

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION and MICROSOFT MOBILE, INC.,
Petitioner,

v.

GLOBAL TOUCH SOLUTIONS, LLC,
Patent Owner.

IPR2015-01148
U.S. Patent No. 7,498,749

**PETITIONER'S REPLY TO PATENT OWNER'S
RESPONSE TO PETITION**

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LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 7,498,749 (filed Oct. 30, 2007) (“’749 patent”)
1002	Prosecution history for the ’749 patent (“’749 prosecution history”)
1003	U.S. Patent No. 6,249,089 (filed Oct. 9, 1998) (“’089 patent”)
1004	U.S. Patent No. 6,125,286 (filed June 5, 1997) (“Jahagirdar”)
1005	U.S. Patent No. 4,053,789 (filed Aug. 27, 1976) (“Schultz”)
1006	U.S. Patent No. 5,329,577 (filed Dec. 29, 1992) (“Norimatsu”)
1007	William Buxton et al., <i>Issues and Techniques in Touch-Sensitive Tablet Input</i> , 85 PROC. SIGGRAPH CONF. ON COMPUTER GRAPHICS AND INTERACTIVE TECHS. 215, 215-24 (1985) (“Buxton”)
1008	U.S. Patent No. 4,963,793 (filed Mar. 8, 1988) (“DePauli”)
1009	U.S. Patent No. 4,764,708 (filed Dec. 8, 1986) (“Roudeski”)
1010	Reserved
1011	Expert Declaration of Dr. Horenstein (“Horenstein Decl.”)
1012	Reserved
1013	Reserved
1014	Reserved
1015	Reserved
1016	Reserved
1017	Transcript of Deposition of Robert E. Morley, Jr. (“Morley Tr.”)
1018	Reserved
1019	Second Declaration of Mark Horenstein (“Second Horenstein Dec.”)

I. Introduction

Claims 1, 2, 5-7, 14, 15, 21, and 23 (the “Challenged Claims”) of the ’749 patent (Ex. 1001) are invalid. Patent Owner’s arguments ignore crucial passages of the primary reference Jahagirdar, contradict its own expert, Dr. Morley, and contradict well-established obviousness law.

II. Patent Owner’s Arguments for Why Jahagirdar and Schultz Would Not Have Been Combined Contradict Obviousness Law and Statements Made by Its Expert, Dr. Morley.

Patent Owner’s expert, Dr. Morley, admits the fundamental reasons why the Challenged Claims would have been obvious: the flip-phone of Jahagirdar and touch sensor of Schultz are prior art; there was no technical barrier to combining them; and the result of combining them was predictable. Ex. 1017 (Morley Dep.) at 176:2-177:13; Ex. 2005 (Morley Dec.) at ¶41 (correctly stating that this is a rationale for obviousness). As Dr. Morley explains, the Schultz touch sensors were not limited by size or arrangement, and a person of ordinary skill could have taken the Schultz sensors and put them into touch sensors the size of the buttons on Jahagirdar. Ex. 1017 (Morley Tr.) at 138:17-21; 140:2-13. And, in any event, as Dr. Morley acknowledges, the claims of the ’749 patent contain no limitations as to the physical form, internal architecture, or arrangement of the touch sensors. *Id.* at 172:12-173:10. Patent Owner’s remaining arguments that one of skill would not have found this simple combination obvious contradict its own expert and are legal error.

A. Dr. Morley’s Declaration and testimony confirm that touch sensors provide all of the advantages identified by Petitioner.

Petitioner showed that one of ordinary skill in the art would have sought to incorporate touch sensors such as those taught in Schultz into Jahagirdar’s flip phone in order to: (1) minimize accidental actuation; (2) eliminate problems of contamination and mechanical failures; and (3) to enhance convenience and aesthetics for the user. Patent Owner’s argument that “[t]here is simply no motivation provided for adopting the touch sensor of Schultz for the pushbutton of Jahagirdar,” Paper No. 17 (Patent Owner Response), p. 7, is fatally undermined by Dr. Morley’s contradictory testimony, which clearly shows “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” of the Challenged Claims (*see KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 418, 1741 (2007)).

First, Dr. Morley admits that Schultz’s touch sensors would have *alleviated* the problem of accidental actuation by inanimate objects, such as clothes, objects in a bag, surfaces of furniture, and so on. Ex. 1017 (Morley Tr.) at 157:20-158:23; *See also* Ex. 2005 (Morley Dec.) at ¶ 63. Thus, Patent Owner’s argument that the touch sensors would increase inadvertent actuation by a person’s hand — even if true — does nothing to dispel the motivation of one of ordinary skill seeking to reduce inadvertent *inanimate-object* actuation. Ex. 1019 (Second Horenstein Decl.) at ¶¶3-4; *see also In re Urbanski*, 809 F.3d 1237, 1243 (Fed. Cir. 2016) (affirming PTAB decision that one of ordinary skill would have been motivated to

pursue the desirable properties taught by a secondary reference, even if that meant foregoing a benefit of the primary reference, and noting that the claims at issue did not require the benefit of the primary reference). Furthermore, even if one of the buttons 144 were inadvertently actuated by a hand, the only consequence of this would be a backlight turning on or a display changing, which even Dr. Morley admitted “wouldn’t be a detriment to the operation” of the phone. Ex. 1017 (Morley Tr.) at 164:3-8.

Second, Dr. Morley recognizes that, in the switch art, skilled artisans would have sought to reduce contamination and mechanical failures. Ex. 2005 (Morley Decl.) at ¶66. Specifically, Dr. Morley posits that prior art membrane switches would have been combined with Jahagirdar to reduce contamination and mechanical failures. *Id.* But in arguing that membrane switches would alleviate this problem, Dr. Morley is also admitting that this problem exists, and that eliminating it would enhance Jahagirdar’s design. And Dr. Morley further admitted that touch sensors would provide this precise advantage, explaining that touch sensors in an elevator would lead to “[p]robably less maintenance or something, you know, less — less movement, mechanical things eventually, you know, break, whereas things that don’t move, the fewer moving parts, less to go bad.” Ex. 1017 (Morley Tr.) at 171:16-21. Dr. Morley suggests that membrane sensors would have been an alternative or better solution for Jahagirdar’s flip phones, but cannot deny that touch sensors, too, would provide this same benefit.

Third, although in his declaration Dr. Morley avoids discussing Petitioner's argument that touch sensors would have enhanced the aesthetics of Jahagirdar's flip phone, at his deposition Dr. Morley had to admit this potential advantage (to the extent he was capable of addressing it). Ex. 1017 (Morley Tr.) at 171:24-172:3. "[T]here's aesthetics where people might use the touch sensor because it's sexier, you know, somehow it has advantages beyond those known to an engineer." Ex. 1017 (Morley Tr.) at 172:1-3. Dr. Morley offers no reason why at least some phone designers or users would not be attracted to the aesthetics of touch sensors. Indeed, Norimatsu (Ex. 1006), DePauli (Ex. 1008), and Roudeski (Ex. 1009) — ignored by Dr. Morley in his declaration — all provide examples of user interfaces that their designers thought were enhanced by touch sensors.

Surely, no flip-phone design is perfect, and any user interface design has advantages and disadvantages. But Petitioner identified three distinct reasons why one of skill in the art would have sought to incorporate touch sensors into Jahagirdar's flip phone, and Dr. Morley's testimony confirmed these advantages. Thus, Patent Owner's argument that Petitioner's obviousness reasoning is not "rational" is baseless.

B. Patent Owner's Arguments Fail Under the Correct Law of Obviousness.

Patent Owner's arguments boil down to pointing out alleged disadvantages of the combination of the Jahagirdar and Schultz, and arguing that one of ordinary

skill would have chosen an alternative design instead. As a matter of law, these arguments fail.

1. Patent Owner ignores that one of ordinary skill is also one of ordinary creativity.

Patent Owner takes the position that a skilled artisan would not have sought to combine Jahagirdar and Schultz because the two references do not provide enough information to allow for one of ordinary skill to combine their teachings: “[t]here is simply no information that would allow one of skill in the art to determine what type of architecture the switch of Schultz would require, how much space, what kind of arrangements would be required.” Paper No. 17 (Patent Owner Response) at p. 5. But Patent Owner’s argument ignores that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421.

And notably, Patent Owner’s own expert echoed *KSR* in contradicting Patent Owner and stating that combining Schultz into Jahagirdar would have been within the ability of one of ordinary skill. When directly asked if a person of ordinary skill could have taken the circuitry of Schultz and put it into touch sensors the size of the buttons on the side of Jahagirdar, Dr. Morley responded that he “believe[s] they could have.” Ex. 1017 (Morley Tr.) at 140:9-13.

2. Patent Owner's argument that Jahagirdar's push buttons would have been replaced with membrane switches, rather than touch sensors, is irrelevant to the obviousness analysis.

Patent Owner wrongly concludes that one of ordinary skill would not have sought to incorporate touch sensors into Jahagirdar's phone because "the '749 Patent clearly suggests a superior answer—membrane switches." Paper No. 17, p. 9. Although Patent Owner appears to have provided a good argument for why it would *also* have been obvious to modify Jahagirdar with membrane switches, this argument has nothing to do with whether Petitioner's proposed combination would have been obvious (except that, as discussed above, it illustrates that one of skill would have sought to improve the buttons on Jahagirdar). *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (holding that the disclosure of desirable alternatives does not necessarily negate a suggestion for modifying the prior art to arrive at the claimed invention).

A recent Federal Circuit decision illustrates why Patent Owner's argument is incorrect. *Apple Inc. v. Samsung Elecs. Co.*, 816 F.3d 788, 801 (Fed. Cir. 2016). In *Apple*, it was undisputed that the prior art disclosed all but one element of the claim at issue: a touchscreen-based toggle switch. *Id.* at 800. The defendant cited another reference that disclosed this switch, but the patent owner responded by arguing that the secondary reference taught away from Samsung's proposed modification because the secondary reference indicated that other types of touchscreen switches were superior. *Id.* at 801. The court disagreed finding that "mere disclosure of more than one alternative' does not amount to teaching away

from one of the alternatives.” *Id.* (quoting *Fulton*, 391 F.3d at 1201). The court went on to note that “a motivation to use the teachings of a particular prior art reference need not be supported by a finding that that feature be the ‘preferred, or the most desirable.’” *Id.* (quoting *Fulton*, 391 F.3d at 1200).

Similarly, here, it does not matter that a skilled artisan would have allegedly viewed using membrane switches in Jahagirdar as a useful (or even preferable) alternative to touch sensors because “the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination,” not whether there is something in the prior art as a whole to suggest that the combination is the most desirable combination available. 391 F.3d at 1200.

3. Jahagirdar and Schultz do not “teach away” from their combination.

Patent Owner cites three cases to support its proposition that Jahagirdar and Schultz teach away from their combination: *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994); *DyStar Textilfarben GmbH v. Patrick Co.*, 464 F.3d 1356 (Fed. Cir. 2006); and *In re Caldwell*, 319 F.2d 254 (C.C.P.A. 1963). But these cases serve only to reinforce Petitioner’s position.

In *Gurley*, despite the fact that the prior art described the claimed combination as “inferior,” the Federal Circuit held that “a known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use.” 27 F.3d at 553.

Accordingly, *Gurley* actually contradicts Patent Owner’s argument that one of ordinary skill would not have sought to implement touch sensors in Jahagirdar because she would have used membrane switches instead — even if Patent Owner is correct that membrane switches are superior to touch sensors. *See also DyStar*, 464 F.3d at 1364 (rejecting DyStar’s assertion that prior art references taught away from the proposed combination because the references did not include specific language teaching away from the claimed invention).

Patent Owner’s citation to *In re Caldwell* is a non-sequitur. In *Caldwell*, the court reversed a rejection of the claimed method over prior art because under the proper view of the claims, the prior art “suggests no such method” and, further, “suggests that such method an impossibility.” 319 F.2d at 257. Patent Owner has not contended (and could not contend) that incorporating touch sensors into Jahagirdar would be “an impossibility.”

III. Patent Owner Incorrectly Argues that Jahagirdar Lacks a “Visible Indicator ...[that] Provides ... an Indicator Activation Function When a Signal is Received Through Said User Interface Switch, Wherein the Indicator is Active When the Load is Not Activated by the User”

Patent Owner disputes that Jahagirdar disclosed “a visible indicator controlled by the microchip to provide at least an indicator activation function when a signal is received through said user interface switch, wherein the indicator is active when the load is not activated by the user.” Paper No. 17 (Patent Owner Response) at p. 11. According to Patent Owner, the visible indicator identified by Petitioner (first display 516) was never “activated” upon the pressing of one of

keys 144.¹ Patent Owner’s argument is hopelessly flawed because it ignores a critical sentence in Jahagirdar that disclosed exactly what Patent Owner claims Jahagirdar failed to teach.

A. Patent Owner ignores the critical sentence in Jahagirdar that described activating the visible indicator to indicate an activation signal from the switch when the load was not activated.

Patent Owner contends that the only way to activate the first display 516 in Jahagirdar is “when the phone is closed—not in response to a user interface switch activation as called for by the claimed.” Paper No. 17 (Patent Owner Response) at p. 13. Patent Owner relies on a portion of Jahagirdar that described in relation to Figure 8A that display element 516 displays “visual information, preferably status information, in display area 130 (step 804)” when the phone is flipped closed. Ex. 1004 (Jahagirdar) at col. 5 ll. 25-35. Since, according to Patent Owner, display element 516 was *already* displaying visual information prior to actuation of key 150 (after the phone is flipped closed), key 150 cannot be said to have activated display element 516 when display element 516 later displayed “new visual information in display area 130.” See Paper No. 17 (Patent Owner Response), p.

¹ With very little support from the specification, and none from its expert (Ex. 1017 (Morley Tr.) at 95:11-16), Patent Owner argues that activation and deactivation mean turning on and turning off, respectively. Jahagirdar discloses the “activation” limitation under either Petitioner’s plain meaning interpretation or Patent Owner’s proposed construction.

13; Ex. 1004 (Jahagirdar) at col. 5 ll. 57-58. How, Patent Owner asks, can key 144 “activate” display 516 if it is already displaying visual information?

Patent Owner ignores that Jahagirdar answered this very question by describing a configuration in which display element 516 *was not* activated prior to actuation of key 150. Specifically, Jahagirdar described that while display area 130 may display status information when the phone was flipped closed, “[a]lternatively, the status information may include little **or no** information, **where display area 130 is cleared**” when the phone was closed. Ex. 1004 (Jahagirdar) at col. 5 ll. 43-44. According to this alternative configuration, when key 150 was pressed to display “new visual information” relative to the cleared screen, display element 516 would then change from blank to displaying information, and thus be activated (or turned on) in the process. Ex. 1019 (Second Horenstein Decl.) at ¶5.

In attempting to cure this fatal defect in Patent Owner’s argument, Dr. Morley repeatedly contradicted himself during his deposition. Dr. Morley initially asserted that “activation” of Jahagirdar’s display element 516 occurred not when the LEDs of display element 516 are illuminated, but rather when power was enabled to display element 516. Ex. 1017 (Morley Tr.) at 148:4-7. But moments later, he reversed positions by confirming that in relation to use of the term “activation” in the ’749 patent, “there’s no way for the LED to be activated yet nonetheless not lit up.” *Id.* at 217:19-24. Dr. Morley also admitted that in the context of a light bulb, “if there is a small amount of current going through the

filament but it's not serving any purpose of illuminating anything, [one of skill in the art] might call the thing off." *Id.* at 215:12-216:9.

In fact, neither Patent Owner in its Response, nor Dr. Morley in his declaration offer an explanation of why, simply because power was previously "enable[ed]" to an LED display, that LED display nonetheless was not activated when it changed from blank to lit up with information. In his deposition, Dr. Morley referred to ambiguous "other circuitry" that "could be consuming power" when the display is blank, but admitted that "you couldn't tell by looking at it whether it was on or off." Ex. 1017 (Morley Tr.) at 145:1-146:16. An LED screen changing from blank to displaying information meets any understanding of "activation" or "turning on," and Patent Owner should not be allowed to rewrite the reference on the fly to avoid this common-sense outcome. Ex. 1019 (Second Horenstein Decl.) at ¶5.

Patent Owner places heavy weight on its argument — disputed by Petitioner above — that the user of the Jahagirdar flip phone cannot "activate" the LED display element through the user interface because it is supposedly always on when the phone lid is closed. But in a related proceeding, Patent Owner admits in relation to Jahagirdar that "a touching [] **turn[ed] on** the LED display." (IPR2015-01149, Paper No. 17 (Patent Owner Response), p. 12). Dr. Morley expressed a similar interpretation of Jahagirdar's LED in his deposition, indicating that in a situation where a timer turned off Jahagirdar's LED display, Jahagirdar's key 146

could have been used to turn it back on. Ex. 1017 (Morley Tr.) at 199:12-17. This reactivation of the timed-out LED described by Patent Owner and Dr. Morley is an independent reason that Jahagirdar satisfies the claimed “activation” by the user interface switch.

Moreover, Petitioner notes that even in embodiments where display 516 was merely changed from “status information” to “new visual information,” at least portions of the display 130 that were not previously activated did become activated in response to key 150 when “new visual information” appeared, which constitutes the claimed activation of display 516. Ex. 1019 (Second Horenstein Decl) at ¶6; Ex. 1017 (Morley Tr.) at 215:12-216:9 (discussing activation of individual LED segments). Thus, for all these reasons, Patent Owner’s argument that Jahagirdar did not disclose activation of display element 516 in response to actuation of key 150 fails.

B. Jahagirdar’s critical sentence also showed that activating display element 516 could occur when display element 520 was not activated.

Patent Owner also argues that Jahagirdar did not disclose activation of its display 516 while operation of the load 520 was “not activated.” This is in essence the same argument as discussed above in Section III.A, because it relies on the false premise that key 150 did not activate display element 516. According to Patent Owner, because key 150 did not activate display 516, then the only way to activate display 516 was to close the lid of the phone. And, the argument continues, because closing the lid of the phone turned off display 520, then that

action occurred when the load was activated and fails to satisfy the limitations of the Challenged Claims.

Contrary to Patent Owner's premise, and as shown above in Section III.A, pressing key 150 did indeed activate display element 516. Specifically, the method described in relation to Figure 8A indicated that "[i]f power was previously enabled for driver 518 and display element 520, controller 504 disables power thereto (step 806)" when the phone was closed. Ex. 1004 (Jahagirdar) at col. 5, ll. 35-37. As discussed, Jahagirdar went on to describe a configuration in which, in response to the phone being closed "the status information [on display 130] may include little or no information, where display area 130 is cleared." *Id.* at col. 5 ll. 43-44. Thus when "controller 504 [later] detects an actuation of key 150 (step 814), [and] controller 504 sends display data to driver 514, which sends display data to display element 516. For [sic] displaying new visual information in display area 130," operation of the load (display element 520) was not activated because it simply stayed off. *Id.* at col. 5, ll. 54-57; Ex. 1011 (First Horenstein Dec.) at ¶ 69.²

² And again, even if the critical sentence of Jahagirdar is ignored, because portions of display 130 changed in response to key 150, Jahagirdar disclosed display element 520 being activated while display element 520 was unaffected (i.e., remained off). Ex. 1019 (Second Horenstein Decl) at ¶6.

IV. Conclusion

For the foregoing reasons, Petitioner respectfully requests that the Board find the challenged claims invalid.

Respectfully submitted,

Dated: June 2, 2016

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CERTIFICATION OF WORD COUNT

I hereby certify that the foregoing PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE TO PETITION contains 3,263 words in the applicable sections according to 37 C.F.R. § 42.24(a)(1) and is in compliance with the 5,600 word requirement of 37 C.F.R. § 42.24(c)(1).

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing

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PETITION was served via email this 2nd day of June, 2016, on the following:

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