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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARC DRADER,
JÉRÉMIE TEYSSIER, and
OLIVIER POTHIER¹

Appeal 2018-004882
Application 14/553,216
Technology Center 2600

Before BRADLEY W. BAUMEISTER, JASON V. MORGAN, and
JON M. JURGOVAN, *Administrative Patent Judges*.

MORGAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Introduction

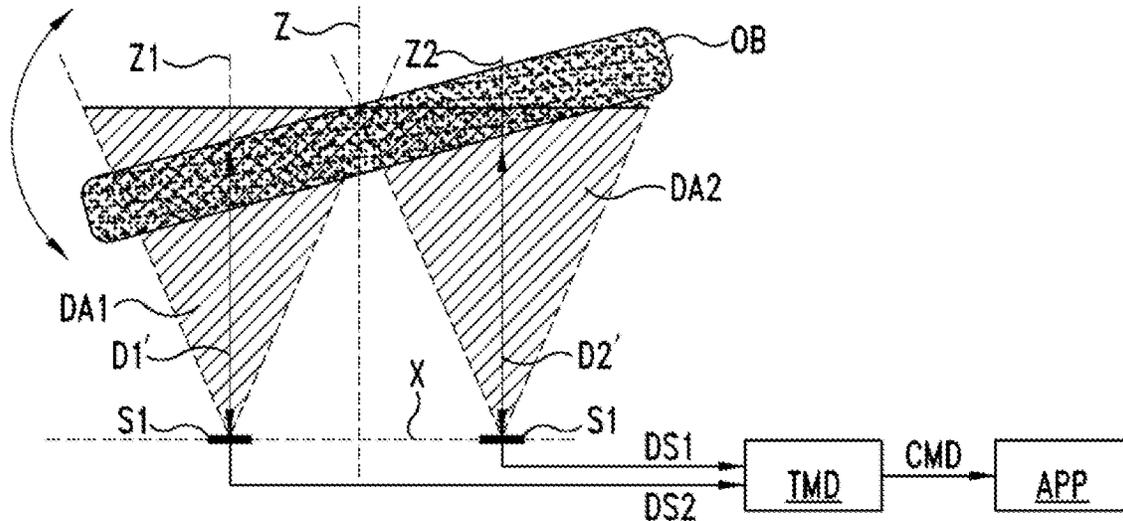
This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–23. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ Appellant is the applicant and one of the real parties in interest, STMicroelectronics SA. Appeal Br. 2. Appellant also identifies STMicroelectronics (Grenoble 2) SAS as a real party in interest. *Id.*

Invention

The Specification discloses the use of distance sensors to assess the inclination of an object with respect to the direction defined by the alignment of the sensors. *See* Abstract. The Specification's Figure 2, illustrating this assessment, is reproduced below:



The Specification's Figure 2 illustrates two sensors² that measure distances $D1'$, $D2'$ to object OB. *See* Spec. 9, ll. 8–10. The two sensors are aligned along axis X, enabling use of the distance measurements to determine “that the object OB is in an inclined position in relation to the axis X.” *Id.* at 9, l. 19.

² Both sensors are labeled S1 in the figure. This is a typographical inconsistency with the description in the Specification, which refers to “two distance sensors S1, S2.” Spec. 8, l. 25.

Illustrative Claim (key limitations emphasized)

1. A method, comprising:

determining distance measurements to an object in a first direction, using distance sensors aligned in a second direction different from the first direction;

assessing, using processing circuitry, a first inclination angle of the object in relation to the second direction based on the distance measurements; and

determining, using the processing circuitry, a first command of an apparatus based on the first inclination angle assessment.

Rejections

The Examiner rejects claims 1–4, 6–11, and 14–23 under 35 U.S.C. § 103(a) as being unpatentable over Minnen et al.

(US 2014/0035805 A1; published Feb. 6, 2014) (“Minnen”) and Sood et al. (US 2015/0062056 A1; published Mar. 5, 2015) (“Sood”). Final Act. 8–19.

The Examiner rejects claims 5, 12, and 13 under 35 U.S.C. § 103(a) as being unpatentable over Minnen, Sood, and Drader et al. (US 2013/0153754 A1; published June 20, 2013) (“Drader ’754”). Final Act. 19–21.

The Examiner alternatively rejects claims 1, 7, 18, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Bouchilloux (US 2015/0090884 A1; published Apr. 2, 2015) and Sood. Final Act. 2–8.

CONTENTIONS AND ANALYSIS

Given the plain meaning of the relevant limitations of claim 1—which accords with the Specification—the claimed *inclination angle* is assessed *in relation to a direction* of alignment for *distance sensors* that provide the *distance measurements* on which the inclination assessment angle is *based*.

See, e.g., Spec. 8, l. 20–9, l. 19, Fig. 2.

In both rejections of claim 1, the Examiner broadly interprets the term *inclination* in isolation to mean “a position/pose of a user’s hand, i.e.[,] how the user is positioned.” Final Act. 3, 8 (emphasis omitted). Thus, the Examiner finds that Bouchilloux’s and Minnen’s gesture detection (e.g., hand pose detection) disclosures teach or suggest *assessing a first inclination of an object*. See Final Act. 3, 9 (citing, e.g., Bouchilloux ¶¶ 41, 63, Figs. 7A–F; Minnen ¶ 248, Fig. 20). The Examiner does not, however, rely on either Bouchilloux or Minnen to teach or suggest the assessed inclination being an inclination *angle in relation to a direction in which distance sensors are aligned* (i.e., the claimed second direction). See Final Act. 3, 9. Instead, the Examiner relies on Sood’s three-dimensional motion sensor to cure the acknowledged deficiencies of Bouchilloux and Minnen. See Final Act. 3–4, 9 (citing Sood ¶¶ 17, 30, 37); Ans. 4 (Sood is relied on “for the specifics of the first inclination **angle**”), 5 (“Sood teaches . . . sloping side-to-side motion”), 7.

Appellant contends the Examiner erred by failing to show how Sood’s touch and motion sensor teachings would have rendered obvious modifying either Bouchilloux or Minnen in the claimed manner. See Appeal Br. 24; Reply Br. 6. Appellant acknowledges that “Sood discloses determining sloping motion of an object (e.g., direction of movement of the object, which requires motion).” Appeal Br. 24; *see also* Reply Br. 6. But Appellant argues this differs from the claimed assessment of “an inclination angle of the object (e.g., the relative positions of portions of the object, which does not require motion).” Appeal Br. 24–25. Appellant emphasizes that the claimed inclination angle is “in relation to a direction based on distance

measurements” (i.e., the direction in which the distance sensors are aligned).
Reply Br. 4.

We agree with Appellant that the Examiner erred. The Examiner relies on Sood’s use of a three-dimensional motion sensor to detect motions in three dimensions. Final Act. 3 (citing Sood ¶ 37). However, with respect to Sood’s three-dimensional motion sensor, this detected information merely indicates whether an object is near or far from the sensors, or is moving closer to or away from the sensors. The inclination angle of the object itself, at least with respect to the three-dimensional motion sensor, is not assessed using this data.

The Examiner also cites to Sood’s detection of different types of motions, including a sloping side-to-side motion. Final Act. 3 (citing Sood ¶ 37). The cited teachings of Sood, however, are directed to distinguishing side-to-side motion, up-and-down motion, and, depending on granularity of the three-dimensional motion sensor, a motion that has both a side-to-side component and an up-and-down component (i.e., sloping). Sood ¶ 37.

For these reasons, the Examiner’s findings do not show that the combinations of Minnen and Sood, or Bouchilloux and Sood, teach or suggest “assessing . . . a first inclination angle of [an] object in relation to [a] second direction based on the distance measurements” of “distance sensors aligned in [the] second direction different,” as recited in claim 1. The Examiner also does not show that Drader cures the noted deficiency. *See* Appeal Br. 19–21.

Accordingly, we do not sustain the Examiner’s 35 U.S.C. § 103(a) rejections of claim 1, and claims 2–23, which have similar recitations.

Appeal 2018-004882
Application 14/553,216

DECISION

We reverse the Examiner's decision rejecting claims 1–23.

REVERSED