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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte REINHOLD FIESS and ANNETTE FREDERIKSEN

Appeal 2016-000908
Application 13/284,299¹
Technology Center 2100

Before BRUCE R. WINSOR, SHARON FENICK, and
AARON W. MOORE, *Administrative Patent Judges*.

FENICK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's final rejection of claims 1–10, all the pending claims in the present application. (Appeal Br. 1.) We have jurisdiction over the appeal under 35 U.S.C. § 6(b)(1).

We REVERSE.

Invention

Appellants' invention relates to a camera system including an image sensor and a switchable optical element. In a first switching state, the

¹ According to Appellants, the real party in interest is Robert Bosch GmbH. (Appeal Br. 1.)

switchable optical element is part of a first camera optical system, which detects and images a first surrounding on the image sensor. In a second switching state, the switchable optical element is part of a second camera optical system, which detects and images a second surrounding on the image sensor. (Spec., Abstract.)

Illustrative Claim

Claim 1, reproduced below with emphases added, is illustrative:

1. A camera system for a motor vehicle, comprising:
an image sensor for outputting image signals;
a first camera optical system for detecting a first surrounding and for imaging the first surrounding on the image sensor at a first object distance; and
a second camera optical system for detecting a second surrounding and for imaging the second surrounding on the image sensor at a second object distance which differs from the first object distance;
wherein a switchable optical element which is configured to be (i) part of the first camera optical system in a first switching state of the switchable optical element, and (ii) part of the second camera optical system in a second switching state of the switchable optical element.

Rejection

Appellants appeal the following rejection:

Claims 1–10 are rejected under 35 U.S.C. § 103(a) as unpatentable over Dowski et al. (US 2011/0085050 A1; Apr. 14, 2011) (“Dowski”) and Chen (US 8,007,187 B1; Aug. 30, 2011). (Final Action 2–5.)

ANALYSIS

Issue: Did the Examiner err in finding that the combination of Dowski and Chen teaches or suggests a switchable optical element

configured to be, in a first switching state, part of a first camera optical system for imaging a first surrounding on an image sensor, and, in a second switching state, part of a second camera optical system for imaging a second surrounding on the image sensor, as in claim 1?

Dowski relates to an imaging system forming an optical image, including two regions of best focus corresponding to different, discontinuous object distance ranges. (Dowski Abstract, ¶¶ 3–4, 34, 43, 45, 81–83, Fig. 51.) The Examiner finds that Dowski teaches the first and second camera optical systems of Claim 1, in the image sensor 5150 and the two optical systems which provide Dowski’s two regions of best focus imaged onto that sensor. (Final Action 2.) However, as the Examiner acknowledges, Dowski does not disclose a switchable optical element configured to be part of a first camera optical system in a first switching state and a second camera optical system in a second switching state. (*Id.* at 3.)

Chen discloses a single-lens reflex camera system which includes a smart glass element to provide the operator with a representation of the scene through a viewfinder, or alternatively to allow the light to reach an image-sensing device for photographic exposure. (Chen Abstract.) The Examiner finds that the combination of this smart glass element from Chen and the teachings of Dowski teach the claimed switchable optical element as part of two optical systems. (Final Action 3.)

Appellants argue that the combination of Chen and Dowski does not teach the disputed switchable optical element because Chen teaches a switchable element that switches between providing an image to an image sensor or, alternately, to a viewfinder instead of to the image sensor. (Appeal Br. 5; Reply Br. 4.) Thus, Appellants argue, the combination of

Chen and Dowski does not teach or suggest the disputed switchable element, which is switchable to be alternately part of a first and a second optical system, each of which provide an image to the same image sensor. (Appeal Br. 5; Reply Br. 4.)

Additionally, Appellants argue that, to the extent the Examiner finds Dowski to include two optical modes, these modes “are not two different temporal modes, one to be applied when a switching element is in a first state and one to be applied when the switching element is in a second state.” (Appeal Br. 3; Reply Br. 4.) Additionally, Appellants argue that in Chen the same image is always incident on the element the Examiner maps to the disputed switchable optical element. (*Id.*)

We do not agree with Appellants’ argument implying that there is only one way in which Dowski and Chen might be combined. (Appeal Br. 4–5; Reply Br. 2–3.) However, we are persuaded of error in the Examiner’s finding that it would have been obvious to one of ordinary skill in the art to add a switchable optical element in a way that selectively absorbs light from one of the optical systems of Dowski in order to “absorb light from the secondary path thereby reducing potential cross-talk from reflections or refractions between paths.” (Answer 6.) There is no reference provided for why one of ordinary skill in the art would consider these factors in either of the two prior art references. In Dowski, as Appellants argue, there is no indication that only one of the mapped optical systems might be active at any point in time, and in Chen an entire image is either provided to a sensor or diverted to a viewfinder. Neither reference contains any consideration of interference in multiple paths included in the image or an indication that some paths making up an image might not be part of the image which

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arrives at the sensor or viewfinder as the Examiner finds to be taught or suggested by the combination.

Therefore, we find Appellants' arguments regarding the disputed limitation to be persuasive. Because we agree with at least one of the arguments advanced by Appellants, we need not reach the merits of Appellants' other arguments.

Accordingly, we do not sustain the Examiner's obviousness rejection of independent claim 1, and of independent claim 8 containing commensurate limitations. Additionally, we do not sustain the rejections of dependent claims 2–7, 9, and 10.

DECISION

We reverse the Examiner's § 103(a) rejections of claims 1–10 over Dowski and Chen.

REVERSED