

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**GOOGLE LLC,**  
*Appellant*

v.

**KONINKLIJKE PHILIPS N.V.,**  
*Appellee*

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2019-1234

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2017-00386, IPR2017-01766.

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Decided: January 6, 2020

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ANDREW V. TRASK, Williams & Connolly LLP, Washington, DC, argued for appellant. Also represented by AARON P. MAURER, KEVIN HARDY, DAVID M. KRINSKY.

JUSTIN J. OLIVER, Venable LLP, Washington, DC, argued for appellee.

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Before LOURIE, BRYSON, and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

Koninklijke Philips N.V. owns U.S. Patent No. RE44,913, which concerns device keypads that provide both primary and secondary characters associated with particular keys. After Philips sued Acer Inc. and other companies, alleging infringement based on devices that use Google operating systems, Google Inc. petitioned the Patent and Trademark Office, naming Acer and others as real parties in interest, to institute an inter partes review of claims 1 and 3–16 of the '913 patent for obviousness under 35 U.S.C. § 103. The PTO's Patent Trial and Appeal Board, acting on behalf of the PTO's Director, *see* 37 C.F.R. §§ 42.4, 42.108, instituted the requested review. In September 2018, the Board issued a final written decision concluding that Google had failed to prove obviousness. *Acer Inc. v. Koninklijke Philips Electronics N.V.*, No. IPR2017-00386, 2018 WL 4657646 (P.T.A.B. Sept. 26, 2018).

Google appeals. Philips's claimed invention differs in at most one way from the specific method (and related device) described in the principal prior-art reference featured in Google's petition. With that prior-art method, primary and secondary characters are associated with a given key; the secondary characters are presented to a user when the key is held for an extended time; and after the user chooses a secondary character for entry, that character is substituted for the primary character on the key. The last step is the only difference from Philips's claimed invention, in which the default primary character is retained on the key after secondary-character selection. That return-to-default option is what the prior-art reference itself compares its own character-substitution option to when touting its solution as enhancing efficiency. We conclude, on the record of this case, that the Philips invention would have been obvious in light of the prior art. We therefore reverse the Board's decision.

## I

The '913 patent, titled “Text Entry Method and Device Therefor,” is a reissue of U.S. Patent No. 6,885,318. The patent describes a method for entering primary and secondary characters on the keypad of a device such as a handheld mobile device. '913 patent, col. 2, lines 20–37. According to the patent, traditional mobile device keypads used one of two methods for entering characters: multitap or predictive text. In the multitap method, each key on the mobile device keypad is associated with multiple characters. To select a character, the user repeatedly presses a key to cycle through the key’s associated characters until the desired character is located. *Id.*, col. 1, lines 46–48. The multitap method, the '913 patent explains, is “slow and prone to error” because the method “often requires more than two key taps to select a character.” *Id.*, col. 1, lines 63–67. In the predictive-text method, predictive-text software alters the layout of a dynamic, touch-sensitive display by determining the “next most likely character required by the user.” *Id.*, col. 2, lines 6–11. But predictive-text keypads present “an unfamiliar interface to the average user” and require “much practice and learning for proficient and quick text entry.” *Id.*, col. 2, lines 11–17.

The '913 patent seeks to improve these methods by providing a keypad that is familiar to users and also allows for improved character entry. '913 patent, col. 2, lines 20–24. Each key on the keypad is associated with a primary character and a number of secondary characters. *Id.*, col. 3, lines 27–28. In its default state, each key displays its primary character. *Id.*, col. 2, lines 30–32. To select a primary character, the user performs a “quick tap[]” on the key. *Id.*, col. 6, lines 3–6. To select a secondary character, the user selects the key associated with the desired secondary character for “a period longer than [a] predetermined time period.” *Id.*, col. 6, line 61 through col. 7, line 3. This action causes the device to display a menu of secondary characters. The user then taps the desired secondary

character to select it. *Id.*, col. 2, lines 35–37. After the secondary character is selected, “the keypad . . . is returned to the default display state,” *i.e.*, each key displays its primary character. *Id.*, col. 3, lines 60–62; *id.*, col. 2, line 37.

The patent includes three independent claims that are at issue in this appeal: claims 1, 3, and 4. Claim 1, which is illustrative, recites:

1. A method for inputting a character to a device, the device including a keypad, the keypad including a plurality of keys, at least one of the keys has a primary character, a plurality of secondary characters and an associated display area, the keypad in a default state displaying the primary character associated with the at least one key in the associated display area, the method comprising acts of:

in the default state,

returning the primary character as an input character in response to selection of the at least one key for a period shorter than a predetermined time period;

switching to a second state after detecting a first key selection of the at least one key for a period longer than the predetermined time period;

in the second state

displaying each of the secondary characters associated with the first selected key in a respective display area;

detecting a second key selection;

selecting for the input character the secondary character associated with the second key selection; and

*returning the keypad to the default state.*

*Id.*, col. 6, line 48 through col. 7, line 3 (bracketed material omitted) (emphasis added). Claims 3 and 4 are similar to claim 1, except that claim 3 claims a computer program product that executes the method of claim 1, and claim 4 claims the device described in claim 1. *Id.*, col. 7, line 11 through col. 8, line 5.

In the inter partes review at issue here, Google challenged claims 1 and 3–16 of the '913 patent as unpatentable for obviousness, stating two (related) grounds: obviousness over an English translation of Japanese Patent Application No. 2000–148366 to Sakata (Sakata II); and obviousness over Sakata II in view of U.S. Patent No. 6,094,197 to Buxton (Buxton). The Board determined that Google failed to prove unpatentability on either ground. *Acer*, 2018 WL 4657646, at \*1, \*12.

Google timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

Google asserts that claim 1 is representative and seeks reversal as to all challenged claims based on arguments focused on claim 1. Philips does not dispute the representativeness of claim 1, and it makes no argument against reversal as to all challenged claims if reversal is warranted as to claim 1, as we conclude it is. Accordingly, we may and do limit our discussion to claim 1.

## II

Obviousness is a question of law, to be determined by the court based on underlying findings of fact. *See KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1327 (Fed. Cir. 2009). We review the Board's ultimate conclusion of obviousness de novo and any underlying factual findings for substantial evidence. *In re Varma*, 816 F.3d 1352, 1359 (Fed. Cir. 2016). "Substantial evidence review asks whether a reasonable fact finder could have arrived at

the agency’s decision and requires examination of the record as a whole, taking into account evidence that both justifies and detracts from an agency’s decision.” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016) (internal quotations omitted).

It is undisputed that a relevant artisan, as of the effective date of the ’913 patent, would have known the teachings of Sakata II. Sakata II discloses a method for inputting text using a keyboard displayed on a touch screen. To select a character displayed on the keyboard, the user touches and quickly releases the associated key on the display screen. But when the user touches a key on a specific portion of the keyboard for longer than a preset “threshold time,” a drag menu appears above the key, displaying a series of related characters. J.A. 311, ¶ 55. The user then drags over to the desired character on the drag menu and releases to select that character for entry. As a last step, after the selected character is input, that character replaces the character previously displayed on the key. J.A. 310, ¶ 41.<sup>1</sup>

In its petition to the Board, Google argued that a person of ordinary skill in the art would have found the ’913 patent claim obvious in light of the Sakata II method having character substitution as the last step, with or without Buxton. The parties do not dispute that the ’913 patent claim differs from that Sakata II method in only one respect. In the ’913 patent claim, after a secondary character is selected, the relevant key “return[s] . . . to the default

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<sup>1</sup> Sakata II includes method (claim 9) and device (claim 4) versions of its claimed improvement in keypads. J.A. 307. Sakata II also refers to “symbols” as well as “characters” made available for selection. *Id.* For simplicity, we describe Sakata II as involving a method and characters.

state” rather than, as in the described Sakata II method, changing to the selected secondary character.

In *KSR*, the Supreme Court set forth various articulations of “a properly flexible obviousness inquiry” that is “not subject to a rigid formula.” *Perfect Web*, 587 F.3d at 1327, 1329 (internal quotation omitted). The Court’s related formulations reflect the need for grounding such determinations in facts indicating why the claimed invention would have been obvious, while recognizing real-world pressures for innovation and both the “background knowledge” and “ordinary creativity” of a relevant artisan. *KSR*, 550 U.S. at 416–21. In one formulation that is key to this case, the Court explained that when “there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *Id.* at 421. If such an option is in that way “obvious to try,” and the “anticipated success” results, a conclusion of obviousness may follow. *Id.* That formulation is related to, and its application must be informed by, other explanations the Court set forth about “predictab[ility]” and “known” options and their effect on obviousness determinations. *Id.* at 416 (precedent established that “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result”); *id.* at 417 (“a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”; referring to “simple substitution of one known element for another” as basis for obviousness).

Invoking the obvious-to-try formulation, Google argues that a relevant artisan presented with Sakata II would have realized that there are only “two options following entry of a secondary character: (1) either substitute the key with the last selected secondary character,” *i.e.*, character

substitution, or “(2) simply return the key to the default state without substituting the secondary character.” Appellant’s Br. at 50. The Board did not disagree with that characterization of options. Nor does Philips, which instead shifts the inquiry away from the question of what options are available at the last step—after a secondary character is selected—of the Sakata II process involving presentation of secondary characters in a drag menu for possible selection after an extended hold of a key. Philips asserts that there is a wide variety of keypad techniques in general. Appellee’s Br. at 51–52 (citing J.A. 2583–85).

The problem with this response is not that it lacks record support as a factual matter but that it shifts the inquiry improperly as a legal matter. Philips’s wide-scope inquiry into all keypad possibilities does not fairly reflect the point of *KSR*’s relevant discussion as it applies to a case, like this one, in which it is not disputed that a relevant artisan would in fact be studying a particular piece of prior art in thinking about the artisan’s own possible further work. In that situation, the Court’s declarations about “mere substitution of one element for another known in the field,” with “predictable results,” *KSR*, 550 at 416, indicate that the obvious-to-try inquiry at least sometimes must focus on known options at what is undisputedly the sole point of novelty in the claim at issue. Moreover, that is the inquiry we conducted in *Perfect Web*, where we asked if the sole contested step of the claim at issue was obvious to try, taking the remaining steps as a given. 587 F.3d at 1331; see also *In re Copaxone Consolidated Cases*, 906 F.3d 1013, 1025–27 (Fed. Cir. 2018) (determining that dosage and frequency limitations in method of treatment claim were obvious to try, while taking remaining limitations as a given). The same focus is appropriate in this case.

The Board did not deny, and we see no reasonable dispute in the record, that a skilled artisan would know of the return-to-default option at the last step of the ’913 patent claim. Buxton itself confirms the familiarity of the option,



though we need not rely on Buxton. *See Acer*, 2018 WL 4657646, at \*10; J.A. 370. Moreover, the return-to-default option is the long-familiar function of a keyboard’s Shift key—which, while it is being held, makes available a secondary character (*e.g.*, an upper-case letter), with the primary character (*e.g.*, the corresponding lower-case letter) restored to availability when the Shift key is released. *See* J.A. 228 (¶ 177); J.A. 2537 (¶ 43). And in this case, recognition of the alternative option does not require a skilled artisan to bring to bear knowledge from outside the principal reference.

Sakata II itself asserts that the character substitution at the last step provides an efficiency benefit over the evident alternative of requiring that the secondary-character menu be summoned each time one of those characters was to be re-used. J.A. 311 (stating that by putting a selected character or symbol on the key, “when the same special character or symbol is selected again, selective input can be carried out quickly without having to perform dragging operation”). The Board so recognized the centrality of this efficiency assertion in Sakata II, *Acer*, 2018 WL 4657646, at \*7, and the point has been recognized by Philips, *see* Appellee’s Br. at 17, 50; J.A. 2564–65, as well as Google, J.A. 90 (petition). This efficiency assertion is on its face a comparative one, and what is plainly being compared to the Sakata II choice is the no-substitution option—where the primary character returns to the key upon disappearance of the secondary-character menu. That is Philips’s return-to-default claim element. A relevant artisan could not avoid recognizing the existence of this option from the comparative-efficiency assertion of Sakata II. And Philips

neither identifies nor relies on nor explains the real-world substantiality of any other options at this step.<sup>2</sup>

Further, it is clear that, while the substitution option of Sakata II might be more efficient for *some* users and contexts, it might be *inefficient*, compared to the return-to-default option, for others. Which option is more efficient for a particular performance of the method at issue self-evidently will have different answers for different users, depending on whether the user is likely to use the default character more, or one of the substitute characters more, on the particular occasion. A chemist might often prefer substitution of a secondary-character “mg” for a primary-character “mm” (to use Sakata II’s example), whereas a wire maker (using Sakata II’s keyboard) might prefer the opposite while writing about diameters rather than weights. Or a writer of English prose might prefer to retain unaccented vowels as the default option, with accented forms of those vowels as the secondary characters, while a writer of international financial news might prefer to have a key for currency symbols substitute and retain a

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<sup>2</sup> In this court, Google argues that Sakata II discloses the return-to-default option through the disparity between the independent claims (method claim 6, device claim 1), which leave unspecified what happens to the key after the selection of a secondary character, and the dependent claims (method claim 9, device claim 4) that include the character substitution step for that stage. *See* J.A. 307. Google made reference to the Sakata II claims before the Board, but it did not present this contention in its petition. We need not and do not rely on this argument of Google’s for our decision, and so we do not decide whether the contention was a proper one under the principles allowing reply material that answers arguments made in the patent owner’s response.

particular symbol (such as \$ or €) while writing a particular article.

Google’s expert Dr. Cockburn explained this general point, while also giving some specific illustrations. *See, e.g.*, J.A. 206–07 (¶¶ 146, 147), J.A. 226 (¶ 174), J.A. 228 (¶ 177), J.A. 230–32 (¶¶ 179–181). Philips’s expert, Dr. Porter, did not disagree; in fact, he seemed to recognize the absence of a one-size-fits-all efficiency solution. J.A. 3285–88. The Board, though rejecting certain specific illustrations advanced by Dr. Cockburn, *Acer*, 2018 WL 4657646, at \*8–9, did not make, and lacked substantial evidence to make, a contrary finding on the general efficiency-will-vary point, which suffices for the obviousness-to-try analysis in this case. In these circumstances, there is a clear reason for a skilled artisan, knowing of the return-to-default option, to try that option. And there is no finding or argument that success would be in doubt, *see* J.A. 231–32 (evidence that implementation is readily possible), or that unexpected results would be produced.

Our decision in *Perfect Web*, though of course involving its own facts, supports our conclusion of obviousness here. In *Perfect Web*, the patented invention sought to solve the problem of sending too few or too many e-mails through bulk e-mail distribution to meet a marketing quota, and the parties collectively identified three solutions to solve the problem: (1) e-mailing an excess of recipients; (2) resending the e-mail to those addresses from which the e-mail “bounced” back; or (3) identifying a new group of addresses and sending the e-mail to them. 587 F.3d at 1331. The claims recited a four-step method for managing bulk e-mail distribution with the last step requiring that the first three steps be repeated, which encompassed the third option identified by the parties. *Id.* The parties agreed that the prior art disclosed the first three steps and not the fourth step. We conducted the obvious-to-try analysis with a focus entirely on the fourth step, and we determined that “[e]ven without experimentation, simple logic suggest[ed]”

that repeating the previous steps for managing a bulk e-mail distribution list solved the stated problem. *Id.* And because no party offered evidence to show that this repeating step exhibited “unexpected results or was not reasonably expected to succeed” there were a “finite number of identified, predictable solutions,” rendering the patented method not only obvious to try but obvious. *Id.*

Here, the record reveals only two options for what happens to a key in Sakata II’s method after the secondary character is selected: (1) character substitution and (2) returning to the default state. And “even without experimentation, simple logic suggest[s],” *id.*, that returning to the default state is a readily achievable option and often will serve the undisputed goal of “reducing the user’s burden” of obtaining the desired character, J.A. 312. We conclude, on this record, that the return-to-default alternative to character substitution would have been obvious to try and, as in *Perfect Web*, obvious.

### III

We hold that claims 1 and 3–16 of the ’913 patent are unpatentable for obviousness. The Board’s decision is reversed.

The parties shall bear their own costs.

**REVERSED**