UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/653,626	06/18/2015	ANDREAS SIEGEL	SIEGEL-2	5577

20151 7590 11/27/2019

HENRY M FEIEREISEN, LLC
HENRY M FEIEREISEN
35 West 35th Street
SUITE 900
NEW YORK, NY 10001

EXAMINER
SINHA, TARUN

ART UNIT	PAPER NUMBER
2861	

NOTIFICATION DATE	DELIVERY MODE
11/27/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@FEIEREISENLLC.COM

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREAS SIEGEL and MICHAEL REICHEL

Appeal 2018-004254
Application 14/653,626
Technology Center 2800

Before JEAN R. HOMERE, JASON V. MORGAN, and MICHAEL M. BARRY, *Administrative Patent Judges.*

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL

I. STATEMENT OF THE CASE[1]

Pursuant to 35 U.S.C. § 134(a), Appellant[2] appeals from the Examiner's decision to reject claims 8, 10, 11, and 14–16. Br. 2. Claims 1–7, 9, 12, and 13 have been canceled. *Id.*; Prelim. Amend. 4 (June 18, 2015). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

---

[1] We refer to the Specification, filed June 18, 2015 ("Spec."); Final Office Action, mailed June 2, 2017 ("Final Act."); Appeal Brief, filed September 20, 2017 ("Br."); and Examiner's Answer, mailed January 11, 2018 ("Ans."). An oral hearing was held in this appeal on November 15, 2019. A transcript of the oral hearing is being prepared and will be entered into the record in due course.

[2] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as AUDI AG. Br. 2.

II. CLAIMED SUBJECT MATTER

According to Appellant, the claimed subject matter relates to a method and a vehicle system (100) including a control device (10) and a driver assistance system mounted on a vehicle (1) for predictively determining a friction coefficient of a surface navigable area (2) thereby facilitating the vehicle to maneuver away from non-navigable areas (B2). Spec. ¶¶ 1, 10, 56; Fig. 1. As depicted in Figure 1 reproduced below, the control device (10) uses a radiation detection unit (11) and a surroundings sensing unit (15) to detect the thermal radiation of the total road surface (2), as well as the friction coefficient of the road surface navigable area (2a) as a function of the road course and non-navigable areas (B2). *Id.* ¶¶ 56–58.

Claims 8 and 16 are independent. Claims 10, 11, 14, and 15 depend directly or indirectly on claim 8, which is reproduced below with disputed limitations emphasized in *italics*, is illustrative of the claimed subject matter:

> 8. A method for predictive determination of a parameter value of a surface on which a vehicle can drive, comprising:
>
> detecting a total surface that is provided for the vehicle to drive on, said total surface being detected by detecting thermal radiation, and said thermal radiation being detected with a surroundings sensing unit;
>
> *determining a partial region within the total surface, on which the vehicle can actually drive, wherein the partial region is determined by excluding at least one area of the total surface in which the vehicle cannot travel and by identifying a stationary or movable object or subject on the total surface that is insurmountable by the vehicle, and which the at least one area is thus irrelevant and excluded in the determination of a parameter value,*
>
> determining the parameter value only for the partial region, and
>
> providing the parameter value to at least one driver assistance system of the vehicle,

extracting road-surface data characterizing the parameter value from a thermal image obtained from the thermal radiation,

analyzing a temperature profile in the thermal image, and

determining from the thermal image a change in the parameter value.

Figure 1, which is discussed above and is reproduced below, is useful for understanding the claimed invention:

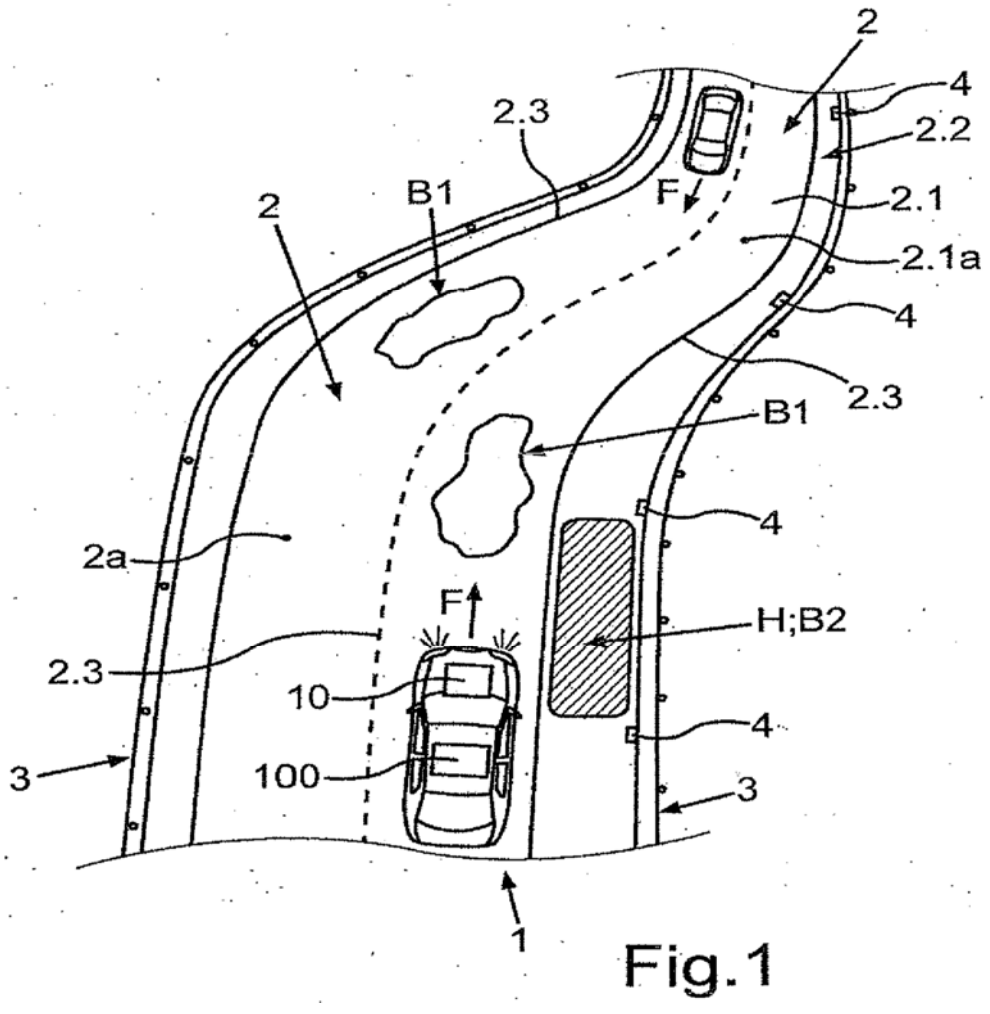

Fig.1

Figure 1 illustrates an overall configuration of a vehicle obstacle detecting system including a laser detector.

III. REFERENCES

The Examiner relies upon the following references:

Name[3]	Reference	Date
Urai	US 6,157,294	Dec. 5, 2000
Capello	US 2010/0141765 A1	June 10, 2010
Randler	WO 2012/110030 A2	Aug. 23, 2012
Moisel	DE 102004023323 A1	Dec. 15, 2005

IV. REJECTION[4]

Claims 8, 10, 11, and 14–16 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Capello, Randler, Moisel, and Urai. Final Act. 3–10.

V. ANALYSIS

Appellant argues that the Examiner erred in finding that the combination of Capello, Randler, Moisel, and Urai teaches or suggests "identifying a stationary or movable object or subject on the total surface that is insurmountable by the vehicle, and which the at least one area is thus irrelevant and excluded in the determination of a parameter value, determining the parameter value only for the partial region," as recited by independent claim 8. Br. 6–12. In particular, Appellant argues that Capello's disclosure of detecting road conditions (rain, water, and ice) does not teach or suggest detecting obstacles as objects or subjects as required by claim 8 and described in the Specification, because water and rain do not have any vertical dimension, and are not thereby geometrically detectable.

[3] All reference citations are to the first named inventor only.
[4] The Examiner withdrew the § 112 rejections. Ans. 3–4.

Id. at 6–7 (citing Capello ¶ 1; Spec. ¶ 13). Therefore, Appellant argues, Capello's disclosure of determining parameter value for any of the cited road conditions does not teach determining the parameter value for a road containing an obstacle. *Id.* at 7.

Further, Appellant argues that because Capello's disclosure of scanning under a vehicle and the road surface ahead to detect posts that may block the area does not scan the road surface between the posts, it does not teach determining a parameter value only for partial region of the road surface. *Id.* Furthermore, Appellant argues that Moisel, Randler and Urai do not cure the noted deficiencies of Capello. *Id.* at 7–8. More particularly, Appellant argues that although Urai discloses detecting obstacles on the surface of the road to avoid threats while driving, Urai does not teach determining parameter values for the surface of such road. *Id.* at 8. According to Appellant, the proposed combination would at best result in determining a road surface with electromagnetic beams to detect obstacles to avoid. *Id.* Additionally, Appellant argues the Examiner has not established sufficient rationale to support the proposed combination of references because there is any reasonable expectation of success, and the Examiner has allegedly not provided any motivation to combine Capello's teaching of determining a parameter value for a road surface with Urai's teaching of detecting obstacles on the road. *Id.* at 11.

Appellant's arguments are not persuasive of reversible Examiner error because they are tantamount to an individual attack against the references. One cannot show non-obviousness by attacking the references individually where the rejections are based on combinations of references. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *see also In re*

Keller, 642 F.2d 413, 425 (CCPA 1981). In this case, the Examiner relies upon Capello's disclosure of scanning the road surface covered with water, ice or snow accumulation in front of the vehicle to determine a coefficient of friction therefor as teaching determining a coefficient value for a partial region of the road surface, which may include an insurmountable obstacle. Ans. 3, 4 (citing Capello ¶¶ 1, 4, 7). Further, the Examiner relies on Urai's express disclosure of identifying a stationary or movable object on the road surface to avert a threat as teaching identifying an insurmountable object on the road surface to be excluded from the navigable road. *Id.* at 5–6.

We agree with the Examiner that the proposed combination of the cited references would predictably result in a vehicle system determining the friction coefficient for a navigable road surface excluding a non-navigable road surface containing a detected insurmountable obstacle to thereby steer the vehicle away from the detected obstacle. *Id.* We find the Examiner's proposed combination of the cited teachings of Capello, Randler, Moisel, and Urai is no more than a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding no more than one would expect from such an arrangement. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). The ordinarily skilled artisan, being "a person of ordinary creativity, not an automaton," would be able to fit the teachings of the cited references together like pieces of a puzzle to predictably result in a vehicle system determining the friction coefficient for a road surface to thereby steer the vehicle away from a detected insurmountable obstacle, as well as to maneuver the vehicle in conformance with the calculated coefficient for the navigable road surface. *Id.* at 420–21. Because Appellant has not demonstrated that the Examiner's proffered

combination would have been "uniquely challenging or difficult for one of ordinary skill in the art," we agree with the Examiner that the proposed modification would have been within the purview of the ordinarily skilled artisan. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418).

Regarding Appellant's allegation that Examiner engaged in impermissible hindsight (Br. 8–10), we note "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *In re McLaughlin*, 433 F.2d 1392, 1395 (CCPA 1971). Further, while a reason to combine teachings from the prior art "may be found in explicit or implicit teachings within the references themselves," it also may come from "the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1355 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)); *see also Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) (explaining that "an analysis of obviousness . . . may include recourse to logic, judgment, and common sense available to the person of ordinary skill that do not necessarily require explication in any reference").

Ultimately, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *KSR*, 550

U.S. at 418 (quoting *Kahn*). Here, the Examiner determines that Ismael's advantageousness for virtual machine resource management provides the motivation to combine Ismael's teachings with those of Das and Ghosh. *See* Final Act. 5 (citing Ismael ¶ 64). The Examiner's identified rationale for combining the references meets the standard set forth by *Kahn* and *KSR*:

> It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method taught by Capello and the entire road scan taught by Randler and the thermal radiation taught by Moisel with the identification technique taught by Urai. For the drivers' safety, the energy that is emitted from the front or sides of the car are used to determine the presence of any dangers on the road. The prior arts teach how sensors can identify snow or icy conditions on the road through thermal and/or electromagnetic means, and it would be obvious to one of ordinary skill in the art to utilize the sensing means to identify larger objects such as vehicles that can pose a threat for the driver.

Id. at 6.

Consequently, we are satisfied that, on the record before us, the Examiner has established by a preponderance of the evidence that the combination of Capello, Randler, Moisel, and Urai renders claim 8 unpatentable. Accordingly, we are not persuaded of error in the Examiner's obviousness rejection of claim 8.

Regarding the rejection of claims 10, 11, and 14–16, Appellant has not presented separate patentability arguments or reiterated substantially the same arguments as those previously discussed for patentability of claim 8. As such, those claims fall therewith. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2017).

VI. CONCLUSION

We affirm the Examiner's obviousness rejection of claims 8, 10, 11, and 14–16 under 35 U.S.C. § 103(a).

VII. DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
8, 10, 11, 14–16	103	Capello, Randler, Moisel, Urai	8, 10, 11, 14–16	
Overall Outcome			8, 10, 11, 14–16	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED