NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

LARGAN PRECISION CO., LTD.,
Appellant

v.

MOTOROLA MOBILITY LLC,
Appellee

2024-1468

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2022-01022.

Decided: July 21, 2025

KEVIN RUSSELL, Russell & Woofter LLC, Washington, DC, argued for appellant. Also represented by DANIEL WOOFTER; ROBERT PARRISH FREEMAN, JR., Maschoff Brennan P.L.L.C., Park City, UT.

ANDREW M. MASON, Klarquist Sparkman, LLP, Portland, OR, argued for appellee. Also represented by SARAH ELISABETH JELSEMA, FRANK MORTON-PARK, JOHN D. VANDENBERG.

Before PROST, CLEVENGER, and CUNNINGHAM, *Circuit Judges*.

PROST, *Circuit Judge*.

Largan Precision Co., Ltd. ("Largan") appeals from a final written decision of the Patent Trial and Appeal Board ("Board") in an inter partes review ("IPR") of U.S. Patent No. 8,514,499 ("the '499 patent") determining all challenged claims unpatentable. J.A. 1–79. For the reasons set forth below, we affirm.

BACKGROUND

The '499 patent is titled "Optical Image Capturing Lens Assembly." '499 patent Title (capitalization normalized). It "relates to a compact optical image capturing lens assembly applicable to electronic products." *Id.* at col. 1 ll. 14–16. Claim 15 recites:

> 15. An optical image capturing lens assembly comprising, in order from an object side to an image side:
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> a first lens element with positive refractive power having a convex object-side surface;
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> a second lens element with negative refractive power;
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> a third lens element with refractive power;
>
> a fourth lens element with refractive power;
>
> a fifth lens element with positive refractive power made of plastic material, wherein an object-side surface and an image-side surface of the fifth lens element are aspheric; and
>
> a sixth lens element with negative refractive power made of plastic material and having a concave image-side surface, wherein an object-side surface

> and the image-side surface of the sixth lens element are aspheric, and the sixth lens element has at least one inflection point formed on at least one of the object-side surface and the image-side surface thereof;
>
> wherein the first through sixth lens elements are six independent and non-cemented lens elements, a focal length of the optical image capturing lens assembly is f, an entrance pupil diameter of the optical image capturing lens assembly is EPD, a distance perpendicular to the optical axis between a non-axial critical point on the image-side surface of the sixth lens element and the optical axis is Yc, and a distance perpendicular to the optical axis between the maximum effective diameter position and the optical axis is Yd, the following relationships are satisfied:
>
> $1.5<f/EPD<2.5$: and
>
> $0.2<Yc/Yd<0.9$.

Id. at claim 15.

In 2022, Motorola Mobility LLC ("Motorola") petitioned for IPR of independent claim 15 and dependent claim 18 of the '499 patent. J.A. 2. The Board determined the challenged claims unpatentable for obviousness over Korean Patent Publication No. KR 10-2011-0024872 ("KR872"). J.A. 8 n.5, 77. In addressing the claim limitation "1.5<f/EPD<2.5," the Board agreed with the parties that although KR872 does not specify the value of the relationship f/EPD, also known as "f-number," a person of ordinary skill in the art ("POSA") would have known that KR872's lens system has an f-number. J.A. 28. The Board also agreed with the parties that KR872's lens system has an f-number of about three to four. J.A. 28–29. The Board found that a POSA designing a lens system in view of KR872 would have been motivated to use a lower f-number

(and one within the claimed range) with a reasonable expectation of success. J.A. 29. The Board reached similar conclusions about the "1.7<f/EPD<2.2" limitation in claim 18. J.A. 49. The Board thus determined all challenged claims unpatentable for obviousness over KR872.

Largan timely appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Obviousness is a question of law based on underlying findings of fact. *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1327 (Fed. Cir. 2017). These "subsidiary factual findings are reviewed for substantial evidence." *Id.* "Whether a person of ordinary skill in the art would have been motivated to modify or combine teachings in the prior art, and whether he would have had a reasonable expectation of success, are questions of fact." *Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018) (quoting *In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017)). "Where two different conclusions may be warranted based on the evidence of record, the Board's decision to favor one conclusion over the other is the type of decision that must be sustained by this court as supported by substantial evidence." *In re Chudik*, 851 F.3d 1365, 1371 (Fed. Cir. 2017) (quoting *In re Bayer Aktiengesellschaft*, 488 F.3d 960, 970 (Fed. Cir. 2007)).

On appeal, Largan challenges the Board's finding that a POSA would have been motivated to modify KR872 with a lower f-number with a reasonable expectation of success. Appellant's Br. 26. We reject Largan's challenge.

Substantial evidence supports the Board's finding that a POSA would have been motivated to modify KR872 with an f-number within the claimed range with a reasonable expectation of success. First, the Board credited the testimony of Motorola's expert, Dr. Milster, that a POSA would have been motivated to use a lower f-number to allow more

light into the lens system to provide better images in high-action and low-light settings. J.A. 29 (citing J.A. 442 ¶ 69; 466–67 ¶¶ 118, 121). The Board also credited Dr. Milster's testimony that it was known that lower f-numbers were desirable for high-action photography and to improve performance in low-light conditions "as this testimony is supported by the prior art." J.A. 29 (citing J.A. 467 ¶¶ 122–23).

Second, the Board found persuasive Dr. Milster's testimony that a POSA would have had a reasonable expectation of success in modifying KR872's multi-lens system with an f-number within the claimed range. J.A. 29–31. The Board found Dr. Milster's testimony that f-numbers as low as 1.5 were well known in the art supported by examples of prior art multi-lens systems, including a six-lens system, with f-numbers in the claimed range. J.A. 30 (citing J.A. 467 ¶ 123). The Board also noted that it was known as desirable for cell phone cameras to have an f-number between two and three. J.A. 30. The Board further credited Dr. Milster's testimony, supported by prior art examples, that multi-lens systems such as KR872 were inherently capable of supporting low f-numbers. J.A. 33 (citing J.A. 467–68 ¶ 124, 6817–18 ¶ 18).

Accordingly, substantial evidence supports the Board's finding that a POSA would have been motivated to modify KR872's lens system to have an f-number within the claimed range with a reasonable expectation of success.[1]

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[1] Given our ruling, we need not reach the Board's alternative finding concerning obvious to try, J.A. 34–46, or Largan's arguments regarding the same.

CONCLUSION

We have considered Largan's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm.

AFFIRMED