[.]" Ex. 1001 at 17:66–18:4, Fig. 4. Mr. Perrault suggests that Petitioner's proposed combination would satisfy this limitation if a user were to measure the distance between the two 2D pattern pieces, manually move one of the pieces on the screen, and then take a second measurement of the new distance between the pattern pieces. This is shown in two figures accompanying paragraphs 81 and 83 of Mr. Perreault's declaration. Ex. 1003 ¶¶ 81, 83; *see* Pet. 37–43. Those two figures are reproduced below, with the figure from paragraph 81 on top and the figure from paragraph 83 on the bottom.



The top figure shown above is a modified copy of Figure 1 of Grinspun. *See* Ex. 1003 ¶ 81. It depicts the design window and simulation window previously described, with two 2D pattern pieces in the display window on the left and a 3D avatar in the simulation window on the right. In the display window, there is a red pattern piece outlined in a darker red, and a green pattern piece with a light green shadow. A black arrow in a circle illustrates a click-and-drag action that moves the green pattern piece on the right further away from the red pattern piece on the left. *Id.*

The bottom figure shown above adds further annotations to a copy of the top figure. It illustrates the Grinspun/Graphicxtras system outputting the length of a line segment between the two 2D pattern pieces by displaying the segment onscreen in the display window, with a label identified as “Length of the line segment” showing that the resulting distance between the pattern pieces has increased to “8.” *Id.* ¶ 83; *see* Pet. 43. A dotted line above the line segment is labeled “Separation between the pattern pieces.” According to Petitioner, CAD software that modified Grinspun in this manner based on Graphicxtras’ suggested improvement would disclose every element of claim 1 of the ’448 Patent, rendering the claim invalid for obviousness under 35 U.S.C. § 103. *See* Pet. 31–44.

b. Petitioner’s proposed combination would not disclose each element of the challenged independent claims.

Patent Owner sets forth a number of reasons why Petitioner’s proposed combination would not disclose each element of the challenged independent claims. We are persuaded by Patent Owner’s analysis, especially with regard to the following points:

First, Petitioner has not sufficiently shown that either Grinspun or Graphicxtras teach taking measurements “of” a two-dimensional pattern, as described in the preamble of claim 1. *See* Prelim. Resp. 20–23. Grinspun provides a 2D pattern in its Design Window 110, but does not measure any part of the 2D pattern. *Id.* at 20; Ex. 1004 at 17, 37–38, Fig. 1; *see also* Ex. 2001 ¶¶ 76–77 (Govindaraj Decl.). Graphicxtras teaches taking horizontal or vertical measurements between bounding boxes, but does not measure the distance between the actual outlines of the pattern pieces. Ex. 1005 (Graphicxtras); *see* Ex. 2001 ¶¶ 79–81. Even if the preamble is not considered to be limiting, the fact remains that neither reference discloses measuring a distance *within* a pattern piece, which is required by the claim language “determining a length of a line segment using the points . . . responsive to determining that the points are located *in* different pattern pieces[.]” Ex. 1001 at 18:3–4 (emphasis added); *see* Ex. 2001 ¶¶ 84–85.

Second, Petitioner has not shown that either reference, alone or in combination, can determine whether two points are on the same pattern piece or different pattern pieces by affirmatively examining “attributes of areas” in which the points are located. Prelim. Resp. 27–29 (citing Ex. 2001 ¶¶ 87–90). The ’448 Specification indicates that a “measuring apparatus may determine that areas to which the two points A and B belong correspond to different pattern pieces based on the data structure corresponding to each of the two points A and B.” Ex. 1001 at 7:25–40.

The data structure corresponding to each of the points may store information corresponding to each of the points in the form of a linked list, a tree, or a table, for example. The information corresponding to each of the points may include, for example, identification information of a pattern piece in which each of the points is positioned, identification of a line in a pattern

piece in which each of the points is positioned, a coordinate of a point on a line of a pattern piece, and the like.

Id. at 6:63–7:4. This is reflected in claim 1, which contains the limitation “determining a length of a line segment using the points based on the determined attributes of the areas, the determined length of the line segment changed to account for separation between the pattern pieces responsive to determining that the points are located in different pattern pieces[.]”

Ex. 1001 at 17:66–18:4. The Grinspun-Graphicxtras combination does not do this. Rather, in the proposed combination the two points A and B are *always* on the edges of two different pattern pieces, and there is no disclosure of a set of data structures that would enable the proposed software to determine the location of the points in relation to the 2D pattern pieces depicted. Prelim. Resp. 27–29 (citing Ex. 2001 ¶ 90); *see* Pet. 35 (annotating Figure 1 of Ex. 1004).

Third, because the line segment in the proposed combination is always between the edges of two different pattern pieces, the combination does not determine the “length of a line segment using the points *based on the determined attributes of the areas*” associated with the two points. Prelim. Resp. 41–42 (citing Ex. 2001 ¶¶ 91–93); Ex. 1001 at 17:62–65 (emphasis added); *see also* Pet. 40, 42, 44 (further annotating Figure 1 of Ex. 1004).

Fourth, Petitioner misinterprets the claim language “the determined length of the line segment changed *to account for separation* between the pattern pieces” and does not even address the remainder of that claim element, “responsive to determining that the points are located in different pattern pieces.” *See* Ex. 1001 at 18:1–4 (emphasis added). This language does not mean that the user manually changes the length of the line

segment by moving the pattern pieces. *See* Pet. 40–44. It means that the portion of the line segment that is in the empty space between the pattern pieces is subtracted, as shown in Figure 4 of the '448 Patent, in order to determine the measurement of a portion of the 3D clothing to be created from the 2D pattern. Prelim. Resp. 40–41 (citing Ex. 2001 ¶¶ 94–95). We agree with and adopt the explanation of Patent Owner's expert declarant, Dr. Govindaraj that:

[T]he '448 teaches repeatedly and the claims require that the patterns are fixed relative to one another, that the selected points are fixed, and that the line segments are fixed. The entire purpose of the claimed invention is to measure the length of a line segment in response to determining that the points are located in different pattern pieces, and then accounting for the “white space” or “separation between” the two patterns.

Ex. 2001 ¶ 95.

Patent Owner raises additional arguments as to why claim 1 would not read on the proposed Grinspun-Graphicextras combination, but we are amply persuaded by those listed above that the exercise that Petitioner proposes, in which 2D pattern pieces are moved around in a display window to change the amount of empty space between them, would not practice claim 1. Because Petitioner has not sufficiently shown that the proposed combination of prior art would disclose each element of claim 1, or of any other challenged independent claim, we conclude that Petitioner's challenge to those claims is not reasonably likely to prevail.

c. Petitioner is not reasonably likely to establish a motivation to combine the teachings of Graphicxtras with the software of Grinspun.

In addition, we conclude that Petitioner has failed to sufficiently establish that one of ordinary skill in the art, as defined by Petitioner, would have been motivated to make the proposed combination of prior art.

Petitioner argues that “[m]ultiple reasons would have prompted a POSITA to modify Grinspun’s onscreen interface of the CAD software to include Graphicxtras’ suggestions for improving such an onscreen interface.” Pet. 25; Ex. 1003 ¶¶ 63–69. Petitioner first asserts that “a POSITA would have modified Grinspun’s onscreen interface of the CAD software to include Graphicxtras’ suggestion for a ‘measurement guide’ so as to provide the user with real-time measurement information within Grinspun’s design window 110 and thereby facilitate rapid organization/positioning of multiple garment pieces within the window 110.” Pet. 25. Patent Owner responds that the relative positions of the 2D patterns in Grinspun have no effect on the 3D display or the bidirectional editing that is the focus of the Grinspun patent publication. Prelim. Resp. 42–43. Thus, there would be no motivation to measure that distance using the Graphicxtras Smart Guides feature. *Id.* (citing Ex. 2001 ¶ 111).

Petitioner next argues that a POSITA would “include Graphicxtras’ suggestion for a ‘match spacing’ measurement information within Grinspun’s design window 110 to improve the ease-of-use of the garment design processes described in Grinspun, especially where such a feature would have beneficially helped the user to quickly align the 2D objects with uniform spacing.” Pet. 27. Patent Owner contends that this rationale is “pure hindsight” that “merely restates the ‘result’ of the Grinspun-Graphicxtras

combination as a ‘reason’ to make the combination in the first place.” Prelim. Resp. 44. According to Patent Owner, while “[d]etermining and displaying the distance between (boundary boxes of) objects in Graphicxtras may be beneficial in Graphicxtras itself because the user is evenly spacing objects on the screen[,]” in Grinspun there would be no benefit to using displayed measurements to ensure that the pattern pieces are evenly spaced because “the distance between [the] two 2D patterns is not compared to any other distance.” *Id.* at 43–44 (citing Ex. 2001 ¶ 113).

Lastly, Petitioner recites that the proposed combination “would have involved using known user interface improvement (suggested in Graphicxtras) to address a known problem within onscreen displays of garment design applications like that of Grinspun”; that “a POSITA would have had a reasonable expectation of success in incorporating Graphicxtras’ suggested improvement into Grinspun’s onscreen interface of the CAD software”; and that “applying the suggestions of Graphicxtras to Grinspun’s onscreen interface would have led to predictable results without significantly altering or hindering the functions performed by Grinspun’s software.” Pet. 27–31; Ex. 1003 ¶ 68. Patent Owner, however, contends that there is no “known problem” with onscreen displays of garment design applications, and notes that Petitioner does not identify one in the Petition. Prelim. Resp. 44–45; Ex. 2001 ¶ 116.

We are not persuaded by Petitioner’s arguments, mainly because, as Patent Owner argues, Petitioner has not identified a non-hindsight purpose for measuring the distance between two 2D pattern pieces. Without such a purpose, Petitioner has not sufficiently established that a person of ordinary skill in the art would have attempted to combine the teachings of

Graphicxtras with the software of Grinspun. We therefore conclude that, for this additional reason, there is no reasonable likelihood that Petitioner would prevail “with respect to at least 1 of the challenged claims of the ’448 Patent.” 35 U.S.C. § 314(a).

4. Analysis of Dependent Claims 2–4, 14, and 17–18

Challenged claims 2–4 and 14 depend from claim 1, while claims 17–18 depend from claim 16. Ex. 1001 at 18:6–38, 19:60–64, 20:35–58. We have determined that Petitioner has not shown a reasonable likelihood of success with respect to its challenge to independent claims 1, 15, and 16. For similar reasons, we also find that Petitioner has not established a reasonable likelihood of success in challenging any of dependent claims 2–4, 14, and 17–18.

III. CONCLUSION

We conclude that Petitioner has not demonstrated a reasonable likelihood that at least one of the challenged claims is unpatentable based on the asserted grounds. We therefore do not institute an *inter partes* review on any of the asserted grounds as to any of the challenged claims.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied as to all challenged claims of the ’448 Patent.

IPR2024-00980
Patent 11,222,448 B2

FOR PETITIONER:

Michael T. Hawkins
Terry J. Stalford
Patrick J. Bisenius
Kim Leung
Ryan M. Chowdhury
FISH & RICHARDSON P.C.
hawkins@fr.com
stalford@fr.com
bisenius@fr.com
leung@fr.com
rchowdhury@fr.com

FOR PATENT OWNER:

James K. Cleland
Michael N. Spink
Michael N. MacCallum
DICKINSON WRIGHT PLLC
jcleland@dickinson-wright.com
mmacallum@dickinson-wright.com
mspink@dickinson-wright.com