

United States Court of Appeals for the Federal Circuit

APPLE INC.,
Appellant

v.

COREPHOTONICS, LTD.,
Appellee

2022-1350, 2022-1351

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2020-00905, IPR2020-00906.

Decided: September 11, 2023

ELIZABETH MOULTON, Orrick, Herrington & Sutcliffe LLP, San Francisco, CA, argued for appellant. Also represented by ALYSSA BARNARD-YANNI, EMILY VILLANO, New York, NY; MARK S. DAVIES, Washington, DC.

MARC A. FENSTER, Russ August & Kabat, Los Angeles, CA, argued for appellee. Also represented by BRIAN DAVID LEDAHL, NEIL RUBIN, JAMES S. TSUEI.

Before STOLL, LINN, and STARK, *Circuit Judges*.

STOLL, *Circuit Judge*.

Apple Inc. appeals two final written decisions of the Patent Trial and Appeal Board determining that Apple had not shown the challenged claims of Corephotonics, Ltd.'s U.S. Patent No. 10,225,479 were unpatentable as obvious. Because the intrinsic evidence supports a different construction than that adopted by the Board in its first decision, and because the Board based its second decision on a ground not raised by any party in violation of the Administrative Procedure Act (APA), we vacate and remand both final written decisions.

BACKGROUND

Corephotonics owns the '479 patent, which is directed to creating "portrait photos." '479 patent col. 15 ll. 29–30. Specifically, the patent discloses "a thin (e.g., fitting in a cell phone) dual-aperture zoom digital camera" that combines images taken by a wide lens and a tele lens to create a fused still image. *Id.* at col. 3 ll. 18–23. The patent's specification explains that the resulting fused image shows the "objects behind the subject [as] . . . very blurry." *Id.* at col. 4 ll. 30–34. The patent describes that the fused image is created by incorporating "information from the out-of-focus blurred background in the Wide image" with "the original Tele image," ultimately providing "a blurrier background and even shallower" depth-of-field than the original tele image. *Id.* at col. 4 ll. 34–38, col. 9 ll. 58–60.

Representative claim 1 reads as follows:

1. A dual-aperture digital camera . . . , comprising:
 - a) a Wide camera comprising a Wide lens and a Wide image sensor, the Wide camera having a respective field of view FOV_W and being operative to provide a Wide image of the object or scene;

b) a Tele camera comprising a Tele lens and a Tele image sensor, the Tele camera having a respective field of view FOV_T narrower than FOV_W and being operative to provide a Tele image of the object or scene . . . ;

. . .

e) a camera controller operatively coupled to the . . . Wide and Tele image sensors and configured to control the [autofocus] mechanisms and to process the Wide and Tele images to create a fused image,

wherein areas in the Tele image that are not focused are not combined with the Wide image to create the fused image and

wherein the camera controller is further operative to output the fused image with a point of view (POV) of the Wide camera by mapping Tele image pixels to matching pixels within the Wide image.

Id. at col. 13 ll. 22–50 (emphasis added to disputed portion).

Apple filed two petitions for *inter partes* review, each challenging various claims of the '479 patent as obvious in view of multiple prior art references, including (as relevant on appeal) Parulski.¹ Parulski discloses a “digital camera that uses multiple lenses and image sensors to provide an improved imaging capability.” Parulski col. 1 ll. 8–10. The Board issued a final written decision in both proceedings finding that Apple had not met its burden to show that the challenged claims were unpatentable. *Apple, Inc. v. Corephotonics Ltd.*, No. IPR2020-00905, Paper 51, at 23

¹ U.S. Patent No. 7,859,588.

(P.T.A.B. Nov. 8, 2021) (*'905 IPR Decision*); *Apple, Inc. v. Corephotonics Ltd.*, No. IPR2020-00906, Paper 54, at 14 (P.T.A.B. Nov. 8, 2021) (*'906 IPR Decision*).

I

In the first proceeding, the parties disputed the construction of the claim term requiring a “fused image with a point of view (POV) of the Wide camera.” Specifically, the parties disputed what “a point of view (POV) of the Wide camera” requires. Both parties cited intrinsic evidence to support their arguments. Apple contended that, in view of the specification’s disclosure, the disputed claim term required only that the fused image retain Wide perspective *or* Wide position POV, i.e., retain the shape of the Wide image (perspective POV) *or* the position of the Wide image (position POV). Corephotonics argued that the specification defined “point of view” such that the disputed limitation meant that the fused image must maintain *both* Wide perspective and Wide position POV.

The Board described the specification’s disclosure regarding this term as “not a model of clarity,” *'905 IPR Decision* at 11, but ultimately agreed with Corephotonics that “the [s]pecification equates a camera’s POV with how an object will appear in that camera’s image plane,” which includes both the position and perspective points of view of an object. *Id.* Based on this construction, the Board found that Parulski only disclosed maintaining Wide position POV and therefore did not maintain “a point of view (POV) of the Wide camera” as construed. *Id.* at 21. Accordingly, the Board concluded that Parulski did not disclose this claim limitation and thus that Apple had not shown that the challenged claims were unpatentable.

II

In the second proceeding, Apple challenged claims 19–22 of the '479 patent, which included many limitations relating to certain camera parameters, like track length,

focal length, and pixel size, among others. Independent claim 19 recites:

19. A dual-aperture digital camera for imaging an object or scene, comprising:

a) a Wide camera comprising a Wide lens and a Wide image sensor, the Wide camera having a respective field of view FOV_W and being operative to provide a Wide image of the object or scene;

b) a Tele camera comprising a Tele lens and a Tele image sensor, the Tele camera having a respective field of view FOV_T narrower than FOV_W and being operative to provide a Tele image of the object or scene, wherein the Tele lens has a respective effective focal length EFL_T and total track length TTL_T fulfilling the condition $EFL_T/TTL_T > 1$;

c) a first autofocus (AF) mechanism coupled mechanically to, and used to perform an AF action on the Wide lens;

d) a second AF mechanism coupled mechanically to, and used to perform an AF action on the Tele lens, wherein the Wide and Tele lenses have different F numbers $F\#_{Wide}$ and $F\#_{Tele}$, wherein the Wide and Tele image sensors have pixels with respective pixel sizes $Pixel\ size_{Wide}$ and $Pixel\ size_{Tele}$ wherein $Pixel\ size_{Wide}$ is not equal to $Pixel\ size_{Tele}$, and wherein the Tele camera has a Tele camera depth of field (DOF_T) shallower than a DOF of the Wide camera (DOF_W); and

e) a camera controller operatively coupled to the first and second AF mechanisms and

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