

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOSHIBA AMERICA INFORMATION SYSTEMS, INC.
and APPLE INC.,
Petitioner,

v.

GLOBAL TOUCH SOLUTIONS, LLC,
Patent Owner.

Case IPR2015-01616
Patent 7,265,494 B2

Before JUSTIN BUSCH, LYNNE E. PETTIGREW, and
BETH Z. SHAW, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Toshiba America Information Systems, Inc. (“Toshiba”) and Apple Inc. (“Apple”) (collectively, “Petitioner”) challenge the patentability of claims 1–3, 19, and 20 (“the challenged claims”) of U.S. Patent No. 7,265,494 B2

(Ex. 1001, “the ’494 patent”), owned by Global Touch Solutions, LLC (“Patent Owner”). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that the challenged claims of the ’494 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition for *inter partes* review of the challenged claims of the ’494 patent. Paper 3 (“Pet.”). Patent Owner did not file a Preliminary Response. On January 28, 2016, we instituted an *inter partes* review of the challenged claims of the ’494 patent. Paper 10 (“Institution Decision” or “Dec.”). After institution, Patent Owner filed a Patent Owner Response, Paper 14 (“PO Resp.”), and Petitioner filed a Reply to the Patent Owner Response, Paper 17 (“Pet. Reply”). A consolidated oral hearing for this case and several others was held on August 3, 2016. A transcript of the hearing has been entered into the record. Paper 37.

B. Related Matters

The parties identify the following district court proceedings as related matters: *Global Touch Solutions, LLC v. Toshiba Corp.*, No. 3:15-cv-2746-JD (N.D. Cal.); *Global Touch Solutions, LLC v. VIZIO Inc.*, No. 3:15-cv-2747-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Apple Inc.*, No. 3:15-cv-2748-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Motorola Mobility, LLC*, No. 3:15-cv-2749-JD (N.D. Cal.); and *Global Touch Solutions, LLC v. Microsoft Corp.*, No. 3:15-cv-2750-JD (N.D. Cal.). Pet. 3; Paper 6, 3. Apple and Motorola Mobility LLC (“Motorola”) filed petitions for *inter partes* review of related U.S. Patent Nos. 7,994,726 (IPR2015-01171);

7,781,980 (IPR2015-01174); and 8,288,952 (IPR2015-01175), and Toshiba, Apple, and Motorola filed petitions for *inter partes* review of related U.S. Patent Nos. 7,498,749 (IPR2015-01172) and 7,329,970 (IPR2015-01173). Pet. 3; Paper 6, 3. Petitioner filed a petition for *inter partes* review of related U.S. Patent No. 7,498,749 (IPR2015-01603). Pet. 3; Paper 6, 4. Trials were instituted and final written decisions have been issued in each of those proceedings.

C. The '494 Patent

The '494 patent is directed to electronic circuits, which include microchips and touch sensors that differentiate between proximity and physical contact events. Ex. 1001, Abstract. A visible indicator such as a light emitting diode (LED) can be used to indicate the condition of the battery. *Id.* at 9:45–53, Fig. 11.

D. Claims

Independent claim 1 is reproduced below, with formatting added:

1. An electronic unit for use with a product connected to a power source, an energy consuming load and a power circuit that connects the power source to the load to power the load, said electronic unit, comprising:

(a) a microchip; the microchip at least controlling the flow of power from the power source to activate the load;

(b) a switch, wherein the switch is not a serial element in the power circuit, and wherein the switch is a user interface; and

(c) a touch sensor;

wherein the microchip is coupled to the switch and to the touch sensor; wherein the microchip controls the activation and deactivation of the load in response to a signal from the switch; and wherein the microchip, in response to at least a signal from

the touch sensor, is configured for activating a visible find-in-the-dark indication, when the load is not activated.

E. Grounds of Unpatentability Instituted for Trial

We instituted an *inter partes* review based on Petitioner's contentions that the challenged claims are unpatentable on the following specific grounds:

References	Basis	Challenged Claim(s)
Layman ¹ and Beard ²	35 U.S.C. § 103(a)	1–3
Layman, Beard, and Rathmann ³	35 U.S.C. § 103(a)	19
Layman, Beard, and APA	35 U.S.C. § 103(a)	20

Dec. 12.

II. DISCUSSION

A. Claim Construction

We construe explicitly only those claim terms or phrases in controversy, and we do so only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). We construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent

¹ U.S. Patent 5,712,795, issued Jan. 27, 1998 (Ex. 1005, "Layman").

² U.S. Patent 5,898,290, issued Apr. 27, 1999 (Ex. 1006, "Beard").

³ U.S. Patent 5,955,869, issued Sept. 21, 1999 (Ex. 1007, "Rathmann").

disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposed a construction for “energy consuming load” and “find-in-the-dark indication.” Pet. 10–12. Patent Owner did not file a Preliminary Response and did not explicitly propose a construction for any term in its Patent Owner Response. In the Institution Decision, we did not expressly construe any claim terms. Dec. 5. To the extent it is necessary for us to construe any claim terms in this decision, we do so below in the context of analyzing whether the prior art renders the claims unpatentable.

B. Obviousness of Claims 1–3, 19, and 20

Petitioner contends claims 1–3 are unpatentable under 35 U.S.C. § 103(a) as obvious over Layman and Beard and claims 19 and 20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Layman and Beard in further view of Rathmann and APA, respectively. Pet. 23–55. Relying on the declaration testimony of Mr. Paul Beard, Ex. 1003, Petitioner explains how Layman, Beard, Rathmann, and APA allegedly teach all the claim limitations, and asserts an ordinarily skilled artisan would have combined the asserted teachings. *Id.* (citing Ex. 1003).

We have reviewed the Petition, Patent Owner Response, and Petitioner’s Reply, as well as the relevant evidence discussed therein. For the reasons that follow, we determine Petitioner has shown, by a preponderance of the evidence, that the challenged claims would have been obvious in view of the asserted combined teachings of the asserted references.

1. Layman

Layman is directed to “managing a power supply system, and more particularly relates to management of a power supply system having a battery for control over the charging of the battery and the determination of battery status.” Ex. 1005, 1:4–8; Ex. 1003 ¶ 69. Layman discusses the need for a power management system in the context of hospital medical equipment, specifically with respect to infusion pumps. *Id.* at 1:16–28. Layman purports to fill a need in the art for “an automatic power management system that not only controls the recharging of a battery, but one that also automatically refreshes a battery to prolong its service life, monitors the charge status of the battery, and provides an accurate indication of the run-time of a battery.” *Id.* at 2:29–35. Layman’s power management system has a processor that controls various charging modes, monitors the capacity of the battery, calculates the charge remaining in the battery based on usage and charging activities, and displays the remaining run-time of the device connected to the power management system. *Id.* at 2:47–3:30.

2. Beard

Beard describes an intelligent battery pack with a microcontroller and battery indicators for use with a portable electronic device. Ex. 1006, 1:18–21; *see* Ex. 1003 ¶ 77. The microcontroller responds to a touch-sensing circuit that detects changes in impedance or capacitance when an operator touches one or two contacts. Ex. 1006, 11:12–19; *see* Ex. 1003 ¶ 77. Figure 11 of Beard is reproduced on the following page.

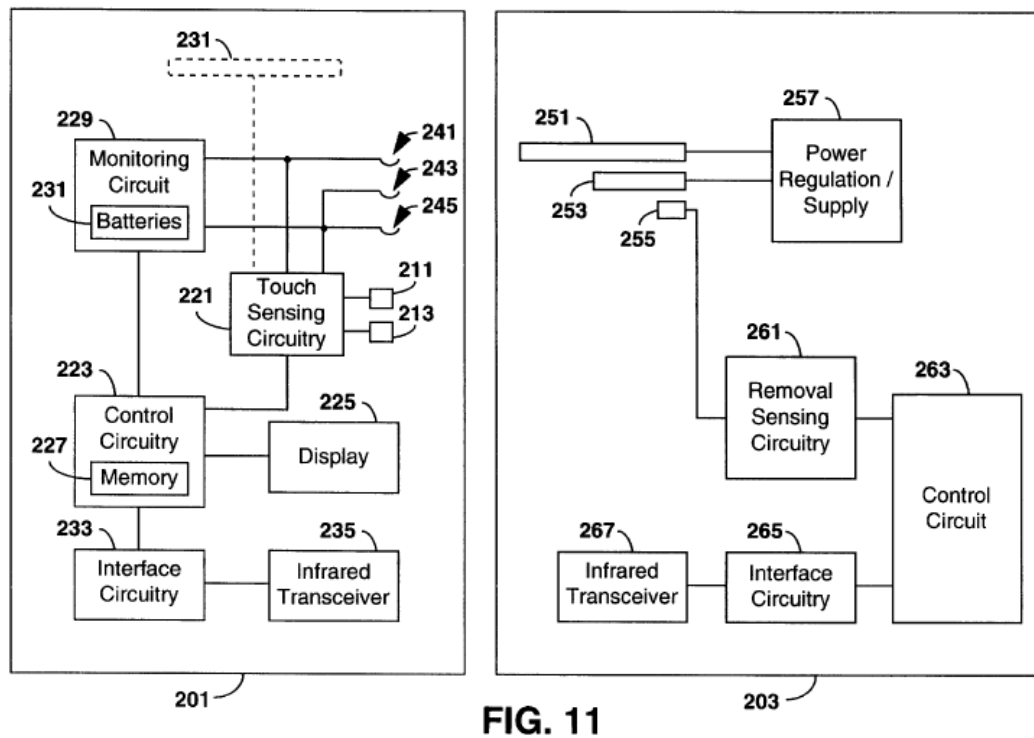


FIG. 11

Figure 11 depicts battery pack 201 that provides an operator with an indication of battery capacity whether or not it is inserted into portable electronic device 203. Ex. 1006, 11:10–12. When fully inserted, battery pack contacts 241, 243 and 245 engage corresponding contacts 251, 253 and 255, and, if sufficient power is available, device 203 may enter a fully operational state when the operator desires. *Id.* at 11:67–12:4.

3. Rathmann

Rathmann describes a “smart battery for use in an intelligent device having power management capabilities.” Ex. 1007, 1:12–16, 1:65–3:50. Rathmann’s indicator is comprised of LEDs. *Id.* at 12:4–34, 16:24–36. In response to a signal from the battery pack’s user interface, four LEDs illuminate sequentially to indicate remaining battery charge. *Id.* at 16:24–36, Fig. 3; Ex. 1003 ¶ 92.

4. Analysis

Petitioner asserts the combination of Beard and Rathmann teaches or suggests every limitation recited in claims 1–3. *See* Pet. 24–29, 35–51; Pet. Reply 2–25. Patent Owner contends Petitioner’s proposed combination fails to teach or suggest the subject matter of claim 1 because: (1) there is no motivation to combine Layman and Beard, PO Resp. 4–10; (2) the proposed combination does not teach or suggest a “find-in-the-dark indication, when the load is not activated,” *id.* at 10–13; and (3) the proposed combination does not teach or suggest a microchip controlling “deactivation of the load in response to a signal from the switch,” *id.* at 13–15. Patent Owner provides no separate arguments with respect to the patentability of claims 2, 3, 19, and 20, which depend from claim 1. *Id.* at 2, 16.

We agree with Petitioner’s arguments, as supported by testimony from Mr. Beard, that the combination of Layman and Beard teaches or suggests the uncontested limitations recited in claim 1 as well as the additional limitations recited in dependent claims 2 and 3, and we adopt those assertions as our findings. *See* Pet. 35–43, 50–51. For example, Petitioner points to Layman’s power management system 28 (electronic unit) connected to an infusion pump system (product), including pump circuits 34 (load), and to power sources (both an AC power source and a battery) through an electrical circuit as meeting the preamble of claim 1. *Id.* at 35–37. Petitioner argues Layman’s disclosure of processor 42 providing a control signal to turn power to pump circuits 34 on or off in response to a signal received from switch 38 meets the recited microchip that controls “the flow of power from the power source to activate the load.” *Id.* at 38. Petitioner contends Layman’s switch 38 is not a serial element in the power

circuit because switch 38 merely sends a signal to processor 42, which controls whether the pump is powered on, and that switch 38, therefore, teaches the recited switch. *Id.* at 38–39. Petitioner relies on Beard for teaching a touch sensor used to activate the battery capacity display. *Id.* at 39–40.

We find the disclosures in Rathmann and APA relied upon by Petitioner teach or suggest the additional limitations recited in claims 19 and 20, respectively, *id.* at 52–55, and that a person having ordinary skill in the art would have had reason to combine Rathmann’s asserted teachings as proposed, *id.* at 30–34. We discuss the disputed limitations of independent claim 1 and the rationale for combining the asserted teachings from Layman and Beard in more detail below.

*Whether Layman Teaches or Suggests Deactivation of the Load
in Response to a Signal from the Switch*

Petitioner argues Layman’s microchip controls activation and deactivation of the load (i.e., turning power on and off to the circuits for running the infusion pump). *Id.* at 43–45. Specifically, Petitioner contends Layman’s switch 38 sends a signal to processor 42, which controls on/off control device 44 (i.e., whether or not power is applied to the infusion pump circuits 34). *Id.* at 44 (citing Ex. 1005, 11:38–48; Ex. 1003 ¶¶ 146, 147).

Patent Owner argues that when power is on, main CPU 36 “causes the microprocessor of Layman to deactivate the pumps (turn them off).” PO Resp. 14. Patent Owner further asserts main CPU 36 “is not attached or connected to switch 38 in any way.” *Id.*

Patent Owner’s contentions are not persuasive for a variety of reasons. Layman states that “[o]nce power is on, the main CPU 36 receives switch selections and determines the appropriate response.” Ex. 1005, 11:43–44. A

plain reading of this disclosure, notwithstanding the depiction in Figure 2 of on/off switch 38 having no *direct* connection to main CPU 36, indicates that main CPU 36 receives signals from on/off switch 38. In particular, Figure 2, in combination with the cited disclosure, suggests that main CPU 36 receives signals from on/off switch 38 *via* processor 42. Moreover, Layman explicitly states that main CPU 36 and on/off switch 38 are in communication. *Id.* at 11:38–39 (“The power management system 28 [(including processor 42, to which both on/off switch 38 and main CPU 36 are connected)] provides the interface *between the power on/off switch 38 and the main CPU 36.*” (emphasis added)).

Additionally, the switch Patent Owner asserts does not turn power off to pump circuits 34 (via on/off control 44) is labeled “ON/OFF SWITCH” in Figure 2, which indicates that on/off control 44 is turned on and off *in response to* a signal from on/off switch 38, whether directly or indirectly. *See id.* Fig. 2. Finally, although Patent Owner’s assertion that main CPU 36 instructs processor 42 to deactivate pump circuits 34 is true, the implication that Layman, therefore, does not teach or suggest the microchip (Layman’s processor 42) deactivates the load (removes power from pump circuits 34) *in response to* a signal from the switch (on/off switch) is unfounded. Nothing recited in claim 1 excludes additional processing or conditions being met, as long as the microchip deactivates the load in response to a signal from that switch. We find Layman’s processor 42 removes power from pump circuits 34 in response to an off signal from on/off switch 38, after main CPU 36 determines removing power is an appropriate response. *See id.* at 11:44–48.

*Whether Petitioner Has Provided a Sufficient Reason for
Combining Beard's Touch Sensor and Timer with Layman's
System*

Petitioner contends a person having ordinary skill in the art would have combined the teachings of Beard and Layman for various reasons, including that both Beard and Layman are directed to monitoring and managing batteries used in portable devices using a local processor and memory and providing battery capacity information to a user without affecting the product in which the battery is used. Pet. 24–26. Petitioner further contends that a person of ordinary skill would be interested in conserving as much battery power as possible in Layman and, therefore, would look to Beard's system, which includes an automatic deactivation of the battery capacity display and a simple touch system for activating the display when battery capacity information is needed. *Id.* at 26–28, 40, 49.

Petitioner also argues that a person having ordinary skill simply would have used the processor from either Layman or Beard to receive signals from both Layman's switch 38 and Beard's touch sensor, such that the combination of Beard and Layman results in teaching “the microchip is coupled to the switch and to the touch sensor.” Pet. 29, 41–42. Petitioner asserts the microchips in both Layman and Beard perform similar functions and an ordinarily skilled artisan would have understood a simple implementation would integrate both functions into one or the other microchip. *Id.*

Patent Owner argues there is no motivation to combine Beard with Layman because “it is difficult to understand why one of skill in the art would modify the battery and power management system of Layman to provide for a battery designed to be easily removed from the infusion pump,

such as the battery of Beard.” PO Resp. 5. Patent Owner further contends the “basis for combination” identified in the Decision is incorrect because “[n]othing about the battery of Layman is portable.” *Id.* at 6. Patent Owner asserts that “[w]here the combination of references made to render a patent claim obvious would alter the basis of operation of the first device, the patent claim so challenged is unobvious over that combination.” *Id.* at 7 (citation omitted). Finally, Patent Owner suggests that the only rationale for combining Beard and Layman is using claim 1 of the ’494 patent as a guide.

All of Patent Owner’s challenges to Petitioner’s rationale assume the proposed combination *replaces* Layman’s battery with the battery disclosed in Beard. *See, e.g.*, PO Resp. 8 (“While the Petition suggests replacing Layman’s battery with that of Beard would be desirable”) Petitioner does not suggest such a replacement. Rather, Petitioner asserts “[a] POSITA would have been especially motivated to combine Layman with Beard’s *power-saving touch switch activated display* in light of Layman’s stated desire for features that extend battery life and increase the time between battery replacements.” Pet. 28 (emphasis added). Petitioner reiterated its position, asserting that Patent Owner’s arguments do “not address Petitioner’s motivation arguments,” which are no “more than an obvious substitution of elements that were well known in the prior art.” Pet. Reply 2. Petitioner merely proposes incorporating Beard’s teaching of a touch switch activated display into Layman’s system. Pet. Reply 7 (arguing “the Petition analyzed whether one of ordinary skill would have found it obvious to incorporate a touch-sensor activated display such as in Beard into Layman’s system”). As discussed above, Petitioner has presented reasons with rational underpinning as to why a person having ordinary skill in the art would look

to integrate Beard’s touch sensor activated display with Layman. We find Petitioner’s arguments persuasive, and we adopt those reasons as the rationale for combining the cited teachings of Beard with the cited teachings of Layman.

Whether the Combination of Layman and Beard Teaches or Suggests a Find-in-the-Dark Indication

Based on the proposed combination, Petitioner argues the microchip would activate a visible find-in-the-dark indication (Layman’s display and Beard’s LEDs that indicate battery status) in response to a signal from the touch sensor when the load is not activated. Pet. 45–49. Specifically, Petitioner argues the displays in both Layman and Beard teach or suggest a “find-in-the-dark indication,” and, when Beard is combined with Layman in order to conserve battery by activating the display in response to a signal from Beard’s touch sensor, the find-in-the-dark indication is activated by the microchip in response to a signal from the touch sensor. *Id.* Petitioner further argues Layman discloses activating its display when “the instrument is off”—i.e., when the load is not activated—and Beard further discloses indicating its battery status when the load is not activated. *Id.* at 45–46, 47–48 (citing Ex. 1003 ¶¶ 149, 153, 154; Ex. 1005, 8:3–15; Ex. 1006, 11:10–12, 11:23–30).

Patent Owner argues “[a]n essential aspect of the recited feature is that it provides assistance to the user who does not know precisely where the device, or the switch to activate it, is in the dark.” PO Resp. 10, 11. Patent Owner discusses an embodiment disclosed in the ’494 patent involving proximity detection. *Id.* at 10. Specifically, Patent Owner explains that “a proximity detector is provided such that if the user passes their hand close to the device, the switch to be pressed glows,” and asserts that disclosure “is

the nature of an FITD feature – it allows the user to ‘find it in the dark.’” *Id.* Patent Owner argues Layman and Beard require a user to already have the device in hand to activate it and, thus, the LEDs activated in response to a switch cannot “help the user to find the device that the user is already holding.” *Id.* at 11.

Petitioner contends Patent Owner’s arguments are based on an unduly narrow construction of the recited find-in-the-dark indication. Pet. Reply 8. Specifically, Petitioner argues—citing the deposition testimony of Patent Owner’s declarant, Dr. Morley in support—the indication is anything that helps one find something in the dark and does not require proximity detection. *Id.* at 8–9 (citing Ex. 1032, 184:2–6, 189:6–190:12); see Pet. Reply 9–20. Petitioner further asserts the claim does not require that the indication aids the person who activates the indication in finding something in the dark. *Id.* at 9.

Having found Petitioner’s rationale for combining Beard’s touch sensor activated display with Layman persuasive, the ordinary creativity of an ordinarily skilled artisan would have led to a combination in which Layman’s microprocessor controls the functions taught by Layman, the touch sensor taught by Beard, activation of the display in response to the touch sensor, and the timing circuit to disable the display. See *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 (2007). Therefore, we must determine whether the display in the proposed combination of Layman and Beard sufficiently teaches or suggests the recited find-in-the-dark indication.

First, based on the disclosure in the ’494 patent and the recitation in claim 1 of activating the find-in-the-dark indication in response to a touch sensor, we find any distinction of the claim over the prior art based on

proximity detection to be unfounded. Although the indication *may* be activated by the recited touch sensor detecting a proximity event, the claim is written broadly enough that the find-in-the-dark indication may be activated by the recited touch sensor detecting a touch event. Patent Owner has not pointed to, nor do we find, anything in the specification of the '494 patent that is inconsistent with such a reading of the relevant limitation of claim 1. In fact, the specification and other claims that depend from claim 1 of the '494 patent indicate claim 1 must *not* be read so narrowly. For example, dependent claim 5, which is not at issue in this proceeding, recites that “the microchip activates the visible find-in-the-dark indication in response to a proximity signal received from the touch sensor.” Ex. 1001, 17:57–59; Pet. Reply 11. Similarly, claim 13 (also not at issue in this proceeding) recites that “the touch sensor provides both proximity and physical touch detection information to the microchip.” Ex. 1001, 18:20–22; see Pet. Reply 12. Applying basic claim construction principles, including claim differentiation, the “signal” received from the touch sensor, as recited in claim 1, is not limited to a proximity signal.

Additionally, we do not find persuasive Patent Owner’s contention that the touch sensor activated battery capacity display cannot be a find-in-the-dark indication because it can only be activated when the user touches the switch and, accordingly, the user must already know where the device is. As pointed out by Petitioner, nothing in the claim indicates that the person who activates the display must be the same person attempting to find the device in the dark. See Pet. Reply 17–18 (quoting Ex. 1032, 160:15–161:12). Moreover, activating the display indicates, even to the person activating the display, the exact location of the display and the battery

capacity information, helping them find at least a portion of the device in the dark.

As discussed above, Petitioner pointed to Layman's disclosure of calculating remaining runtime of its battery even when "the instrument is off." See Pet. 45–46 (citing Ex. 1005, 8:3–15); Pet. Reply 20–21. Moreover, Petitioner points to Beard's disclosure of displaying its battery capacity even if the battery pack is not inserted into a device, which would suggest to a person having ordinary skill in the art that the battery capacity display could be activated without activating the load to which the battery is providing power. Pet. Reply 21–22.

Accordingly, we are persuaded by Petitioner's assertions that a person having ordinary skill in the art would have integrated Beard's touch-activated display with Layman's system, and that the resulting combination would teach a "microchip, in response to at least a signal from the touch sensor, is configured for activating a visible find-in-the-dark indication, when the load is not activated," as recited in claim 1.

Summary

For the foregoing reasons, we determine Petitioner has shown, by a preponderance of the evidence, that claims 1–3, 19, and 20 of the '494 patent would have been obvious in view of the combined teachings of Layman and Beard; Layman, Beard, and Rathmann; or Layman, Beard, and APA.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated, by a preponderance of the evidence, that: claims 1–3 of the '494 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Layman and Beard;

claim 19 of the '494 patent is unpatentable under 35 U.S.C. § 103(a) as obvious over Layman, Beard, and Rathmann; and claim 20 of the '494 patent is unpatentable under 35 U.S.C. § 103(a) as obvious over Layman, Beard, and APA.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–3, 19, and 20 of the '494 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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