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: IPR2023-00896
U.S. PATENT NO. 7,123,158

PETITION FOR *INTER PARTES* REVIEW

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1008	Report of the Meeting of the Standards Technical Panel of UL for Smoke Detectors, March 7, 2003 ("STP2003")
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1019	Case No. 6:22-cv-00566-ADA-DTG, Claim Construction Order (Dkt. 65)
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1028	NFPA Journal, Volume 092 Issue 02 (March/April 1998)
1029	"Smoke alarms, fire deaths, and randomized controlled trials" (Guest Editorial), Roberts & Diguiseppi, *Injury Prevention* 1999, 5:244
1030	1999 NFPA 72
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1032	UL 217 Single and Multiple Station Smoke Alarms (5th Ed., dated Feb. 21, 1997)
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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.

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[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 an *inter partes* review petition, such that a determination as to their actual status as a real party-in-interest is unnecessary. Petitioners have listed them out of an abundance of caution.

B. Related Matters

Patent Owner asserted claims 1-7 and 12-15 of U.S. Patent No. 7,123,158 ("'158 Patent") against Petitioners in *Walter Kidde Portable Equipment Inc. v. First Alert Inc. et al.*, No. 6:22-cv-566 (W.D. Tex.), 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))

Lead Counsel	Backup Counsel
Benjamin E. Weed Reg. No. 65,939 K&L Gates LLP 70 W. Madison Street, Suite 3300 Chicago, IL 60602 benjamin.weed.ptab@klgates.com T: (312) 781-7166 F: (312) 827-8145	**Nathan J. Fuller** Reg. No. 77,410 K&L Gates LLP 70 W. Madison St., Suite 33100 Chicago, IL 60602 nathan.fuller@klgates.com T: (312) 807-4236 F: (312) 827-8145

Petitioners consent to electronic service by email.

I. INTRODUCTION

Petitioners request institution of *Inter Partes* Review ("IPR") and cancellation of claims 1-7, and 12-15 ("Challenged Claims") of U.S. Patent No. 7,123,158 ("the '158 Patent") (Ex. 1001). This Petition is supported by the expert declaration of Dr. John D. Pratt. (Ex. 1002, ¶¶1-484).

II. '158 PATENT OVERVIEW

The '158 Patent was filed on August 12, 2004, issued on October 17, 2006 and claims priority to U.S. provisional application no. 60/499,245, filed on August 29, 2003. (Ex. 1001, Cover, 1:6-7).[3]

A. The State of the Art

The '158 Patent confirms its miniscule (alleged) differences from the admitted prior art. (Ex. 1001, 1:20-62; Ex. 1002, ¶¶35-40, 46-128). It admits that sealed-battery-powered life safety alarms were well known. (Ex. 1001, 1:20-21, 1:51-52; *see also id*., 1:27-34; Ex. 1002, ¶¶35-41). It recognizes that well-known alarms included an alarm portion with an attachable but separate mounting bracket. (Ex. 1001, 1:56-58; Ex. 1002, ¶38). These alarms also included manual activation and deactivation features, and "permit[ted] the user to deactivate the alarm and

[3] For purposes of this proceeding only, Petitioners assume the August 29, 2003 filing supports each of the Challenged Claims.

subsequently reactivate the alarm after it has been deactivated." (Ex. 1001, 1:52-58).

At the time of the filing of the '158 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, 86-112; Ex. 1013, 77:24-78:15, 79:12-23)).

Dr. Reinholtz confirmed that there was a "pretty limited collection of ways" to automatically activate an alarm when mounting it, and that the limited collection of ways (including twist-on mechanisms) were well-known. (Ex. 1013, 65:24-67:6).

Dr. Reinholtz testified it was well-known for "the mounting bracket [to] include[] something that contacts something else on the alarm portion. And as you produce a twisting motion, the interference of those two parts causes activation."

(*Id.*; *see also id.*, 91:5-18). Mechanisms to automatically activate smoke alarms were well-known before the '158 Patent. (*Id.*, 65:24-67:6; Ex. 1002, ¶¶86-94).

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, 95-107).

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 ['158 Patent]." (Ex. 1013, 95:3-12; *see also id.*, 83:3-24, 109:23-110:4).

Dr. Reinholtz testified that cooperating features, such as those recited in the Challenged Claims, were known. (*Id.*, 106:5-9). '158 Patent claim 1 states that "the cooperating features comprise an activate/deactivate system." (Ex. 1001, 7:26-34). The examiner concluded the prior art taught the activate/deactivate system (Ex. 1004, 125). Dr. Reinholtz had no reason to disagree. (Ex. 1013, 105:4-6, 106:10-107:13).

B. Prosecution History of the '158 Patent

The '158 Patent was filed as U.S. Application No. 10/916,922 ("'922 Application"). (Ex. 1001, Cover). The '922 Application received one office action.

(Ex. 1004, 122-134). Certain claims were allowed as originally drafted. (Ex. 1004, 133). In response to the rejection, the applicant incorporated the subject matter of original the allowed claims into the independent claims. (Ex. 1004, 142-147). This incorporated subject matter includes the "activate/deactivate system" "configured to enable the user to manually deactivate the second portion," and the requirement that "when deactivated, the second portion cannot be reactivated and the second portion cannot be reattached to the first portion." (Ex. 1004, 143). Notably, original claims 5 and 6 were among the claims the examiner found anticipated by Watson. (Ex. 1004, 126). By virtue of these limitations being incorporated without modification into the claim which became granted claim 1, the examiner found every limitation with the exception of "when deactivated, the second portion cannot be reactivated and the second portion cannot be reattached to the first portion" was disclosed or rendered obvious by Watson. (Ex. 1004, 12-134).

The applicant never disagreed.

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

Petitioner certifies that (1) the '158 Patent is available for IPR; (2) Petitioners are not estopped from requesting an IPR; and (3) Petitioners have not filed a complaint relating to the '158 Patent.

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

Petitioners authorize charging of 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).

VII. STATEMENT OF PRECISE RELIEF REQUESTED AND REASONS THEREFORE

Petitioners request review on the following Grounds:

Ground	Statutory Basis	Prior Art	Claim(s)
1	§103	STP2003 (Ex. 1008)	1-7, 12-15

Ground	Statutory Basis	Prior Art	Claim(s)
2	§103	Malewski (Ex. 1007)	1-7, 12-15
3	§103	Malewski and DeLuca ’487 (Ex. 1006)	1-7, 12-15
4	§103	Malewski and STP2003	1-7, 12-15
5	§103	Byrne ’354 (Ex. 1009) and Byrne ’311 (Ex. 1010)	1-7, 12-15
6	§103	Byrne ’311 and DeLuca ’487	12-15

A. The Petition Should Not Be Discretionarily Denied

The ’158 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 ’158 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 ’158 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 Relied-On Prior Art

1. 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. 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 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 "protrude[ing] from the base 14 where it interferes with making the bayonet-type

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

connection between base 14 and mounting bracket 12." (*Id.*; Ex. 1007:51-8:9; Ex. 1002, ¶¶47-52).

3. 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 '158 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." (*Id.*, ¶¶[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 1-7 and 12-15 are Obvious Over STP2003

1. Claims 1-7

a. Independent Claim 1

i. [1Pre] 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, ¶130).

ii. [1a] 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 '158 Patent identifies a bracket-mounted detector as admitted prior art. (Ex. 1001, 1:56-58).

This element is obvious. (Ex. 1002, ¶¶131, 35-40, 63-85).

iii. [1b] 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, ¶132; Ex. 1008, 5-6). The claimed "second portion" is the "unit" from STP2003 that is "configured for attachment." (Ex. 1002, ¶132). There are myriad examples of alarm portions including the electronics which attach to a mounting bracket. (Ex. 1002, ¶¶133-135). The background of the '158 Patent describes some such prior art alarms. (Ex. 1001, 1:56-58). 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, ¶¶132-136, 35-40, 63-85).

iv. [1c] cooperating features on the first portion and the second portion that automatically activate the second portion upon initial attachment of the second portion to the first portion;

STP2003 identifies a "means to activate the power" of non-replaceable-battery smoke alarms. (Ex. 1008, 6). A POSITA would understand this to include cooperating features on the first and second portions that automatically activate the second portion upon attachment. (Ex. 1002, ¶¶137-139; Ex. 1001, 1:51-58; Ex. 1005, 2:51-53, 4:66-5:10, Fig. 7). Kidde's litigation expert identified one such twisting example in his deposition. (Ex. 1013, 65:24-67:6). This element is obvious. (Ex. 1002, ¶¶137-139, 35-40, 63-85).

v. [1d] wherein the cooperating features comprise an activate/deactivate system, the activate/deactivate system being configured to automatically activate the second portion upon initial attachment of the second portion to the first portion;

STP2003 also describes "a means to activate the power and a means to deactivate the power when the batteries had reached the end of their useful life." (Ex. 1008, 6). A POSITA would understand this to include features on the first and second portions that automatically activate the second portion upon attachment. (Ex. 1002, ¶¶140-142; Ex. 1013, 65:24-67:6; *see also* Ex. 1005, 2:51-53, 4:66-5:10, Fig. 7; Ex. 1001, 1:51-58).

The examiner found that the prior art taught the claimed activate/deactivate system. (Ex. 1004, 125-126 (citing Ex. 1005, 5:1-18, 4:40-51)), and Dr. Reinholtz agreed. (Ex. 1013, 106:10-107:13, 77:24-78:9, 79:12-17, 105:4-6).

STP2003 discloses this element. (Ex. 1002, ¶¶103-112, 140-144, 35-40, 63-85).

vi. [1e] wherein the activate/deactivate system is configured to enable the user to manually deactivate the second portion; and

STP2003 describes "a means to deactivate the power when the batteries had reached the end of their useful life" that "shall require the use of a tool, or equivalent…." *Id.* The prescribed use of a tool means the user is able to manually deactivate. (*Id.*; *see* Ex. 1001, 1:51-58; Ex. 1002, ¶¶145-147, 35-40, 63-85).

vii. [1f] wherein, when deactivated, the second portion cannot be reactivated and the second portion cannot be reattached to the first portion.

STP2003 states that "[t]he deactivation means shall also serve to completely discharge the battery(ies)," and that the "activation . . . means shall be designed to operate one time only." (Ex. 1008, 6). "The deactivation means…shall render the unit incapable of being reinstalled." (*Id.*). STP2003 discloses this element. (Ex. 1002, ¶¶148-150, 35-40, 63-85).

b. Dependent Claims 2-7

i. Claim 2: The electronic device of claim 1, 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, ¶151). 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 '158 Patent detectors with separate bracket and alarm portions was known prior art. (Ex. 1001, 1:56-58). This element is obvious. (Ex. 1002, ¶¶151, 35-40, 63-85).

ii. Claim 3: The electronic device of claim 2, 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, ¶¶152, 35-40, 63-85).

iii. Claim 4: The electronic device of claim 3, wherein the detection system comprises a smoke detection system.

STP2003 discusses smoke alarms. (Ex. 1008, 1, 5-6; Ex. 1002, ¶¶153, 35-40, 63-85).

iv. Claim 5: The electronic device of claim 1, wherein the activate/deactivate system comprises a slider configured for one-way movement and having three positions.

STP2003 describes means to both activate and deactivate the alarm portion. (Ex. 1008, 6). A POSITA would know of various ways to activate and deactivate the alarm portion of an electronic device, such as the many activation and deactivation switch and slider designs taught in Watson. (Ex. 1002, ¶¶154-157; Ex. 1005, 3:55-56; Ex. 1025, 43:14-44:8, 48:15-19, 51:14-52:4, 53:2-10, 73:11-74:14). One such example is a "single use slide-switch" which is a slider and switch combination configured for one-way movement via a blocking mechanism or internal ratchet. (Ex. 1005, 5:3-18; Ex. 1002, ¶¶155, 35-40, 63-85, 452-456).

A POSITA would have further known that UL requires detectors ship in the deactivated state, meaning three states would be required for compliant detectors: (1) the shipment deactivated state, (2) the activated state, and (3) the deenergized state. (Ex. 1002, ¶157; Ex. 1005, 3:38-44; Ex. 1025, 73:11-74:14). These three states could be enabled through use of a well-known, three-position switch, as opposed to separate single-pole, single-throw energizing and deenergizing switches. (Ex. 1002, ¶157; Ex. 1005, 2:35-43).

Consistently, the Examiner found the subject matter of this claim was rendered obvious by Watson. (Ex. 1004, 131). Kidde never disagreed. This element

is obvious. A slider configured for one-way movement, e.g., via an internal ratchet or blocking mechanism, and having three positions was well-known in the art, and was obvious. (Ex. 1002, ¶¶154-157, 35-40, 63-85, 452-456; Ex. 1005, 5:3-18; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14).

v. Claim 6: The electronic device of claim 5, wherein the device electronics comprises a three position switch connected to the slider.

STP2003 requires activation and deactivation means, and UL approval required three distinct states. (Ex. 1008, 6; Ex. 1002, ¶158; *see also* Ex. 1005, 3:38-44). A POSITA would have recognized the three states could be enabled through use of a well-known, three-position switch, as opposed to separate activation and deactivation switches. (Ex. 1002, ¶¶158-160; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14). This is consistent with the examiner's finding that this element is obvious. (Ex. 1004, 134).

Use of a slider connected to the switch would have been an obvious design choice to allow for a sealed alarm design, such as the alarm taught by Watson, while still allowing external control over the inaccessible electronics. (Ex. 1005, 1:40-41, 2:40-41, 3:38-44, 4:22-23, 4:47-51; Ex. 1042; Ex. 1002, ¶¶158-160, 35-40, 63-85).

vi. Claim 7: The electronic device of claim 1, wherein the battery is sealed inside the second portion whereby the battery is not user replaceable.

STP2003 concerns changes to the requirements for smoke alarms with "non-replaceable primary batter[ies]," which are sealed inside the detector. (Ex. 1008, 5-6; Ex. 1002, ¶¶158-161, 35-40, 63-85).

c. Independent Claim 12

i. [12Pre] An electronic device, comprising:

To the extent the preamble is limiting, STP2003 discloses an electronic device. (*See* Section VII.C.1.a.i). (Ex. 1008, 1, 5-6; Ex. 1002, ¶130).

ii. [12a] A first portion;

STP2003 discloses a first portion as discussed in Section VII.C.1.a.ii. (Ex. 1008, 5-6; Ex. 1013, 65:24-67:6; Ex. 1001, 1:56-58; Ex. 1002, ¶¶131, 35-40, 63-85).

iii. [12b] 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

STP2003 discloses a first portion as discussed in Section VII.C.1.a.iii. (Ex. 1008, 5-6; Ex. 1013, 65:24-67:6; Ex. 1001, 1:56-58; Ex. 1002, ¶¶164, 132-136, 35-40, 63-85).

iv. [12c] 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, ¶¶165, 35-40, 63-85; Ex. 1018).

v. [12d] a permanent deactivation mechanism to permit permanent deactivation of the second portion after the second portion has been activated, wherein the permanent deactivation mechanism is accessible when the first and second portions are detached; 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, ¶166). 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, ¶168).

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, ¶¶166-169, 35-40, 63-85).

vi. [12e] 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, ¶170).

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 ['158 patent]." (Ex. 1013, 95:3-12, 83:3-24, 109:23-110:4). The claimed reattachment prevention mechanism is obvious. (*Id.*; Ex. 1002, ¶¶170-172, 35-40, 63-85).

d. Dependent Claim 13-15

i. Claim 13: The electronic device of claim 12, 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 renders this claim obvious per Section VII.C.1.b.i. (Ex. 1008, 1, 5-6; Ex. 1013, 65:24-67:6; Ex. 1001, 1:56-58; Ex. 1002, ¶¶151, 35-40, 63-85).

ii. Claim 14: The electronic device of claim 13, wherein the alarm portion includes a system to detect a life threatening condition;

STP2003 renders this claim obvious per Section VII.C.1.b.ii. (Ex. 1008, 1, 5-6; Ex. 1002, ¶¶174, 152, 35-40, 63-85).

iii. Claim 15: The electronic device of claim 14, wherein the detection system comprises a smoke detection system.

STP2003 renders this claim obvious per Section VII.C.1.b.iii. (Ex. 1008, 1, 5-6; Ex. 1002, ¶¶175, 153, 35-40, 63-85).

D. Ground 2: Claims 1-7 and 12-15 are Obvious over Malewski

1. Claims 1-7 and 12-15 are Obvious over Malewski

a. Independent Claim 1

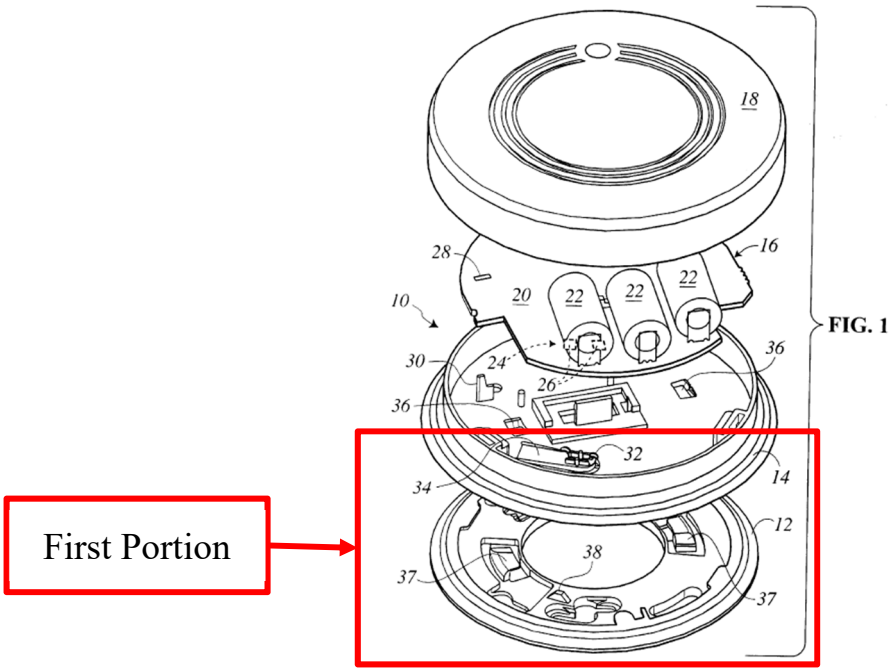
i. [1Pre]:[5]

Malewski describes an electronic device. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶180-182, 35-40, 63-85).

ii. [1a];

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, ¶183). This is shown in Figure 1.

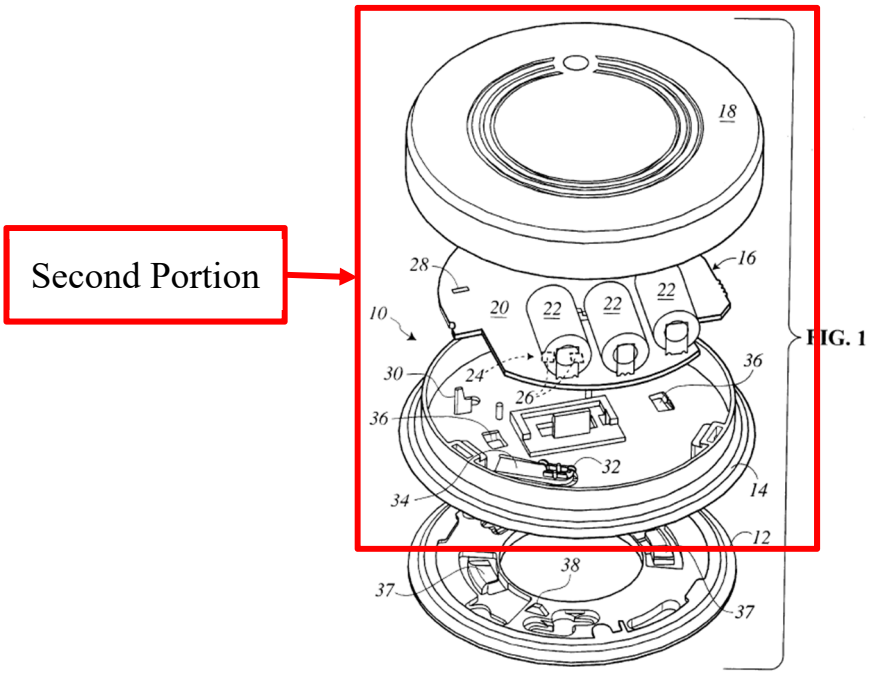
[5] *See* Claim Appendix.



(Ex. 1007, Fig. 1 (annotated); Ex. 1002, ¶¶183-185, 35-40, 63-85).

iii. [1b];

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, ¶186). 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, ¶¶186, 35-40, 63-85).



(Ex. 1007, Fig. 1 (annotated)). Malewski renders this element obvious. (Ex. 1002, ¶¶186-189, 35-40, 63-85).

iv. [1c];

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; Ex. 1002, ¶190). Such mating "securely engages at least two mutually-borne, interleaving tabs, or captures two or more bayonet connectors, and effects simultaneous switch activation," which is an example of the claimed automatic activation. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶190-193, 35-40, 63-85).

v. [1d];

Malewski describes the "mating" of the "major portion" and the "surface mountable bracket" which "securely retain(s) the major portion." (Ex. 1007, 3:24-

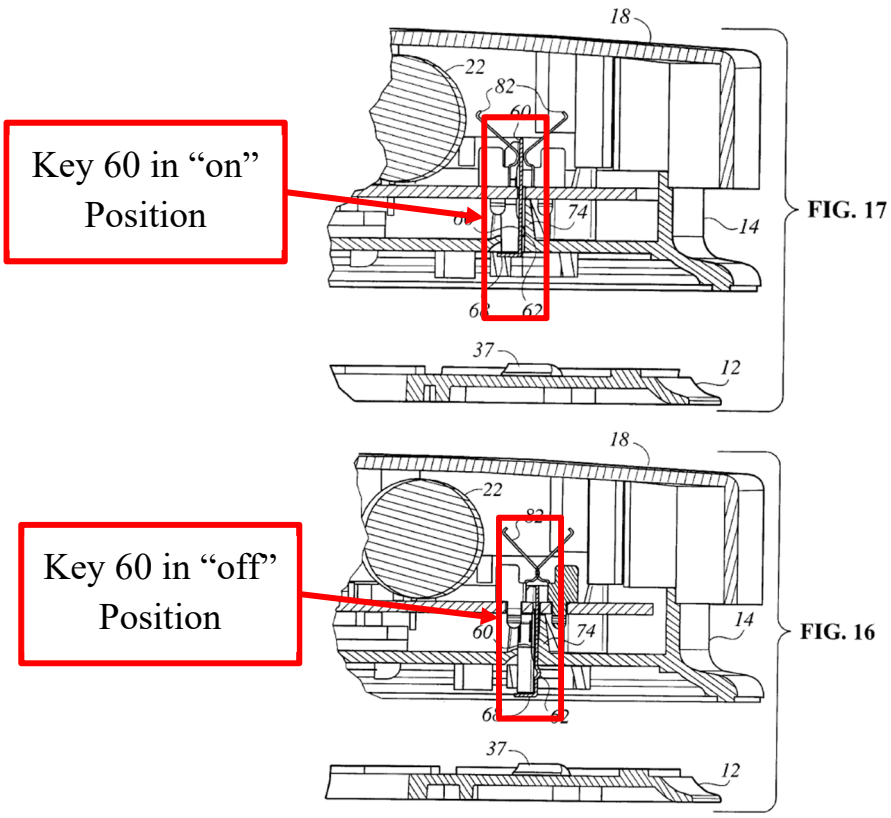
42; Ex. 1002, ¶¶194-195). Malewski also teaches several deactivation mechanisms. For example, Malewski teaches a deactivation mechanism that deactivates the device "merely by applying a single counter rotation motion to its protective cover." (Ex. 1007, 3:49-50; Ex. 1002, ¶196). Malewski also teaches a deactivation mechanism that utilizes an activation key 60 which, when inserted facilitates a closed circuit to activate the device, and when removed, opens that circuit to deactivate the device. (Ex. 1007, 7:6-11, 7:29-30, 7:51-8:2, 8:11-15; Ex. 1002, ¶196).

The Examiner pointed to Watson (incorporated by reference in Malewski) as teaching the subject matter of this limitation. (Ex. 1004, 125-126 (citing Ex. 1005, 5:1-18, 4:40-51)). Kidde's litigation expert did not disagree, admitting this activate/deactivate system would have been known in the prior art. (Ex. 1013, 105:4-6, 106:10-107:13). This limitation is obvious. (Ex. 1002, ¶¶194-200, 35-40, 63-85).

vi. [1e];

Malewski describes an "activation key 60" that "is made of or coated with, a conductive material." (Ex. 1007, 7:29-31). The circuit board has "pairs of spring contacts 82 linked in parallel so that when at least one pair is bridged by the activation key 60 (i.e. electrically closed or shorted), the device (hazards detector 10) is activated." (Ex. 1007, 7:6-10).

In the "on" position, "[k]ey 60…resides among, in electrical contact with, spring contacts 82." (Ex. 1007, 8:11-15). The activation key 60 can be pulled from the "on" or activated position to the "off" position such that the "key 60 is not in contact with the spring contacts 82" and the device is deactivated. (Ex. 1007, 7:51-8:2; Ex. 1002, ¶¶201-202).



(Ex. 1007, Figs. 16 and 17 (annotated)).

Malewski describes another manual deactivation feature involving a "single-use, frangible, and rotatable switch mechanism" that is connected to the circuit board and battery. (Ex. 1007, 1:38-53; Ex. 1002, ¶¶203-204). Activation involves using a screwdriver to "rotate the frangible restraint, thus closing the switch and activating

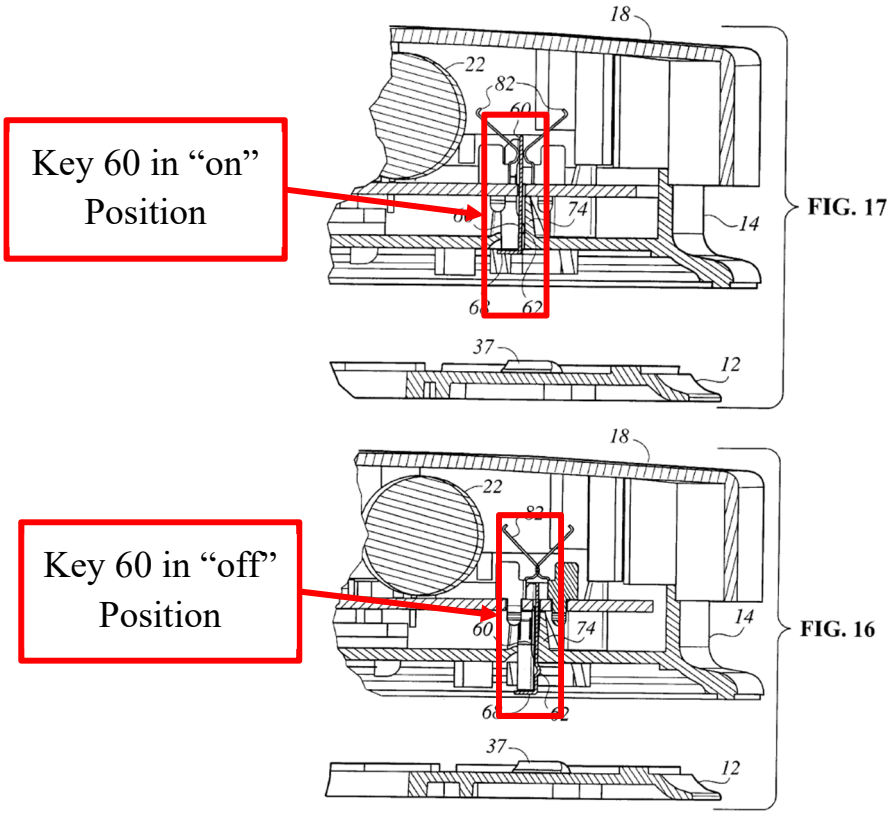
the detector." (Ex. 1007, 1:42-47). Malewski further describes a screwdriver being "used to rotate the aforementioned switch to a battery 'drain' position in which a second switch may be actuated to drain the battery," and thus meets this limitation. (Ex. 1007, 1:50-53, 3:24-50; Ex. 1002, ¶¶201-205, 35-40, 63-85).

vii. [1f].

Malewski, in its description of Watson, describes permanent deactivation through a "single-use, frangible, and rotatable switch mechanism." (Ex. 1007, 1:35-58; Ex. 1002, ¶¶206-207). A POSITA would understand that a "single-use" activation switch means it is not possible to activate the electronic device a second time (i.e. it cannot be reactivated). (Ex. 1002, ¶¶207-212; *see also* Ex. 1005, 2:35-43, 4:9-11, 4:44-56). Malewski also refers to embodiments of such a switch where "retrograde motion is foreclosed," which would thus result in an inability to move the switch back to the initial, inactivated (or "preactivated") position. (Ex. 1007, 1:54-58; Ex. 1002, ¶¶207-208). A POSITA would understand Malewski as disclosing an electronic device where "when deactivated, the second portion cannot be reactivated." (Ex. 1002, ¶¶207-212).

Malewski discloses deactivation resulting in the inability to reattach the second portion to the first portion. (Ex. 1007, 7:51-8:9). Deactivation, by withdrawing key 60 to the "off position," interferes "with making the bayonet-type

connection between the base 14 and mounting bracket 12," and therefore renders the device incapable of remounting. (Ex. 1007, 7:51-8:9; Ex. 1002, ¶213).



(Ex. 1007, Figs. 16 and 17 (annotated)).

POSITAs likewise understood the importance of preventing installation of deactivated and non-operational detectors even before the '158 Patent was filed. (Ex. 1001, 1:44-50; Ex. 1002, ¶¶215-229; Ex. 1008). Malewski discloses an electronic device that is discarded after deactivation. (Ex. 1007, 1:50-54; Ex. 1005:4:52-56; Ex. 1002, ¶¶208-211). Malewski identifies a desire to "prevent[] the device from being inadvertently mounted in a deactivated state once properly installed." (Ex. 1007, 3:43-45). It would have been obvious for a POSITA to

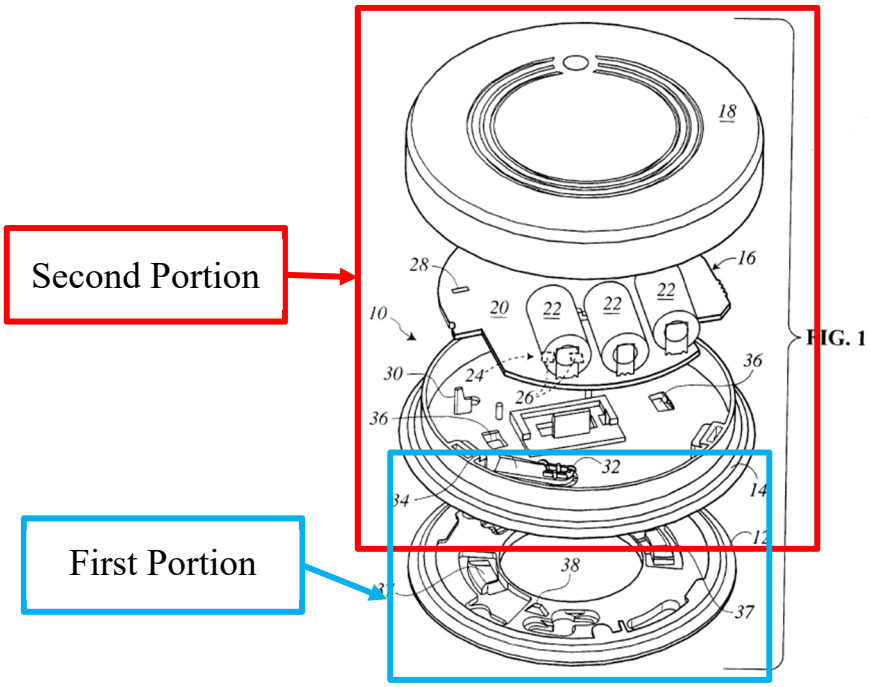
combine the attachment-preventing deactivation features of Malewski with the permanent deactivation features of Malewski. (Ex. 1002, ¶¶175-179, 206-229, 35-40, 63-85, 437-472).

b. Dependent Claims 2-7

i. Claim 2.

Malewski includes "fire, smoke, [and] gas" detectors. (Ex. 1007, 1:12-13; *see also* 2:13-38; Ex. 1002, ¶¶230-233).

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, ¶¶230-233, 35-40, 63-85, 437-472).

ii. Claim 3.

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, ¶¶234-236, 35-40, 63-85, 437-472).

iii. Claim 4.

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, ¶¶237-239, 35-40, 63-85, 437-472).

iv. Claim 5.

Malewski discloses a "single-use, frangible, and rotatable switch mechanism" that is connected to the circuit board and battery. (Ex. 1007, 1:38-42). Activation involves using a screwdriver to "rotate the frangible restraint, thus closing the switch and activating the detector." (Ex. 1007, 1:43-47; 2:35-38; Ex. 1005, 3:56-57). Malewski further describes a screwdriver being "used to rotate the aforementioned switch to a battery 'drain' position in which a second switch may be actuated to drain the battery." (Ex. 1007, 1:50-53). In addition to the switch's description as "single use," because Malewski refers to embodiments of such a switch where "retrograde motion is foreclosed," its switch is configured for one way movement. (Ex. 1007, 1:54-58; *See also* Ex. 1005, 5:3-18; Ex. 1002, ¶¶240-242).

The foreclosure of retrograde motion means that this switch is configured for one way movement, and has three positions, (1) inactivated (i.e. the position before the first rotation); (2) activated (i.e. the position after the first rotation); and (3) deactivated. (*See* Ex. 1007, 1:35-58; Ex. 1005, 3:38-44, 4:22-23, 4:47-51; Ex. 1025, 74:11-14; Ex. 1002, ¶240).

The example in Malewski is one that involves a rotational element. It would be obvious, however, for a POSITA to use a one-way slider rather than a one-way rotatable switch to move between the three positions described above. (Ex. 1002, ¶¶243-246; Ex. 1004, 131). The replacement of a rotatable switch mechanism with

a slider mechanism would be a simple effort by a POSITA and it would not require any undue experimentation and there would be an expectation of success. (Ex. 1002, ¶242).

Confirming this interchangeability, Malewski, through its incorporation of Watson, expressly describes various slider-switch designs as activating/deactivating systems. (Ex. 1007, 2:35-43; Ex. 1005, 2:35-43, 3:56-57, 5:3-18). One such example is a slider configured for one-way movement. (Ex. 1005, 5:3-18; Ex. 1002, ¶242).

The Examiner similarly found the subject matter of this claim was rendered obvious by Watson (incorporated by reference in Malewski). (Ex. 1004, 131). The Examiner determined "it would have been obvious to one of ordinary skill in the art at the time of the invention to use a slider configured for one-way movement attached to a switch that has three positions." (*Id.*). Malewski renders this limitation obvious. (Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14; Ex. 1002, ¶¶240-246, 35-40, 63-85, 437-472).

v. Claim 6.

Malewski teaches a "single-use, frangible, and rotatable switch mechanism." (Ex. 1007, 1:38-47, 1:50-53; 3:56-57). A POSITA would have known to use a slider-switch mechanism rather than a rotatable switch mechanism because the

manner of operation (rotating or linear) is generally a question of design rather than device functionality. (Ex. 1002, ¶¶257, 35-40, 63-85; Ex. 1005, 2:35-43, 4:66-5:10).

The Examiner similarly found that Watson rendered obvious this claims' subject matter, stating "various switches may be used to facilitate the activate/deactivate switches" and that "it would have been obvious to one of ordinary skill in the art at the time of the invention to use a slider configured for one-way movement attached to a switch that has three positions." (Ex. 1004, 131; *see* Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14) A POSITA would, therefore, find this claim feature obvious. (Ex. 1002, ¶¶247-251, 35-40, 63-85, 437-472).

vi. Claim 7.

Malewski teaches an electronic device with a circuit board which "secures a hard wired, long life battery." (Ex. 1007, 1:35-43; Ex. 1005, 1:44-45, 3:17-25). Malewski further describes this device reaching the end of its useful life, and "discarded" after the battery is drained. (Ex. 1007, 1:50-53; Ex. 1005, 4:35-39). A POSITA would understand the description is of a device with a battery sealed inside the second portion. (Ex. 1007, 1:35-43; Ex. 1002, ¶¶252-254, 35-40, 63-85, 437-472).

c. Independent claim 12

i. [12Pre]:

To the extent the preamble is limiting, Malewski discloses an electronic device as discussed 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, ¶¶180-182, 35-40, 63-85).

ii. [12a];

Malewski discloses a first portion as discussed in Section VII.D.1.a.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶256, 183-185, 35-40, 63-85).

iii. [12b];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iii. (Ex. 1007, 3:33-35, 4:63-5:4; Ex. 1002, ¶¶257, 186-189, 35-40, 63-85).

iv. [12c];

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, ¶¶258-261, 35-40, 63-85).

v. [12d];

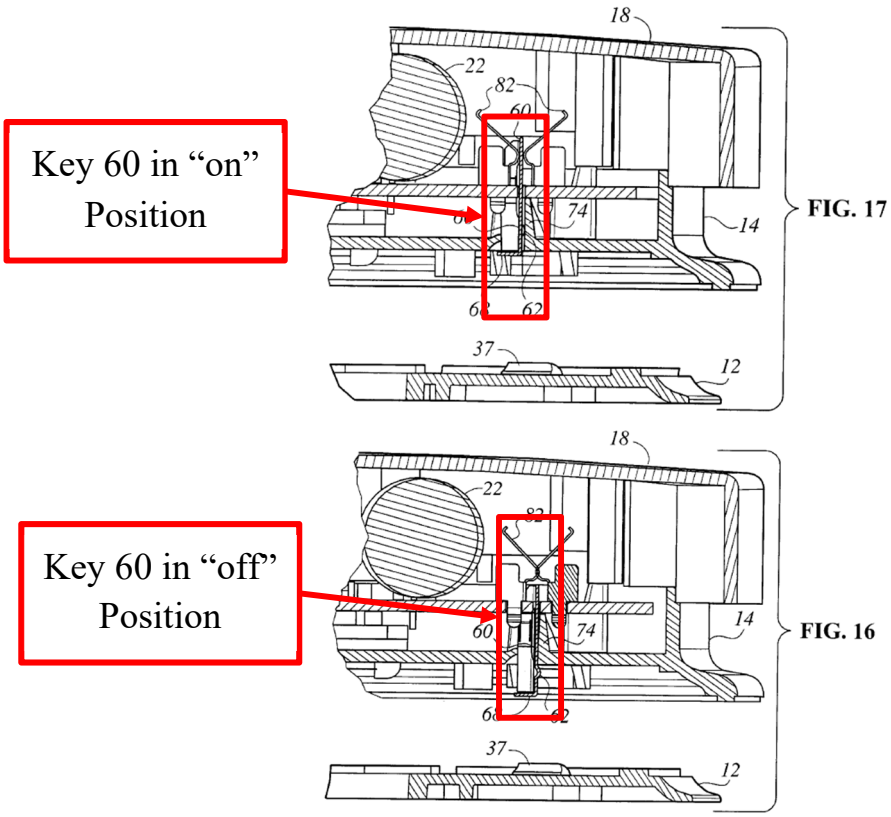
Malewski describes a permanent deactivation mechanism via Watson. (Ex. 1007, 1:35-58). Malewski teaches a smoke detector with a "one-time" activation switch. (Ex. 1005, 2:35-43). Malewski teaches rotating the "single-use, frangible, and rotatable switch mechanism…to a battery 'drain' position in which 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, ¶¶262-264). 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). This feature is a deactivation mechanism accessible when the first and second portions are detached. (Ex. 1002, ¶267). And because the device has a "single use" activation mechanism, the deactivation mechanism is permanent, rendering this limitation obvious. (Ex. 1002, ¶¶262-268, 35-40, 63-85).

vi. [12e].

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, ¶¶269-286). For example, the "activation key 60" of Malewski and its associated components make up an "attachment prevention mechanism." (Ex. 1002, ¶269).

"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 18 (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, ¶¶269-286, 35-40, 63-85, 437-472).

d. Dependent Claims 13-15

i. Claim 13.

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; Ex. 1002, ¶¶287, 230-233, 35-40, 63-85, 437-472).

ii. Claim 14.

Malewski renders this claim obvious per Section VII.D.1.b.ii (Ex. 1007, 1:5-10, 1:12-13; Ex. 1002, ¶¶288, 234-236, 35-40, 63-85, 437-472).

iii. Claim 15.

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, ¶¶289, 237-239, 35-40, 63-85, 437-472).

E. Ground 3: Claims 1-7 and 12-15 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 '158 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, ¶291). 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, ¶¶292-303).

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, ¶¶292-303).

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, ¶302). A POSITA would have, therefore, looked to combine these references. (Ex. 1002, ¶303).

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, ¶299). 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, ¶299). 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, ¶299). And in both cases, the extension occurs *because* the device is inactive. This element is obvious. (Ex. 1002, ¶¶290-303, 35-40, 63-85, 473-480).

2. Claims 1-7 and 12-15 are Obvious over Malewski in view of DeLuca '487

a. Independent Claim 1

i. [1Pre]:

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, ¶¶304, 180-182, 35-40, 63-85).

ii. [1a];

Malewski renders this claim limitation obvious per Section VII.D.1.a.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶305, 183-185, 35-40, 63-85).

iii. [1b];

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, ¶¶306, 186-189, 35-40, 63-85).

iv. [1c];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iv. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶307, 190-193, 35-40, 63-85).

v. [1d];

Malewski renders this claim limitation obvious per Section VII.D.1.a.v. (Ex. 1007, 3:24-42, 3:49-50, 7:6-11, 7:29-31, 7:51-8:2, 8:11-15, Figs. 15, 16; Ex. 1004, 125-126; Ex. 1013, 105:4-6, 106:10-107:13; Ex. 1002, ¶¶308, 194-200, 35-40, 63-85).

vi. [1e].

Malewski renders this claim limitation obvious per Section VII.D.1.a.vi. (Ex. 1007, 1:38-53, 3:24-50, 7:6-10, 4:44-5, 7:29-31, 7:51-8:2, 8:11-15, Fig. 16, Fig. 17; Ex. 1002, ¶¶309, 201-205, 35-40, 63-85).

vii. [1f].

Malewski renders this claim limitation obvious per Section VII.D.1.a.vii. (Ex. 1007, 1:35-58, 3:43-45 7:51-8:4, Figs. 16, 17; Ex. 1001, 1:44-50; Ex. 1005, 2:35-43, 4:9-11, 4:44-56; Ex. 1002, ¶¶310-318, 206-229, 35-40, 63-85).

Even if Malewski alone does not render this claim limitation obvious, a POSITA would understand the importance of preventing a deactivated detector from being reinstalled and would have been familiar with known mechanisms for doing so. (Ex. 1001, 1:44-50; Ex. 1002, ¶¶310-318; Ex. 1005, 3:38-56). For replaceable-battery alarms, 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). A POSITA would therefore have looked to references which taught the

required visual indication, such as DeLuca '487. (*See* Ex. 1008, 5; Ex. 1002, ¶¶310-316).

DeLuca '487 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, 5:2-10). 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, 4:63-5:10; Ex. 1002, ¶317).

A POSITA would find this element obvious in view of Malewski and DeLuca '487 (to the extent it was not obvious in view of Malewski alone), when those references are combined as described above. (Ex. 1002, ¶¶310-318, 35-40, 63-85, 473-480).

b. Dependent Claims 2-7

i. Claim 2.

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, ¶¶319, 230-233, 35-40, 63-85, 473-480).

ii. Claim 3.

Malewski renders this claim obvious per Section VII.D.1.b.ii. (Ex. 1007, 1:5-8, 1:12-13; Ex. 1002, ¶¶320, 234-236, 35-40, 63-85, 473-480).

iii. Claim 4.

Malewski renders this claim obvious per Section VII.D.1.b.iii. (Ex. 1007, 1:5-8, 1:12-13, 2:13-38; Ex. 1002, ¶¶321, 237-239, 35-40, 63-85, 473-480).

iv. Claim 5.

Malewski renders this claim obvious per Section VII.D.1.b.iv. (Ex. 1007, 5:3-18, 1007, 1:35-58, 2:35-38; Ex. 1004, 131; Ex. 1005, 3:38-44, 3:56-57, 4:22-23, 4:47-51, 5:3-18; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14; Ex. 1002, ¶¶322, 240-246, 35-40, 63-85, 473-480).

v. Claim 6.

Malewski renders this claim obvious per Section VII.D.1.b.v. (Ex. 1007, 1:38-47, 1:50-53, 3:56-57; Ex, 1004, 131; Ex. 1005, 2:35-43, 4:66-5:10; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14; Ex. 1002, ¶¶323, 247-251, 35-40, 63-85, 473-480).

vi. Claim 7.

Malewski renders this claim obvious per Section VII.D.1.b.vi. (Ex. 1007, 1:35-43, 1:50-53; Ex. 1005, 1:44-45, 3:17-25, 4:35-39; Ex. 1002, ¶¶324, 252-254, 35-40, 63-85, 473-480).

c. Independent Claim 12

i. [12Pre]:

To the extent the preamble is limiting, Malewski discloses an electronic device as discussed in Section VII.D.1.c.i. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶180-182, 35-40, 63-85).

ii. [12a];

Malewski discloses a first portion as discussed in Section VII.D.1.c.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶256, 183-185, 35-40, 63-85).

iii. [12b];

Malewski renders this claim limitation obvious per Section VII.D.1.c.iii. (Ex. 1007, 3:33-35, 4:63-5:4; Ex. 1002, ¶¶257, 186-189, 35-40, 63-85).

iv. [12c];

Malewski renders this claim limitation obvious per Section VII.D.1.c.iv. (Ex. 1007, 3:24-42; Ex. 1019, 3; Ex. 1002, ¶¶328, 258-261, 35-40, 63-85).

v. [12d];

Malewski renders this claim limitation obvious per Section VII.D.1.c.v. (Ex. 1007, 1:35-58; Ex. 1005, 2:35-43, 4:9-13, 4:34-51; Ex. 1002, ¶¶329, 262-268, 35-40, 63-85).

vi. [12e].

Malewski renders this claim limitation obvious per Section VII.D.1.c.vi. (Ex. 1007, 3:43-45, 7:51-8:7, Figs. 16, 18; Ex. 1019, 4; Ex. 1002, ¶¶330, 269-286, 35-40, 63-85).

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, ¶¶331-332, 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, ¶¶331-332, 269-286, 35-40, 63-85, 473-480).

d. Dependent Claims 13-15

i. Claim 13.

Malewski renders this claim obvious per Section VII.D.1.d.i. (Ex. 1007, 1:12-13, 2:13-38, 3:33-35, 4:63-5:4; Ex. 1002, ¶¶333, 230-233, 35-40, 63-85, 473-480).

ii. Claim 14.

Malewski renders this claim obvious per Section VII.D.1.d.ii. (Ex. 1007, 1:5-8, 1:12-13; Ex. 1002, ¶¶334, 234-236, 35-40, 63-85, 473-480).

iii. Claim 15.

Malewski renders this claim obvious per Section VII.D.1.d.iii. (Ex. 1007, 1:5-10, 1:12-13, 2:13-38; Ex. 1002, ¶¶335, 237-239, 35-40, 63-85, 473-480).

F. Ground 4: Claims 1-7 and 12-15 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, ¶336; 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, ¶336). 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, ¶¶336-337). 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, ¶¶336-337, 35-40, 63-85, 437-472).

2. Claims 1-7 and 12-15 are Obvious over Malewski, STP2003, and the Technical Expertise of a POSITA

a. Independent Claim 1

i. [1Pre]:

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, ¶¶338, 180-182, 35-40, 63-85, 437-472).

ii. [1a];

Malewski renders this claim limitation obvious per Section VII.D.1.a.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶339, 183-185, 35-40, 63-85, 437-472).

iii. [1b];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iii (Ex. 1007, 3:33-35, 4:61-5:33, Fig. 1; Ex. 1002, ¶¶340, 186-189, 35-40, 63-85, 437-472).

iv. [1c];

Malewski renders this claim limitation obvious per Section VII.D.1.a.iv. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶341, 190-193, 35-40, 63-85, 437-472).

v. [1d];

Malewski renders this claim limitation obvious per Section VII.D.1.a.v (Ex. 1007, 3:24-42, 3:49-50, 7:6-11, 7:29-31, 7:51-8:2, 8:11-15, Figs. 15, 168; Ex. 1004, 125-126; Ex. 1002, ¶¶342, 194-200, 35-40, 63-85, 437-472).

vi. [1e];

Malewski renders this claim limitation obvious per Section VII.D.1.a.vi. (Ex. 1007, 1:38-53, 3:24-50, 7:6-11, 4:44-5, 7:29-31, 7:51-8:2, 8:11-15; Ex. 1002, ¶¶343, 201-205, 35-40, 63-85, 437-472).

vii. [1f];

Malewski renders this claim limitation obvious per Section VII.D.1.a.vii. (Ex. 1007, 1:35-58, 3:43-45, 7:51-8:9, Figs. 16, 17; Ex. 1001, 1:44-50; Ex. 1016, 20; Ex. 1002, ¶¶344, 206-229, 35-40, 63-85, 437-472).

Even if Malewski alone does not render this claim limitation obvious, a POSITA would understand the importance of preventing a non-operational detector

from being installed. (Ex. 1001, 1:44-50; Ex. 1002, ¶¶345-348). Indeed, for replaceable-battery alarms, the 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, ¶345; Ex. 1043). A POSITA would have looked to references which taught (or augmented) the required visual indication, such as STP2003. (*See* Ex. 1008, 5; Ex. 1002, ¶¶345-348).

STP2003 describes changing the UL Standards to require a "prominent visual indication that" an "alarm employing a non-replaceable primary battery" is "not in operating condition." (Ex. 1008, 5). 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 therefore 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, ¶346).

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). Particularly given the breadth of this particular claim limitation, which does not specify a particular way to prevent

reattachment, the teachings of STP2003 augment Malewski to render this element obvious. (Ex. 1002, ¶¶344-348, 206-229, 35-40, 63-85, 437-472).

b. Dependent Claims 2-7

i. Claim 2.

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, ¶¶349, 230-233, 35-40, 63-85, 437-472).

ii. Claim 3.

Malewski renders this claim obvious per Section VII.D.1.b.ii. (Ex. 1007, 1:5-10, 1:12-13; Ex. 1002, ¶¶350, 234-236, 35-40, 63-85, 437-472).

iii. Claim 4.

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, ¶¶351, 237-239, 35-40, 63-85, 437-472).

iv. Claim 5.

Malewski renders this claim obvious per Section VII.D.1.b.iv. (Ex. 1007, 5:3-18, 1007, 1:38-58, 2:35-43; Ex. 1004, 131; Ex. 1005, 2:35-43, 3:38-44, 3:56-57, 4:22-23, 4:47-51, 5:3-18; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14; Ex. 1002, ¶¶352, 240-246, 35-40, 63-85, 437-472).

v. Claim 6.

Malewski renders this claim obvious per Section VII.D.1.b.v. (Ex. 1007, 1:38-47, 1:50-53, 3:56-57; Ex, 1004, 131; Ex. 1005, 2:35-43, 4:66-5:10; Ex. 1025, 43:14-44:8, 48:15-19, 73:11-74:14; Ex. 1002, ¶¶353, 247-251, 35-40, 63-85, 437-472).

vi. Claim 7.

Malewski renders this claim obvious per Section VII.D.1.b.vi. (Ex. 1007, 1:35-43, 1:50-53; Ex. 1005, 1:44-45, 3:17-25, 4:35-39; Ex. 1002, ¶¶354, 252-254, 35-40, 63-85, 437-472).

c. Independent Claim 12

i. [12Pre]:

To the extent the preamble is limiting, Malewski discloses an electronic device as discussed in Section VII.D.1.c.i. (Ex. 1007, 1:5-10; Ex. 1005, 1:5-10, 2:33-35, 2:61-64; Ex. 1002, ¶¶180-182, 35-40, 63-85).

ii. [12a];

Malewski discloses a first portion as discussed in Section VII.D.1.c.ii. (Ex. 1007, 3:33-35, Fig. 1; Ex. 1002, ¶¶256, 183-185, 35-40, 63-85).

iii. [12b];

Malewski renders this claim limitation obvious per Section VII.D.1.c.iii. (Ex. 1007, 3:33-35, 4:63-5:4; Ex. 1002, ¶¶257, 186-189, 35-40, 63-85).

iv. [12c];

Malewski renders this claim limitation obvious per Section VII.D.1.c.iv. (Ex. 1007, 3:24-42; Ex. 1002, ¶¶358, 258-261, 35-40, 63-85).

v. [12d];

Malewski renders this claim limitation obvious per Section VII.D.1.c.v. (Ex. 1007, 1:35-58; Ex. 1005, 2:35-43, 4:9-13, 4:34-51; Ex. 1002, ¶¶359, 262-268, 35-40, 63-85).

vi. [12e].

Malewski renders this claim limitation obvious per Section VII.D.1.c.vi. (Ex. 1007, 3:43-45, 7:51-8:7, Figs. 16, 18; Ex. 1002, ¶¶360, 269-286, 35-40, 63-85).

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, 1:44-50; Ex. 1002, ¶¶360-363). 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, ¶361). A POSITA would therefore have looked to references which taught the required visual indication, such as STP2003. (*See* Ex. 1008, 5; Ex. 1002, ¶¶360-363; 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, ¶361).

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, ¶362).

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, ¶¶359-363, 269-286, 35-40, 63-85, 437-472).

d. Dependent Claims 13-15

i. Claim 13.

Malewski renders this claim obvious per Section VII.D.1.d.i. (Ex. 1007, 1:12-13, 2:13-38; 3:33-35, 4:63-5:4; Ex. 1002, ¶¶287, 230-233, 35-40, 63-85, 437-472).

ii. Claim 14.

Malewski renders this claim obvious per Section VII.D.1.d.ii. (Ex. 1007, 1:5-10, 1:12-13; Ex. 1002, ¶¶288, 234-236, 35-40, 63-85, 437-472).

iii. Claim 15.

Malewski renders this claim obvious per Section VII.D.1.d.iii. (Ex. 1007, 1:5-10, 1:12-13, 2:13-38; Ex. 1002, ¶¶289, 237-239, 35-40, 63-85, 437-472).

G. Ground 5: Claims 1-7 and 12-15 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, ¶¶367-369).

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, ¶¶370-384). 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, ¶¶370-384, 35-40, 63-85).

2. Claims 1-7 and 12-15 are Obvious over Byrne '354 in view of Byrne '311

a. Independent Claim 1

i. [1Pre]:

Byrne '354 describes an electronic device, namely a smoke alarm device with battery back-up. (Ex. 1009, ¶¶[0001]-[0002], [0004], [0022]; Ex. 1002, ¶¶370, 35-40, 63-85).

ii. [1a];

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).

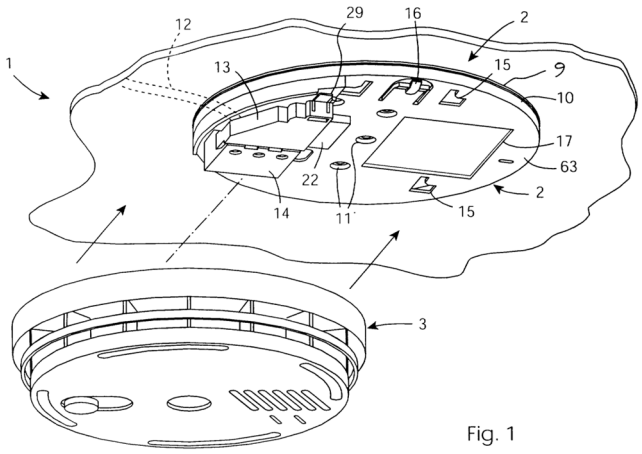


Fig. 1

(Ex. 1009, Fig. 1).

This base is the first portion. (Ex. 1002, ¶¶371, 35-40, 63-85).

iii. [1b];

Byrne ’354 describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶[0022]; Ex. 1002, ¶¶372-373). 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]).

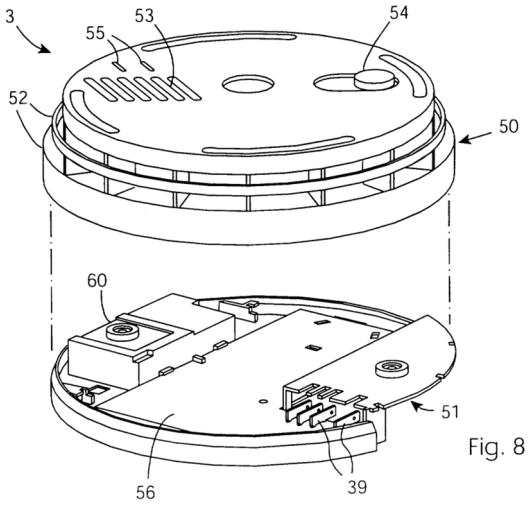


Fig. 8

(Ex. 1009, Fig. 8). Byrne ’354 teaches this limitation. (Ex. 1002, ¶¶372-373, 35-40, 63-85).

iv. [1c];

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, ¶374). "[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." (*Id*.) Byrne '354 renders this claim element obvious. (Ex. 1002, ¶¶374, 35-40, 63-85).

v. [1d];

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, ¶¶375-376). "[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*.) A POSITA would understand that by reversing the rotation and disengaging the alarm body from the base would serve to deactivate the device. (Ex. 1002, ¶¶375-376). Byrne '354 renders this claim feature obvious. (Ex. 1002, ¶¶375-376, 35-40, 63-85).

vi. [1e];

Byrne '311 describes an alarm comprising a control circuit having a "one-way de-activation or OFF switch 29" and a "one-way activation or ON switch 30." (Ex. 1010, 4:20-22; Ex. 1002, ¶377). Deactivation via the described OFF switch includes exposing a lead of the alarm "in a manner whereby it may be cut by the user." (Ex.

1010, 5:4-9). This "cutting of a wire is to the user clearly a destructive operation and is not reversible." (*Id.*) Byrne '311 alone or in combination with Byrne '354 render this claim feature obvious. (Ex. 1002, ¶¶377, 35-40, 63-85).

vii. [1f].

Byrne '311 describes an 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). "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). This "cutting of a wire is to the user clearly a destructive operation and is not reversible." (Ex. 1010, 5:18-19; Ex. 1002, ¶378).

Byrne '354 further describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶[0022]; Ex. 1002, ¶379). 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]). 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, ¶379).

A POSITA would understand that the combined teachings of Byrne '354 and Byrne '311 teach this limitation. (Ex. 1002, ¶¶380-834). Specifically, 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. Such application would result in the physical removal of the connection between the power source, such as the power mains terminated in main terminals 25 in terminal block 14 on the base (i.e. the first portion), and the control circuitry of the alarm, such as the sensor circuit housed in the alarm body (i.e. the second portion). (Ex. 1010, 5:4-9; Ex. 1009, ¶[0028]; Ex. 1002, ¶¶380-384).

Combining Byrne '354 and Byrne '311 teaches that this physical disabling of the connection between the power source may result in an alarm body that is not capable of reattachment to the base once deactivated. (Ex. 1002, ¶¶378-384, 35-40, 63-85).

b. Dependent Claims 2-7

i. Claim 2.

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, ¶385). 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, ¶385). Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶385, 35-40, 63-85).

ii. Claim 3.

Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶386, 35-40, 63-85).

iii. Claim 4.

Byrne '354 describes the device as a smoke or heat alarm. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶387, 35-40, 63-85).

iv. Claim 5.

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." (Ex. 1010, 5:20-31; Ex. 1002, ¶388). The sliding switch "may only be pushed once and may not be reversed back to the OFF position." (*Id.*) A POSITA would have understood that the sliding switch results in three positions: pre-ON switch activation, ON, and OFF. (Ex. 1002, ¶388).

A POSITA would have considered obvious the concept of using a switch to activate the device in order to avoid power drain in the batteries, such as the backup batteries of Byrne '354 or the sealed power source of Byrne '311, before the user desired the alarm to be operational. (Ex. 1010, 1:19-25, 4:13-20; Ex. 1009, ¶[0028]; Ex. 1005, 3:38-44 (noting a UL requirement to ship in the pre-activated state); Ex. 1002, ¶388). Because a slider configured for one-way movement and having three

positions was well-known in the art, a POSITA would find this claim feature to be obvious. (Ex. 1002, ¶¶388, 35-40, 63-85).

v. Claim 6.

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." (Ex. 1010, 5:20-31; Ex. 1002, ¶389). The sliding switch "may only be pushed once and may not be reversed back to the OFF position." (*Id.*) A three position switch connected to a slider is well-known in the art. (Ex. 1002, ¶¶389, 35-40, 63-85).

vi. Claim 7.

Byrne '354 describes a battery compartment for alarms which include a replaceable battery. (Ex. 1009, ¶¶[0017]-[0018]). Similarly, Byrne '311 describes an alarm comprising long-life lithium batteries, housed in a compartment 20, powering a control circuit with a one-way activation switch. (Ex. 1010, 4:13-22; Ex. 1002, ¶¶390-392). "The compartment 20 comprises a rectangular chamber 40 enclosing the three batteries 26 and preventing user access." (Ex. 1010, 4:23-26, 6:12-14). The combination of Byrne '354 and Byrne '311, therefore, renders this claim feature obvious. (Ex. 1002, ¶¶390-392, 35-40, 63-85).

c. Independent Claim 12

i. [Pre12]:

Byrne ’354 renders this claim feature obvious per Section VII.G.2.a.i. (Ex. 1009, ¶¶[0001]-[0002], [0004], [0022]; Ex. 1002, ¶¶393, 370, 35-40, 63-85).

ii. [12a];

Byrne ’354 renders this claim feature obvious per Section VII.G.2.a.ii. (Ex. 1009, ¶¶[0022]-[0023], Fig. 1; Ex. 1002, ¶¶394, 371, 35-40, 63-85).

iii. [12b];

Byrne ’354 renders this claim feature obvious per Section VII.G.2.a.iii. (Ex. 1009, ¶¶[0022]-[0023], [0028], Fig. 8; Ex. 1002, ¶¶395, 372-373, 35-40, 63-85).

iv. [12c];

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. 1005, ¶[0031]; Ex.1002, ¶396). “[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, ¶397).

Accordingly this claim feature is obvious. (Ex. 1002, ¶¶396-398, 35-40, 63-85).

v. [12d],

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, ¶399). "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, ¶399). This "cutting of a wire is to the user clearly a destructive operation and is not reversible." (Ex. 1010, 5:4-9; Ex. 1002, ¶399).

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, wherein the permanent deactivation mechanism is accessible when the first and second portions are detached." (Ex. 1002, ¶¶399-401). The combination of Byrne '354 and Byrne '311 renders this claim limitation obvious. (Ex. 1002, ¶¶399-401, 35-40, 63-85).

vi. [12e].

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, ¶402).

Byrne ’354 further describes an alarm device comprising a base and an alarm body. (Ex. 1009, ¶¶[0022], [0023]; Ex. 1002, ¶403). 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. 1005, ¶[0031]; Ex.1002, ¶403).

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, ¶404). 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, ¶404).

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, ¶¶402-408).

Accordingly, a POSITA would find this element obvious in view of Byrne '354 and Byrne '311. (Ex. 1002, ¶¶402-408, 35-40, 63-85).

d. Dependent Claim 13-15

i. Claim 13.

Byrne '354 renders this claim obvious per Section VII.G.2.b.i. (Ex. 1009, ¶¶[0001], [0022]-[0023], [0028]; Ex. 1002, ¶¶409, 385, 35-40, 63-85).

ii. Claim 14.

Byrne '354 renders this claim obvious per Section VII.G.2.b.ii. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶410, 386, 35-40, 63-85).

iii. Claim 15.

Byrne '354 renders this claim obvious per Section VII.G.2.b.iii. (Ex. 1009, ¶[0001]; Ex. 1002, ¶¶411, 387, 35-40, 63-85).

H. Ground 6: Claims 12-15 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 '158 Patent, and therefore within the technical grasp of a POSITA. (Ex. 1002, ¶¶412-413). Both references describe battery-operated life safety alarms. (Ex. 1010, 1:1-10; Ex. 1006, 3:26-34). A POSITA would have been motived 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, ¶¶412-413).

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, ¶¶412-413, 35-40, 63-85).

2. Claims 12-15 are Obvious over Byrne '311 in view of DeLuca '487

a. Independent Claim 12

i. [12Pre]:

Byrne '311 describes a battery-powered alarm device. (Ex. 1010, cover, 1:1-10; Ex. 1002, ¶¶414, 35-40, 63-85).

ii. [12a];

Byrne '311 describes a detector, but does not describe how the detector mounts. (Ex. 1002, ¶415). A POSITA would have looked to other detector devices for mounting solutions, such as the detector of DeLuca '487. (Ex. 1002, ¶415).

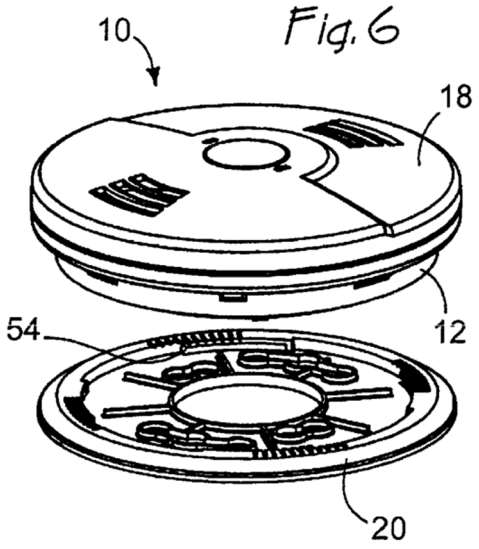
DeLuca '487 describes a detector comprising a base 12 and a bracket 20 to which the detector base is mounted. (Ex. 1006, 3:23-34). Byrne '311 in view of

DeLuca ’487, therefore, discloses “the first portion,” as recited in claim 12. (Ex. 1002, ¶¶415-416).

iii. [12b];

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, ¶417).

DeLuca ’487 describes a detector comprising a bracket 20 and a detector base 12. (Ex. 1006, 3:23-34; Ex. 1002, ¶418). 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, ¶¶417-420, 35-40, 63-85).

iv. [12c];

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, ¶¶421-423, 35-40, 63-85).

v. [12d],

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, ¶424). Byrne '311 renders this claim element obvious (Ex. 1002, ¶¶424-427, 35-40, 63-85).

vi. [12e].

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, ¶428). 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, ¶¶428-429).

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, ¶430).

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, ¶¶428-431). A POSITA would have, therefore, sought to combine the functionality of both detectors, and found this element obvious as a result. (Ex. 1002, ¶¶428-431, 35-40, 63-85).

b. Dependent Claim 13-15

i. Claim 13.

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, ¶¶432-433).

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 circuity….” (Ex. 1006, 3:23-42; Ex. 1002, ¶¶432-433). Byrne ’311 in view of DeLuca ’487, therefore, discloses the subject matter of this claim. (Ex. 1002, ¶¶432-433, 35-40, 63-85).

ii. Claim 14;

Byrne ’311 describes a smoke alarm. (Ex. 1010, cover, 1:1-10, 4:1-12; Ex. 1002, ¶¶434, 35-40, 63-85).

iii. Claim 15.

Byrne ’311 describes a smoke alarm. (Ex. 1010, cover, 1:1-10, 4:1-12; Ex. 1002, ¶¶435, 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. Sanoki-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 '158 Patent is unpatentable under 37 C.F.R. § 42.108(c). (Ex. 1002, ¶¶1-448).

Respectfully submitted by

K&L GATES LLP,

By: /Benjamin E. Weed/
Benjamin E. Weed
Reg. No. 65,939

X. CLAIM APPENDIX OF THE CHALLENGED CLAIMS

[1Pre] An electronic device, comprising:

[1a] a first portion;

[1b] 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

[1c] cooperating features on the first portion and the second portion that automatically activate the second portion upon initial attachment of the second portion to the first portion;

[1d] wherein the cooperating features comprise an activate/deactivate system, the activate/deactivate system being configured to automatically activate the second portion upon initial attachment of the second portion to the first portion;

[1e] wherein the activate/deactivate system is configured to enable the user to manually deactivate the second portion; and

[1f] wherein, when deactivated, the second portion cannot be reactivated and the second portion cannot be reattached to the first portion.

[2] The electronic device of claim 1, 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.

[3] The electronic device of claim 2, wherein the alarm portion includes a system to detect a life threatening condition.

[4] The electronic device of claim 3, wherein the detection system comprises a smoke detection system.

[5] The electronic device of claim 1, wherein the activate/deactivate system comprises a slider configured for one-way movement and having three positions.

[6] The electronic device of claim 5, wherein the device electronics comprises a three position switch connected to the slider.

[7] The electronic device of claim 1, wherein the battery is sealed inside the second portion whereby the battery is not user replaceable.

[12Pre] An electronic device, comprising:

[12a] a first portion;

[12b] 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;

[12c] an activation mechanism to activate the second portion;

[12d] a permanent deactivation mechanism to permit permanent deactivation of the second portion after the second portion has been activated, wherein the permanent deactivation mechanism is accessible when the first and second portions are detached; and

[12e] a reattachment prevention mechanism to prevent reattachment of the first and second portions once the second portion is permanently deactivated.

[13] The electronic device of claim 12, 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.

[14] The electronic device of claim 13, wherein the alarm portion includes a system to detect a life threatening condition.

[15] The electronic device of claim 14, wherein the detection 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 1st day of June, 2023:

23552 - MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, MN 55402

With an electronic courtesy copy to litigation counsel:

David M. Hoffman
Fish & Richardson P.C.
111 Congress Avenue, Suite 810
Austin, TX 78701
KiddeFRService@fr.com

Aamir A. Kazi
Wonjoon Chung
Fish & Richardson P.C.
1180 Peachtree Street NE, 21st Floor
Atlanta, GA 30309
KiddeFRService@fr.com

Michael F. Autuoro
Scott M. Flanz
Fish & Richardson P.C.
7 Times Square Tower, 20th Floor
New York, NY 10036
KiddeFRService@fr.com

By: /Benjamin E. Weed/

Benjamin E. Weed
Reg. No. 65,939
Customer No. 24573
K&L GATES LLP
benjamin.weed.ptab@klgates.com
telephone: (312) 807-4236
fax: (312) 827-8145
70 W. Madison Street, Suite 3300
Chicago, IL 60602

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 13,985 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.

By: /Benjamin E. Weed/

Benjamin E. Weed
Reg. No. 65,939
Customer No. 24573
K&L GATES LLP
benjamin.weed.ptab@klgates.com
telephone number: (312) 807-4236
fax number: (312) 827-8145
70 W. Madison Street, Suite 3300
Chicago, IL 60602