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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* JAMES A. VAN BOSCH, IYENGAR SRIRAM KAUSHIK, and  
PAVEL SHOSTAK

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Appeal 2019-003617  
Application 14/797,418  
Technology Center 2600

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Before EDWARD A. BROWN, JAMES P. CALVE, and  
PAUL J. KORNICZKY, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> seeks review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1 and 4–20.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Motorola Mobility LLC. Appeal Br. 2.

<sup>2</sup> Claims 2 and 3 are cancelled. Final Act. 2.

### CLAIMED SUBJECT MATTER

Appellant's disclosure "relates generally to hand held electronic devices with a near field communication element, and more particularly, to hand held electronic devices which include a near field communication element and an associated sensor, which can include a further near field communication element." Spec. 1, ll. 5-8.

Claims 1, 9, and 20 are independent claims. Claim 1 illustrates the claimed subject matter on appeal.

1. A hand held electronic device comprising:
  - a near field communication element located at a top of the device, which is selectively enabled;
  - a user identification sensor, which is a second near field communication element, and which confirms the identity of an authorized user of the device, the user identification sensor being located at a back side surface of the device, where the user identification sensor senses a user interaction in an area at the back side surface of the device and receives as part of the interaction, user identification information corresponding to a particular user presently using the device, and determines whether the user identification information corresponding to the particular user matches identification information for a predetermined authorized user;
  - wherein upon confirming the identity of an authorized user of the device by the user identification sensor, the near field communication element located at the top of the device is enabled, and wherein when the identity of an authorized user of the device is not confirmed by the user identification sensor, the near field communication element located at the top of the device is not enabled.

Appeal Br. (Claims App.).

## REJECTIONS

Claims 1, 4–8, and 20 are rejected under 35 U.S.C. § 103 as unpatentable over Li<sup>3</sup>, Anemikos<sup>4</sup>, and Lanc<sup>5</sup>. Final Act. 12.

Claims 9–13 and 19 are rejected under 35 U.S.C. § 103 as unpatentable over Li and Lanc. Final Act. 3.

Claims 14 and 15 are rejected under 35 U.S.C. § 103 as unpatentable over Li, Lanc, and Hillan<sup>6</sup>. Final Act. 8.

Claim 16 is rejected under 35 U.S.C. § 103 as unpatentable over Li, Lanc, and Anemikos. Final Act. 9.

Claims 17 and 18 are rejected under 35 U.S.C. § 103 as unpatentable over Li, Lanc, and Yang<sup>7</sup>. Final Act. 11.

## ANALYSIS

*Claims 1, 4–8, and 20 as unpatentable over Li, Anemikos, and Lanc*

*Claims 1 and 4–8*

As for claim 1, the Examiner finds that Li discloses a hand held electronic device comprising a near field communication (NFC) element (NFC antenna 20) located at a top of the device and which is selectively enabled, and a second near field communication element (NFC antenna 10) located at a back side surface of the device. Final Act. 12 (citing Li Fig. 3).

The Examiner relies on Anemikos as teaching a user identification authentication system, which is a near field communication element for

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<sup>3</sup> Li et al., US 2015/0295623 A1, published Oct. 15, 2015 (“Li”).

<sup>4</sup> Anemikos, US 2010/0011211 A1, published Jan. 14, 2010 (“Anemikos”).

<sup>5</sup> Lanc, US 2008/0103972 A1, published May 1, 2008 (“Lanc”).

<sup>6</sup> Hillan et al., US 2012/0309303 A1, published Dec. 6, 2012 (“Hillan”).

<sup>7</sup> Yang et al., KR 20120110662 A, published Oct. 10, 2012 (“Yang”).

confirming the identity of an authorized user of the device, as claimed. *Id.* at 13–14 (citing Anemikos ¶¶ 18–20, Fig. 1). The Examiner concludes that it would have been obvious to one of ordinary skill in the art to apply these teachings of Anemikos to Li’s hand held electronic device such that Li’s near field communications are used for near field authentication, as taught by Anemikos, to “allow[] a user to gain access to secured assets without requiring the user to remember or keep track of passwords.” *Id.* at 14–15.

The Examiner further relies on Lanc as teaching that, upon confirming the identity of an authorized user of a device by a user identification sensor, a near field communication element located at the top of the device is enabled, and when the identity of an authorized user of the device is not confirmed by the user identification sensor, the near field communication element located at the top of the device is not enabled. *Id.* at 15 (citing Lanc ¶¶ 90, 102). The Examiner concludes that it further would have been obvious to one of ordinary skill in the art to apply these teachings of Lanc to Li/Anemikos such that the authentication is used for the contactless payment of Lanc to allow secure financial transactions to be carried out. *Id.* at 16. The Examiner’s explains that the proposed modification of Li is based on the rationale of “[a]pplying a known technique to a known device (method, or product) ready for improvement to yield predictable results.” *Id.* (citing MPEP § 2143).

In contesting the rejection, Appellant notes that claim 1 provides for a user identification sensor, which confirms the identity of an authorized user of the hand held electronic device, and a near field communication element, which is selectively enabled dependent upon whether or not an authorized user has been confirmed by the user identification sensor. Appeal Br. 8.

Appellant also notes that the enabling of the near field communication element located at the top of the device is linked to the successful determination of the identity of an authorized user by the second near field communication element. *Id.* As such, Appellant contends, the claimed near field communication elements are “operated distinctly.” *Id.*

Appellant acknowledges that Li discloses the use of multiple near field communication elements, but contends that “their use is linked or tied together, so that they operate in a joint manner consistent with the operation of a single element,” whereas the claimed “two near field communication elements *separately operate* relative to each other.” *Id.* at 5–6 (emphasis added). Appellant contends that Li’s NFC antennas are commonly driven by the same communication unit, which precludes their “independent operation” or “separate operation.” *Id.* at 6 (citing Li ¶ 20).

The Examiner disagrees that Li precludes “independent operation” of its antennas, stating:

Paragraph 0020 [of Li] states that either of the antennas can be selected for data exchange, which would be an example of independent operation. Paragraph 0020 further states that the communication unit is shared to spare costs, which further shows that two independent communication units would not violate the principle of operation (it would simply be a less preferred approach as it would be more expensive).

Advisory Act. 2.

Appellant contests the Examiner’s reading of Li. Appeal Br. 6. According to Appellant, in Li, the selection between the first NFC antenna and the second NFC antenna does not relate to a selective activation of one or both antennas by the device, but instead relates to a user selecting which one of the two antennas the user will have the external NFC element interact

with. *Id.* Appellant contends that this operation is made clearer by the description in paragraph 19 of Li that “the user can choose the first NFC antenna 10 or the second NFC antenna 20 for data exchange with the external NFC device N.” *Id.* According to Appellant, in order for a user to have this selection option in Li, both NFC antennas need to be active and operating in a joint manner, because if only one antenna is active, then the user no longer has an option and can no longer make such a selection between the two respective sets of inductive coupling directions. *Id.* at 6–7. Appellant further contends that Li’s description involving the “more effective inductive coupling directions . . . at multiple angles to enhance the operational convenience,” and “the sharing of a single communication unit by the first and second NFC antenna,” provide the purpose of Li, which would be frustrated by the Examiners’ proposed modification of Li. *Id.* at 7 (citing Li ¶ 20, Abstract).

Appellant’s contentions are unpersuasive. First, claim 1 does not recite that the two near field communication elements provide “separate operation.” Claim 1 recites that the near field communication device located at the top of the device is “selectively enabled.” Appellant does not identify any definition or description in the Specification that limits selective enabling to “separate operation” in some way. The Examiner finds that, in Li, second NFC antenna 20 is selectively enabled. Final Act. 12. Appellant does not apprise us of error in this finding.

Second, we are unpersuaded by Appellant that Li’s NFC antennas 10, 20 fail to provide “separate operation.” Appeal Br. 5–6. Li describes, for example, that “the user *can optionally make* the first NFC antenna 10 or the second NFC antenna 20 of the mobile phone 1 inductively coupled with the

input signal emitted by the external NFC device N” (Li ¶ 17, boldface omitted, emphasis added); “the user *can choose* the first NFC antenna 10 or the second NFC antenna 20 for data exchange with the external NFC device N” (¶ 19, boldface omitted, emphasis added); and “[t]he first NFC antenna 10 or the second NFC antenna 20 *can be selected* for data exchange with the external NFC device N” (¶ 20, boldface omitted, emphasis added). These passages disclose that *either* the first NFC antenna 10 *or* the second NFC antenna 20 *can optionally* be selected for data exchange with an external NFC device. The particular one of these antennas providing such data exchange can be considered to be “selectively enabled” by the user. In view of these teachings, Appellant’s unsupported attorney argument that Li needs to operate in a joint manner (Appeal Br. 6–7) is not persuasive. *See Becton, Dickinson and Co. v. Tyco Healthcare Gp., LP*, 616 F.3d 1249, 1260 (Fed. Cir. 2010) (“Unsupported attorney argument, presented for the first time on appeal, is an inadequate substitute for record evidence.”).

Third, the Examiner concedes that Li *alone* does not disclose or suggest all limitations of claim 1 and relies on Anemikos and Lanc to teach or suggest the missing limitations. Particularly, the Examiner relies on Anemikos and Lanc to teach the enablement of a near field communication element of an electronic device by a second near field communication element of the device upon the second near field communication element confirming the identity of an authorized user of the electronic device. The proposed modification, in effect, merely modifies Li’s “manual activation” of an NFC antenna by a user’s selection with “automatic activation” of an NFC antenna of Li’s device by the device itself. Appellant provides no

evidence that this proposed modification of Li was uniquely challenging or difficult for one of ordinary skill in the art. *See Leapfrog Enterprises v. Fisher–Price*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

Fourth, Appellant explicitly addresses the Examiner’s reliance on Li only and fails to specifically address the Examiner’s reliance on the interrelated teachings of Anemikos and Lanc. Appeal Br. 7–8. In other words, Appellant merely attacks Li individually without addressing the proposed combination of teachings of the references in rejecting claim 1. However, non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a *combination of references*. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Consequently, Appellant fails to apprise us of error in the Examiner’s findings for Anemikos or Lanc, or in the Examiner’s reasoning as to why it would have been obvious to persons of ordinary skill in the art to combine the teachings of Anemikos and Lanc with Li’s teachings to result in the claimed hand held electronic device in which the near field communication element located at the top of the device is enabled by a second near field communication element located at a back side of the device upon the second near field communication element confirming the identity of an authorized user of an electronic device. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . to determine whether there was an apparent reason to combine the known elements in the fashion claimed”).

Appellant also states, “a suggestion that the primary reference teaches away from the features being claimed in the present application is entirely appropriate,” which seems to be a contention that Li teaches away from the

claimed device. Appeal Br. 8. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Urbanski*, 809 F.3d 1237, 1244 (Fed. Cir. 2016) (citation omitted). “A prior art reference evidences teaching away if it ‘criticize[s], discredit[s], or otherwise discourage[s] the solution claimed.’” *In re Brandt*, 886 F.3d 1171, 1178 (Fed. Cir. 2018) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). Here, Appellant fails to explain persuasively how the disclosures of the applied references show that its claimed invention is unlikely to be productive of the desired result. *In re Berg*, 320 F.3d 1310, 1316 (Fed. Cir. 2003) (citing *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)). Moreover, Appellant’s contentions are based on the unsupported attorney argument that Li’s near field communication elements do not provide “separate operation” or “selective enabling,” an argument we find unpersuasive as discussed above.

For the foregoing reasons, we sustain the rejection of claim 1, and its dependent claims 4–8 which are not separately argued, as unpatentable over Li, Anemikos, and Lanc.

*Claim 20*

Claim 20 is directed to a method of managing the operation of multiple near field communication elements in hand held device, and recites similar limitations as claim 1. Appeal Br. (Claims App.). Similar to claim 1, the Examiner’s rejection of claim 20 relies on Li as disclosing a hand held electronic device comprising two near field communication elements (NFC antennas 20, 10) (Final Act. 17–18); relies on Anemikos as teaching a user

identification sensor, which is a near field communication element, for confirming the identity of an authorized user of the device (*id.* at 18–20); and relies on Lanc as teaching that, upon confirming the identity of a user as an authorized user of a device by a user identification sensor, enabling selectively a near field communication element located at the top of the device, and not enabling the selectively enableable near field communication element when the identity of the user of the device is not confirmed by the user identification sensor (*id.* at 21–22).

Appellant contends that, similar to claim 1, claim 20 provides for “confirming an identity of the present user . . . by a user identification sensor,” where the outcome of the determination is used to selectively alternatively enable or not enable the near field communication element located at the top of the device. Appeal Br. 9. Appellant asserts that “such an alternative operation that makes the operation of the user identification sensor distinct from the operation of the near field communication is at odds with the teachings of Li.”

For reasons similar to those discussed for claim 1, these contentions are unpersuasive. Accordingly, we sustain the rejection of claim 20 as unpatentable over Li, Anemikos, and Lanc.

*Claims 9–13 and 19 as unpatentable over Li and Lanc*

Claim 9 is directed to a hand held electronic device comprising “a first near field communication element located at a top of the device . . . [and which] operates *in a card emulation mode for supporting a contactless card payment,*” and “a second near field communication element located at a back side surface of the device . . . [and which] operates *in a mode different than*

*the card emulation mode within which the first near field communication element operates.”* Appeal Br. (Claims App.) (emphasis added).

In rejecting claim 9, the Examiner finds that Li discloses a first near field communication element (NFC antenna 20) located at a top of a hand held electronic device, and a second near field communication element (NFC antenna 10) located at a back side surface of the device, where the second near field communication element operates in a mode different from a card emulation mode. Final Act. 4. The Examiner relies on Lanc as teaching a first near field communication element that operates in a card emulation mode for supporting a contactless card payment. *Id.* at 4–5 (citing Lanc ¶ 91). The Examiner concludes that it would have been obvious to apply Lanc’s teachings to Li’s hand held electronic device to use near field communication for contactless payment as taught by Lanc to allow secure financial transactions. *Id.* at 5 (citing Lanc ¶ 6).

Appellant contends that the respective two modes of operation of the two near field communication elements recited in claim 9 are expressly different, whereas, in contrast, Li’s two near field elements operate the same. Appeal Br. 8. According to Appellant, “[e]lements that are taught to operate the same, as provided by Li . . . can not make known or obvious a feature which includes them operating in different modes.” *Id.* at 9.

These contentions are unpersuasive for reasons similar to those discussed for claim 1. First, the Examiner concedes that Li alone does not disclose or suggest all limitations of claim 9 and relies on Anemikos and Lanc to teach or suggest the missing limitations. Li describes that “[a]s the NFC antenna is developed, more and more handheld devices, such as mobile phones, are equipped with the NFC antennas to function as electronic tags or

*simulated credit cards.*” Li ¶ 4 (emphasis added). Thus, Li discloses “contactless card payment,” as claimed. The Examiner relies on Lanc to teach a second near field communication element located at a back side surface of the device that operates in a mode different than a card emulation mode within which another near field communication element operates. The proposed modification changes the mode of operation of Li’s NFC antenna 10 to be different from that of NFC antenna 20. Appellant provides no evidence that the Examiner’s proposed modification of Li was uniquely challenging or difficult for one of ordinary skill in the art.

Second, like for claim 1, Appellant explicitly addresses the Examiner’s reliance on Li only and fails to specifically address the Examiner’s reliance on the teachings of Lanc. However, non-obviousness cannot be established by only attacking Li individually because the rejection is based upon the teachings of a *combination of references*. *In re Keller*, 642 F.2d at 425. Consequently, because Appellant fails to apprise us of error in the Examiner’s findings for Lanc, or in the Examiner’s reasoning as to why it would have been obvious to persons of ordinary skill in the art to combine the reference teachings to result in the claimed hand held electronic device, we sustain the rejection of claim 9 as unpatentable over Li and Lanc.

*Claims 14 and 15 as unpatentable over Li, Lanc, and Hillan*

*Claim 16 as unpatentable over Li, Lanc, and Anemikos*

*Claims 17 and 18 as unpatentable over Li, Lanc, and Yang*

Appellant relies only on the dependency of claims 14–18 from parent claim 9 for patentability. Appeal Br. 9. As Appellant does not apprise us of error in the Examiner’s rejection of claim 9, we thus sustain the rejection of

claims 14 and 15 as unpatentable over Li, Lanc, and Hillan, claim 16 as unpatentable over Li, Lanc, and Anemikos, and claims 17 and 18 as unpatentable over Li, Lanc, and Yang, for the same reasons as for claim 9.

### DECISION SUMMARY

In summary:

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 4–8, 20	103	Li, Lanc, Anemikos	1, 4–8, 20	
9–13, 19	103	Li, Lanc	9–13, 19	
14, 15	103	Li, Lanc, Hillan	14, 15	
16	103	Li, Lanc, Anemikos	16	
17, 18	103	Li, Lanc, Yang	17, 18	
<b>Overall Outcome</b>			1, 4–20	

### FINALITY AND 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)(1)(iv).

AFFIRMED