

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

CPC PATENT TECHNOLOGIES PTY, LTD.,
Patent Owner.

Case IPR2022-00601
U.S. Patent No. 9,269,208

PATENT OWNER SUR-REPLY

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LIST OF EXHIBITS

Exhibit No.	Description
2001	Scheduling Order, <i>CPC Patent Technologies Pty Ltd. v. HMD Global Oy</i> , 6:21-cv-00166 (Dkt. 27) (Sept. 23, 2021)
2002	HMD Global Oy – Final Invalidity Contentions dated March 16, 2022
2003	Defendant Apple Inc.’s Notice of Motion and Motion to Stay Pending <i>Inter Partes</i> Review, 5:22-cv-02553 (Dkt. 119) (June 14, 2022)
2004	Scheduling Order, <i>CPC Patent Technologies Pty Ltd. v. Apple Inc.</i> , 6:21-cv-00165 (Dkt. 37) (Sept. 23, 2021)
2005	March 19, 2020 Letter from George Summerfield to Brian Ankenbrandt
2006	Declaration of George C. Summerfield in Support of Motion for <i>Pro Hac Vice</i> Admission
2007	Biography of George C. Summerfield
2008	Declaration of Jonah Heemstra in Support of Motion for <i>Pro Hac Vice</i> Admission
2009	Apple’s Opening Claim Construction Brief, <i>CPC Patent Technologies Pty Ltd. v. Apple Inc.</i> , 6:21-cv-00165 (Dkt. 46) (Nov. 19, 2021)
2010	Final Deposition Transcript of Dr. Andrew Sears, dated November 8, 2022
2011	Declaration of William C. Easttom II (Chuck Easttom) Ph.D., D.Sc.
2012	CV of Dr. Chuck Easttom

Exhibit No.	Description
2013	Final Deposition Transcript of Dr. Andrew Sears, dated May 19, 2023

I. INTRODUCTION

By Petitioner’s own admission, which it reiterates in its Reply, it needs the *Mathiassen/Anderson* combination to satisfy the “duration” limitation of the challenged claims, as *Mathiassen* by itself does not satisfy that limitation. As explained herein, there is simply no rationale for combining these references. Among other things, *Mathiassen* alone already provides for the additional command functionality relied upon by Petitioner as the purported rationale for the proposed combination. The only reason for combining these references, then, is to support Petitioner’s invalidity challenge, *i.e.*, from the use of hindsight reconstruction. This alone is fatal to the Petition.

However, as it turns out, not even Petitioner’s expert, Dr. Andrew Sears¹, believes that the *Mathiassen/Anderson* combination, were it to have been made, would have yielded a “duration” for each entry of a biometric signal series – in this case a series of entries of fingerprint data. There are other significant problems with the Petition that have been magnified since Petitioner filed its Reply. However, the

¹ Dr. Sears testified that his supplemental declarations in IPR2022-00601 and IPR2022-00602 were essentially the same and that his answer “for one IPR would be the same for the other...” Ex. 2013 at 6:6-14.

lack of the claimed “duration” limitation in the sole challenge ground urged by Petitioner is sufficient to derail the invalidity challenge based upon that ground.

II. DISCUSSION

A. The Procedural Posture of the Proceeding

In seeking institution, the Petitioner proposed that the claimed biometric signal “being characterised according to at least one of the number of said entries and a duration of each said entry” be construed as including “a duration of each said entry” – the same construction as the district court issued for that limitation. Paper No. 1 at 5-6, 31; Ex. 1077 at 2. The Board adopted that construction for purposes of institution. Paper No. 11 at 13. Thus, to be successful in its challenge to the subject claims, Petitioner must demonstrate that its single prior art challenge ground satisfies this “duration” requirement, *i.e.*, that there is a “duration” for each entry of the biometric signal series.

Petitioner has repeatedly acknowledged, including most recently in its Reply, that *Mathiassen*, the principal reference in its single challenge ground, does not teach “determining a duration of each entry.” Paper No. 1 at 3. *See also id.* at 33; Paper No. 20 at 1. Petitioner therefore must look to *Anderson* for its teaching of “inputting an access code including fingerprint presses of varying duration.” Paper No. 1 at 3. *See also id.* at 33-34; Paper No. 20 at 15. According to Petitioner, a skilled person “would have been motivated and found it obvious to modify *Mathiassen*’s processor

2 of the portable control...to characterize a series of pressure pulses by the number of pulses and duration of each pulse, as taught by *Anderson*.” Paper No. 1 at 36; Paper No. 20 at 1, 7, 11, 13. The purpose of adding *Anderson*’s variable pressure pulses, according to Petitioner, is to enable “a requested function via a series of fingerprint pulses of varying durations.” Paper No. 1 at 40.

As shown herein, Petitioner’s position in this regard suffers from two fatal flaws: 1) apart from impermissible hindsight, there is no rationale for modifying *Mathiassen* in the manner Petitioner proposes; and 2) even if the combination were to have been made, such combination would still lack the “duration” requirement. Either flaw warrants finding the challenged claims patentable.

B. Impermissible Hindsight is Required for the *Mathiassen/Anderson* Combination

By now, it is axiomatic that the Board “must avoid ‘hindsight bias and must be cautious of arguments reliant upon ex post reasoning’” in ruling on the purported obviousness of a claim. *See, e.g., Pacific Market Int’l, LLC v. Ignite USA, LLC*, IPR2016–01875, Paper No. 32 (PTAB March 37, 2018) at 19, *quoting Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016), *cert. denied sub nom; Google Inc. v. Arendi S. A. R. L.*, ___ U.S. ___, 137 S. Ct. 1329 (2017) (*quoting KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007)). In other words, it is impermissible to use “hindsight to pick and choose elements from” the prior art

“without sufficient reasoning to construct a device according to” a challenged claim. *Pacific Market*, 2018 WL 1582299 at *7.

In urging that *Mathiassen* be modified to include *Anderson*'s variable pressure pulses for additional command functionality, there are two clear indicia that Apple employed hindsight reconstruction: 1) a person of skill had simpler solutions on the face of *Mathiassen* itself for such additional command functionality in the form of registering additional fingerprints, and 2) the automotive key fob taught in *Mathiassen* is too dissimilar from the computer art described in *Anderson* for a skilled person to have modified the teachings of the former with the latter reference.

C. There Were Simpler Solutions Available to a Skilled Person Than the *Mathiassen/Anderson* Combination

There are two simpler solutions for the additional command functionality that Apple and its expert put forth for the purported rationale for modifying *Mathiassen* with *Anderson*'s series of variable pressure pulses: 1) using *Mathiassen*'s own teachings regarding enrolling additional fingerprints for additional command functionality; and 2) the use of a mechanical push button for the entry of pulses, as opposed to modifying a fingerprint sensor therefor. Paper No. 17 at 29-32. Of course, neither alternative gives Petitioner the claimed “duration” requirement essential to its invalidity challenge, which is undoubtedly the reason that Petitioner eschews both.

1. *Mathiassen's* Enrollment of Additional Fingerprints

In his supplemental declaration, Petitioner's expert, Dr. Sears, reiterates that *Mathiassen's* movement analyzing means already determines "the omni-directional finger movements from the series of fingerprint representations." Ex. 1090, ¶ 9. *See also* Ex. 1004, para. [0192]. He has also acknowledged that *Mathiassen* already teaches registering a second fingerprint for additional command functionality such as sending a duress signal, *i.e.*, the very same rationale he cites for combining *Mathiassen* with *Anderson*. Ex. 1003, ¶ 165; Ex. 2013 at 48:22-50:8. In fact, Dr. Sears admitted that simply availing oneself of *Mathiassen's* teaching of a second fingerprint registration for additional command functionality would be a "relatively straightforward solution" and "simpler" than modifying *Mathiassen* with *Anderson's* series of variable pressure pulses. Ex. 2013 at 50:9-51:3.

Even Petitioner appears to agree with Patent Owner on this point – "***CPC even admits*** 'if the sole purpose of modification were to enable sending additional signals, *Mathiassen* already provides the mechanism for doing so without modifications taught in other references.'" Paper No. 20 at 8 (emphasis in original). Indeed Patent Owner does so "admit," as this admission proves that there is no motivation to combine *Mathiassen* with ***anything***, let alone with *Anderson*. *See R.J. Reynolds Vapor Co. v. Fontem Holdings I B.V.*, IPR2016-01692, Paper No. 45, 26 (PTAB

Mar. 2, 2018). That lack of motivation leaves Petitioner short of the “duration” limitation required for its obviousness challenge.

In light of the foregoing, there is insufficient rationale for modifying *Mathiassen* with *Anderson*’s series of finger taps of variable duration to accomplish precisely the same function as *Mathiassen* already performs. *Id.*; *see also Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d. 1342, 1369 (Fed. Cir. 2012); *see also Apple Inc. v. Cellular Commc’ns Equip., LLC*, IPR2015-00576, Paper No. 7, 12 (PTAB June 12, 2015); *see also Norman Int’l, Inc. v. Hunter Douglas, Inc.*, IPR2014-00282, Paper No. 8, 16 (PTAB June 20, 2014). The only possible explanation for Petitioner’s proposed combination is its impermissible use of hindsight reconstruction. *See R.J. Reynolds*, IPR2016-01692, Paper No. 45 at 19; *see also Kingston Tech. Co., Inc. v. Memory Techs., LLC*, IPR2019-00651, Paper No. 9, 38 (PTAB Aug. 30, 2019); *see also Nautilus Hyosung Inc. v. Diebold, Inc.*, IPR2016-00633, Paper No. 9, 21-22 (PTAB Aug. 22, 2016). This alone warrants denying the Petition, as the “duration” limitation is part of every challenged claim.

2. The Use of a Mechanical Push Button is Simpler

a) The Prior Art Cited by Dr. Sears Promotes the Use of a Push Button

Patent Owner’s expert opined that a skilled person would have, if anything, modified *Mathiassen* to indicate duress with a push button because such a device is

“easy to install” and a “simple mechanical feature.” Ex. 1090, ¶ 4, *citing* Ex. 2011, ¶ 61. Neither Petitioner nor its expert takes issue with the ease of a push button’s installation. Dr. Sears only contests the simplicity of a user performing “two operations at two places on [*Mathiassen’s*] portable door control.” Ex. 1090, ¶ 5. Dr. Sears posits in his Supplemental Declaration that “a user presenting their [*sic*] fingerprint and having to separately press a push button would not be as *discreet* as indicating duress in the same presented fingerprint.” *Id.* (emphasis added).

As Dr. Sears acknowledged, his original declaration did not contain an opinion that a separate push button would be somehow undesirable. Ex. 2013 at 19:15-18, 27:15-19. And, during his first deposition, Dr. Sears could not definitively answer the easier modification to *Mathiassen* as between a push button and a fingerprint sensor modified to receive pressure pulses. *See* Paper No. 17 at 25, *citing* Ex. 2010 at 64:14-18. In fact, he only first thought of the push button issue during his original deposition, *i.e.*, after he had prepared his original declaration. Ex. 2010 at 65:9-14.

Dr. Sears’ new opinion regarding the need for discretion as concerns push buttons is improperly new. Because an *inter partes* review is an expedited proceeding, it brings with it “an obligation for Petitioners to make their case in their petition to institute.” *See Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821

F.3d 1359, 1369 (Fed. Cir. 2016). *See also* 35 U.S.C. §§ 42.104(b)(5), 311(b) & 312(a)(3) (the scope of, and evidence used in, an *inter partes* review).

Further, Petitioner does not reference at all Dr. Sears' opinions regarding this need for discretion disincentivizing the use of a push button in the Reply. *See* Paper No. 20 at 7-11. Rather, Petitioner cites wholesale to seven paragraphs from Dr. Sears' Supplemental Declaration. *Id.* at 10, *citing* Ex. 1090, ¶¶ 2-8. Rule 42.6(a)(3) prohibits the incorporation by reference of, *inter alia*, expert opinions. *See 3M Co. v. Evergreen Adhesives, Inc.*, 860 Fed. Appx. 724, 728 (Fed. Cir. 2021) ("3M's arguments were present in the briefing prior to the Final Written Decision only in the form of improper incorporation by reference to Dr. Prud'homme's testimony"). Petitioner's incorporation of Dr. Sears' opinion regarding discretion by reference was improper. *Id.*

As Dr. Sears' opinion on the discretion required for duress signals stood alone against Dr. Easttom's opinion regarding a push button being a simpler modification to *Mathiassen*, and because such opinion should be excluded for the foregoing two reasons, Dr. Easttom's opinion regarding such modification to *Mathiassen* is un rebutted. This simpler modification disproves the rationale for modifying *Mathiassen*'s fingerprint sensor with *Anderson*'s variable pressure pulses.

Petitioner, for its part, contends that, "[b]ecause *Mathiassen* is concerned with blocking unauthorized users, a simple push button (with no biometric identification)

would not have blocked un-authorized use, and thus a POSITA would not have been motivated to include a push button, as CPC purports.” Paper No. 20 at 10. Patent Owner, in proposing the push button alternative to *Mathiassen*, never argues **replacing** *Mathiassen*’s fingerprint sensor with a push button. Rather, Patent Owner argues for the simpler **addition** of a push button to *Mathiassen*’s structure, which already includes a fingerprint sensor.² See, e.g., Paper No. 17 at 23 (“*Mathiassen* could have been modified by **adding** a physical push button to generate a duress signal” (emphasis added)). Thus, Petitioner’s argument regarding “no biometric information” is baseless.

If the Board were inclined to consider Dr. Sears’ opinion on the push button modification to *Mathiassen*, it is worth noting that he cites to a single reference in his Supplemental Declaration – *Zingher* – as exemplifying the need for discretion. See Ex. 1090, ¶ 5. *Zingher* expressly teaches that a biometric identifier emergency

² Even Dr. Sears understood Patent Owner to be proposing the **addition** of a push button to *Mathiassen*. See Ex. 1090, ¶ 8 (“Additionally, requiring a user to perform two different input procedures (*i.e.*, **one on [Mathiassen’s] biometric sensor and another on a push button**) would have further complicated the user’s input experience and provided more room for error in entering the input” (emphasis added)).

“could also be triggered by pressing a concealed button, *such as a button near a fingerprint scanner*,” *i.e.*, the very embodiment that Dr. Sears denigrates as being insufficiently discrete. *See* Ex. 1037, ¶ 50 (emphasis added). Shockingly, when Dr. Sears was asked to confirm that fact, Petitioner’s counsel instructed him not to answer:

Q: You did opine on the undesirability of having an pushbutton separate from the fingerprint scanner, correct?

A: I opined on the idea that moving your finger between things is less discrete than keeping your finger on the fingerprint scanner.

Q: And the ‘things’ in this circumstance were a fingerprint sensor and a pushbutton, right?

A: Yes.

Q: But that is precisely the configuration that Zingher teaches in Paragraph 50, correct?

MS. BAILEY: *I’m going to instruct the witness not to answer the question.*

Ex. 2013 at 15:14-16:8 (emphasis added).

Apart from the instruction being entirely improper (*see, e.g., Microsoft Corp. v. DirectStream, LLC*, IPR2018-01594, Paper No. 48, 5 (PTAB Nov. 13, 2019)), it evidences Petitioner’s recognition of the clear inconsistency between Dr. Sears’ opinion and the prior art he cites. But the problems with his opinion do not end there. *Mathiassen* itself also teaches the use of hardware separate from a fingerprint sensor to register finger movements for additional security:

As an additional safety feature the portable or embedded device could be equipped with means for the input of code or commands . . . Movement analyzing means, *in the form of a hardware* or a software movement analyzing program module analyzes the obtained series of fingerprint representations to obtain a measure of the omni-directional finger movements across the sensor in two dimensions.

Ex. 1004, ¶ [0192]] (emphasis added).

Again, recognizing the obvious inconsistency between Dr. Sears’ opinions regarding a separate push button and the Petitioner’s principal reference, Petitioner’s counsel attempted to impede the examination, this time with the following coaching comment on the record:

Counsel, your questions are again getting outside of the supplemental declaration. I don’t see anything in Paragraph 6 that you just mentioned of the supplemental dec that relates to the safety feature described in Paragraph 192 [of *Mathiassen*].

Ex. 2013 at 31:12-17.

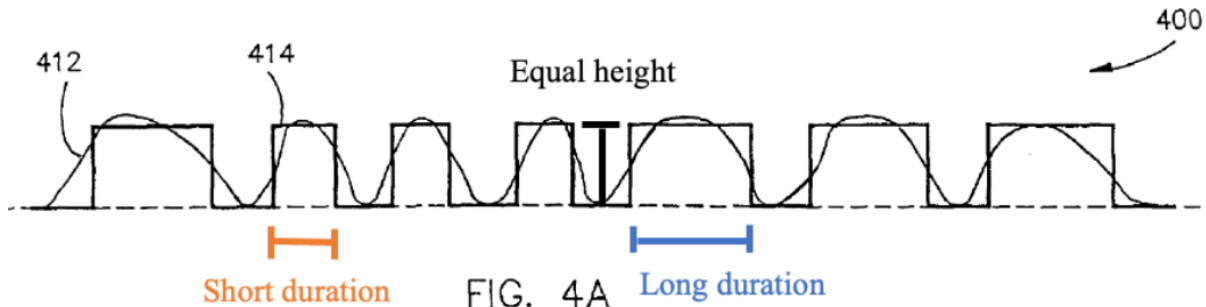
Dr. Sears took the bait so obviously provided by counsel – “I guess I’ll ask can you help me understand where in Paragraph 6 [of the Supplemental Declaration], what we’re dealing with.” *Id.* at 31:21-32:1. He continued – “[s]o it would be very useful to know what part of my supplemental declaration I’m being asked about.” *Id.* at 32:7-9.

Even equipped with this dodge, however, Dr. Sears was forced to admit that *Mathiassen* expressly teaches the addition of a movement analyzing means in the form of hardware in addition to the fingerprint sensor already contained therein, *i.e.*, a second piece of security hardware that Dr. Sears had characterized as insufficiently discrete. Ex. 2013 at 36:18-37:14, 38:8-11. As an aside, this teaching from *Mathiassen* also belies Dr. Sears' opinion that *Mathiassen*'s key fob was too small to accommodate additional hardware, such as a push button. See Ex. 1090, ¶ 6; Ex. 2013 at 38:8-11 (Dr. Sears admits that *Mathiassen* "teaches that that hardware or software could be added to among other things the Figure 8 key fob").

Dr. Sears originally gave as an example of "silent" alerting in the prior art the ONSTAR™ "*three* button system" – two more buttons than the simple push button modification to *Mathiassen* that Patent Owner proposes in lieu of the *Mathiassen/Anderson* combination forming the foundation of Petitioner's sole challenge ground. These examples, that Dr. Sears himself references, belie the notion that two separate devices are insufficiently discrete for indicating duress. Coupled with the undisputed ease of installing a push button on *Mathiassen*'s key fob counters any suggestion from Petitioner that *Anderson*'s variable pressure sensing is an obvious modification to *Mathiassen*.

Finally, if one were truly concerned with discretion, then modifying *Mathiassen*'s fingerprint sensor with *Anderson*'s variable touch sensing would be

truly problematic. The following is a sample finger press pattern from *Anderson* cited by Petitioner:



Paper No. 1 at 35, *citing* Ex. 1006, Fig. 4A.

If one were truly worried about being discovered by an assailant while sending a distress signal, *i.e.*, Dr. Sears’ reasoning for avoiding a push button, then the seven-stroke finger press sequence depicted in *Anderson* is hardly a discrete solution. This is especially the case, given Dr. Sears’ opinion that, “[f]or [*Anderson*’s] codes to match, at least some (likely all) of the user’s entered finger pressure pulses and a duration of the pulse would need to be characterized for matching against the stored code.” Paper No. 1 at 35, *citing* Ex. 1003, ¶ 219.

b) *The Problems Associated with Modifying Mathiassen’s Fingerprint Sensor*

Putting aside the lack of any motivation to combine *Mathiassen* and *Anderson*, there are problems inherent in this proposed combination. To begin with, however, Petitioner argues that modifying *Mathiassen* to output a duress signal would be “far simpler” “by simply programming the system to recognize an inputted

fingerprint representation indicating a duress condition.” Paper No. 20 at 8. This misses the point. The actual challenge ground relied upon by Petitioner involves the **combination** of *Mathiassen* and *Anderson* - not the modification of *Mathiassen* in a vacuum. And, as noted above, such modification of *Mathiassen* by itself lacks the claimed “duration” limitation.

So, to render obvious the challenged claims, *Mathiassen* clearly requires modification to incorporate *Anderson*’s variable pressure pulses. *Mathiassen* teaches a portable device with “a fingerprint sensor,” on the one hand (Ex. 1004, ¶ [0147]), and “[m]ovement analyzing means, in the form of a hardware or a software movement analyzing program module” for analyzing “the obtained series of fingerprint representations to obtain a measure of the omni-directional finger movements across the sensor in two dimensions,” on the other hand (*id.*, ¶ 192). *Anderson*, in turn, teaches “inputting an access code by temporally varying the amount of pressure applied to the touch interface,” on the one hand (Ex. 1006, 2:4-7), and “an optical scanner or thermal sensor for collecting an image of the user’s fingerprint as the pressure access code is entered,” on the other hand (*id.*, 7:5-7). In other words, *Mathiassen*’s fingerprint sensor cannot analyze movement, and *Anderson*’s touch interface cannot collect fingerprints, unless each is modified to add the other’s functionality for doing so.

As explained above, Petitioner agrees that modification of *Mathiassen* is necessary for the “duration” limitation, but argues that bodily incorporation of *Anderson*’s hardware into *Mathiassen*’s teachings is unnecessary to accomplish such modification. Paper No. 20 at 14-15. To be clear, Patent Owner does not contend that the modification to *Mathiassen* must take the specific form of *Anderson*’s hardware. However, *Mathiassen* must be equipped with **something** allowing for the registration of the “touch/no touch” pressure sensing code taught by *Anderson*. To address this issue, Petitioner points to *Mathiassen*’s “necessary software for recognizing fingerprint representations of ***finger movement sequences*** on the fingerprint sensor,” *i.e.*, where on the sensor a finger happens to be at various times. *See* Paper No. 20 at 15 (emphasis added). Petitioner fails to explain how movement sensing equates to sensing touch duration.

And, when asked what modifications would need to be made to *Mathiassen* in light of *Anderson*, Dr. Sears responded as follows:

So I would think that you would be -- it would be a combination -- well, ***probably*** be a combination of the movement analyzing means because that's where you're going to be getting the fingerprint representation information and converting it into the signals that you're interested in and then the translation means are going to take those signals and translate those into the commands.

Ex. 2013 at 61:12-20.

This vague response regarding what would “probably” be required follows upon the conclusory response Dr. Sears previously gave to friendly questioning that modifications to *Mathiassen* to accommodate *Anderson*’s variable touch sensing would be “very minor.” *See* Paper No. 17 at 25, n.6, *citing* Ex. 2010 at 98:19-22. In contrast, Patent Owner’s expert opined that “combining *Mathiassen* with *Anderson* would have been difficult for a POSITA and the POSITA would not have an expectation of success, given that *Anderson* is not biometric (and in fact denigrates biometric sensors) while *Mathiassen* to the extent it provides binary access to a device, is biometric.” Ex. 2011, ¶ 72. Even absent Dr. Easttom’s opinion, however, Petitioner cannot carry its burden on the obviousness issue if it can only point to the conclusory opinion of its own expert. *See TQ Delta, LLC v. Cisco Systems, Inc.*, 942 F.3d 1352, 1359 (Fed. Cir. 2019) (“conclusory expert testimony is inadequate to support an obviousness determination”).

Petitioner also argues that “[o]bviousness does not require the proposed combination be ‘preferred[] or “optimal[]”’ over an allegedly simpler push button.” Paper No. 20 at 11, *quoting Draftkings Inc., v. Interactive Games LLC*, IPR2020-01107, Paper No. 39 at 52-53 (PTAB Jan. 4, 2021), *citing In re Fulton*, 391 F.3d 1195, 1201-02 (Fed. Cir. 2004)). However, this is not simply a situation in which the prior art offered multiple alternatives. *See Fulton*, 391 F.3d at 1201. Rather, the prior art here, and *Anderson* in particular, denigrates the use of fingerprint sensors

as requiring “specialized equipment” and requiring “sophisticated software for implementation.” Ex. 1006 at 1:54-58.

Dr. Sears responds to this teaching from *Anderson* that “*Mathiassen* already includes the hardware and software for fingerprint recognition, so this is certainly not a hindrance to combining the references.” Ex. 1090, ¶ 15. The question is not, however, what *Mathiassen* already contains, but rather what modifications to *Mathiassen* a skilled person reading *Anderson* would obviously make. Indeed, it is Petitioner’s position that a skilled person would have “found it obvious to modify *Mathiassen*’s processor 2 of the portable control . . . to characterize a series of pressure pulses by the number of pulses and duration of each pulse, *as taught by Anderson*.” Paper No. 1 at 36.

In point of fact, *Anderson* teaches “a touch sensitive digitizer pad” for registering touches – a device *additional* to the “optical scanner” and “thermal sensor” *Anderson* mentions in passing “for collecting an image of the user’s fingerprint.” See Ex. 1006, 7:5-8. As Dr. Easttom opines, the touch pattern entered on *Anderson*’s digitizer pad is “non-biometric.” Paper No. 17 at 28, *citing* Ex. 2011,

¶ 68. Dr. Sears apparently agrees. Ex. 2012 at 58:3-10 (Dr. Sears characterizing *Anderson*'s pressure and duration patterns as “knowledge-based”).³

c) *Even if Analogous to the '705 Patent, There is No Motivation to Combine Mathiassen and Anderson*

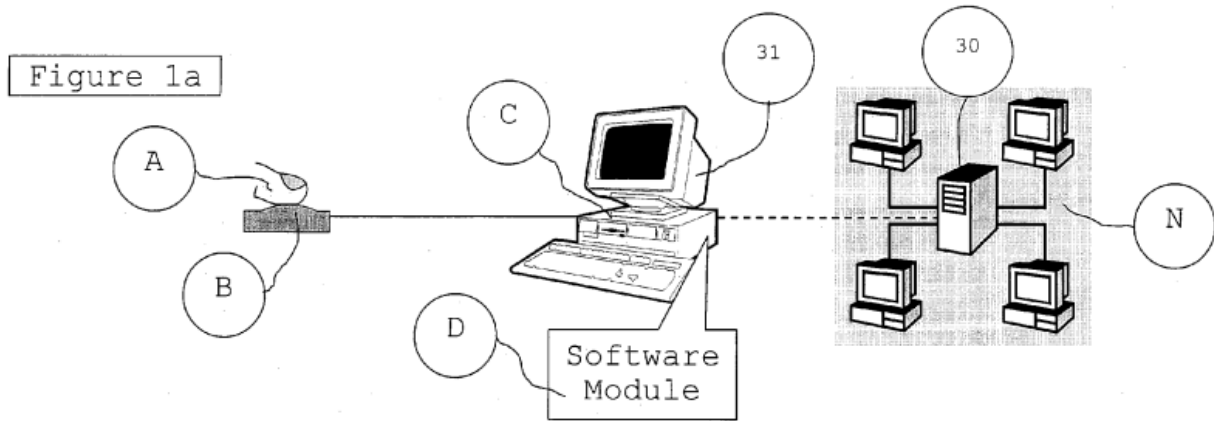
Finally, as Patent Owner originally noted, Petitioner combines *Mathiassen*'s key fob from the automotive art with *Anderson* from the computer art. Paper No. 17 at 29. Petitioner responds that, because *Mathiassen*'s key fob accesses a car's computer, that embodiment is also computer art. Paper No. 20 at 12. However, when Dr. Sears first opined on this issue, he quoted *Mathiassen*'s teaching of “*a key issue* of the application of the invention to car systems is the security issue, to prevent theft or non-authorized use *of the car.*” Ex. 1003, ¶ 150 (emphasis added). As Dr. Sears noted, one does not “park computers anywhere.” Ex. 2013 at 56:13-17. Dr. Sears fails to explain why one, intent on solving for the theft of a car, would turn to security measures installed on a computer.

Petitioner argues that, for obviousness purposes, combined references need only be analogous to the challenged patent – not to each other. Paper No. 20 at 12. However, labeling individual references as “analogous” is insufficient on its own as

³ Dr. Sears distinguished “biometric sensors” from sensors that capture “the knowledge of an individual.” Ex. 2010 at 33:4-8.

a rationale to combine them. *Alstom Grid LLC v. Dominion Resources, Inc.*, IPR2016–00504, Paper No. 8 at 15 (PTAB July 6, 2016). Countless references may be “analogous.” However, Petitioner must come up with some rationale for combining *Mathiassen* and *Anderson* specifically, which is difficult to do when one reference relates to an automotive key fob and the other relates to computers. *See Belden Inv. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015).

To illustrate this point further, *Mathiassen* teaches a computer embodiment separate from the key fob, as illustrated in Figure 1a thereof:



Ex. 1004, Fig. 1a.

Notwithstanding this computer embodiment, the inventors on *Mathiassen* did not think to include a pressure sensor designed to capture variable pressure pulses, as *Anderson* does. This omission from *Mathiassen*’s teachings regarding this computer embodiment undercuts Petitioner’s argument that such an addition to *Mathiassen*’s key fob would have been obvious.

D. The *Mathiassen/Anderson* Combination Does Not Result in the “Duration” Limitation

The challenged claims all require that the *biometric* signal series entries each have a “duration.” *See, e.g.*, Ex. 1001, Claim 1. As Patent Owner has established, *Anderson* does not teach a durational component to a biometric signal entry. Paper No. 17 at 26-28. As noted above, Petitioner admits that “*Mathiassen* does not teach characterizing the series based on a ‘duration’ of each entry, and therefore Petitioner looks to *Anderson*’s teaching of “inputting an access code at a fingerprint sensor that is a ‘series of pressure pulses having varying durations.’” Paper No. 1 at 33-34. Finally, both experts agree that the “series of pressure pulses” as taught in *Anderson* is not a *biometric* signal series. *See* Ex. 2011, ¶ 68 (Dr. Easttom) and Ex. 2010 at 58:3-10 (Dr. Sears).

Petitioner’s response on this point is to reference Patent Owner’s acknowledgement that “*Anderson*’s digitizer pad ‘works with’ fingerprint imaging.” Paper No. 20 at 19. Of course, “working with” fingerprint imaging is different than “resulting in” a particular type of fingerprint imaging – in this case, a series of fingerprint images, each with a duration characterizing the series.

Petitioner also points to *Anderson*’s teaching that “the digitizer pad ‘may include an optical scanner or thermal sensor for collecting an image of the user’s *fingerprint as the pressure access code is entered* and verified against a stored

fingerprint template.” Paper No. 20 at 21 (emphasis added). On that note, Dr. Sears admitted that the only place fingerprints are mentioned in *Anderson* says nothing about the “durational component” for a finger tap used to capture fingerprint data. Ex. 2013 at 46:9-14. In fact, *Anderson* says nothing about fingerprint data being captured via a “series” of taps, as opposed to just one. See Ex. 1006 at 7:4-10; see also Ex. 2013 at 45:18-46:8.

Petitioner cites to the decision which holds that “[n]on-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). A corollary to that proposition is that one “must not pick and choose isolated elements from the prior art and combine them so as to yield the invention in question if such a combination would not have been obvious at the time of the invention.” See, e.g., *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809, 810 (1986). In other words, Petitioner may not select *Anderson*’s teaching of a series of pressure pulses divorced from *Anderson*’s teaching that such series is entered on a digitizer (touch) pad, as opposed to the optical scanner or thermal sensor *Anderson* teaches for collecting an image of the user’s fingerprint. See Ex. 1006 at 5:11-20, 7:4-8.

In short, even if one were to get past the impediments to combining *Mathiassen* and *Anderson*, described above, the result would still be lacking the

claimed “duration” component of the biometric signal series, and Petitioner’s single prior art challenge ground must fail.

E. *Miscellanea*

1. “Accessibility Attribute”

Petitioner starts off its Reply by repeating its argument that granting any access to a device at all satisfies both the “whether” and “under which conditions” components of the “accessibility attribute” limitation, as properly construed, thereby conflating those two requirements. Paper No. 20 at 1-4. Petitioner refers to *Mathiassen*’s teaching of “a car owner/administrator requesting access to car door locks.” *Id.* at 2. However, as Dr. Sears admits, *Mathiassen* is silent as to any incremental access that a car owner is granted, as opposed to any other user. Ex. 2013 at 66:1-67:9.⁴ It is undisputed that *Mathiassen* teaches **binary** access to a car, which only satisfied the “whether” component of “accessibility attribute.”

2. “Populating the Database”

As for the “populating the database” limitation, Petitioner ignores two key arguments made by Patent Owner. First, *Mathiassen*’s finger movements providing

⁴ In between the subject question and answer, there were 24 lines of colloquy occasioned by yet another improper speaking objection by Petitioner’s counsel. *See* Ex. 2013 at 66:4-67:5.

command functionality are *pre-defined*, i.e., they are not part of the enrollment process. Paper No. 20 at 32-33. Petitioner simply reiterates that, “[i]f CPC is arguing the database is populated with the ‘series,’ *Mathiassen* teaches such *because the series of fingerprint touches are associated with commands stored in the command table.*” Paper No. 20 at 24 (emphasis added).

As these finger movements, which are not part of *Mathiassen*’s enrollment process, purportedly provide the impetus for modifying such enrollment process with *Anderson*’s teachings (see Paper No. 20 at 22), such impetus is illusory. At most, *Anderson*’s teachings might be used to pre-define different commands equating to different pressure pulses, but that would not be part of the enrollment process, as required by the claims.

The second key argument is that Petitioner fails to identify what in *Mathiassen* is being modified, as between the master *minutiae* table and the database itself, to include pressure pulses. Paper No. 17 at 34-35. Petitioner’s response is that it is proposing neither. Paper No. 20 at 24. Thus, the Board is left to guess as to the actual modification Petitioner proposes. Relatedly, Petitioner claims that Patent Owner “admits the user inputs a series of fingerprint representations for controlling the device,” presumably to bolster its claim that *Anderson*’s pressure pulses are an obvious modification to *Mathiassen*’s supposed “series.” Paper No. 20 at 22, citing Paper No. 17 at 33. Patent Owner does no such thing. In fact, there is nothing on

that cited page even remotely suggesting such a concession, but rather quite the contrary – “*Mathiassen* has no teaching that either the ‘predefined sets of finger movement sequences’ or the ‘command table’ *constitute a series of received biometric signal entries* that are mapped into an instruction used to populate the database as part of the enrollment process, as required by representative Claim 1.” Paper No. 17 at 33.

III. CONCLUSION

Petitioner, by its own admission, needs the teachings of *Anderson* as a modification of *Mathiassen* to attain the claimed “duration” limitation. Other than to achieve that end through hindsight, there is *no* motivation for making that combination. Further, even if one were to have made that combination, the result would still not have included the “duration” limitation. At the very least, Petitioner has failed to prove otherwise, and the Petition should be denied.

Dated: May 25, 2023

Respectfully submitted,

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Certification of Word Count Under 37 C.F.R. §42.24(d)

The undersigned hereby certifies that the foregoing contains 5,193 words according to the word count feature of the word-processing software used to prepare the foregoing.

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Certification of Service Under 37 C.F.R. §42.6(e)(4)

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