

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.

IPR2024-00970
Patent 10,733,773 B2

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

SAINDON, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Zhejiang Lingdi Digital Technology Co., Ltd. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–11 (“the challenged claims”) of U.S. Patent No. 10,733,773 B2 (Ex. 1001, “the ’773 patent”). CLO Virtual Fashion, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(b) and 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons provided below, we determine that Petitioner has not demonstrated a reasonable likelihood that at least one claim of the ’773 patent is unpatentable, and we do not institute an *inter partes* review. 37 C.F.R. § 42.108(a).

Our findings of fact, conclusions of law, and reasoning discussed below are made for the sole purpose of determining whether the Petition meets the threshold for initiating review. This decision not to institute trial is not a final decision as to the patentability of any challenged claim or the construction of any claim limitation.

B. Real Parties in Interest

The parties both assert that they are the sole real parties in interest. Pet. 87; Paper 5, 1 (Patent Owner’s Mandatory Notice).

C. Related Matters

The parties both identify *CLO Virtual Fashion Inc. v. Zhejiang Lingdi Digital Technology Co., Ltd. d/b/a Linctex*, 2-23-cv-00274 (E.D. Tex.) as a related matter. Pet. 87; Paper 5, 1.

Patent Owner also identifies several of its patents challenged by Petitioner in IPR2024-00967 (U.S. Pat. No. 11,410,355) and IPR2024-00980 (U.S. Pat. No. 11,222,448). Paper 5, 1.

D. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit No.
Thoemmes	US Pat. 6,346,943, iss. Feb. 12, 2002	1006
Niterra	JP2005-309874A, pub. Nov. 4, 2005	1009 ¹
EZBRUSH	EZBRUSH, <i>trace pattern</i> video (May 16, 2012), available at https://www.youtube.com/watch?v=dRWJZab0tLA	1004
Corel	<i>Corel DESIGNER Tutorial – Drawing With Precision</i> (2013)	1005
TUKATECH	<i>TUKATECH, Manually Adjust CAD Pattern Grading CAD Pattern Making Tutorial TUKAtip - TUKAdesign</i> video (Sept. 23, 2013), available at https://www.youtube.com/watch?v=hR3TcYDPjMU	1007

¹ This is a certified translation of the Japanese publication. Ex. 1009, p. 44. The Japanese publication can be found in Exhibit 1008.

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–3, 6–9	103	EZBRUSH, Corel, Thoemmes, TUKATECH
4, 5, 10, 11	103	EZBRUSH, Corel, Thoemmes, Niterra, TUKATECH, Niterra

E. Overview of the '773 Patent

The '773 patent describes a computer simulation technology that processes 2D clothing patterns to create digital clothing. Ex. 1001, code (57). “The purpose of the present disclosure is to easily adjust a length of another segment to be sewn the same as a length of a selected segment on a pattern when free-sewing.” *Id.* When sewing a longer length segment to a shorter length segment, it will cause wrinkles, which may or may not be an intended aesthetic effect. *Id.* at 6:9–19. Different fabric types have different stretching properties, meaning that wrinkling occurs at different length mismatches. *Id.* at 10:4–23. The user can be made aware of the likelihood of wrinkling by switching the line color from blue to red when the length difference reaches a certain value likely to cause wrinkling. *Id.* at 10:1–5.

F. Challenged Claims

Claims 1–11 are challenged. Claims 1 and 7 are independent. Claim 1 is reproduced below.

1. A method of creating digital clothing executable by a computing device storing patterns and draped digital clothing, the method comprising:

setting a first selected segment by inputting the first selected segment to be sewn on a first segment on a pattern; and

setting a second selected segment, comprising inputting a starting point of the second selected segment on a second segment,

wherein the second selected segment is sewn to the first selected segment,

detecting a current cursor position,

displaying a point on the second segment as a candidate ending point of the second selected segment to make a length of the second selected segment substantially equal to a length of the first selected segment,

connecting the starting point to a present point on the second selected segment closest in distance to the current cursor position to form a line based on a difference between the current cursor position and the present point being less than a first reference value,

moving the present point to the candidate ending point, in response to the difference between the present point and the candidate ending point being less than a second reference value,

displaying a difference value between the length of the first selected segment and a length of the line,

selecting the present point as an ending point of the second selected segment, in response to a user input, and

setting, as the second selected segment, a section of the second segment between the starting point and the ending point.

II. ANALYSIS

A. Legal Standards Used in the Merits Analysis

“In an IPR, the petitioner 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) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with

particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). 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 skill in the art; and (4) when in evidence, objective evidence of non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that:

A person of ordinary skill in the art as of the Critical Date (“POSITA”) 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. [Ex.]1003, ¶23. Graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education. *Id.*

Pet. 20. Patent Owner proposes a different standard:

A [person of ordinary skill in the art] to which the ’773 Patent pertains would have had a minimum of a bachelor’s degree in mechanical engineering, textile engineering, computer

engineering, computer science, graphic design, or an equivalent degree, with at least 2–3 years of experience in software design for the creation of digital or virtual clothing. EX2001, ¶56.

Prelim. Resp. 33. Notably, Patent Owner argues that the level of ordinary skill in the art includes experience specific to digital or virtual clothing and that Petitioner has omitted this critical aspect. *Id.* at 32.

We need not adopt any particular level of ordinary skill because Petitioner fails to meet its evidentiary burden regardless of the definition of the level of skill adopted.

C. Claim Construction

Under 37 C.F.R. § 42.100(b), we apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). That is, “the words of a claim ‘are generally given their ordinary and customary meaning’ . . . that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1312–13.

We do not need to construe any claim terms to reach a decision in this proceeding. *Realtime, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those 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)).

D. Asserted Obviousness Over EZBRUSH, Corel, Thoemmes, and TUKATECH (Claims 1–3 and 6–9)

Petitioner asserts that claims 1–3 and 6–9 would have been obvious in view of EZBRUSH, Corel, Thoemmes, and TUKATECH. Pet. 21–73. An

analysis of independent claim 1 illustrates a dispositive issue in this case; we focus our analysis there.

Independent claim 1 is a “method of creating digital clothing” wherein two segments of pattern pieces are selected in order to be sewn together. Initially, the user selects a first segment, and then the remainder of the claim is directed to selecting a second segment. Toward the end of the claim, a limitation displays a “difference value between the length of the first selected segment and a length of the line [representing the proposed length of the second selected segment].” Ex. 1001, 14:66–67.

Petitioner’s ground chiefly draws on the teachings of EZBRUSH, which is a reference describing features of a digital clothing software system. *See generally* Pet. 21–28 (overview of EZBRUSH), 44–67 (ground for claim 1). Petitioner points to EZBRUSH as describing a user selecting a first and second segment length. *Id.* at 47–49. Petitioner then cites to EZBRUSH, Corel, and Thoemmes for various limitations not relevant to our discussion. *Id.* at 50–62, 64–67. Finally, Petitioner cites to TUKATECH for the limitation on displaying the difference in length. *Id.* at 62–64.

TUKATECH is a YouTube video showing various features of a software system for grading clothing (adjusting the size of the same garment into, e.g., small, medium, large, etc.). *See generally* Ex. 1007; Ex. 2001 ¶ 127. TUKATECH allows a user to compare the length of two different segments from different pieces of the garment. Ex. 1007 at 0:10–0:30 (comparing back sleeve armhole size to back bodice armhole size of a raglan shirt). For two pieces of a given garment size, the user can select pre-existing points on the patterns in order to calculate the difference in length between them, which is displayed in a table. *Id.* The user can drag the

points in order to re-size the patterns so that they are similar in length. *Id.* at 2:54–3:00.

According to Petitioner, a person of ordinary skill in the art would have modified EZBRUSH to implement TUKATECH’s sizing table “for providing an onscreen comparison of the lengths of two selected line segments[] so as to provide more pertinent information for the user and to achieve rapidly informed decision-making by the user during length selection.” Pet. 42 (citing Ex. 1003 ¶ 61). Petitioner reasons that this feature is “particularly helpful when the user is seeking a clean, smooth seam” and “also would have allowed the user to more accurately choose unequal segment lengths (where the user is seeking a pleated or ruffled effect at the seam).” *Id.* at 42–43 (citing Ex. 1003 ¶ 61).

Patent Owner argues that “[Petitioner’s] rationale for motivation to combine is rooted in impermissible hindsight” because nothing in the prior art describes a desire to seek a smooth seam. Prelim. Resp. 66. Turning back to the Petition, we see that Petitioner’s “smooth seam” and “pleated or ruffled effect at the seam” rationales are underpinned by a citation to its expert declaration. Pet. 42–43 (citing Ex. 1003 ¶ 61). The expert, in turn, repeats the language from the Petition, but provides no explanation as the underlying facts or data on which his opinion is based. He states:

A [person of ordinary skill in the art] would have known that when using the resulting CAD system (EZBRUSH as modified by Corel and Thoemmes (detailed above)) to digitally “sew” two garment patterns together, selecting the sewing segments to be equal in length would have been desirable when seeking a clean, smooth seam that prevents bunching or unintended stretching of the material.

Ex. 1003 ¶ 61. He later states:

In another example, showing such length comparison information also would have allowed the user to more accurately choose unequal segment lengths (where the user is seeking a pleated or ruffled effect at the seam).

Id.

Petitioner's expert provides no citation for his "smooth seam" or "pleated or ruffled effect at the seam" rationales. Indeed, Petitioner's expert does not indicate that he has expertise regarding clothing, let alone seam formation on clothing. Ex. 1003 ¶¶ 3–13. As our Rules make clear, "[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65(a); *see also Sundance, Inc. v. DeMonte Fab. Ltd.*, 550 F.3d 1356, 1363 (Fed. Cir. 2008) ("Testimony proffered by a witness lacking the relevant technical expertise fails the standard of admissibility under Fed. R. Evid. 702."). Petitioner's expert does not cite evidence in support of his statements, nor does he provide evidence that he has a background that indicates that he would intrinsically know such things to be true. On this record, we afford Petitioner's expert's testimony on the "length selection" rationales for providing a "smooth seam" and/or "pleated or ruffled effect at the seam" no weight. Ex. 1003 ¶ 61. For this reason, Petitioner's obviousness position is untenable. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").

Similarly, Petitioner asserts that adding "TUKATECH's suggested techniques" to EZBRUSH "would be merely the application of known techniques to a known system ready for improvement to yield predictable

results.” Pet. 43 (citing Ex. 1003 ¶ 62). Petitioner asserts that a person of ordinary skill in the art “would have recognized that applying the suggested user interface improvement from TUKATECH to EZBRUSH’s CAD system would have led to predictable and helpful results with a reasonable expectation of success.” *Id.* (citing Ex. 1003 ¶ 62). Similar to the discussion above, we have reviewed the cited paragraph of Petitioner’s expert’s declaration and find insufficient credible evidence supporting Petitioner’s naked assertions regarding what was an “application of known techniques to a known system ready for improvement to yield predictable results.” Pet. 43; Ex. 1003 ¶ 62. To the extent Petitioner is arguing that obviousness can be established merely by showing that EZBRUSH and TUKATECH are in the same field of endeavor (*e.g.*, Pet. 43 (“both [are] directed toward CAD systems”)), we disagree. We are not aware of any authority supporting such an argument. Petitioner has not sufficiently explained why or how it would have been obvious to apply the length comparison information from the table of TUKATECH’s size reshaping feature to EZBRUSH in a manner that meets each step of the claim. Thus, Petitioner’s additional reasons for modifying EZBRUSH to implement TUKATECH’s sizing table are also untenable.

In sum, we determine that Petitioner has not sufficiently explained why it would have been obvious to add the cited features of TUKATECH’s reshaping features and appropriately apply them to the segment selection features of EZBRUSH. This shortcoming applies to all of Petitioner’s grounds and claims.

III. CONCLUSION

For the reasons given above, we determine that Petitioner has not established a reasonable likelihood of success in showing that any claim of the '773 patent would have been obvious in view of the prior art cited. Accordingly, we do not institute *inter partes* review.

IV. ORDER

In consideration of the foregoing, it is hereby ORDERED that the Petition for *inter partes* review of claims 1–11 of the '773 patent is *denied*.

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