

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT TRIAL AND APPEAL BOARD

First Alert, Inc. and BRK Brands Inc.,
Petitioners

v.

Walter Kidde Portable Equipment, Inc.,
Patent Owner

CASE: IPR2023-00898
U.S. PATENT NO. 7,525,445

PETITION FOR *INTER PARTES* REVIEW

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1004	File History of U.S. Patent No. 7,123,158
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1007	U.S. Patent No. 6,433,700 to Malewski (“Malewski”)
1008	Report of the Meeting of the Standards Technical Panel of UL for Smoke Detectors, March 7, 2003 (“STP2003”)
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1011	First Alert Smoke Detector with Ten-Year Non-Replaceable Batteries, Product No. SA10YR, User’s Manual (“SA10YR Manual”)
1012	Charles Reinholtz Declaration
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1031	2000 International Fire Code Chapter 9
1032	UL 217 Single and Multiple Station Smoke Alarms (5th Ed., dated Feb. 21, 1997)
1033	U.S. Patent No. 4,315,594 ("Niederost")

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MANDATORY NOTICES (37 C.F.R. § 42.8(B))

A. Real Parties-In-Interest

The following are real parties-in-interest pursuant to 37 C.F.R. §42.8(b)(1):

- BRK Brands Inc.
- First Alert, Inc.
- Resideo Technologies, Inc.
- Ademco Inc.

Without conceding that the foregoing would be determined to be real parties-in-interest under the governing legal standard, but for the purposes of identifying potential conflicts and analysis under 35 U.S.C. §315(b)^{1 2}, Petitioners have identified the foregoing as additional parties that may be relevant to the determinations.

¹ *Proppant Express Investments, LLC v. Oren Techs., LLC*, Case IPR2017-01917, Paper 86 at 14-15 (PTAB Feb. 13, 2019) (precedential).

² None of these identified parties are subject to any time bar for the filing of an *inter partes* review petition, such that a determination as to their actual status as a real party-in-interest is not necessary. Nevertheless Petitioners have listed them out of an abundance of caution.

B. Related Matters

Patent Owner asserted claims 8-11 of U.S. Patent No. 7,525,445 (“’445 Patent”) against Petitioners in *Walter Kidde Portable Equipment Inc. v. First Alert Inc. et al.*, No. 6:22-cv-566 (W.D. Tex. 2022), filed June 2, 2022 (“Related Litigation”). The Related Litigation is in the early stages, with preliminary claim constructions having been issued, fact discovery ongoing, and expert discovery still months away.

C. Lead and Backup Counsel and Service (37 C.F.R. § 42.8(b)(3)-(4))

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Petitioners consent to electronic service by email.

I. INTRODUCTION

Petitioners requests institution of *Inter Partes* Review (“IPR”) of claims 8-11 (“Challenged Claims”) of U.S. Patent No. 7,525,445 (“the ’445 Patent”) (Ex. 1001) and cancellation of the Challenged Claims in view of the Grounds described below. This Petition is supported by the declaration of Dr. John D. Pratt, an expert in the field of the ’445 Patent and the prior art. (Ex. 1002, ¶¶1-328).

II. ’445 PATENT OVERVIEW

The ’445 Patent was filed on September 14, 2006 and issued on April 28, 2009. (Ex. 1001, Cover). The ’445 Patent is a continuation of U.S. Patent App. No. 10/916,922 filed on August 12, 2004 (now U.S. Patent No. 7,123,158) which claims priority to U.S. provisional application no. 60/499,245 filed on August 29, 2003. (*Id.*, 1:6-11).

A. The State of the Art

The ’445 Patent confirms the miniscule putative differences between the admitted art and the putative inventions described in the ’445 Patent. (Ex. 1001, 1:26-2:4; Ex. 1002, ¶¶35-40, 46-118). Specifically, the ’445 Patent admits that electronic devices (including life safety alarms), powered by batteries (including non-replaceable batteries), were well known before the claimed priority date. (Ex. 1001, 1:26-27, 1:60-61; *see also id.*, 1:27-35; Ex. 1002, ¶¶35-41). Furthermore, the ’445 Patent recognizes that known devices included an alarm portion separate from

and attachable to a mounting bracket. (Ex. 1001, 1:65-67; Ex. 1002, ¶38). These well-known alarms also included manual activation features, and “permit[ted] the user to deactivate the alarm and subsequently reactivate the alarm after it has been deactivated.” (Ex. 1001, 1:61-67).

At the time of the filing of the ’445 Patent, the industry was discussing ways to make smoke alarms safer by providing mechanical devices to prevent users from re-mounting the detectors after the end of their useful life. (Ex. 1008, 5-6; *see generally* Ex. 1043).

Confirming the above, Kidde submitted a sworn declaration from an expert named Dr. Charles Reinholtz all but confirming that the subject matter of the Challenged Claims was well-known in the prior art. (Ex. 1012; *see also* Ex. 1013).

Dr. Reinholtz agreed with the examiner’s conclusion that “activation mechanism[s]” were known. (*Id.*, 107:14-108:10). Activation and deactivation mechanisms, at least in the form of switches, are therefore admitted prior art. (Ex. 1002, ¶¶38, 86-102; Ex. 1013, 77:24-78:15, 79:12-23)).

Regarding deactivation mechanisms, Dr. Reinholtz testified that these were also known in the art. (Ex. 1013, 77:24-78:15, 81:3-11; Ex. 1002, ¶¶86-94, 95-102).

The prior art cited by Dr. Reinholtz—Watson (Ex. 1005), Malewski (Ex. 1007), and U.S. Patent No. 5,359,168—corroborates his conclusion that deactivation

mechanisms, including permanent deactivation mechanisms, were known. (Ex. 1012, ¶¶67-70; Ex. 1013, 82:11-16, 81:20-82:4; Ex. 1002, ¶¶95-102).

Dr. Reinholtz also confirmed “a person of skill in the art would have understood...reattachment prevention mechanisms as of the time of filing of the [’445 Patent].” (Ex. 1013, 95:3-12; *see also id.*, 83:3-24, 109:23-110:4).

The testimony of Kidde’s declarant in the Related Litigation and the background provided by the ’445 Patent confirm that each of the component pieces of the independent Challenged Claims were known in the art. (*See generally* Ex. 1012; *see also* Ex. 1013). The Grounds below are reflective of Dr. Reinholtz’s admissions, and render the Challenged Claims unpatentable for the reasons herein.

B. Prosecution History of the ’445 Patent

The ’445 Patent was filed on September 14, 2006 as U.S. Patent Application No. 11/532,010 (“’010 Application”). (Ex. 1001, Cover). The ’010 Application received two offices actions, the first of which rejected all of the then-pending claims (claim nos. 30-48) on the ground of non-statutory obviousness-type double patenting over claims 1-15 of U.S. Patent No. 7,123,158. (Ex. 1024, 66). In this rejection, the Examiner also rejected certain claims (application claim nos. 41-46, 48) as anticipated (claim nos. 41, 44-45) and obvious (claim nos. 42-43) over U.S. Patent No. 6,297,745 to Meier and obvious over Meier in view of U.S. Patent No. 5,578,996

to Watson (claim nos. 46, 48). (Ex. 1024, 66-70). Patent Owner issued a Terminal Disclaimer, and argued the prior art was inapplicable. (*Id.*, 84).

In the second and final office action, the Examiner found claims 41-42, 44-46, and 48 obvious over the same combination of Meier and Watson. (Ex. 1024, 94-98). The Examiner advised Patent Owner that if they rewrote claim 47³ in independent form, it would be allowable. (*Id.*, 98). In response, Patent Owner amended claim 41 to include the subject matter of claim 47. (*Id.*, 107-109). A notice of allowance issued one month later on December 19, 2008 (*Id.*, 119-121) and the patent issued on April 28, 2009. (*Id.*, 134). Application claim nos. 41-46 and 48 issued as claims 12-17. (Ex. 1004, 125).

III. GROUNDS FOR STANDING (37 C.F.R. § 42.104(a))

Petitioners certifies that (1) the '445 Patent is available for IPR; (2) Petitioners are not barred or estopped from requesting an IPR on the Grounds identified herein; and (3) Petitioners have not filed a complaint relating to the '445 Patent.

³ Original claim 47 recited, “The life safety device of claim 41, wherein, when deactivated, the second portion cannot be reactivated and the second portion cannot be reattached to the first portion.”

IV. PAYMENT OF FEES (37 C.F.R. §§ 42.15 and 42.103)

Petitioners authorize the USPTO to charge any required fees to Deposit Account 02-1818.

V. PERSON OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) is a hypothetical person who is presumed to know the relevant prior art and has ordinary creativity interpreting and combining prior art. *In re Coutts*, 726 F. App’x 791, 796 (Fed. Cir. 2018).

A POSITA as of August 2003 had a Bachelor’s Degree in mechanical engineering or similar discipline. (Ex. 1002, ¶31). Such POSITA would have had knowledge of design considerations in the industry and would have been familiar with then-existing electro-mechanical products and solutions. (Ex. 1002, ¶31).

VI. CLAIM CONSTRUCTION

The claim construction standard binding district court claim construction processes applies here. 37 C.F.R. § 42.100(b); 83 Fed. Reg. 51340, 51340-41 (Oct. 11, 2018). In the Related Litigation, the Court issued a *Markman* Order on February 15, 2023 (Ex. 1019; *see also* Ex. 1020). For purposes of this proceeding, Petitioners apply the District Court’s “plain and ordinary meaning” to each term of the Challenged Claims. (Ex. 1002, ¶¶44-45).

Petitioners reserve all rights with regard to arguments, unavailable here, that claim terms in the ’445 Patent are indefinite.

VII. STATEMENT OF PRECISE RELIEF REQUEST AND REASONS THEREFORE

Petitioners request review on the following Grounds:

Ground	Basis	Relied-On References	Claim(s)
1	§103	STP2003 (Ex. 1008)	8-11
2	§103	Malewski (Ex. 1007)	8-11
3	§103	Malewski and DeLuca '487 (Ex. 1006)	8-11
4	§103	Malewski and STP2003	8-11
5	§103	Byrne '354 (Ex. 1009) and Byrne '311 (Ex. 1010)	8-11
6	§103	Byrne '311 and DeLuca '487	8-11

A. The Petition Should Not Be Discretionarily Denied

The '445 Patent's claims have not been considered in view of the testimony of Kidde's expert (Dr. Reinholtz) or Petitioner's expert (Dr. Pratt). They also have not been considered in view of STP2003, Byrne '354, or Byrne '311.

While Malewski and DeLuca '487 were cited, these references were not (a) used to reject the claims or (b) considered in combination with the other references or the expert testimony in this or the testimony of Drs. Pratt or Reinholtz.

Petitioners assert invalidity of the '445 Patent in the co-pending litigation, but Patent Owner has asserted that Petitioners are estopped based on assignor estoppel. (Ex. 1044). While Petitioners dispute this, and while the Court has rendered no

decision on the matter, if Patent Owner prevails, this IPR is the only avenue for Petitioners to challenge the validity of the '445 Patent. *See Hologic, Inc. v. Minerva Surgical, Inc.*, 957 F.3d 1256, 1266 (Fed. Cir. 2020).

This unique fact pattern strongly counsels against discretionary denial under 35 U.S.C. §325(d). *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential).

B. Overview of Prior Art

1. U.S. Patent No. 6,160,487 to DeLuca (“DeLuca ’487”) (Ex. 1006)

DeLuca ’487 issued on December 12, 2000 and is prior art under 35 U.S.C. § 102(b). DeLuca ’487 describes a lockout mechanism for a battery compartment in replaceable-battery-type smoke and carbon monoxide alarms. (Ex. 1006, 2:9-18; Ex. 1002, ¶46). This mechanism includes a lockout actuator 56, including a lockout tab 64 which is biased towards an obstructing position. (Ex. 1006, 4:62-5:10; Ex. 1002 ¶46). In the obstructing position, “the lockout tab 64 is located in the mating region 40 between the base 12 and the bracket 20,” which prevents the base from attaching to the mounting bracket. (Ex. 1006, 4:62-5:10; Ex. 1002 ¶46).

2. U.S. Patent No. 6,433,700 to Malewski et al. (“Malewski”) (Ex. 1007)

Malewski issued August 13, 2002 and is prior art under 35 U.S.C. 102(b). Malewski describes “an installation-activated, battery-powered hazard device with

an on/off switch mechanism...” (Ex. 1007, Abstract). The switch mechanism is “engaged or disengaged whenever the device/detector is installed or uninstalled, respectively.” (*Id.*, 1:6-10). Malewski incorporates Watson by reference (Ex. 1005)⁴, which it describes as including a switch mechanism which is rotated to close the switch and activate the detector, and is again rotated to a “battery ‘drain’ position” at the end of the detector’s useful life. (*Id.*, 1:35-58, 2:35-38). Watson describes a variety of activation and deactivation mechanisms, including single-pole, single throw (SPST) switches, reed-relay mechanisms, single-use slide switches, and toggle-type switches. (Ex. 1005, 2:35-39, 4:56-5:10, 5:19-33).

Malewski teaches a detector where the operative circuitry and sensor elements mate with a surface-mountable bracket. (Ex. 1007, 3:24-35; Ex. 1005, 2:44-48). As the detector is attached to the bracket, interleaving tabs capture bayonet connectors “and effects simultaneous switch activation.” (*Id.*, 3:35-45).

Malewski describes an “activation key” to engage spring contacts which close the circuit and activates the detector. (*Id.*, 6:61-9:4; *see* 7:6-10). In this embodiment, “when the key is in the off position, bottom ledge 68 protrudes from base 14, where it interferes with making the bayonet-type connection between base 14 and mounting

⁴ Because Watson is incorporated into Malewski, Petitioner includes citations to Watson in its discussions of Malewski.

bracket 12.” (*Id.*, 8:4-7). Locking tabs 66 prevent complete removal of the activation key. (*Id.*, 7:40-50). Deactivation by removing the key results in the key “protrud[ing] from the base 14 where it interferes with making the bayonet-type connection between base 14 and mounting bracket 12.” (*Id.*; Ex. 1007:51-8:9; Ex. 1002, ¶¶47-52).

3. Report of the Meeting of the Standards Technical Panel (“STP”) of UL for Smoke Detectors, March 7, 2003 (“STP2003”) (Ex. 1008)

STP2003 is dated April 4, 2003 and is prior art under 35 U.S.C. § 102(a). (Ex. 1008; Ex. 1043). STP2003 describes a March 7, 2003 meeting of the STP of UL for Smoke Detectors and Alarms. (Ex. 1008, 1). Mr. Mark Devine, an attendee at the March 7, 2003 meeting of the STP, confirms the public availability of STP2003 and thus its status as prior art. (Ex. 1043, ¶28).

The STP is responsible for defining the UL regulations pertaining to smoke alarms, and consists of a variety of interests, including producers/manufacturers, consumers, governments, and more. (Ex. 1014, 1; Ex. 1043, ¶¶9-19). STP2003 was disseminated to STP members, subscribers to UL’s Standards Service for UL217, UL268, and UL268A, and “other interested parties.” (Ex. 1008, 1; *see also* Ex. 1015, 1). Accordingly, Ex. 1008 is a printed publication. (*See, e.g.*, Ex. 1027 at 73:12-75:2; 76:6-17; 78:19-23; Ex. 1043, ¶26; *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016)).

STP2003 describes the collective thinking of the industry before the priority date of the '445 Patent. It discloses that people were in fact considering changes to the UL standard, including a requirement for sealed-battery-powered alarms to include an indication that the battery has been deactivated, and that the deactivation means of such alarms “shall require the use of a tool, or equivalent, and shall render the unit incapable of being reinstalled.” (Ex. 1008, 5-6; Ex. 1002, ¶¶53-58).

4. Byrne '354 (Ex. 1009)

Byrne '354 published October 18, 2000 and is prior art under 35 U.S.C. § 102(b). (Ex. 1009, Cover). Byrne '354 describes an alarm device 1, such as a smoke alarm, with a body 3 that slides onto a base 2. (*Id.*, Cover, ¶¶[0001], [0022]). In one embodiment, as base 2 is rotated onto body 3, both a mechanical and electrical connection is made to both hold the body 3 to the base 2 and activate the body 3. (*Id.*, Cover, ¶¶[0005], [0031]). Byrne '354 describes a battery compartment which “comprises safety means to prevent connection of the alarm body to the base without a battery present.” (Ex. 1009, ¶¶[0018], [0029]). Byrne '354 describes alarms which do not require battery replacement. (*Id.*, ¶[0028]; Ex. 1002, ¶¶61-62).

5. Byrne '311 (Ex. 1010)

Byrne '311 published October 22, 1997 and is prior art under 35 U.S.C. § 102(b). (Ex. 1010, Cover). It describes a “control circuit with a push-button (53) which causes a sloping surface (54) to push a sliding switch member (71) to the left.”

(*Id.*, Cover, 1:19-25). Byrne '311 describes a method for deactivating the alarm, by “disconnecting the power supply when it has reached the end of its useful life.” (*Id.*, Cover, 1:25-29). Activation occurs via “a one-way activation or ON switch 30” and deactivation occurs via “a one-way deactivation or OFF switch 29.” (*Id.*, 2:10-28, 4:20-22, 5:27-31; Ex. 1002, ¶¶61-62).

To activate, the user must open cover 3 and press button 53, which slides along a tapered ramp 54. (*Id.*, 5:20-6:7). The sliding switch “may be pushed only once and may not be pushed back to the OFF position.” (*Id.*, 5:27-31) At the end of life, the user activates the OFF switch 29 by cutting an exposed wire. (*Id.*, 4:31-5:19). Deactivation is “not reversible.” (*Id.*, 5:15-19).

C. Ground 1: Claims 8-11 are Obvious Over STP2003

1. Claims 8-11

a. Independent Claim 8

i. [8Pre] An electronic device, comprising:

STP2003 describes proposed changes to UL217, the UL standard regulating smoke alarms (electronic devices). (Ex. 1008, 1, 5-6; Ex. 1002, ¶120).

ii. [8a] A first portion;

STP2003 describes a concern that users could “deactivate the battery and then place the unit back into its normal mounting location,” and thus expressed that the standard should require “deactivation means [that] shall require the use of a tool, or

equivalent, and shall render the unit incapable of being reinstalled.” (Ex. 1008, 5-6). The normal mounting hardware is an example of the “first portion.” (*Id.*).

Kidde’s expert confirmed the prior art use of separate mounting brackets: “what’s well-known in the art is that these are devices that the alarm portion is threaded to or twisted on to the bracket, the mounting bracket.” (Ex. 1013, 65:24-67:6). Even the ’445 Patent identifies a bracket-mounted detector as admitted prior art. (Ex. 1001, 1:65-67).

This element is obvious. (Ex. 1002, ¶¶121, 35-40, 63-85).

- iii. [8b] a second portion configured for attachment to the first portion, the second portion including electronics to operate the device and at least one battery for powering the electronics; and

A POSITA would have known of two-piece alarm devices, where one piece is a mounting bracket, and the second is an alarm device. (Ex. 1002, ¶122; Ex. 1008, 5-6). The claimed “second portion” is the “unit” from STP2003 that is “configured for attachment.” (Ex. 1002, ¶122). There are myriad examples of alarm portions including the electronics which attach to a mounting bracket. (Ex. 1002, ¶¶123-125). The background of the ’445 Patent describes some such prior art alarms. (Ex. 1001, 1:65-67). Similarly, Kidde’s litigation expert described the well-known devices of the prior art as “an alarm portion [that] is threaded to or twisted on to the

bracket, the mounting bracket.” (Ex. 1013, 65:24-67:6). This element is obvious. (Ex. 1002, ¶¶122-126, 35-40, 63-85).

- iv. [8c] an activation mechanism to activate the second portion;

STP2003 identifies a “means to activate the power” of non-replaceable-battery smoke alarms. (Ex. 1008, 6). Such “means to activate the power” is an activation mechanism. (Ex. 1002, ¶¶127, 35-40, 63-85; Ex. 1018).

- v. [8d] a permanent deactivation mechanism to permit permanent deactivation of the second portion after the second portion has been activated; and

STP2003 describes “a means to deactivate the power when the batteries had reached the end of their useful life.” (Ex. 1008, 6). This teaches the “deactivation mechanism.” (Ex. 1002, ¶128). A POSITA would understand that the deactivation means taught by STP2003 would be useful after the second portion has been activated, by virtue of the fact that the activating means activate power, whereas the deactivating means deactivate power “at the end of useful battery life.” (Ex. 1002, ¶128).

Further, STP2003 notes “[t]he deactivation means shall also serve to completely discharge the battery(ies),” and that the “activation means and the deactivation means shall be designed to operate one time only,” which indicates that once discharged, the battery cannot be re-energized. (Ex. 1008, 6). STP2003 also

describes that the “deactivation means shall require the use of a tool, or equivalent....” (*Id.*) A POSITA would understand that this discloses that the deactivation means are accessible when the first and second portions are separated. (Ex. 1002, ¶¶128-131, 35-40, 63-85).

- vi. [8e] a reattachment prevention mechanism to prevent reattachment of the first and second portions once the second portion is permanently deactivated.

STP2003 teaches “[t]he deactivation means...shall render the unit incapable of being reinstalled.” (Ex. 1008, 6). A POSITA would understand that deactivation means which render a well-known bracket-mounted detector incapable of being reinstalled would include some mechanism for preventing the base from engaging with the bracket. (Ex. 1002, ¶132).

Indeed, Kidde’s expert confirmed “a person of skill in the art would have understood...reattachment prevention mechanisms as of the time of filing of the [’445 patent].” (Ex. 1013, 95:3-12, 83:3-24, 109:23-110:4). The claimed reattachment prevention mechanism is obvious. (*Id.*; Ex. 1002, ¶¶132-134, 35-40, 63-85).

b. Dependent Claim 9-11

- i. Claim 9: The electronic device of claim 8, wherein the electronic device is a life safety alarm, the first portion comprises a mounting bracket of the life safety alarm, and the second portion comprises an alarm portion of the life safety alarm.

STP2003 describes installation of smoke alarm devices. (Ex. 1008, 1, 5-6; Ex. 1002, ¶135). A POSITA, including Dr. Reinholtz, would know that this includes devices with a separate mounting bracket and life safety alarm. (Ex. 1013, 65:24-67:6). Further, the '445 Patent detectors with separate bracket and alarm portions was known prior art. (Ex. 1001, 1:65-67). This element is obvious. (Ex. 1002, ¶¶135, 35-40, 63-85).

- ii. Claim 10: The electronic device of claim 9, wherein the alarm portion includes a system to detect a life threatening condition.

STP2003 describes systems to detect life threatening conditions: smoke alarms. (Ex. 1008, 1, 5-6; Ex. 1002, ¶¶136, 35-40, 63-85).

- iii. Claim 11: The electronic device of claim 10, wherein the system comprises a smoke detection system.

STP2003 discusses smoke alarms. (Ex. 1008, 1, 5-6; Ex. 1002, ¶¶137, 35-40, 63-85).

D. Ground 2: Claims 8-11 are Obvious over Malewski

1. Claims 8-11 are Obvious over Malewski

a. Independent claim 8

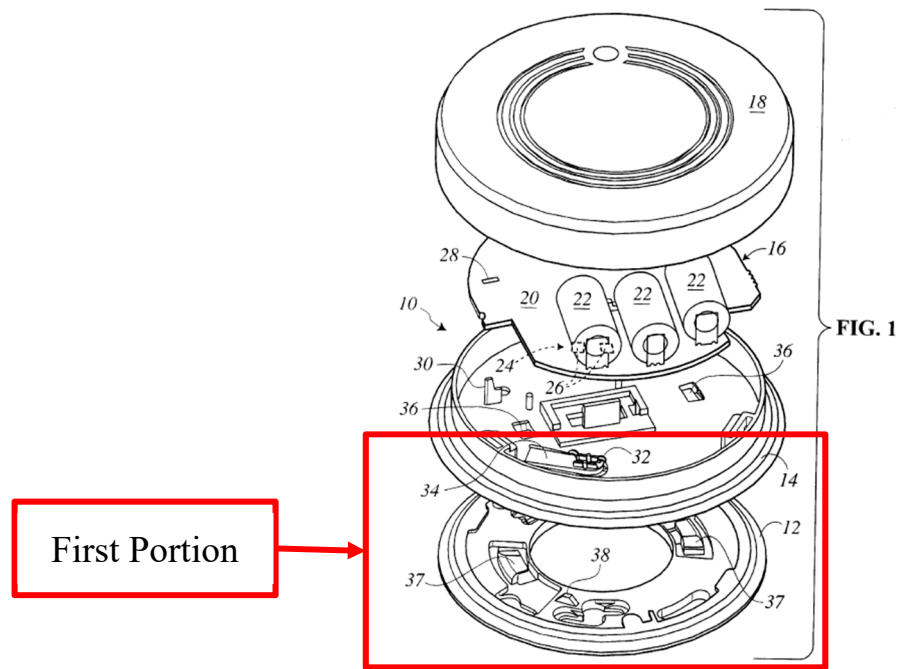
i. [8Pre];⁵

Malewski describes an electronic device. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶142-144, 35-40, 63-85).

ii. [8a];

Malewski mounting describes mating a “major portion” with “its complement, the latter’s primary functions being to serve a surface-mountable bracket and to securely retain the major portion.” (Ex. 1007, 3:33-35). The “complement” is the claimed “first portion.” (*Id.*; Ex. 1002, ¶145). This is shown in Figure 1.

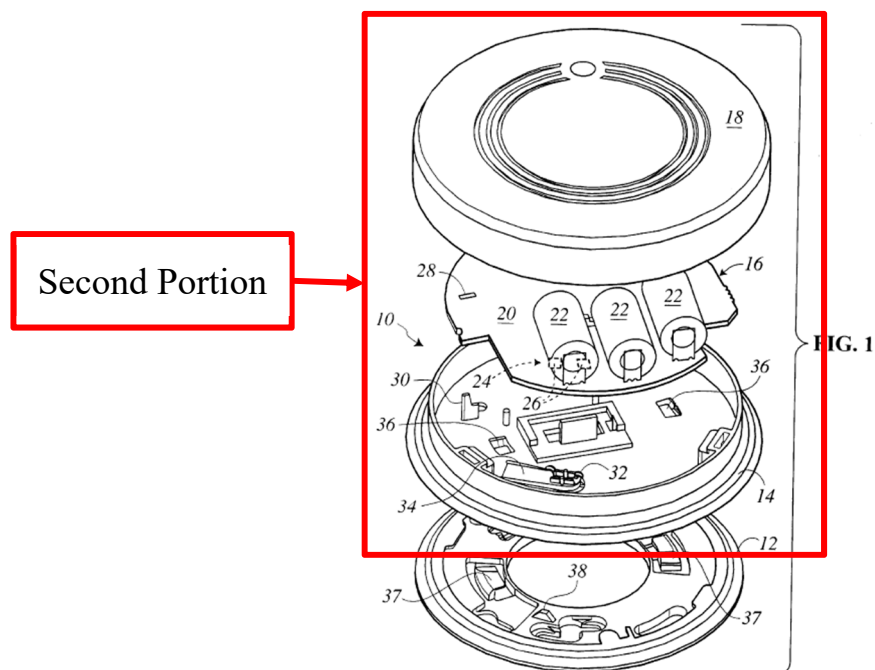
⁵ Petitioner includes herewith a Claim Appendix using the same labels for claim elements as herein.



(Ex. 1007, Fig. 1 (annotated); Ex. 1002, ¶¶145-147, 35-40, 63-85).

iii. [8b];

Malewski teaches a major portion and its complement the mounting bracket to which the major portion is configured to be mounted. (Ex. 1007, 3:33-35, 4:63-66; Ex. 1002, ¶148). The hazard detector's major portion has a base 14, electronics/power/sensor (EPS) section 16 and protective cover 18. (Ex. 1007, 4:63-66). EPS section 16 “contains fundamentally all of the necessary circuitry... disposed in a circuit board 20, which also is adapted to secure batteries 22 thereto.” (Ex. 1007, 4:66-5:4; Ex. 1002, ¶¶148, 35-40, 63-85).



(Ex. 1007, Fig. 1 (annotated)). Malewski renders this element obvious. (Ex. 1002, ¶¶148-151, 35-40, 63-85).

iv. [8c];

Malewski describes the “mating” of the “major portion” and the “surface mountable bracket” which “securely retain(s) the major portion.” (Ex. 1007, 3:24-42). Such mating “securely engages at least two mutually-borne, interleaving tabs, or captures two or more bayonet connectors, and effects simultaneous switch activation.” (Ex. 1007, 3:24-42). Malewski renders this claim element obvious (Ex. 1002, ¶¶152-155, 35-40, 63-85).

v. [8d];

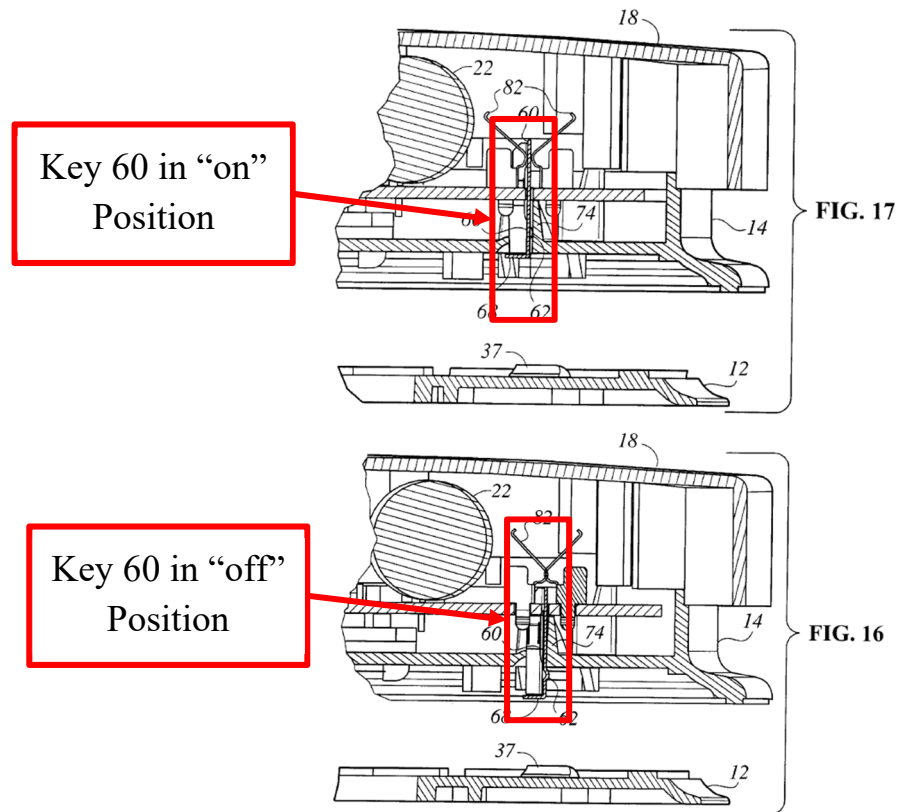
Malewski describes a permanent deactivation mechanism via Watson. (Ex. 1007, 1:35-58). Malewski teaches a smoke detector with a “one-time” activation

switch. (Ex. 1005, 2:35-43). Malewski teaches rotating the “single-use, frangible, and rotatable switch mechanism...to a battery ‘drain’ position in which a second switch may be actuated to drain the battery.” (*See* Ex. 1007, 1:38-40, 1:50-53).

A POSITA would understand that the “single-use” activation and deactivation switch mechanisms would allow for deactivation only one time. (Ex. 1007, 1:50-54; Ex. 1002, ¶¶156-159). Malewski describes the removal of the smoke detector to access the switch that can be rotated to deactivate and drain the battery. (Ex. 1007, 1:50-54; *see also* Ex. 1005, 2:41-43; 4:9-13, 4:34-51). And because the device has a “single use” activation mechanism, the deactivation mechanism is permanent, rendering this limitation obvious. (Ex. 1002, ¶¶156-162, 35-40, 63-85).

vi. [8e].

Malewski discloses a mechanism that prevents reattachment of the hazard detector to the mounting bracket upon deactivation. (Ex. 1007, 7:51-8:4; Ex. 1002, ¶¶163-180). For example, the “activation key 60” of Malewski and its associated components make up an “attachment prevention mechanism.” (Ex. 1002, ¶¶163-164). “When [activation] key 20 [(sic)] is in the off position, bottom ledge 68 protrudes from base 14, where it interferes with making the bayonet-type connection between base 14 and mounting bracket 12.” (Ex. 1007, 8:4-7).



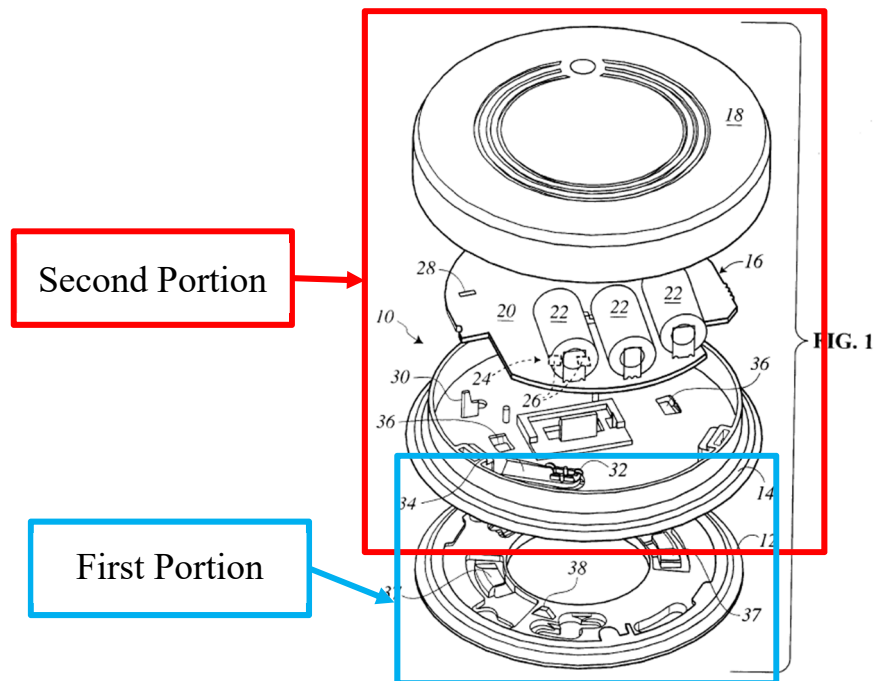
(Ex. 1007, Figs. 16 and 17 (annotated)). After removing the smoke detector from the bracket, the key's withdrawal causes deactivation and prevents the smoke detector's reattachment to the bracket. (Ex. 1007, 3:43-45, 7:51-8:7, FIGS. 16 and 18). Malewski renders this claim element obvious. (Ex. 1002, ¶¶163-180, 35-40, 63-85, 281-324).

b. Dependent claims 9-11

i. Claim 9.

Malewski includes “fire, smoke, [and] gas” detectors. (Ex. 1007, 1:12-13; *see also* 2:13-38; Ex. 1002, ¶¶181-184).

Malewski teaches a hazard detector made up of a major portion and its complement the mounting bracket 12. (Ex. 1007, 3:33-35, 4:63-66). The major portion 10 has a base 14, an essentially electronics/power/sensor (EPS) section 16 and protective cover 18. (Ex. 1007, 4:63-5:4). The alarm can be seen in annotated Fig. 1, reproduced below.



(Ex. 1007, Fig. 1 (annotated). Malewski renders this element obvious. (Ex. 1002, ¶¶181-184, 35-40, 63-85, 281-324).

ii. Claim 10.

Malewski includes “fire, smoke, [and] gas” detectors among the hazard detectors known in the art, and thus renders this claim obvious. (*Id.*, 1:5-10, 1:12-13; Ex. 1002, ¶¶185-187, 35-40, 63-85, 281-324).

iii. Claim 11.

Malewski lists “fire, smoke, [and] gas” detectors among the hazard detectors known in the art. (Ex. 1007, 1:5-10, 1:12-13, 2:13-38; Ex. 1002, ¶¶188-190, 35-40, 63-85, 281-324).

E. Ground 3: Claims 8-11 are Obvious over Malewski in view of DeLuca ’487

1. Motivation to Combine

The prior art’s scope and content includes Malewski (including the incorporated teachings of Watson), DeLuca ’487, and the technical expertise of a POSITA, which collectively describe and render obvious all of the elements of the Challenged Claims. A POSITA’s knowledge is reflected in the ’445 Patent’s background, STP2003 (as supported by Mr. Devine), and in Dr. Reinholtz’s testimony.

Malewski and DeLuca ’487 disclose bracket-mounted battery-operated life safety alarms, namely smoke detectors. (Ex. 1007, 3:24-40; Ex. 1006, 3:26-34). While Malewski describes sealed-battery alarms, it discloses switch mechanisms that allow the alarm to be turned on and off as necessary. (*See* Ex. 1007, 3:13-23). This is similar to the battery replacement in DeLuca ’487, which allows the user to activate and deactivate the alarm in a repeatable manner (by inserting and removing batteries). (Ex. 1006, 3:42-46, 3:65-4:2; Ex. 1002, ¶¶191-192). That both Malewski

and DeLuca '487 are directed towards bracket-mounted, battery-operated, smoke detector systems capable of being turned on and off during the life of the alarm confirms that a POSITA would have readily looked to their teachings when evaluating the prior art and would have sought to pull features from both to arrive at an improved smoke detector device for users. (Ex. 1002, ¶¶191-204).

Both Malewski and DeLuca '487 also include features which prevent deactivated alarms from being installed onto the mounting bracket. (Ex. 1007, 7:66-8:9; Ex. 1006, 4:62-5:19). As such, incorporating the reactivation prevention mechanism from DeLuca '487, which automatically prevents deactivated alarm devices from being reinstalled, would have been a simple substitution of one known element for another to obtain a predictable result. (Ex. 1002, ¶¶191-204).

Lastly, STP2003 is a document describing the thinking of those of skill in the art of smoke alarm design. The fact that one of the entities considering changes to the governing standards was actually considering ways to incorporate reattachment prevention mechanisms into existing smoke alarms (Ex. 1008, 5-6) is explicit motivation to combine Malewski with DeLuca '487's lockout mechanism so that when the alarm reaches the end of its useful life, a physical structure prevents a user from re-mounting it. (Ex. 1043).

In the proposed combination, Malewski and DeLuca '487 function in the same manner as in their respective sources and are therefore simply a rearranging of

known components in accordance with known methods to provide predictable results. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); *Smith & Nephew, Inc. v. Rea*, 721 F.3d 1371, 1375 (Fed. Cir. 2013).

Furthermore, given the similarities between Malewski and DeLuca '487, a POSITA would have been able to combine these references with an expectation of success, avoiding excessive or overly-burdensome experimentation. (Ex. 1002, ¶203). A POSITA would have, therefore, looked to combine these references. (Ex. 1002, ¶204).

When combined, the teachings of Malewski and Deluca '487 result in a smoke alarm system that, upon deactivation, includes a lockout mechanism for preventing reattachment to the mounting bracket. (Ex. 1002, ¶200). One example would be a spring-loaded lockout mechanism, such as the spring-loaded mechanism in DeLuca '487, which extends beyond the rim of the alarm portion and prevents engagement with the mounting bracket when “key 60 is not in contact with the spring contacts 82.” (Ex. 1007, 7:51-8:2; Ex. 1002, ¶200). In other words, similar to when a user pulls a battery out in DeLuca '487, when the user pulls the key of Malewski out to deactivate the alarm, the lockout mechanism spring force is not overcome and the mechanism extends, preventing reattachment. (Ex. 1002, ¶200). And in both cases, the extension occurs *because* the device is inactive. This element is obvious. (Ex. 1002, ¶¶191-204, 35-40, 63-85, 317-324).

2. Claims 8-11 are Obvious over Malewski in view of DeLuca '487

a. Independent claim 8

i. [8Pre];

To the extent the preamble is limiting, Malewski discloses an electronic device as described in Section VII.D.1.a.i. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶205, 142-144, 35-40, 63-85).

ii. [8a];

Malewski discloses a first portion as discussed in Section VII.D.1.a.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶206, 145-147, 35-40, 63-85).

iii. [8b];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iii. (Ex. 1007, 3:33-35, 4:63-5:4, Fig. 1; Ex. 1002, ¶¶207, 148-151, 35-40, 63-85).

iv. [8c];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iv. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶208, 152-155, 35-40, 63-85)

v. [8d];

Malewski renders this claim limitation obvious per Section VII.D.1.a.v. (Ex. 1007, 1:35-58; Ex. 1005, 2:35-43; 4:9-13, 4:34-51; Ex. 1002, ¶¶209, 156-162, 35-40, 63-85).

vi. [8e].

Malewski renders this claim limitation obvious per Section VII.D.1.a.vi. (Ex. 1007, 3:43-45, 7:51-8:7, Figs. 16-18; Ex. 1019, 4; Ex. 1002, ¶¶210, 163-180, 35-40, 63-85, 281-316).

Even if Malewski does not render this claim limitation obvious, a POSITA would have looked to references which taught reattachment prevention mechanisms, such as DeLuca '487. (Ex. 1002, ¶¶211-212, 35-40, 63-85).

DeLuca '487 describes a lockout actuator 56 which can move between obstructing and non-obstructing positions. (Ex. 1006, 4:45-47, 2:23-25). In the obstructing position, the lockout tab prevents the base from being reattached to the bracket. (Ex. 1006, 5:2-9). The lockout actuator being in an obstructing position indicates the device does not have the requisite power for operation, i.e. all battery receiving regions do not contain a battery and the device is inactive. (Ex. 1006, 4:63-5:10). This limitation is obvious. (Ex. 1002, ¶¶211-212, 163-180, 35-40, 63-85, 281-316).

b. Dependent claims 9-11

i. Claim 9.

Malewski renders this claim obvious per Section VII.D.1.b.i. (Ex. 1007, 1:12-13, 2:13-38, 3:33-35, 4:63-5:4, Fig. 1; Ex. 1002, ¶¶213, 181-184, 35-40, 63-85, 317-324).

ii. Claim 10.

Malewski renders this claim obvious per Section VII.D.1.b.ii. (Ex. 1007, 1:5-10, 1:12-13; Ex. 1002, ¶¶214, 185-187, 35-40, 63-85, 317-324).

iii. Claim 11.

Malewski renders this claim obvious per Section VII.D.1.b.iii. (Ex. 1007, 1:5-10, 1:12-13, 2:13-38; Ex. 1002, ¶¶215, 188-190, 35-40, 63-85, 317-324).

F. Ground 4: Claims 8-11 are Obvious over Malewski in view of STP2003

1. Motivation to Combine

The scope and content of the prior art includes Malewski (including the incorporated teachings of Watson), STP2003, and the technical expertise of a POSITA, which collectively describe and render obvious all of the elements of the Challenged Claims.

Malewski and STP2003 disclose structures and functions of battery-operated life safety alarms, namely smoke detectors. (Ex. 1007, Abstract; Ex. 1005, 2:44-48; Ex. 1008, 1, 5-6). STP2003 describes proposed changes to the UL requirements governing smoke alarms, such as the smoke alarms described in Malewski. (Ex. 1002, ¶¶216-217; Ex. 1043). A POSITA would have been motivated to modify Malewski to comply with future standards, or at a minimum would have envisioned how the alarms would be modified in case the proposed changes became effective. (Ex. 1002, ¶¶216-217). And those of skill in the art were, in fact, aware of the

particular proposed changes in STP2003.

Furthermore, given the similarities between Malewski and STP2003, a POSITA would have been able to combine these references with an expectation of success, avoiding excessive or overly-burdensome experimentation. (Ex. 1002, ¶¶216-217). A POSITA would have, therefore, looked to combine these references. (*Id.*).

The combined teachings of Malewski and STP2003 would result in a bracket-mounted, sealed-battery smoke alarm system that has a one-time activating means and a one-time deactivating means which serves to discharge the batteries and render the unit incapable of being reinstalled. (Ex. 1013, 82:11-16, 83:3-24; Ex. 1002, ¶¶216-217, 35-40, 63-85, 281-316).

2. Claims 8-11 are Obvious over Malewski and STP2003

a. Independent claim 8

i. [8Pre];

To the extent the preamble is limiting, Malewski discloses an electronic device as described in Section VII.D.1.a.i. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶218, 142-144, 35-40, 63-85).

ii. [8a];

Malewski discloses a first portion as discussed in Section VII.D.1.a.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶219, 145-147, 35-40, 63-85).

iii. [8b];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iii. (Ex. 1007, 3:33-35, 4:63-5:4, Fig. 1; Ex. 1002, ¶¶220, 148-151, 35-40, 63-85).

iv. [8c];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iv. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶221, 152-155, 35-40, 63-85)

v. [8d];

Malewski renders this claim limitation obvious per Section VII.D.1.a.v. (Ex. 1007, 1:35-58; Ex. 1005, 2:35-43; 4:9-13, 4:34-51; Ex. 1002, ¶¶222, 156-162, 35-40, 63-85).

vi. [8e].

Malewski renders this claim limitation obvious per Section VII.D.1.a.vi. (Ex. 1007, 3:43-45, 7:51-8:7, Figs. 16-18; Ex. 1019, 4; Ex. 1002, ¶¶223, 163-180, 35-40, 63-85, 281-316).

Even if Malewski (as augmented by Watson) does not render this claim limitation obvious, a POSITA would understand the importance of preventing a deactivated and non-operational detector from being installed. (Ex. 1001, 1:51-59; Ex. 1002, ¶¶224-227). The operative UL standard at that time required “a readily apparent and prominent visual indication” that the device was in an inoperable state. (Ex. 1016, 20; Ex. 1002, ¶224). A POSITA would therefore have looked to

references which taught the required visual indication, such as STP2003. (*See* Ex. 1008, 5; Ex. 1002, ¶¶224-227; Ex. 1043).

STP2003 acknowledges that a user of a sealed battery smoke detector may “deactivate the battery and then place the unit back into its normal mounting location.” (Ex. 1008, 5). STP2003 is little more than a logical confirmation that sealed-battery smoke detectors were not immune from the same concerns addressed by the earlier operative UL standards which required “a readily apparent and prominent visual indication” that the device was in an inoperable state. (Ex. 1016, 20; Ex. 1002, ¶225).

STP2003 proposes changing the existing standards to provide that “deactivation means shall require the use of a tool, or equivalent, and shall render the unit incapable of being reinstalled.” (Ex. 1008, 6). A POSITA would have known that a deactivation mechanism (i.e. the deactivation means) could be combined with a reattachment prevention mechanism in order to “render the unit incapable of being reinstalled.” (Ex. 1008, 6; Ex. 1002, ¶226).

Particularly where the claim language does not specify a particular type of reattachment prevention mechanism, A POSITA would augment Malewski in view of STP2003 to include the claimed reattachment prevention mechanism. (Ex. 1002, ¶¶223-227, 163-180, 35-40, 63-85, 281-316).

b. Dependent claims 9-11

i. Claim 9.

Malewski renders this claim obvious per Section VII.D.1.b.i. (Ex. 1007, 1:12-13, 2:13-38, 3:33-35, 4:63-5:4, Fig. 1; Ex. 1002, ¶¶228 181-184, 35-40, 63-85, 281-316).

ii. Claim 10.

Malewski renders this claim obvious per Section VII.D.1.b.ii. (Ex. 1007, 1:5-10, 1:12-13; Ex. 1002, ¶¶229, 185-187, 35-40, 63-85, 281-316).

iii. Claim 11.

Malewski renders this claim obvious per Section VII.D.1.b.iii. (Ex. 1007, 1:5-10, 1:12-13, 2:13-38; Ex. 1002, ¶¶230, 188-190, 35-40, 63-85, 281-316).

G. Ground 5: Claims 8-11 are Obvious over Byrne '354 in view of Byrne '311

1. Motivation to Combine

Both Byrne '354 and Byrne '311 are directed towards life safety alarm devices. (Ex. 1009, Cover, ¶[0001]; Ex. 1010, Cover, 1:11-18). Both devices are activated by the user, one by twisting the alarm onto the mounting base (Ex. 1009, Cover, ¶¶[0005]-[0006], [0031]), and the other by the user pressing a button in the alarm enclosure. (Ex. 1010, 5:20-33). Further, a POSITA would have had a “strong motivation to combine” Byrne '354 and Byrne '311 at least because the two references are patented by the same inventor and assigned to the same assignee,

meaning they likely resulted from the same work. *Black v. CE Soir Lingerie Co.*, No. 2:06-CV-544, 2008 WL 3852722, at *14 (E.D. Tex. Aug. 15, 2008), *aff'd*, 319 F. App'x 901 (Fed. Cir. 2009).

Given the similarities between Byrne '354 and Byrne '311, a POSITA would have been able to combine these references with an expectation of success, avoiding excessive or overly-burdensome experimentation. (Ex. 1002, ¶¶231-233).

Lastly, STP2003 is a document describing the thinking of those of skill in the art of smoke alarm design. The fact that one of the entities considering changes to the governing standards was considering ways to incorporate reattachment prevention mechanisms into existing smoke alarms (Ex. 1008, 5-6; Ex. 1043) is explicit motivation to combine Byrne '354 and Byrne '311 so that when the alarm reaches the end of its useful life, a physical structure prevents a user from re-mounting it.

The combined teachings of Byrne '354 and Byrne '311 would function as a smoke alarm system with an activation function that results from installation onto a mounting bracket, and a permanent, destructive deactivation function. (Ex. 1002, ¶¶234-250). A POSITA's further concern with preventing deactivated and non-operational alarms from being mounted to a mounting bracket would inspire a mounting prevention function, such as those known in the art. (Ex. 1002, ¶¶234-250, 35-40, 63-85).

2. Claims 8-11 are Obvious over Byrne '354 in view of Byrne '311

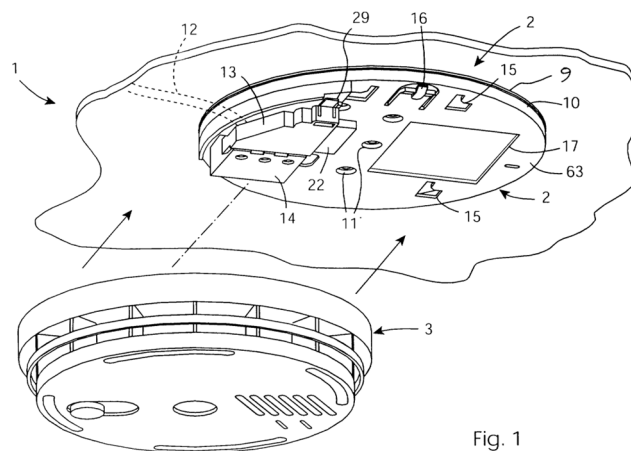
a. Independent claim 8

i. [8Pre]:

Byrne '354 describes an electronic device, namely a smoke alarm device with battery back-up. (Ex. 1009, ¶¶[0001]-[0002], [0004], [0022]; Ex. 1002, ¶¶234, 35-40, 63-85).

ii. [8a]:

Byrne '354 describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶[0022]; Ex. 1002, ¶371). The base comprises a base plate for mounting the device to a wall or ceiling and “means for mechanical connection to the alarm body 3.” (Ex. 1009, ¶¶[0022]-[0023], Fig. 1).

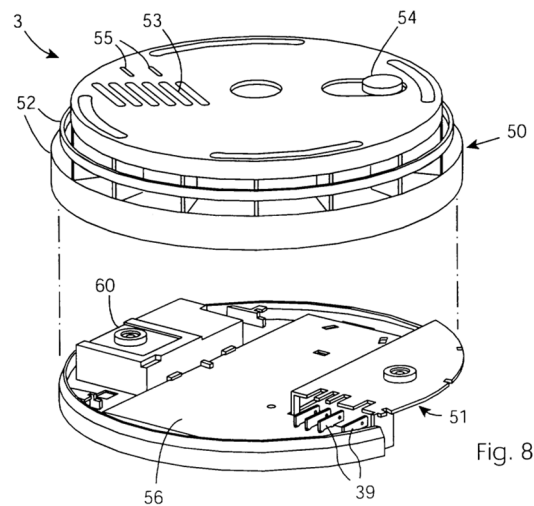


(Ex. 1009, Fig. 1).

This base is the first portion. (Ex. 1002, ¶¶235, 35-40, 63-85).

iii. [8b];

Byrne '354 describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶[0022]; Ex. 1002, ¶¶236-237). The base 2 comprises means for mechanical connection to the alarm body 3, namely a set of four connection apertures 15 and a snap-fitting fastener 16. (Ex.1009, ¶[0023]). The alarm body 3 “comprises a battery compartment 60 and it houses a sensor circuit 56 which support the terminal spades 39.” (Ex. 1009, ¶[0028]).



(Ex. 1009, Fig. 8). Byrne '354 teaches this limitation. (Ex. 1002, ¶¶236-237, 35-40, 63-85).

iv. [8c];

Byrne '354 describes attaching an alarm body 3 to a base 2 for activation including bringing the alarm body 3 “into proximity to the base 2 and push[ing] against it until the lips 70 of the alarm body 3 are engaged within the apertures 15 of

the base 2.” (Ex. 1009, ¶[0031]; Ex. 1002, ¶238). “[T]his action causes the terminal spades 39 to enter the mouths 32 and 35 of the alarm body terminals to create an electrical connection,” thereby activating the alarm upon attachment. (*Id.*)

Additionally, Byrne ’311 describes the use of a one-way ON switch for activating the device comprising “a sliding switch 70 housing a sliding member on the circuit 3,” and which “may only be pushed once and may not be reversed back to the OFF position.” (Ex. 1010, 5:20-31; Ex. 1002, ¶239).

Accordingly this claim feature is obvious. (Ex. 1002, ¶¶238-240, 35-40, 63-85).

v. [8d];

Byrne ’311 describes a one-way OFF switch 29 which “allows the alarm 1 to be de-activated in an extremely simple manner, which is not reversible....” (Ex. 1010, 4:20-2, 5:15-19; Ex. 1002, ¶241). “For de-activation of the control circuit, the user must simply cut a piece of wire which is clearly presented” upon engagement of the one-way deactivation switch. (Ex. 1010, 6:21-24, 5:4-9; Ex. 1002, ¶241). This “cutting of a wire is to the user clearly a destructive operation and is not reversible.” (Ex. 1010, 5:4-9; Ex. 1002, ¶241).

A POSITA would understand that the combination of the permanent deactivation of the alarm via the means described in Byrne ’311 and the alarm structure of Byrne ’354 to suggest, “a permanent deactivation mechanism to permit

permanent deactivation of the second portion after the second portion has been activated....” (Ex. 1002, ¶¶241-243). The combination of Byrne ’354 and Byrne ’311 renders this claim limitation obvious. (Ex. 1002, ¶¶241-243, 35-40, 63-85).

vi. [8e].

Byrne ’311 describes a one-way OFF switch 29 which “allows the alarm 1 to be de-activated in an extremely simple manner, which is not reversible...” (Ex. 1010, 5:15-19; 6:21-24, 5:4-9). This “cutting of a wire is to the user clearly a destructive operation and is not reversible.” (Ex. 1010, 5:4-9; Ex. 1002, ¶244).

Byrne ’354 further describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶¶[0022], [0023]; Ex. 1002, ¶245). Attaching the alarm body to the base “causes the terminal spades 39 to enter the mouths 32 and 35 of the alarm body terminals to create an electrical connection.” (Ex. 1009, ¶[0031]; Ex. 1002, ¶245).

Further, a POSITA would understand that deactivation by the means described in Byrne ’311, which teaches a user physically disabling the connection between the power source and the control circuit of the alarm, could be applied to the alarm of Byrne ’354. (Ex. 1002, ¶246). Such application would result in the physical removal of the connection between the power source and the control circuitry of the alarm. (Ex. 1010, 5:4-9; Ex. 1009, ¶[0028]; Ex. 1002, ¶246).

A POSITA would understand that the combined teachings of Byrne '354 and Byrne '311 teach that this physical disabling of the connection between the power source may result in an alarm body (i.e. second portion) that is not capable of reattachment to the base (i.e. first portion) once deactivated. (Ex. 1002, ¶¶244-250). Accordingly, a POSITA would find this element obvious in view of Byrne '354 and Byrne '311. (Ex. 1002, ¶¶244-250, 35-40, 63-85).

b. Dependent claims 9-11

i. Claim 9.

Byrne '354 describes an alarm device comprising a base and an alarm body, the base comprising a base plate for mounting the device to a wall or ceiling and “means for mechanical connection to the alarm body 3.” (Ex. 1009, ¶¶[0022]-[0023]; Ex. 1002, ¶251). The alarm body 3 “comprises a battery compartment 60 and it houses a sensor circuit 56 which support the terminal spades 39.” (Ex. 1009, ¶[0028]; Ex. 1002, ¶251. Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶251, 35-40, 63-85).

ii. Claim 10.

Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶252, 35-40, 63-85).

iii. Claim 11.

Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶253, 35-40, 63-85).

H. Ground 6: Claims 8-11 are Obvious Over Byrne '311 in view of DeLuca '487

1. Motivation to Combine

Both Byrne '311 and DeLuca '487 are in the same field of invention as the '445 Patent, and therefore within the technical grasp of a POSITA. (Ex. 1002, ¶¶254-255). Both references describe battery-operated life safety alarms. (Ex. 1010, 1:1-10; Ex. 1006, 3:26-34). A POSITA would have been motivated to incorporate known features of both alarms to solve issues common to all smoke alarm systems. *Intel Corp. v. PACT XPP Schweiz AG*, No. 2022-1037, 2023 WL 2469631 at *4 (Fed. Cir. Mar. 13, 2023).

Both references express concern for situations where users think an alarm is operational, when it is not. (Ex. 1010, 1:15-18; Ex. 1006, 1:15-44). DeLuca '487 solves this problem by preventing the alarm from being installed to the mounting bracket unless all of the battery slots are filled, rendering the alarm operational. (Ex. 1006, 4:35-61, 5:11-30). Byrne '311, which describes a stand-alone alarm “without need to replace batteries,” is desirable because it eliminates the need to replace batteries and prevents accidental disconnect of the battery. (Ex. 1010, 1:1-18). At

the end of the alarm's life, the user cuts a wire which "is to the user clearly a destructive operation and is not reversible." (*Id.*, 5:15-19). A POSITA would have looked to incorporate the "extremely simple" deactivation method taught in Byrne '311, with the known functionality of installation prevention as taught in DeLuca '487. (Ex. 1002, ¶¶254-255).

STP2003 is a document describing the thinking of those of skill in the art of smoke alarm design. The fact that one of the entities considering changes to the governing standards was considering ways to incorporate reattachment prevention mechanisms into existing smoke alarms (Ex. 1008, 5-6; Ex. 1043) is explicit motivation to combine Byrne '311 and DeLuca '487 so that when the alarm reaches the end of its useful life, a physical structure prevents a user from re-mounting it.

In the proposed combination, each of the respective disclosures of Byrne '311 and DeLuca '487 function in the same manner as in their respective sources and are therefore simply a rearranging of known components in accordance with known methods to provide predictable results. *KSR*, 550 U.S. at 416; *Smith*, 721 F.3d at 1375; *see also* Section II.A.

Given the similarities between Byrne '311 and DeLuca '487, a POSITA would have been able to combine these references with an expectation of success, avoiding excessive or overly-burdensome experimentation. (Ex. 1002, ¶¶254-255, 35-40, 63-85).

2. Claims 8-11 are Obvious over Byrne '311 in view of DeLuca '487

a. Independent claim 8

i. [8Pre]:

Byrne '311 describes a battery-powered alarm device. (Ex. 1010, cover, 1:1-10; Ex. 1002, ¶¶256, 35-40, 63-85).

ii. [8a]:

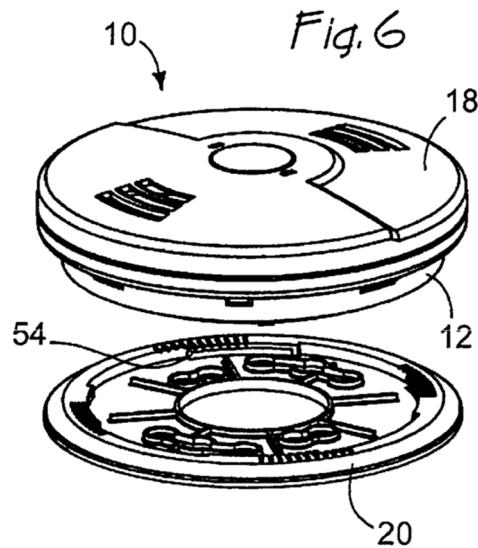
Byrne '311 describes a detector, but does not describe how the detector mounts. (Ex. 1002, ¶257). A POSITA would have looked to other detector devices for mounting solutions, such as the detector of DeLuca '487. (Ex. 1002, ¶257).

DeLuca '487 describes a detector comprising a base 12 and a bracket 20 to which the detector base is mounted. (Ex. 1006, 3:23-34). Byrne '311 in view of DeLuca '487, therefore, discloses “the first portion,” as recited in claim 8. (Ex. 1002, ¶¶257-258).

iii. [8b]:

Byrne '311 teaches a detector portion having electronics to operate the device and at least one battery. (Ex. 1010, cover, 1:1-10, 2:6-14). A POSITA would look to other detectors, such as the detector of DeLuca '487, for mounting solutions. (Ex. 1002, ¶259).

DeLuca '487 describes a detector comprising a bracket 20 and a detector base 12. (Ex. 1006, 3:23-34; Ex. 1002, ¶260). This is illustrated by Fig. 6:



(Ex. 1006, Fig.6).

DeLuca '487 similarly describes the detector base 12 as having a “multiple battery compartment that provides a plurality of battery receiving regions 23-25 for receiving individual batteries,” for powering the detector 10. (Ex. 1006, 3:42-46). Byrne '311 in view of DeLuca '487 discloses the claimed second portion. (Ex. 1002, ¶¶259-262, 35-40, 63-85).

iv. [8c];

Byrne '311 describes the use of a one-way switch for activating a detector comprising a sliding switch which “may only be pushed once and may not be reversed back to the OFF position.” (Ex. 1010, 4:20-22, 5:20-31). Byrne '311, therefore, teaches the claimed activation mechanism. (Ex. 1002, ¶¶263-266, 35-40, 63-85).

v. [8d];

Byrne '311 teaches a one-way OFF switch 29 which “allows the alarm 1 to be de-activated in an extremely simple manner, which is not reversible...” (Ex. 1010, 5:15-19; 6:21-24, 5:4-9). This “cutting of a wire is to the user clearly a destructive operation and is not reversible.” (Ex. 1010, 5:4-9; Ex. 1002, ¶267). Byrne '311 renders this claim element obvious (Ex. 1002, ¶¶267-270, 35-40, 63-85).

vi. [8e].

As described above regarding motivation to combine, Byrne '311's “cutting of a wire is to the user clearly a destructive operation and is not reversible.” (Ex. 1010, 5:4-9; Ex. 1002, ¶271). Byrne '311 does not describe how the alarm device is mounted to a wall or ceiling, leading a POSITA to look to other alarm devices to find a mounting solution. (Ex. 1002, ¶¶271-272).

One such example is DeLuca '487, which describes a lockout actuator 56, including “a battery sensing portion 62, a lockout tab portion 34 and a sliding guide or pilot portion 66,” which may move between obstructing and non-obstructing positions. (Ex. 1006, 4:45-47, 2:23-25). In the obstructing position, “the lockout tab 64 is located in the mating region between the base 12 and the bracket 20,” which prevents the base from being reattached to the bracket. (Ex. 1006, 5:2-9). The lockout actuator being in an obstructing position indicates the device does not have

the requisite power for operation, i.e. all battery receiving regions do not contain a battery. (Ex. 1006, 4:63-67, 5:1-10; Ex. 1002, ¶273).

A POSITA would recognize that the lockout mechanism of the DeLuca '487 alarm would prevent users from installing a non-operational alarm, such as the deactivated, destroyed alarm of Byrne '311. (Ex. 1002, ¶¶271-274). A POSITA would have, therefore, sought to combine the functionality of both detectors, and found this element obvious as a result. (Ex. 1002, ¶¶271-274, 35-40, 63-85).

b. Dependent claims 9-11

i. Claim 9.

Byrne '311 does not describe how the alarm device is mounted to a wall, leading a POSITA to another reference, such as DeLuca '487. (Ex. 1002, ¶¶275-276).

DeLuca '487 describes a detector comprising a bracket portion 20, for mounting the detector to a ceiling or wall, and a base portion 12, “which houses various electronic equipment 14, 16 such as a sensor, an alarm, and various signal processing circuitry....” (Ex. 1006, 3:23-42; Ex. 1002, ¶¶275-276). Byrne '311 in view of DeLuca '487, therefore, discloses the subject matter of this claim. (Ex. 1002, ¶¶275-277, 35-40, 63-85).

ii. Claim 10.

Byrne '311 describes a smoke alarm. (Ex. 1010, cover, 1:1-10, 4:1-12; Ex. 1002, ¶¶278, 35-40, 63-85).

iii. Claim 11.

Byrne '311 describes a smoke alarm. (Ex. 1010, cover, 1:1-10, 4:1-12; Ex. 1002, ¶¶279, 35-40, 63-85).

VIII. THE *FINTIV* FACTORS FAVOR INSTITUTION

The Board may consider parallel litigation, including an early trial date, in determining whether to institute under 35 U.S.C. § 314(a). *NHK Spring Co., Ltd., v. Intri-PlEx. Technologies, Inc.*, IPR2018-00752, Paper 8 at 19-20 (PTAB Sept. 12, 2018) (precedential); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 2-3, 6 (PTAB Mar. 20, 2020) (precedential). Those factors favor institution.

A. Stay

The Related Litigation is ongoing and Petitioners will seek a stay if institution is granted, thus favoring institution. At worst, this factor is neutral because the Board “will not attempt to predict” how the district court will proceed. *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB Jun. 16, 2020).

B. Proximity to Trial

“This factor looks at the proximity of the trial date to the date of [FWD] to assess the weight to be accorded a trial date set earlier than the expected [FWD] date.” *Shenzhen Carku Tech. Co., Ltd. v. The Noco Co.*, IPR2020-00944, Paper 20 at 61 (PTAB Nov. 12, 2020). The District Court tentatively scheduled trial for February 5, 2024 with the notation the “Court expects to set these dates at the conclusion of the Markman hearing.” *See* Ex. 1021 (Related Litigation Scheduling Order), 4.

“A court’s general ability to set a fast-paced schedule is not particularly relevant,” especially where “the forum [i.e., WDTX] itself has not historically resolved cases so quickly.” *In re Apple Inc.*, No. 20-135, slip op. at 16 (Fed. Cir. Nov. 9, 2020); *DISH Network L.L.C. v. Broadband iTV, Inc.*, IPR2020-01280, Paper 17 at 13-16 (PTAB Feb. 4, 2021). The Federal Circuit found error in the Board’s reliance on the case’s scheduled trial date. *In re Apple Inc.*, No. 20-135, slip op. at 15. It would be error for the Board to speculatively rely upon the current schedule, especially with a motion to transfer unaddressed by the Article III judge. *See HP Inc. et al. v. Neodron Ltd.*, Paper 17 at 35 (PTAB Sept. 14, 2020). The Board would be no better suited to speculate as to the prospective trial date than it would be to speculate as to the likely outcome of the pending motion to transfer. *See Cisco Sys.*,

Inc. v. Monarch Networking Sols. LLC, No. IPR2020-01227, Paper 11 at 10 (PTAB Mar. 4, 2021).

Furthermore, trial date speculation is particularly concerning considering the statistics show frequent trial delays in WDTX; a five-year review of cases before Judge Albright reveals an average time to trial exceeding two years. (Ex. 1022). Indeed, the *NHK Spring* and *Fintiv* cases, which guide discretionary denial decisions, were delayed after the respective Boards denied institution. *See Mylan Pharmaceuticals Inc. v. Sanofi-Aventis Deutschland GmbH*, IPR2018-01680, Paper 22 at 17, n.6 (PTAB Apr. 3, 2019). The *Fintiv* district court litigation has yet to go to trial, despite discretionary denial of institution **more than three years ago**. (Ex. 1023). The Board should not speculate regarding the Related Litigation's tentatively scheduled trial date. This factor weighs in favor of institution, or is merely neutral.

C. Investment in the Parallel Proceeding

Beyond venue discovery and claim construction proceedings, the parties have invested little in the Related Litigation. Petitioners have an outstanding and unresolved objection to the magistrate judge's denial of their transfer motion. No claim construction opinion has issued.

Minimal fact discovery has been conducted to date. Petitioners have diligently worked since the litigation's filing on locating prior art and preparing the

Petition and supporting evidence. Petitioners have requested information related to prior art from Patent Owner, who identified itself as possessing this information (Ex. 1026, 6), but have received nothing responsive to these requests to date.

Expert discovery does not close until October 20, 2023, almost five months after this Petition's filing. (Ex. 1021, 3). This factor weighs in favor of institution.

D. Overlap

Petitioners stipulate that, should the Board institute review, Petitioners will not pursue in parallel district court proceedings the same grounds as in the Petition or any grounds that could have reasonably been raised in the Petition. This factor weighs in favor of institution. *See Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation*, 7 (USPTO Dir. June 21, 2022).

What is more, on May 30, 2023, days before Petitioners' statutory bar date to file this IPR, Patent Owner asserted a defense of assignor estoppel in the parallel district court case. (Ex. 1044). Petitioners disagree, but if Patent Owner is correct, there will be no overlap in the district court proceedings. *See Hologic*, 957 F.3d at 1266.

E. Same Party

The Parties are the same in the Related Litigation, but Petitioners' corporate parent (Resideo) is *not* a party. Board members have noted *Fintiv* addresses only

the scenario in which the petitioner is unrelated to a defendant in a parallel proceeding, finding this should weigh against denying institution, but that *Fintiv* “says nothing about situations in which the petitioner is the same as, or is related to, the district court defendant.” *Cisco Sys., Inc. v. Ramot at Tel Aviv Univ. Ltd.*, IPR2020-00122, Paper 15 at 10 (PTAB May 15, 2020). This factor is neutral.

F. Other Circumstances

In accordance with the Director’s guidance in *CommScope Technologies LLC et al v. Dali Wireless, Inc.*, the Board need not even consider the strength of the merits as factors 1-5 do not favor discretionary denial. IPR2022-01242, Paper 23 at 4-5 (PTAB Feb. 27, 2023). Should the Board disagree regarding factors 1-5, it is worth noting the strength of the grounds raised in the Petition. First, the Examiner did not have the expert testimony and opinions presented here, one of which is Patent Owner’s own proffered expert. Second, the new evidence regarding the collective knowledge of the industry at the time of the alleged invention (i.e., STP2003) confirms the claimed improvements over the prior art (e.g., Malewski/Watson) would have been obvious. The strength factor favors institution.

IX. CONCLUSION

This Petition demonstrates a reasonable likelihood that at least one claim of the ’445 Patent is unpatentable under 37 C.F.R. § 42.108(c). (Ex. 1002, ¶¶1-328).

Respectfully submitted by

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X. CLAIM APPENDIX OF THE CHALLENGED CLAIMS

- [8Pre] An electronic device, comprising:
 - [8a] a first portion;
 - [8b] a second portion configured for attachment to the first portion, the second portion including electronics to operate the device and at least one battery for powering the electronics;
 - [8c] an activation mechanism to activate the second portion;
 - [8d] a permanent deactivation mechanism to permit permanent deactivation of the second portion after the second portion has been activated; and
 - [8e] a reattachment prevention mechanism to prevent reattachment of the first and second portions once the second portion is permanently deactivated.
- [9] The electronic device of claim 8, wherein the electronic device is a life safety alarm, the first portion comprises a mounting bracket of the life safety alarm, and the second portion comprises an alarm portion of the life safety alarm.
- [10] The electronic device of claim 9, wherein the alarm portion includes a system to detect a life threatening condition.
- [11] The electronic device of claim 10, wherein the system comprises a smoke detection system.

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

A copy of this Petition for *Inter Partes* Review and supporting materials has been served at the following correspondence address of record for the subject patent via Federal Express Priority Overnight® on this 2nd day of June, 2023:

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

The undersigned hereby certifies that the foregoing Petition for *Inter Partes* Review contains 9,020 words, not including a table of contents, table of authorities, mandatory notices under §42.8, certificate of service, certificate of word count, appendix of exhibits or appendix of claim listing as specified by 37 C.F.R. §42.24, according to the word count feature of the word-processing software used to prepare the Petition.

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