UNITED STATES PATENT AND TRADEMARK OFFICE

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15/042,318	02/12/2016	Marno Herman Josephus van der Maas	81694951US01	1112

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Intellectual Property and Licensing
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EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte MARNO HERMAN JOSEPHUS VAN DER MAAS

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Appeal 2019-001349
Application 15/042,318
Technology Center 2100

_____

BEFORE JOHNNY A. KUMAR, JAMES W. DEJMEK, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from a Final Rejection of
claims 1–20. We have jurisdiction over the pending claims under 35 U.S.C.
§ 6(b).

We affirm.

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[1] Throughout this Decision, we use the word "Appellant" to refer to
"applicant" as defined in 37 C.F.R. § 1.42 (2017). Appellant fails to identify
the real party in interest in the Appeal Brief. Although in the absence of a
statement identifying the real party in interest the Board may assume the
named inventor is the real party in interest (*see* 37 C.F.R. § 41.37(c)(1)), a
review of the assignment record for the instant application indicates NXP
B.V. is the real party in interest. *See* Assignment Reel/Frame 037723/0106,
recorded February 12, 2016.

STATEMENT OF THE CASE

Introduction

Appellant's disclosed and claimed invention generally relates to providing network security for in-vehicle networks that use the Controller Area Network (CAN) bus protocol. Spec. ¶¶ 2, 4. According to the Specification, a CAN device may comprise a controller, transmitter, and receiver. Spec. ¶ 4. In a disclosed embodiment, the CAN device may further comprise a security module coupled to the receiver. Spec. ¶ 4. "The security module is configured to receive an incoming CAN message, retrieve an identifier from the incoming CAN message, search the identifier table for the identifier[,] and alter the incoming message based on a result of the search." Spec. ¶ 4. In some embodiments, if the identifier included with the incoming CAN message matches an entry in the identifier table, the security module may forward the message without altering the incoming CAN message. Spec. ¶ 5.

Claim 1 is representative of the subject matter on appeal and is reproduced below with the disputed limitations emphasized in *italics*:

    1.   A Controller Area Network (CAN) device, comprising:

        a CAN controller;

        a transceiver coupled to the CAN controller, wherein the transceiver includes a transmitter and a receiver coupled to a CAN bus interface; and

        a security module coupled to the receiver, wherein the security module includes an identifier table and a receiver controller, wherein the security module is configured to receive an incoming CAN message, *retrieve an identifier from the incoming CAN message*, and *search the identifier table for the identifier, wherein if the identifier is not found in the identifier table, the incoming CAN message is modified and the modified incoming CAN message is sent to the receiver controller, and if*

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> *the identifier is found in the identifier table, the incoming CAN*
> *message is sent to the receiver controller.*

The Examiner's Rejections

1. Claims 1–3, 5–11, 13–18, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Litichever et al. (US 2015/0020152 A1; Jan. 15, 2015) ("Litichever"); Hartwich et al. (US 2011/0125855 A1; May 26, 2011) ("Hartwich"); and Paul (US 5,999,932; Dec. 7, 1999). Final Act. 3–9.

2. Claims 4, 12, and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Litichever, Hartwich, Paul, and Thilenius et al. (US 2015/0135254 A1; May 14, 2015) ("Thilenius"). Final Act. 10–11.

ANALYSIS[2]

Regarding independent claims 1, 9, and 16, *inter alia*, the Examiner relies on the combined teachings of Litichever, Hartwich, and Paul. *See* Final Act. 4–6. Appellant disputes the Examiner's rejection, asserting the Examiner incorrectly finds that Litichever's "rules" teach the claimed "identifier[s]." Appeal Br. 4–6. In particular, Appellant argues Litichever describes a "firewall" wherein rules are applied based on message properties and will either deny or allow the message to go through. Appeal Br. 4–5. In contrast to the claimed identifiers, Appellant argues Litichever's rules are

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[2] Throughout this Decision, we have considered the Supplemental Appeal Brief, filed July 3, 2018 ("Appeal Br."); the Initial Appeal Brief, filed June 20, 2018 ("Initial Appeal. Br."); the Reply Brief, filed November 30, 2018 ("Reply Br."); the Examiner's Answer, mailed October 18, 2018 ("Ans."); and the Final Office Action, mailed February 27, 2018 ("Final Act."), from which this Appeal is taken.

not included in the message itself. Appeal Br. 5. Moreover, Appellant argues Litichever does not disclose maintaining a table of identifiers. Appeal Br. 5. In addition, Appellant asserts Litichever discloses that during the processing of a message, if a rule is found, then the message may be modified, whereas the claims (e.g., claim 1) recite that if an identifier is found in the identifier table, the message is forwarded in an unmodified format. Appeal Br. 6.

As discussed below, we do not find Appellant's arguments persuasive of Examiner error.

Litichever generally relates to an in-vehicle security system "by selectively intervening in the communications path in order to prevent the arrival of malicious messages at ECUs [(i.e., CAN devices)]." Litichever, Abstract, ¶¶ 1, 44–48. "The security system includes a filter which prevents illegal messages sent by any system or device communicating over a vehicle communications bus from reaching their destination." Litichever, Abstract. Further, Litichever describes the Controller Area Network (CAN) is the standard communication bus on which ECUs (Electronic Control Units) communicate. Litichever ¶ 5. Litichever also describes a filter element is "an element with two interface that upon receiving a message either discards it, changes it or passes it *according to various conditions e.g.[,] message ID value*." Litichever ¶ 6 (emphasis added). More particularly, Litichever describes a security system comprising one or more (i) message receiving units for receiving messages from the communications bus (i.e., CAN bus); (ii) message classification units for classifying the received messages according to at least one message property; (iii) message analyzer units for analyzing a message according to its classification and determine whether to

transfer the message to a transmission unit; and (iv) message transmission units for sending the message to the appropriate destination. Litichever ¶¶ 50–54, 61. Litichever discloses the message property (used by the message classification unit) may comprise a message ID. Litichever ¶ 60.

In a disclosed embodiment, Litichever describes a filter element as being a combination of the message classification and message analyzer units. Litichever ¶ 166. Litichever describes a message being received and the message classification unit selects a rule from a rules list according to the message properties (e.g., a message ID). Litichever ¶ 166. The message is sent to the appropriate (i.e., selected) rule of the message analyzer unit "and decides whether the message should be allowed or not, or should be modified." Litichever ¶ 166.

Thus, as relied on by the Examiner, Litichever teaches retrieving an identifier from an incoming CAN message (i.e., the message ID) and using the identifier to select an appropriate rule from a rules list (i.e., the claimed identifier table) to further analyze/process the message. *See* Final Act. 4–5; *see also* Litichever ¶¶ 60, 166. Moreover, based upon the selected rule, the message may be allowed without modification. *See* Litichever ¶ 166; *see also* Ans. 10. Contrary to Appellant's arguments, the Examiner's findings are consistent with a broad but reasonable interpretation, consistent with the Specification, of the claimed identifier and identifier table.

Moreover, the Examiner relies on Hartwich to teach searching an identifier table for an identifier (*see* Final Act. 5 (citing Hartwich ¶ 23, Fig. 2)) and Paul to teach if an identifier is found in the identifier table, the message is sent without modification (*see* Final Act. 5 (citing Paul, col. 8, ll. 24–27, 55–57, col. 9, ll. 8–9, Fig. 4)). Appellant does not contest these

findings. In addition, the Examiner cumulatively finds Paul "more explicitly show[s]" an identifier table with its inclusion list data. Ans. 10.

Appellant argues the ordinarily skilled artisan "would not regard Paul's 'inclusion list data' as equivalent to the claimed identifier data because the claimed identifiers are retrieved from an incoming CAN message while PAUL list has 'identification data for identifying e-mail desired by the user.'" Reply Br. 2. We disagree.

Paul generally relates to a system for eliminating unsolicited e-mails by examining certain fields of an e-mail message and comparing the contents of the fields with a user inclusion list. Paul, Abstract. Thus, if a sender is identified from an appropriate field of the e-mail message, an inclusion list for allowed senders is searched and if the identified sender is listed in the inclusion list, the message may be sent to the user. *See* Paul, Abstract, col. 8, ll. 24–27, 55–57, 61–64, Fig. 4. As the Examiner explains, the inclusion list data corresponds to the claimed identifier table in that the inclusion list is searched for a field entry (i.e., identifier) contained in the received message "in order to determine how to treat a particular message." Ans. 9.

In addition, despite the Examiner's sweeping statement that "[w]hatever issues may exist pertaining to Litichever itself are arguably remedied by the citation of Hartwich and Paul to cover whatever elements of the claimed invention the Litichever reference may not necessarily explicitly teach" (*see* Ans. 10), we find the Examiner has met the notice requirements of Section 132(a) in rejecting claims 1–20 under 35 U.S.C. § 103. *See* Final Act. 3–11 (identifying specific portions of the references for teaching particular limitations and articulating a reasoning for the proposed

combinations); *see also* 35 U.S.C. § 132; *In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (holding the USPTO carries its procedural burden when its rejection satisfies the requirements of 35 U.S.C. § 132 by notifying the applicant of the reasons for rejection, "together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application"); *but cf. Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (Section 132 "is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection.").

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection under 35 U.S.C. § 103 of independent claims 1, 9, and 16. Additionally, we sustain the Examiner's rejection under 35 U.S.C. § 103 of claims 2, 3, 5–8, 10, 11, 13–15, 17, 18, and 20, which depend directly or indirectly therefrom and were not argued separately. *See* Appeal Br. 6; *see also* 37 C.F.R. § 41.37(c)(1)(iv). In addition, we also sustain the Examiner's rejection of dependent claims 4, 12, and 19, which were not argued separately. *See* Appeal Br. 6; *see also* 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

We affirm the Examiner's decision rejecting claims 1–20 under 35 U.S.C. § 103.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 5–11, 13–18, 20	103	Litichever, Hartwich, Paul	1–3, 5–11, 13–18, 20	
4, 12, 19	103	Litichever, Hartwich, Paul, Thilenius	4, 12, 19	
Overall Outcome			1–20	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED