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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC., Petitioner,

v.

COREPHOTONICS, LTD., Patent Owner.

> Case IPR2020-00878 Patent 10,330,897 B2

Before BRYAN F. MOORE, MONICA S. ULLAGADDI, and JOHN R. KENNY, *Administrative Patent Judges*.

MOORE, Administrative Patent Judge.

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DECISION Granting Institution of *Inter Partes* Review 37 C.F.R. § 42.108

I. INTRODUCTION

Apple Inc. ("Petitioner") requested an *inter partes* review of claims 1– 6 and 8–30 (the "challenged claims") of U.S. Patent No. 10,330,897 B2 (Ex. 1001, "the '897 patent"). Paper 2 ("Petition" or "Pet."). Corephotonics Ltd. ("Patent Owner") did not file a Preliminary Response.

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless it is determined that there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition. Based on the information presented in the Petition and the supporting evidence, we are persuaded that there is a reasonable likelihood Petitioner would prevail with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review of claims 1–6 and 8–30 on all of the grounds set forth in the petition.

Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far. This is not a final decision as to patentability of the challenged claims.

II. BACKGROUND

A. Related Proceedings

The '897 patent is asserted in *Corephotonics Ltd. v. Apple Inc.*, 5-19cv-04809 (N.D. Cal.) filed August 14, 2019. Pet. 1; Paper 6, 1.

U.S. Patent No. 9,897,712 ("the '712 patent"), 9,402,032 ("the '032 patent"), 9,857,568 ("the '568 patent"), and 10,324,277 ("the '277 Patent") are part of a chain of continuity that includes PCT/IB2014/062465, from which the '897 patent also claims priority. This proceeding is related to IPR2018-01146 ("the '1146IPR"), an *inter partes* review proceeding instituted based on Petitioner's challenge to the '712 patent. This

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proceeding is also related to IPR2018-01140 ("the '1140IPR"), an *inter partes* review proceeding instituted based on Petitioner's challenge to the '032 patent. This proceeding is also related to IPR2019-00030 ("the '0030IPR"), an *inter partes* review proceeding instituted based on Petitioner's challenge the '568 patent. Each of those IPRs resulted in a Final Written Decision. Presently pending is IPR2020-00897 ("the '897IPR"), an *inter partes* review proceeding based on Petitioner's challenge to the '277 Patent.

B. The '897 Patent (Ex. 1001)

The '897 patent issued on June 25, 2019 based on an application filed May 10, 2018, which claimed priority back to a provisional application filed Nov. 19, 2017. Ex. 1001, [45], [22], [63]. The '897 patent concerns an optical lens assembly with five lens elements. *Id.* at [57]. Figure 1A of the '897 patent is reproduced below.



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Figure 1A of the '897 patent illustrates an arrangement of lens elements in a first embodiment of an optical lens system.

In order from an object side to an image side, optical lens assembly 100 comprises: optional stop 101; first plastic lens element 102 with positive refractive power having a convex, object-side surface 102*a*; second plastic lens element 104 with negative refractive power having a meniscus, convex, object-side surface 104a, with an image side surface marked 104b; third plastic lens element 106 with negative refractive power having a concave, object-side surface 106a, with an inflection point and a concave image-side surface 106b; fourth plastic lens element 108 with positive refractive power having a positive meniscus with a concave, object-side surface 108a and an image-side surface marked 108b; fifth plastic lens element 110 with negative refractive power having a negative meniscus with a concave, object-side surface 110a and an image-side surface marked 110b. *Id.* at 3:24–41.

In Table 1, reproduced below, the '897 patent discloses radii of curvature, *R*, for the lens elements, lens element thicknesses and/or distances between each of the lens elements, and a refractive index, *Nd*, for each lens element.

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#	Comment	Radius R [mm]	Distances [mm]	Nd/Vd	Diameter [mm]
1	Stop	Infinite	-0.466		2.4
2	L11	1.5800	0.894	1.5345/57.095	2.5
3	L12	-11.2003	0.020		2.4
4	L21	33.8670	0.246	1.63549/23.91	2.2
5	L22	3.2281	0.449		1.9
6	L31	-12.2843	0.290	1.5345/57.095	1.9
7	L32	7.7138	2.020		1.8
8	L41	-2.3755	0.597	1.63549/23.91	3.3
9	L42	-1.8801	0.068		3.6
10	L51	-1.8100	0.293	1.5345/57.095	3.9
11	L52	-5.2768	0.617		4.3
12	Window	Infinite	0.210	1.5168/64.17	3.0
13		Infinite	0.200		3.0

TABLE 1

 Table 1 of the '897 patent sets forth optical parameters for the optical lens assembly.

The '897 patent discloses that,

[T]he distances between various elements (and/or surfaces) are marked "Lmn" (where m refers to the lens element number, n=1 refers to the element thickness and n=2 refers to the air gap to the next element) and are measured on the optical axis z, wherein the stop is at z=0. Each number is measured from the previous surface. Thus, the first distance -0.466 mm is measured from the stop to surface 102*a*, the distance L11 from surface 102*a* to surface 102*b* (i.e. the thickness of first lens element 102) is 0.894 mm, the gap L12 between surfaces 102*b* and 104*a* is 0.020 mm, the distance L21 between surfaces 104*a* and 104*b* (i.e. thickness d2 of second lens element 104) is 0.246 mm, etc. Also, L21=d₂ and L51=d₅.

Id. at 4:16–28 (emphasis added).

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C. Challenged Claims

Challenged claims 1 and 17 are independent. Challenged claims 2–6, and 8–16 depend directly or indirectly from claim 1 and challenged claims

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