

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROKU, INC.,
Petitioner,

v.

ECOLINK INTELLIGENT TECHNOLOGY, INC.,
Patent Owner.

Case IPR2023-00792
Patent No. 10,692,340

PETITION FOR *INTER PARTES* REVIEW

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LIST OF EXHIBITS

Exhibit ("EX")	Description
1001	U.S. Patent No. 10,692,340 ("340")
1002	File History of U.S. Application No. 16/200,172, which led to U.S. Patent No. 10,692,340 ("340 Application")
1003	Declaration of Bruce McNair ("McNair")
1004	U.S. Patent Application No. 15/946,511
1005	U.S. Patent No. 10,497,230
1006	U.S. Patent Application No. 14/629,370
1007	U.S. Patent No. 9,940,797
1008	Redline Comparison – Specification of U.S. Patent No. 10,497,230 compared to Specification of U.S. Patent No. 10,692,340
1009	U.S. Patent Application Publication No. 2016/0247370 ("Lamb")
1010	U.S. Patent No. 6,057,764 ("Williams")
1011	U.S. Patent No. 7,696,873 ("Sharma")

LIST OF CLAIMS

[1.pre]	A barrier alarm device, comprising:
[1.a]	a barrier status detection device for indicating that a barrier monitored by the barrier alarm device has been opened;
[1.b]	a human detection device for indicating that a human being is inside a premises in proximity to the barrier;
[1.c]	a transmitter for transmitting a timed alarm signal to a receiver associated with a security panel, the timed alarm signal for initiating a timer associated with the security panel;
[1.d]	a memory having processor-executable instructions stored thereon; and
[1.e]	a processor coupled to the barrier status detection device, the human detection device, the transmitter, and the memory, for executing the processor-executable instructions that cause the barrier alarm device to:
[1.f]	respond to the barrier status detection device indicating that the barrier has been opened by determining whether the human detection device indicates that the human being is inside the premises in proximity to the barrier; and
[1.g]	transmit, via the transmitter, the timed alarm signal to the receiver only when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier.
[2]	The barrier alarm of claim 1, wherein the processor-executable instructions further comprise instructions that cause the barrier alarm device to transmit, via the transmitter, an immediate alarm signal to the receiver for causing a security response to be initiated when it is determined that the human detection device does not indicate that the human being is inside the premises in proximity to the barrier.
[6.pre]	A central security panel, comprising:

[6.a]	a communication interface for receiving signals from a barrier alarm device;
[6.b]	a memory for storing processor-executable instructions; and
[6.c]	a processor coupled to the communication interface and the memory, for processing the processor-executable instructions that causes the central security panel to:
[6.d]	receive a first alarm signal from a barrier alarm device that monitors a barrier of a premises, the first alarm signal indicative of the barrier being opened;
[6.e]	respond to the first alarm signal by determining whether a human being has been indicated to be inside the premises and in proximity to the barrier;
[6.f]	begin a measuring of an elapsed time from when the first alarm signal was received when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier;
[6.g]	determine whether the elapsed time has exceeded a predetermined time;
[6.h]	generate a security response when it is determined that the elapsed time has exceeded the predetermined time; and
[6.i]	provide the generated security response to a receiver via the communication interface.
[11.pre]	A method, comprising:
[11.a]	in response to a barrier status detection device associated with a barrier alarm device indicating that a barrier being monitored by the barrier alarm device has been opened, determining whether a human detection device associated with the barrier alarm device indicates that a human being is inside a premises monitored by a central security panel in proximity to the barrier; and
[11.b]	transmitting by the barrier alarm device a timed alarm signal to the central security panel for the purpose of initiating a timer associated

	with the central security panel only when it is determined that the human detection device indicates that the human being is in inside the premises and in proximity to the barrier.
[12]	The method of claim 11, further comprising transmitting by the barrier alarm device an immediate alarm signal to the central security panel for causing a security response to be initiated when it is determined that the human detection device does not indicate that the human being is in inside the premises and in proximity to the barrier.
[16.pre]	A method performed by a central security panel, comprising:
[16.a]	receiving a first alarm signal from a barrier alarm device that monitors a barrier of a premises, the first alarm signal indicative of the barrier being opened;
[16.b]	responding to the first alarm signal by determining whether a human being has been indicated to be inside the premises in proximity to the barrier;
[16.c]	starting a countdown timer when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier;
[16.d]	determining whether the countdown timer has expired;
[16.e]	in response to determining that the countdown timer has expired, generating a security response; and
[16.f]	providing the generated security response to a receiver via a communication interface.

I. INTRODUCTION

Petitioner Roku, Inc. (“Petitioner”) respectfully requests *inter partes* review (“IPR”) of Claims 1-2, 6, 11-12, and 16 (“Challenged Claims”) of U.S. Patent No. 10,692,340 (EX1001, “’340”), assigned to Ecolink Intelligent Technology, Inc. (“PO”) in accordance with §§311-319 and §42.100 et seq. There is a reasonable likelihood that at least one challenged claim is unpatentable as explained herein. Petitioner requests review of the Claims, and judgment finding them unpatentable under §103.

The ’340 is directed to a barrier alarm device for home and business security. ’340, Abstract, 1:15-18. The problem purportedly addressed by the ’340 is the need for a “system that allows occupants to open doors or windows while the security system is in an armed, ‘home’ mode of operation, without triggering an immediate, startling, audible alarm caused by a local siren.” ’340, Abstract, 1:15-18, 1:58-62. The ’340 states, for example, that occupants often forget that a security system is armed, and when they open a door, a false alarm is triggered. ’340, 1:44-52.

The Challenged Claims are thus directed to security systems and methods that generate alarm signals depending on both whether a barrier is open and whether a human is in proximity to the barrier. ’340, 3:63-4:33, claims 1, 6, 11, 16. During prosecution, the Applicant argued that the prior art of record did not teach

using “a status indication generated by a barrier alarm device and a status indication generated by a human detection device in a cooperative manner.”

EX1002, 243; see §V.B below.

Yet the use of status data from multiple sensors—including those sensing, in combination, barrier statuses and the presence of humans—was well-known in the art. For example, **Lamb** (EX1009) discloses a security system that is responsive to the same combination of sensors that, in view of **Williams** (EX1010), discloses a security system generating timed alarm signals in response to the same types of sensors, and **Sharma** (EX1011) discloses a security system that prevents false alarms and “allows people to move about within [a] perimeter ... without generating an alarm” based on sensing the statuses of a door sensing unit and a motion sensor. Lamb, [0037], [0040], [0058]-[0059]; Williams, 1:64-2:8, 2:66-3:38, 3:49-4:39; Sharma, 4:15-21, Fig. 5. The USPTO did not consider **Lamb**, **Williams**, **Sharma**, or any other reference providing analogous disclosures during the '340's prosecution.

Petitioner requests that the Board institute trial and find the Claims unpatentable.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

A. Real Party-In-Interest

Pursuant to 37 C.F.R. §42.8(b)(1), Petitioner identifies Roku, Inc. as real party-in-interest.

B. Related Matters

Petitioner is not aware of any related matters.

C. Lead and Back-up Counsel, and Service Information

Lead Counsel	Backup Counsel
Scott A. McKeown Reg. No. 42,866 ROPES & GRAY LLP 2099 Pennsylvania Avenue, NW Washington, D.C. 20006-6807 Phone: 202-508-4740 Fax: 617-235-9492 scott.mckeown@ropesgray.com Mailing address for all PTAB correspondence: ROPES & GRAY LLP IPRM—Floor 43 Prudential Tower 800 Boylston Street Boston, Massachusetts 02199-3600	Matthew J. Rizzolo Reg. No. 57,565 (Back-up) Brendan F. McLaughlin Reg. No. 75,899 (Back-up) Victor Cheung Reg. No. 66,229 (Back-up) ROPES & GRAY LLP 2099 Pennsylvania Avenue, NW Washington, D.C. 20006-6807 matthew.rizzolo@ropesgray.com brendan.mclaughlin@ropesgray.com victor.cheung@ropesgray.com

Petitioner consents to electronic service of documents to the email addresses of the counsel identified above.

III. PAYMENT OF FEES

The undersigned authorizes the Office to charge the fee required by 37 C.F.R. §42.15(a) and any additional fees to Deposit Account No. 18-1945, under Order No. 111813-0032-652. Any additional fees that might be due are also authorized.

IV. REQUIREMENTS FOR IPR

A. Grounds for Standing

Pursuant to §42.104(a), Petitioner certifies '340 is available for IPR and Petitioner is not barred or estopped from requesting IPR on the following grounds.

B. Identification of Challenge

Pursuant to §§42.104(b), Petitioner requests IPR of the Challenged Claims and that the Board cancel the same as unpatentable.

1. The Specific Art on Which the Challenge is Based

Name	Exhibit	Filed	Published	Prior Art
Lamb	1009	2/23/2015	8/25/2016	§102(a)(1)
Williams	1010	8/20/1998	5/2/2000	§102(a)(1)-(2)
Sharma	1011	9/12/2006	4/13/2010	§102(a)(1)-(2)

The '340 was filed 11/26/2018, and on its face, the '340 claims to be a “Continuation-in-part of application No. 15/946,511, filed Apr. 5, 2018, now Pat. No. 10,497,230, which is a division of application No. 14/629,370, filed on Feb. 3,

2015, now Pat. No. 9,940,797.”¹ EX1001, 1. However, the Challenged Claims are not entitled to the benefit of the filing dates of either of the parent applications, **to which the ’340 is a continuation-in-part (“CIP”)**, because the Challenged Claims include subject matter that was not disclosed in those applications. See MPEP §211.05.I.B (“if a claim in a continuation-in-part application recites a feature which was not disclosed or adequately supported by a proper disclosure under 35 U.S.C. 112 in the parent nonprovisional application, but which was first introduced or adequately supported in the continuation-in-part application, such a claim is entitled only to the filing date of the continuation-in-part application”) (citing *In re Chu*, 66 F.3d 292 (Fed. Cir. 1995); *Transco Products, Inc. v. Performance Contracting Inc.*, 38 F.3d 551 (Fed. Cir. 1994); *In re Van Lagenhoven*, 458 F.2d 132, 136 (CCPA 1972)). Unlike a continuation application, which presumably includes the same specification as its parent, a CIP, by definition includes new matter not included in the parent. MPEP §201.08. Thus, a CIP may include claims that do not include written description support in its parent. Such claims are only accorded a filing date of the CIP itself. As is the case here, publications of the earlier filings in the CIP chain become prior art to such

¹ Lamb (EX1009) is the pre-grant publication of application 14/629,370 and shows the application’s filing date as 2/23/2015.

“new matter” claims. *Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1352 (Fed. Cir. 2012) (finding claims issued from CIP application obvious in light of parent patent).

“In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112.” *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1571 (Fed. Cir. 1997); *see also* MPEP §211.05; §120. To satisfy the written description requirement of §112, the disclosure of the priority application must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date”—not merely render the invention obvious. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010). Here, the Challenged Claims recite limitations directed to “a timed alarm signal” (independent claims 1 and 11), “measuring of an elapsed time from when the first alarm signal was received” (independent claim 6), and “starting a countdown timer” (independent claim 16). The parent applications do not disclose or reasonably suggest any subject matter related to timed alarms, measuring times, or starting countdown timers. *See* EX1004-1007 (the parent applications, as filed, and their issued patents), EX1008 (redline comparison, between the specifications of U.S. Patent No. 10,497,230 and

the '340, showing significant differences between the disclosures, including the addition of timing features throughout the specification).

Accordingly, the Challenged Claims are only entitled to the 11/26/2018 filing date of the '340.

(a) §325(d) is inapplicable

Considering the two-part framework discussed in *Advanced Bionics, LLC v. Med-El Elektromedizinische Gerate GMBH*, IPR2019-01469, Pap. 6, *8-9, the Board should not exercise its §325(d) discretion to deny institution.

The grounds raised by this Petition are not the same or substantially the same as the art and arguments raised during '340's prosecution. The Examiner did not consider **Lamb, Williams, Sharma**, or art with substantially the same disclosures (or the same or substantially the same arguments) as those herein. Although the Examiner initially rejected claims based on combinations including Lamb (U.S. 2013/0257611), Meier (U.S. 2010/0245088), and Ohtsubo (U.S. 6,542,071), the Applicant argued that the prior art of record did not disclose or suggest “us[ing] a status indication generated by a barrier alarm device and a status indication generated by a human detection device in the cooperative manner.” See §V.B below. This feature is disclosed by **Lamb** and by **Sharma** as discussed in detail below. See §VIII.

Even if the art and arguments were substantially the same, the Examiner erred in a manner material to the patentability of the Claims. Where the “Examiner did not expressly consider” **Lamb, Williams, and Sharma**, it is difficult, if not impossible, to explain “why the Examiner allowed the claims” or “how the Examiner might have considered the arguments presented in the Petition.” *Bowtech, Inc. v. MCP IP, LLC*, IPR2019-00379, Pap. 14, *20 (declining to exercise §325(d) discretion). Even if the Examiner had considered substantially the same art as that relied on herein, the Examiner would have erred in allowing the claims. Specifically, to the extent the Examiner considered references that purportedly teach using a barrier alarm device and a human detection device in a cooperative manner, the Examiner erred in failing to reject the Challenged Claims over a combination of any of those references and art teaching security systems.

The Board should not exercise its §325(d) discretion to deny institution.

(b) §314(a) is inapplicable

There is no co-pending litigation involving the ’340 that would warrant discretionary denial of this Petition based the factors in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Pap. 11.

2. Statutory Grounds on Which the Challenge is Based

Petitioner respectfully requests cancelation of the Challenged Claims on the following grounds:

Ground	Statute	Claim(s)	Prior Art
1	§103	1-2, 6, 11-12, 16	Lamb in view of Williams
2		1, 11	Sharma

See §VIII.

V. BACKGROUND

A. '340 Patent

'340 is directed to systems and methods for differentiating the security response of a barrier alarm system. It discloses a **barrier alarm device 104** comprising a **barrier status detection device 306** and a **human detection device 304**. '340, 8:27-31. **Barrier status detection device 306** monitors the status of a **barrier** and determines whether it is open or closed. '340, 8:60-9:2. **Human detection device 304** monitors for the presence of a human. '340, 9:2-12.

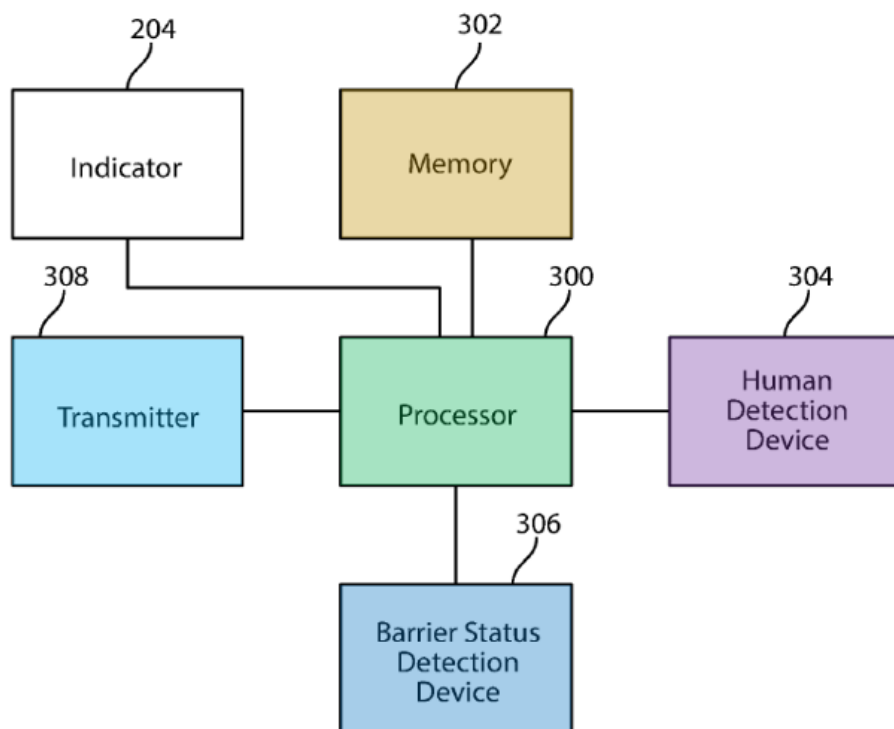


FIG. 3

'340, Fig. 3 (annotated); McNair, ¶31.

The system is responsive to the status of both the **barrier status detection device 306** and the **human detection device 304**. For example, **processor 300** on **barrier alarm device 104** responds to an indication from **barrier status detection device 306** that a **door/window** is open by determining whether **human detection device 304** shows that someone is inside the premises at a distance close enough to the **barrier** to have opened it. '340, 9:62-65, 15:66-16:20. If **barrier status detection device 306** detects that a **door/window** has been opened, and if **human detection device 304** detects someone inside the premises, **processor 300** will

transmit a message causing the **control panel** to initiate a timed alarm signal that, *e.g.*, starts a timer that triggers a security response upon expiration. '340, 2:40-48, 4:10-20, 16:54-57. Else, if **human detection device 304** does not detect someone inside the premises, **processor 300** will transmit a message causing the **control panel** to initiate an immediate alarm signal. '340, 4:28-33, 9:65-10:6, 17:35-39; McNair, ¶32.

B. Prosecution History of the '340 Patent

'340 issued from U.S. Application No. 16/200,172, filed on 11/26/2018. EX1002; McNair, ¶33.

On 9/26/2019, the Examiner issued an Office Action rejecting pending claims 1-20 as obvious over Lamb (2013/0257611; “Lamb-611”²) in view of Meier (2010/0245088).³ EX1002, 168-172. The Examiner determined that Lamb-611 taught every limitation except for a “human detection device for determining when a human being is inside the premises in proximity to the barrier” and found that it

² Lamb-611 and **Lamb** (EX1009) have different disclosures.

³ The Examiner further relied on Ohtsubo (6,542,071), which teaches monitoring for elapsed time and determining whether elapsed time exceeds a predetermined period, to reject pending claims 7-11 and 18-20. EX1002, 171-172.

would have been obvious to modify Lamb-611's device to include this feature given Meier's teachings. EX1002, 169; McNair, ¶34.

On 12/6/2019, in response to the rejection, Applicant argued that the combination of Lamb-611 and Meier does not teach **responding** to a door open signal from barrier status detection device by determining whether a human detection device indicates that a human being is inside the premises. EX1002, 243. Applicant also amended pending claims 1-3, 7-9, 12-14, 18-20 to clarify that the human detection device operates in response to signals from the barrier status detection device and cancelled pending claims 6 and 17.⁴ EX1002, 235-241; McNair, ¶35.

Examiner allowed the claims as amended on 2/10/2020. EX1002, 314-320; McNair, ¶36.

VI. LEVEL OF ORDINARY SKILL IN THE ART

On or before 11/26/2018, a POSITA would have had a bachelor's degree in computer science, in electrical engineering, or a related field, and approximately two or more years of experience or equivalent study in sensor systems. Additional

⁴ Applicant amended the pending claims again on 1/23/2020 to correct several typographical errors. EX1002, 251-257.

graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education. McNair, ¶¶37-40.

VII. CLAIM CONSTRUCTION

Claim terms subject to IPR are to be “construed using the same claim construction standard that would be used to construe the claim in a civil action under §282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” §42.100(b). Only terms necessary to resolve the controversy need to be construed. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); McNair, ¶41.

VIII. GROUNDS OF UNPATENTABILITY

This Petition is supported by the Declaration of Bruce McNair, which describes the prior art’s scope and content at the time of the ’340. McNair, ¶¶1-30. The prior art renders the Claims unpatentable for two independent reasons. McNair, ¶¶42-46.

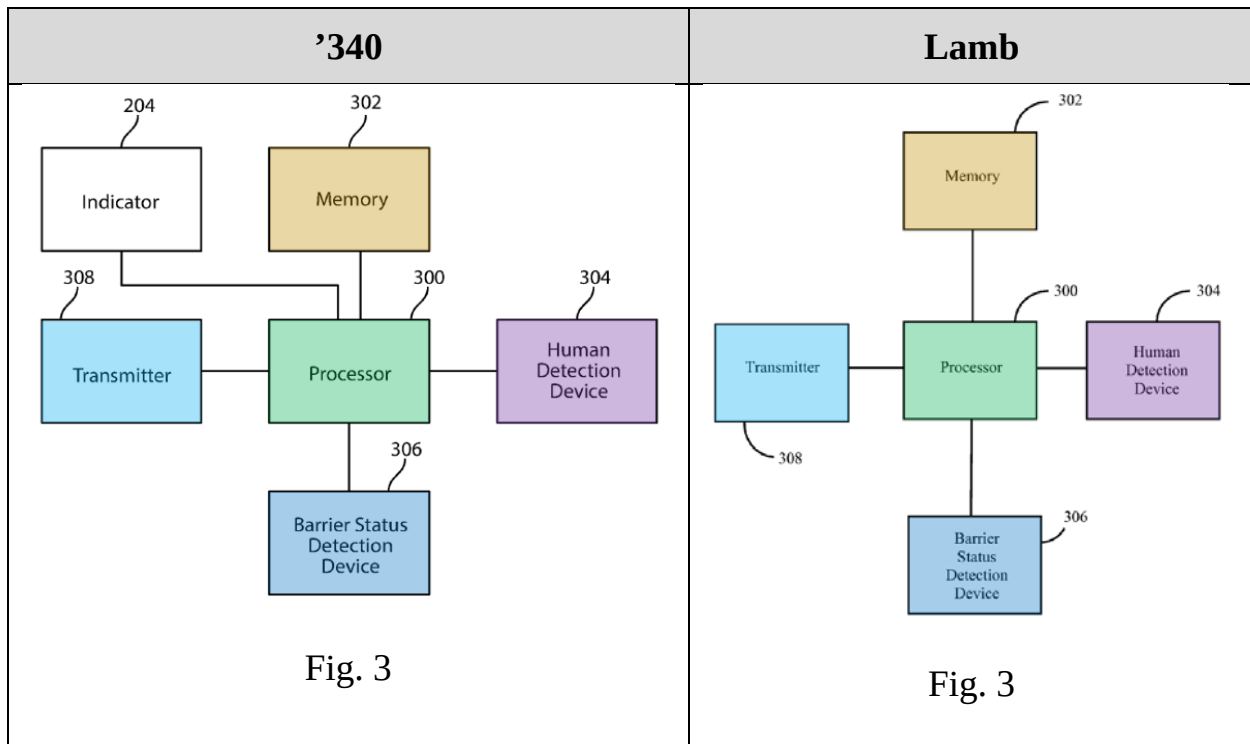
A. Ground 1: Claims 1-2, 6, 11-12, and 16 are rendered obvious by Lamb in view of Williams

1. Overview of Lamb

Lamb is the publication of application U.S. 14/629,370, to which the ’340 is a CIP, and discloses many of the same core features described and claimed in the

'340, with the exception of the timing-related disclosures newly added in the CIP '340 Application. See §IV.B.1; McNair, ¶47.

For example, **Lamb** discloses a **barrier alarm device** including **processor 300** coupled to **memory 302**, **human detection device 304**, **barrier status detection device 306**, and **transmitter 308**, each configured to perform the same or similar functions as in the '340. Lamb, Fig. 3, [0030]-[0037]. Compare Fig. 3 of the '340 with Fig. 3 of **Lamb**:



McNair, ¶48.

And, **Lamb** also discloses that its system is responsive to both the **barrier status detection device 306** and the **human detection device 304**. For example, **processor 300** responds to an indication from **barrier status detection device 306**

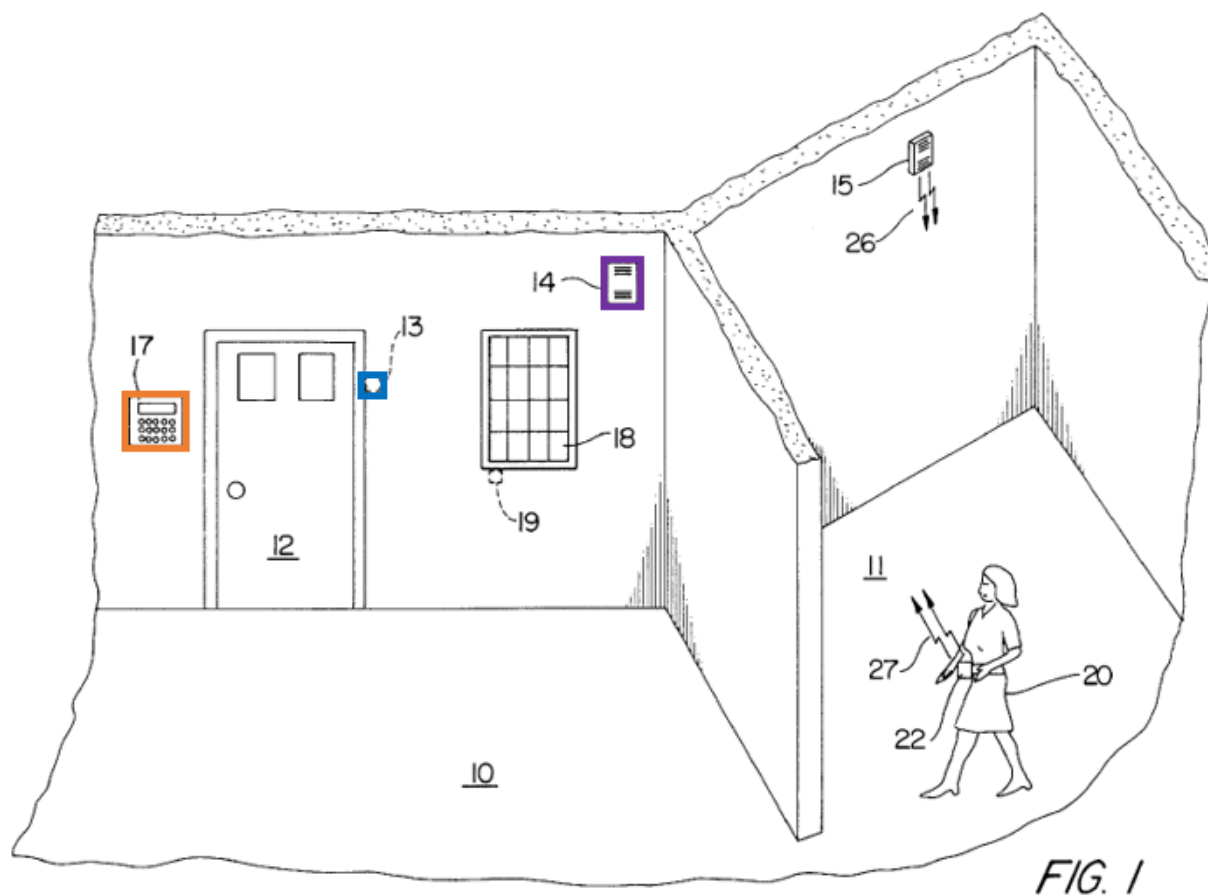
that a **door** is open by determining whether **human detection device 304** indicates that a human being is inside the premises. Lamb, [0037], [0040], [0058]-[0059]. If a human is detected inside the premises, it is an indication “that an authorized person inside the monitored premises has opened the barrier, and the **barrier alarm device** transmits a “bypass signal” to **central security panel 116**, which may cause the **central security panel 116** to ignore future alarm signals, disarm the system, and/or transmit notifications. Lamb, [0029], [0040], [0050], [0058]-[0061]. If, on the other hand, no human is detected inside the premises, the **barrier alarm device** transmits a message to **central security panel 116** to initiate an immediate alarm signal. Lamb, [0037], [0041], [0051]-[0053]; McNair, ¶49.

Alternatively, **central security panel 116** receives signals from the **barrier alarm device** regarding the statuses of **barrier status detection device 306** and **human detection device 304**, and **central security panel 116** makes determinations as to what signals to send in response, and when. Lamb, [0043]; McNair, ¶49.

2. Overview of Williams

Williams is in the same field of endeavor as the '340 and **Lamb** (*e.g.*, security and alarm systems) and is directed to a system for providing protection to authorized individuals in a secure space while retaining security against intruders.

'340, 1:15-18; Lamb, [0002]; Williams, 1:6-2:42. Fig. 1 illustrates a room including **door alarm switch 13**, **motion detector 14**, and **control panel 17**:



McNair, ¶50.

Williams discloses that “each activation of a motion detector causes a corresponding transceiver to inquire ... whether ... there is an authorized user in the space ... whereby a proper response will negate an alarm.” Williams, 1:64-2:8. For example, **control panel 17** will respond to potential alarms, based on an activation of **door alarm switch 13** or a motion detected by **motion detector 14**, by determining whether an authorized person likely caused the motion. Williams,

2:66-3:38, 3:49-4:39. In particular, **control panel 17** initializes a timer and waits for a reception of an authorization code from an authorized personal device. Williams, 3:49-4:39. If the timer expires before an authorized code is received, then an alarm is triggered. Williams, 1:64-2:8, 4:32-39. Accordingly, **Williams** discloses the use of a timed alarm signal because the signals that **control panel 17** receives from **door alarm switch 13** and **motion detector 14** cause **control panel 17** to initialize a timer, which triggers a security response upon expiration. McNair, ¶51.

3. Motivation to Apply Williams’ Teachings to Lamb

As explained in §VIII.A.1, **Lamb** discloses a system, including a **barrier alarm device** that, in response to determining that a **barrier** has been opened and a person is inside the premises, transmits a “bypass signal” to **central security panel 116** to ignore future alarm signals and/or disarm the system because the detected human is considered an “authorized” person. Lamb, [0037], [0040], [0058]-[0059]. It would have been obvious to a POSITA to modify **Lamb** to instead transmit a timed alarm signal and wait for reception of an authorized code from an authorized device, as taught by **Williams**, to enhance system security. McNair, ¶52.

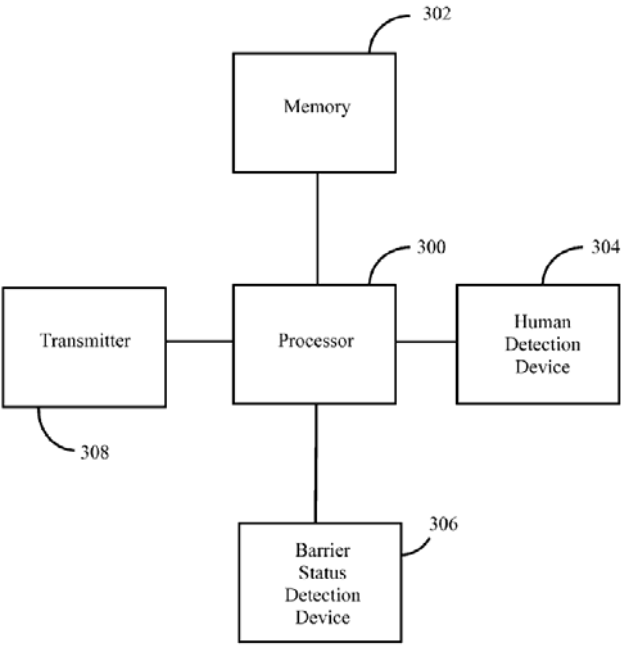
Both **Lamb** and **Williams** express a desire to secure a premises from unauthorized people while also allowing authorized people free use of the premises without triggering false alarms. Lamb, [0005]-[0006], [0041], [0050]; Williams,

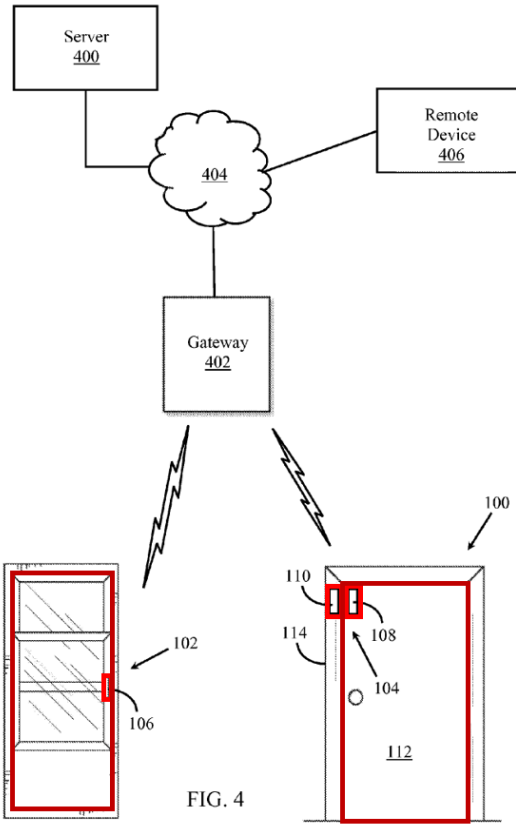
1:13-2:38, 5:63-66. While **Lamb** discloses its system determines that an authorized person is within the premises by detecting motion within the premises (*see* **Lamb**, [0040] (“this situation indicates that an authorized person inside the premises has opened the barrier”), a POSITA would have recognized that **Lamb** is simply making an assumption about the person and discloses no way of actually knowing if the person triggering the motion detector is an “authorized” person and not an unauthorized person. **McNair**, ¶53. **Williams** similarly discloses a system that permits an alarm to be bypassed if an authorized person is detected, but further teaches the known improvement of distinguishing unauthorized persons by actually verifying authorization, by way of a timed alarm signal that sets a period of time for reception of an authorization code from a device. A POSITA would have therefore been motivated to verify—and not assume—that a potential alarm was triggered by an authorized person, as taught by **Williams**, to enhance security and “provide[] significantly greater personal protection to individuals occupying a secure space” by only negating a potential alarm when an authorized person is detected, while still avoiding false alarms. **Williams**, 2:35-38. **Lamb**, as modified by **Williams**, would therefore have an “assurance that unauthorized entry of particular portions of the space will be detected.” **Williams**, 2:31-34, 5:63-66. **McNair**, ¶53.

A POSITA would have had a reasonable expectation of success modifying **Lamb**'s system to authenticate a potential alarm, via a timer and a device configured to transmit an authentication code, as taught by **Williams**. **Lamb** discloses that both its **barrier alarm device** and **central security panel** are devices capable of keeping time and also transmitting, receiving, and processing signals between each other and other devices such as gateways, servers, and remote devices. **Lamb**, [0030]-[0037], [0043]. A POSITA would have found it obvious and straightforward to implement the signal processing taught by **Williams**. McNair, ¶54.

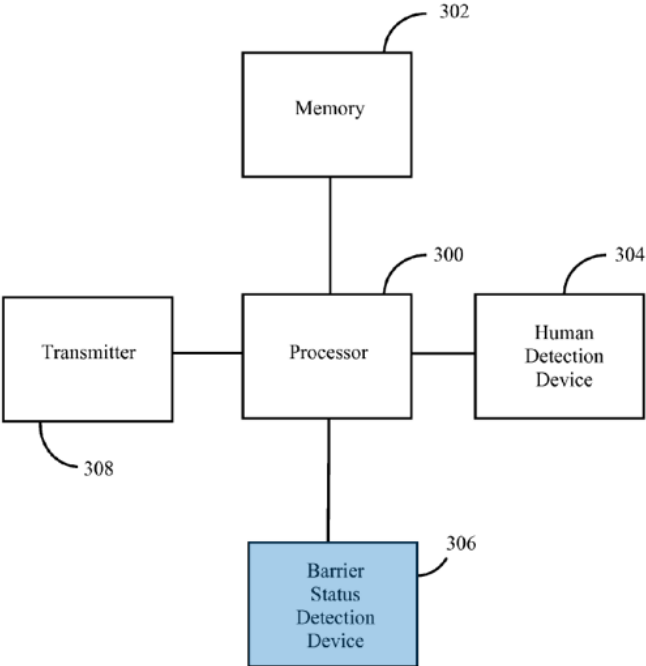
4. Claim Chart

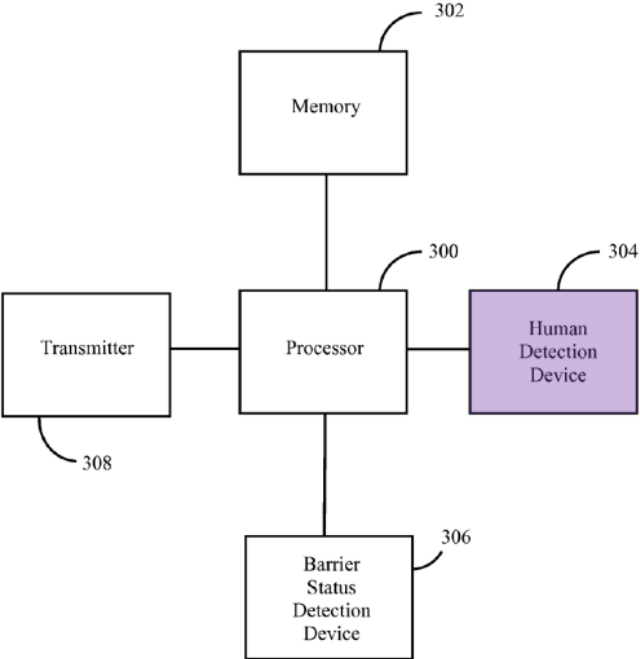
Claim	Lamb in view of Williams
[1.pre] A barrier alarm device, comprising:	To the extent the preamble is limiting, Lamb discloses a barrier alarm device (<i>e.g.</i>, “barrier alarm device”). <u><i>E.g., Lamb:</i></u> Lamb discloses a barrier alarm device, <i>e.g.</i>, barrier alarm device 104 that monitors door assembly 100 or barrier alarm device 106 that monitors window assembly 102. McNair, ¶¶55-57. • Fig. 3

Claim	Lamb in view of Williams
	<pre>graph TD; 302[Memory] --- 300[Processor]; 300 --- 308[Transmitter]; 300 --- 304[Human Detection Device]; 300 --- 306[Barrier Status Detection Device];</pre> FIG. 3 • Fig. 4

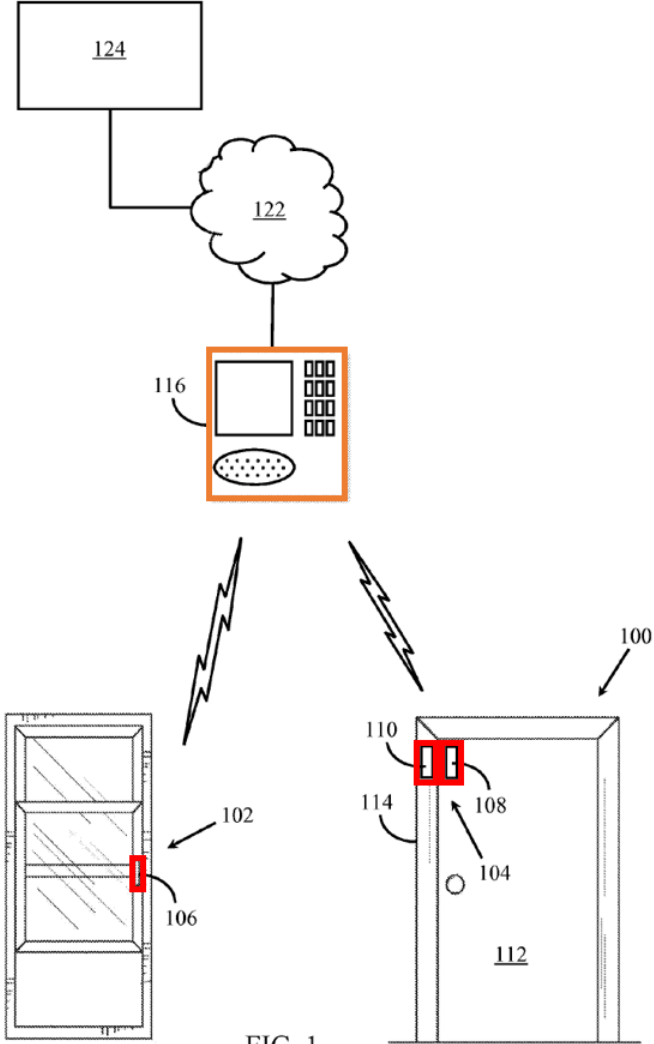
Claim	Lamb in view of Williams
	 FIG. 4 • [0017] (“The present application relates to <u>barrier alarm devices, such as door or window sensors</u>, that have a capability of reducing occurrences of false alarms.... “[B]arrier alarm device” means <u>any device used to monitor and report states, physical conditions, attributes, status, or parameters of an entrance/exit barrier such as a door, a window, a gate, etc.</u> Examples of barrier alarm devices comprise door and window sensors..., etc.”) • [0019] (“FIG. 1 is an illustration of a security system.... <u>In this embodiment a door assembly 100 and a window assembly 102 are monitored by barrier alarm devices 104 and 106, respectively.</u> In one embodiment, barrier alarm device 104 comprises magnet 108 mounted to door 112 and reed switch assembly 110 mounted to door frame 114, while

Claim	Lamb in view of Williams
	barrier alarm device 106 comprises a magnet-less type sensor....”) • [0030] (“<i>FIG. 3 is a functional block diagram of one embodiment of a portion of barrier alarm device 104 or 106</i> in accordance with the teachings herein. Specifically, FIG. 3 shows processor 300, memory 302, human detection device 304, a barrier status detection device 306, and transmitter 308.”) • See also Fig. 1, [0039].
[1.a] a barrier status detection device for indicating that a barrier monitored by the barrier alarm device has been opened;	Lamb discloses a barrier status detection device for indicating that a barrier monitored by the barrier alarm device has been opened (<i>e.g.</i>, “barrier status detection device” for providing signals “indicative of changes in ... physical conditions ..., such as the condition of a door or window being ‘open’ or ‘closed’”). <u>E.g., Lamb:</u> Lamb discloses that the barrier alarm device includes barrier detection device 306 that monitors and detects whether a door or window has been opened, <i>e.g.</i>, via a reed switch. McNair, ¶¶58-60. • Fig. 3

Claim	Lamb in view of Williams
	 FIG. 3 • [0030] (see [1.pre]) • [0033] (“<u>Barrier status detection device 306 is coupled to processor 300 and monitors or determines a state, physical condition, attribute, status, or parameter of something, such as the status (e.g., “open”, “closed”, “movement detected”, etc.) of a door, window, gate, or other entrance or exit barrier.</u> Barrier status detection device 306 may comprise a reed switch, ultrasonic transducer/receiver, an infrared transmitter/receiver, an RFID receiver, a tilt sensor, an accelerometer, a gyroscope, a motion sensor, or some other device <u>to determine whether a window is open or closed.</u>”) • See also [0037].
[1.b] a human detection device for indicating that a human being is	Lamb discloses a human detection device for indicating that a human being is inside a premises in proximity to the barrier (e.g., “human detection device,” an infrared transmitter/receiver, for

Claim	Lamb in view of Williams
inside a premises in proximity to the barrier;	“detecting[ing] the presence of a person in proximity to the barrier alarm device, either inside a monitored premises, outside a monitored premises, or both”). <u>E.g., Lamb:</u> Lamb discloses that the barrier alarm device includes human detection device 304 that monitors for and detects the presence of a person via, <i>e.g.</i>, an infrared transmitter/receiver. McNair, ¶¶61-63. Fig. 3 (excerpt)  <pre> graph TD 302[Memory] --- 300[Processor] 308[Transmitter] --- 300 304[Human Detection Device] --- 300 306[Barrier Status Detection Device] --- 300 style 304 fill:#d8bfd8 </pre> FIG. 3 [0034] (“<u>Human detection device 304</u> comprises a device or circuitry <u>to detect the presence of a person in proximity to the barrier alarm device</u>, either <u>inside a monitored premises</u>, outside a monitored premises, or both. Examples of human detection device 304 include an ultrasonic transducer/receiver, an infrared transmitter/receiver..., or some other circuitry or device able to detect the presence of a human being

Claim	Lamb in view of Williams
	proximate to the barrier alarm device, door, or window. The term “proximate to the barrier alarm device, door or window” means that a person is within a distance from a barrier alarm device, door, or window that the person could open the door or window where a barrier alarm device is installed.”) • <i>See also</i> [0035].
[1.c] a transmitter for transmitting a timed alarm signal to a receiver associated with a security panel, the timed alarm signal for initiating a timer associated with the security panel;	Lamb discloses a transmitter (<i>e.g.</i>, “transmitter”) for transmitting an alarm signal to a receiver associated with a security panel (<i>e.g.</i>, for transmitting an alarm signal “to a remote location, such as central security panel 116”). <u>E.g., Lamb:</u> Lamb discloses that the barrier alarm device includes transmitter 308 for transmitting alarm signals to a central security panel 116. McNair, ¶¶64-65, 67. A POSITA would have recognized that although Lamb does not <i>expressly</i> disclose that central security panel 116 includes an associated “receiver” for receiving alarm signals from the barrier alarm device, central security panel 116 would have necessarily included a receiver because Lamb discloses that the barrier alarm device and central security panel 116 communicate, <i>e.g.</i>, via Wi-Fi, RF, and telephone wiring. These transmitted electromagnetic signals, which travel through the air and/or wires to the central security panel 116, must be “received” by a “receiver” associated with the central security panel 116. McNair, ¶68. • Fig. 1

Claim	Lamb in view of Williams
	 FIG. 1 • Fig. 3

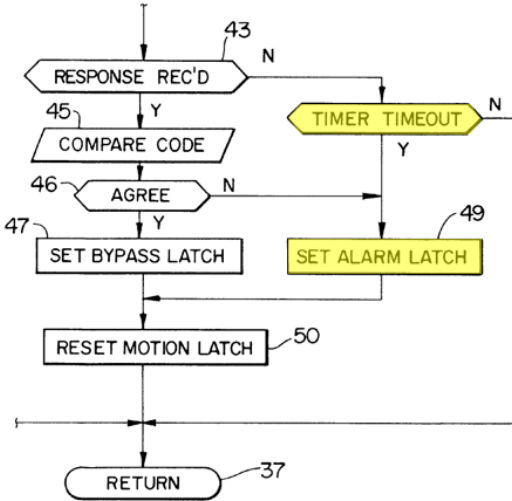
Claim	Lamb in view of Williams
	<pre> graph TD 302[Memory] --- 300[Processor] 308[Transmitter] --- 300 304[Human Detection Device] --- 300 306[Barrier Status Detection Device] --- 300 </pre> FIG. 3 [0020] (“<u>Each of the barrier alarm devices communicates with receiver, such as central security panel 116, typically using wireless RF signals generated by the barrier alarm devices and/or central security panel 116.</u> For example, if door 112 is opened, reed switch assembly 110 detects a reduction or elimination of a magnetic field produced by magnet 108 as magnet 108 moves away from reed switch assembly 110 as door 112 is opened. In response, reed switch assembly 110 transmits a message to central security panel 116 indicative of a local alarm condition, e.g., door 112 has been opened.”) [0036] (“<u>Transmitter 308 comprises circuitry necessary to wirelessly transmit alarm signals and/or status messages and/or other information from the barrier alarm device to one or more receivers, such as central security panel 116 or a gateway device coupled to a wide area network such as the Internet,</u>

Claim	Lamb in view of Williams
	either directly or through in intermediate device, such as a repeater, commonly used in popular mesh networks. Such circuitry is well known in the art and may comprise BlueTooth, Wi-Fi, RF, optical, ultrasonic circuitry, among others. Alternatively, or in addition, transmitter 308 comprises well-known circuitry to provide signals to central security panel 116 or a gateway via wiring, such as telephone wiring, twisted pair, two-conductor pair, CAT wiring, AC home wiring, or other type of wiring.”) • [0037] (“In any case, if processor 300 determines that a local alarm condition has occurred, <u>an alarm signal is provided to transmitter 308 for transmission to a remote location, such as central security panel 116 or a gateway</u>. In one embodiment, the alarm signal comprises a notification to central security panel 116 that a local alarm condition has been detected at a particular door or window being monitored by the barrier alarm device.”) • [0041] (“The alarm signal may also be <u>transmitted from the barrier alarm device to central security panel 116</u>.”) • See also [0022], [0029]. To the extent Lamb does not explicitly disclose transmitting a “timed alarm signal for initiating a timer associated with the security panel,” a POSITA would have been motivated to modify Lamb to transmit a timed alarm signal for initiating a timer when the barrier alarm device detects that the barrier has been opened and that a human is inside the premises, as taught by Williams, to “provide[] significantly greater personal protection to individuals occupying a secure space” by verifying that the potential alarm is indeed caused by an authorized person, and not an unauthorized person, as discussed in §VIII.A.3. Williams, 2:35-38; McNair, ¶¶66, 69.

Claim	Lamb in view of Williams
	Williams discloses a transmitter for transmitting a timed alarm signal to a receiver associated with a security panel (<i>e.g.</i>, a motion detector providing, via electromagnetic radiation to a control panel, a “violation signal indicative of a potential alarm in response to sensing motion within a space”), the timed alarm signal for initiating a timer associated with the security panel (<i>e.g.</i>, in response to receiving a signal when a human is detected, “control panel” initializes a timer that, upon timing out without receiving an authorized code, sets an alarm). <u>E.g., Williams:</u> Williams discloses that “a potential alarm created by motion within the room” causes a “transceiver within the control panel” to perform an “inquiry” as to whether an “authorized user” with an “appropriate code” is in the same space, “whereby a proper response will negate an alarm.” Williams, 1:64-2:8, 3:19-38; McNair, ¶70. For example, as shown in Fig. 2, Williams discloses that in response to a determination that motion has been detected (test 34), an inquiry for an authorized code is made (step 39), and a timer is initialized “to establish a period of time ... within which an authorized response must be received.” Williams, 3:56-4:3. If no response is received (test 43) and the timer times out (test 44), then an alarm latch is set, setting an alarm (step 49). Williams, 4:4-36. If an authorized response is received (test 43), then a bypass latch is set (step 47), and alarm step 49 is bypassed (test 48). Williams, 4:12-27. As further shown in Fig. 2A, the alarm latch may be set directly after the timeout. Williams, 5:3-5. Accordingly, Williams discloses that in response to receiving a signal that a human has been detected, “control panel” initializes a timer, and Williams’ signal is therefore a timed alarm signal associated with the control panel—the claimed “timed alarm signal” is only “for initiating a timer”

Claim	Lamb in view of Williams
	associated with the security panel.⁵ Upon timing out, the control panel sets an alarm. McNair, ¶71. Fig. 2 <pre> graph TD 28([DETECTOR]) --> 29[BYPASS LATCH] 28 --> 30[ALARM LATCH] 28 --> 31[MOTION LATCH] 31 -- Y --> 33[RESET TIMER] 31 -- N --> 34[MOTION DETCTD] 33 --> 34 34 -- Y --> 38[SET MOTION LATCH] 34 -- N --> 54[MOTION DETCTD] 38 --> 39[TRANSMIT INQUIRY] 39 --> 41[INITIALIZE TIMER] 41 --> 43{RESPONSE REC'D} 43 -- Y --> 45[COMPARE CODE] 43 -- N --> 44[TIMER TIMEOUT] 45 --> 46{AGREE} 46 -- Y --> 47[SET BYPASS LATCH] 46 -- N --> 44 47 --> 48{BYPASS LATCH} 48 -- Y --> 49[SET ALARM LATCH] 48 -- N --> 50[RESET MOTION LATCH] 44 -- Y --> 49 44 -- N --> 55[RESET PASS LATCH RESET ALARM LATCH] 54 --> 55 50 --> 55 55 --> 37([RETURN]) 49 --> 37 </pre> <i>FIG. 2</i> Fig. 2A

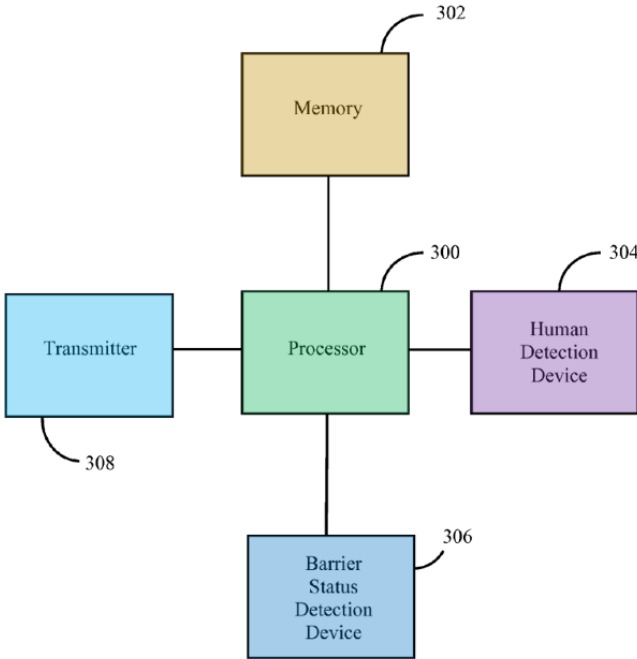
⁵ “Alert(s)” and “security response(s)” are separate elements in the ’340. See, e.g., claims [6.h]-[6.i], 13, [16.e].

Claim	Lamb in view of Williams
	 <pre> graph TD Start(()) --> 43{RESPONSE REC'D} 43 -- Y --> 45[/COMPARE CODE/] 45 -- Y --> 46{AGREE} 46 -- Y --> 47[SET BYPASS LATCH] 46 -- N --> 49[SET ALARM LATCH] 43 -- N --> 49 47 --> 50[RESET MOTION LATCH] 49 --> 50 50 --> 37([RETURN]) </pre> <i>FIG. 2A</i> • 1:64-2:8 (“<u>[E]ach activation of a motion detector causes a corresponding transceiver to inquire, by an electromagnetic transmission, whether or not there is an authorized user in the space, the portable device of the authorized user responding to the electromagnetic transmission with an appropriate code, whereby a proper response will negate an alarm.</u>”) • 3:9-38 (“In operation, <u>should the motion detector for instance, sense motion of the person 20, an interrogation by electromagnetic radiation ... will be received by the portable device 22, which in turn will respond with electromagnetic radiation ... in like kind with the transmission of the motion detector 15, the transmission from the device 22 including a code to authenticate the authority of the user to be within the secure space while the alarm is on....</u> Every possible switch or other sensor which could enter an alarm condition may similarly be provided with a transceiver, if desired.... For instance, <u>a transceiver within the control panel [17] may do the inquiry for a potential alarm created by the switch 13 on the</u>

Claim	Lamb in view of Williams
	entry door 12 as well as <u>for a potential alarm created by motion within the room 10</u>. Suffice it to say that any potential alarm condition can be associated with a challenge for an authorization signal to cause the potential alarm condition to be deemed to not be a breach of the secure space.”) 3:49-4:39 (“Referring now to FIG. 2, <u>a detector routine which performs the function of the invention with respect to a corresponding sensor, is reached through an entry point 28</u> and a first set of tests 29-31 determines if a pass latch, an alarm latch or a motion latch (described hereinafter) has been set or not. Prior to sensing motion, all three latches will not have been set, so negative results of tests 29-31 will reach a step 33 to reset a timer, as described more fully hereinafter. Then <u>a test 34 determines if the corresponding motion detector has detected motion</u>. ... <u>[I]f motion has been detected, an affirmative result of test 34 will reach a step 38 to set the motion latch</u>, so that future passes through the routine of FIG. 2 will not go through the step 33 or the test 34, as described hereinafter. Then, <u>a step 39 causes an inquiry signal to be transmitted to determine if there is an authorized personal device within the proximity of the detector to which this routine relates</u>. And, <u>a step 41 initializes a timer to establish a period of time (perhaps a second or fraction thereof) within which an authorized response must be received</u>. [¶] <u>A test 43 determines if a response has been received, and if not, a negative result reaches a test 44 to determine if the timer, initialized in step 41, has timed out or not</u>. Initially, it may not, so a negative result of test 44 reaches the return point 37 to free-up the computer for other tasks. In the next pass through the routine of FIG. 2, tests 29 and 30 are still negative but test 31 is affirmative, returning the routine to test 43 to determine if a response has been

Claim	Lamb in view of Williams
	received or not. <u>If a response has been received, an affirmative result of test 43 reaches a subroutine 45 to compare the authorization code within the response to the predetermined authorization code.... Then a test 46 determines if the two codes agree. If they do agree, an affirmative result of test 46 reaches a step 47 to set a bypass latch to indicate that this incidence of motion detection has responded to inquiry and has been authenticated.</u> Following comparison of the codes in the subroutine 45, if the test 46 is negative because the proper code was not received, the step 47 is bypassed. Then a test 48 determines if the bypass latch has been set or not; if not, an alarm latch is set in a step 49; but if the bypass latch is set, an affirmative result of test 48 avoids setting the alarm latch.... <u>On the other hand, if no response is received prior to time-out of the timer, the test 44 will be affirmative reaching the test 48 and the step 49 to similarly set the alarm latch. In other words, if a wrong code is received or no code is received, the alarm latch will be set in the step 49.</u> Thereafter, the step 50 will reset the motion latch to enable a future cycle of operation, and other programming is reverted to through the return point 37.”) • 7:43-63 (“<u>In any system which utilizes a warning sound and a delay in entering an alarm, as is typical at entry doors of conventional systems, then the present invention may be practiced by allowing the arming condition to go into effect, during which time if there is an authorized user, it will deactivate the alert condition causing the warning sound to cease and cancelling the alarm.</u>”) • Claim 1 (“An alarm system comprising: one or more <u>motion detectors for providing a violation signal indicative of a potential alarm in response to sensing motion within a space...</u>”)

Claim	Lamb in view of Williams
[1.d] a memory having processor-executable instructions stored thereon; and	• <i>See also Abstract, 2:11-18, Claims 5 and 8.</i>
	Lamb discloses a memory (e.g., “memory”) having processor-executable instructions stored thereon. <u>E.g., Lamb:</u> Lamb discloses that the barrier alarm device includes memory 302 that stores processor-executable instructions. McNair, ¶¶72-74. • Fig. 3 <pre> graph TD 302[Memory] --- 300[Processor] 300 --- 308[Transmitter] 300 --- 304[Human Detection Device] 300 --- 306[Barrier Status Detection Device] </pre> FIG. 3 • [0032] (“Memory 302 comprises one or more information storage devices, such as RAM memory.... <u>Memory 302 is used to store processor-executable instructions for operation of the barrier alarm device as well as any information used by processor 300</u>, such as threshold information, parameter information, identification information,

Claim	Lamb in view of Williams
	current or previous door or window status information, etc.”)
[1.e] a processor coupled to the barrier status detection device, the human detection device, the transmitter, and the memory, for executing the processor-executable instructions that cause the barrier alarm device to:	Lamb discloses a processor (e.g., “processor”) coupled to the barrier status detection device, the human detection device, the transmitter, and the memory, for executing the processor-executable instructions. <u>E.g., Lamb:</u> See [1.a]-[1.d]. Lamb discloses that the barrier alarm device includes processor 300 coupled to the barrier status detection device 306, the human detection device 304, the transmitter 308, and the memory 302, for executing the processor-executable instructions stored in the memory to control operations of the barrier alarm device. McNair, ¶¶75-77. Fig. 3  <pre> graph TD 302[Memory] --- 300[Processor] 300 --- 308[Transmitter] 300 --- 304[Human Detection Device] 300 --- 306[Barrier Status Detection Device] </pre> FIG. 3

Claim	Lamb in view of Williams
	• [0030] (see [1.pre]) • [0031] (“<u>Processor 300 is configured to provide general operation of the barrier alarm device by executing processor-executable instructions stored in memory 302, for example, executable code.</u> Processor 300 typically comprises a general purpose processor...”) • [0032] (see [1.d]) • [0033] (see [1.a]) • [0035] (“[W]hen a person approaches a door or window monitored by the barrier alarm device..., <u>human detection device 304 sends a signal to processor 300</u> when the person is within a predetermined distance from the barrier alarm device and, thus, the monitored door or window. In another embodiment, human detection device 304 is inactive until barrier status detection device 306 determines that a monitored door or window has been opened. In this embodiment, <u>barrier status detection device 306 sends a signal to processor 300, and processor 300 then activates the human detection device 304</u> to determine if a person is proximate to the barrier alarm device and, thus, the monitored door or window, either inside the monitored premises, outside, or both.”) • See also [0037], [0043]-[0061].
[1.f] respond to the barrier status detection device indicating that the barrier has been opened by determining whether the human detection device indicates that the human being is inside the premises	Lamb discloses the processor executing the processor-executable instructions to cause the barrier alarm device to (e.g., see [1.e]) respond to the barrier status detection device indicating that the barrier has been opened by determining whether the human detection device indicates that the human being is inside the premises in proximity to the barrier (e.g., “[i]f processor 300 determines that a door or window has been opened, it checks to see whether human detection device 304 has sensed a person proximate to the barrier alarm

Claim	Lamb in view of Williams
in proximity to the barrier; and	device, door, or window,” such as being “inside a monitored premises”). <u>E.g., Lamb:</u> See [1.a]-[1.e]. Lamb discloses that processor 300 in the barrier alarm device processes data from the barrier status detection device 306 (e.g., signals indicating whether a door is open) and the human detection device 304 (e.g., signals indicating a human is proximate to a door inside a premises). Lamb, [0037]. In a process, “if” the barrier status detection device 306 indicates that a door is “open,” then processor 300 determines whether human detection device 304 indicates that a human is inside a premises. Lamb, [0037], [0040]. See, e.g., steps 522 and 524. Lamb, Fig. 5, [0058]-[0059]; McNair, ¶¶78-80. • Fig. 5 <pre> graph TD subgraph Left_Process [Left Process] 500[Monitor Signals] --> 502[Barrier Opened] 502 --> 504[Determine that Barrier Has Been Opened] 504 --> 506[Determine Human Being Not In Proximity to Barrier] 506 --> 508[Generate Alarm Signal] 508 --> 510[Transmit Alarm Signal] 510 --> 512[Receive Alarm Signal by Central Security Panel] 512 --> 514[Determine Barrier in Closed Position] 514 --> C1[Continued] end subgraph Right_Process [Right Process] 516[Provide Signal to Transmitter] --> 518[Transmit Signal] 518 --> 520[Provide Signal to Remote Monitoring Station] 520 --> 522[Determine Barrier Has Been Opened] 522 --> 524[Determine Human Being Inside and In Proximity to Barrier] 524 --> 526[Generate Bypass Signal] 526 --> 528[Transmit Bypass Signal to Central Security Panel] end </pre> FIG. 5 FIG. 5 Continued

Claim	Lamb in view of Williams
	[0037] (“In normal operation, processor 300 executes processor-executable instructions stored in memory 302 that causes <u>processor 300 to monitor signals provided by barrier status detection device 306 indicative of changes in one or more states</u>, physical conditions, attributes, status, or parameters of something being monitored, <u>such as the condition of a door or window being “open” or “closed”</u>, changes between these states, or simply “movement”. <u>Processor 300 uses this data from barrier status detection device 306 to determine whether a predetermined condition has occurred relating to the barrier alarm device (herein “local alarm condition”), such as a door or window being monitored by the barrier alarm device changing state from “closed” to “open”, movement between these states, or simply “movement”</u>. Human detection device 304 monitors for the presence of a person proximate to the barrier alarm device, door or window and provides signals to processor 300 indicative of whether a human being is proximate or not. <u>If processor 300 determines that a door or window has been opened, it checks to see whether human detection device 304 has sensed a person proximate to the barrier alarm device, door, or window....</u> In any case, if processor 300 determines that a local alarm condition has occurred, an alarm signal is provided to transmitter 308 for transmission to a remote location, such as central security panel 116 or a gateway. In one embodiment, the alarm signal comprises a notification to central security panel 116 that a local alarm condition has been detected at a particular door or window being monitored by the barrier alarm device.”) [0040] (“In one embodiment, <u>when a barrier alarm device detects that a barrier, such as a door or a window, has been opened, and further that a human</u>

Claim	Lamb in view of Williams
	<i>being is inside the premises being monitored in proximity to the barrier</i> ... this situation indicates that an authorized person inside the monitored premises has opened the barrier.”) • [0058]-[0059] (“At block 522, after the barrier has been closed, <i>processor 300 determines that the barrier has been opened by detecting a change in a signal from barrier status detection device 306.</i> [¶] At block 524, <i>processor 300 determines that a human being is inside the premises in proximity to the barrier by evaluating the signals from human detection device 304.</i>”)
[1.g] transmit, via the transmitter, the timed alarm signal to the receiver only when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier.	Lamb discloses the processor executing the processor-executable instructions to cause the barrier alarm device to (e.g., see [1.e]) transmit, via the transmitter, a signal to the receiver (e.g., transmit to the receiver associated with central security panel 116 (see [1.c]), a bypass signal) only when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier (e.g., “when [the] barrier alarm device detects ... that a human being is inside the premises being monitored in proximity to the barrier”). <u>E.g., Lamb:</u> See [1.c]-[1.f]. As discussed for [1.f], Lamb discloses that processor 300 may, in at least one series of events, determine that a door is open and that a human is inside the premises in proximity to the door. Lamb, [0037], [0040], [0058]-[0059]. Lamb discloses that processor 300 interprets these detections as an indication “that an authorized person inside the monitored premises has opened the barrier.” Lamb, [0040]. In this event, the barrier alarm device transmits a “bypass signal” to central security panel 116, which may cause the central security panel 116 to ignore future alarm signals, disarm the system,

Claim	Lamb in view of Williams
	and/or transmit notifications regarding the open barrier and/or the status of the system. Lamb, [0029], [0040], [0050], [0058]-[0061]; McNair, ¶¶81-82, 84. • Fig. 5 <pre> graph TD 500[Monitor Signals 500] --> 502[Barrier Opened 502] 502 --> 504[Determine that Barrier Has Been Opened 504] 504 --> 506[Determine Human Being Not In Proximity to Barrier 506] 506 --> 508[Generate Alarm Signal 508] 508 --> 510[Transmit Alarm Signal 510] 510 --> 512[Receive Alarm Signal by Central Security Panel 512] 512 --> 514[Determine Barrier in Closed Position 514] 514 --> C1[Continued] 516[Provide Signal to Transmitter 516] --> 518[Transmit Signal 518] 518 --> 520[Provide Signal to Remote Monitoring Station 520] 520 --> 522[Determine Barrier Has Been Opened 522] 522 --> 524[Determine Human Being Inside and In Proximity to Barrier 524] 524 --> 526[Generate Bypass Signal 526] 526 --> 528[Transmit Bypass Signal to Central Security Panel 528] 528 --> C2[Continued] </pre> FIG. 5 FIG. 5 Continued • [0040] (“In one embodiment, <u>when a barrier alarm device detects</u> that a barrier, such as a door or a window, has been opened, and further <u>that a human being is inside the premises being monitored in proximity to the barrier</u>, the barrier alarm device does not send an alarm signal to gateway 402, as <u>this situation indicates that an authorized person inside the monitored premises has opened the barrier</u>. In another embodiment, <u>a bypass signal is transmitted to central security panel 116</u>, as described above.”) • [0060] (“At block 526, in response to determining <u>that the barrier has been opened and that a human</u>

Claim	Lamb in view of Williams
	<u>being is inside the premises in proximity to the barrier detection device</u>, processor 300 may refrain from sending an alarm signal to central security panel 116 and gateway 402. <u>Additionally, or alternatively, processor 300 generates a bypass signal and provides the bypass signal to transmitter 308 where it is transmitted to central security device 116 and/or gateway 402.</u> The bypass signal is an instruction to central security panel 116 to ignore future alarm signals generated by the barrier alarm device. The bypass signal may, additionally or alternatively, cause central security panel 116 to disarm the entire security system and to notify one or more persons that the security system has been disarmed, and/or that a barrier has been opened by an authorized person. Similarly, the bypass signal, or a different signal, may be transmitted to gateway 402....”) • See also [0037], [0050], [0058]-[0059]. As discussed in §VIII.A.3 and [1.c] above, a POSITA would have been motivated to modify Lamb to transmit a timed alarm signal when the barrier alarm device detects that the barrier has been opened and that a human is inside the premises, as taught by Williams, to provide significantly greater protection to individuals in the premises by verifying that the detected human is indeed an authorized person, and not an unauthorized person, as discussed in §VIII.A.3. McNair, ¶85. Williams discloses transmitting the timed alarm signal to the receiver (see [1.g]) when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier (e.g., in response to receiving a signal when a human is detected, “control panel” initializes a timer that, upon timing out without receiving an authorized code, sets an alarm).

Claim	Lamb in view of Williams
	<u>E.g., Williams:</u> As discussed for [1.c], Williams discloses that potential alarms are created when motion is detected, and an appropriate code must be received within a certain time period to negate the setting of an alarm at the end of the time period. The signal causing the control panel to initiate this timed process is a timed alarm signal. See [1.c]. McNair, ¶¶83, 86. • Fig. 2, Fig. 2A, 1:64-2:8, 3:9-38, 3:49-4:39, 7:43-63, Claim 1 (see [1.c]) • See also Abstract, 2:11-18, Claims 5 and 8.
[2] The barrier alarm of claim 1, wherein the processor-executable instructions further comprise instructions that cause the barrier alarm device to transmit, via the transmitter, an immediate alarm signal to the receiver for causing a security response to be initiated when it is determined that the human detection device does not indicate that the human being is inside the premises in proximity to the barrier.	See [1]. Lamb discloses the processor-executable instructions further comprising instructions that cause the barrier alarm device (e.g., see [1.e]) to transmit, via the transmitter (e.g., see [1.c]), an immediate alarm signal to the receiver for causing a security response to be initiated when it is determined that the human detection device does not indicate that the human being is inside the premises in proximity to the barrier (e.g., “[w]hen the barrier alarm device detects ... that a human being is not inside the premises being monitored in proximity to the barrier, the barrier alarm device sends an alarm signal” “to central security panel 116”). <u>E.g., Lamb:</u> As discussed for [1.f], Lamb discloses that processor 300 in the barrier alarm device processes data from the barrier status detection device 306 (e.g., signals indicating whether a door is open) and the human detection device 304 (e.g., signals indicating a human is proximate to a door inside a premises). Lamb, [0037]; McNair, ¶¶87-89. Lamb further discloses that processor 300 may, in at least one series of events, determine that a door is open and that a human is not inside the premises in proximity

Claim	Lamb in view of Williams
	to the door. Lamb, [0037], [0041], [0051]-[0053]. Lamb discloses that processor 300 interprets these detections as an indication that an “unauthorized person” has opened the barrier and sends an “alarm signal” to central security panel 116, causing it to, <i>e.g.</i>, trigger a siren or contact the authorities. McNair, ¶90. • Fig. 5 <pre> graph TD subgraph Left_Column [] direction TB 500[Monitor Signals] --> 502[Barrier Opened] 502 --> 504[Determine that Barrier Has Been Opened] 504 --> 506[Determine Human Being Not In Proximity to Barrier] 506 --> 508[Generate Alarm Signal] 508 --> 510[Transmit Alarm Signal] 510 --> 512[Receive Alarm Signal by Central Security Panel] 512 --> 514[Determine Barrier in Closed Position] 514 --> C[Continued] end subgraph Right_Column [] direction TB 516[Provide Signal to Transmitter] --> 518[Transmit Signal] 518 --> 520[Provide Signal to Remote Monitoring Station] 520 --> 522[Determine Barrier Has Been Opened] 522 --> 524[Determine Human Being Inside and In Proximity to Barrier] 524 --> 526[Generate Bypass Signal] 526 --> 528[Transmit Bypass Signal to Central Security Panel] end </pre> FIG. 5 FIG. 5 Continued • [0041] (“<u>When the barrier alarm device detects that a barrier has been opened, and further that a human being is not inside the premises being monitored in proximity to the barrier, the barrier alarm device sends an alarm signal to gateway 402</u>, as this situation indicates that an unauthorized person outside the monitored premises has opened the barrier.... <u>The alarm signal may also be transmitted from the barrier alarm device to central security panel 116.</u>”)

Claim	Lamb in view of Williams
	• [0051]-[0053] (“At block 508, <u>in response to determining that the barrier has been opened and that a human being is not inside the premises in proximity to the barrier, processor 300 generates an alarm signal and provides it to transmitter 308.</u> [¶] At block 510, <u>transmitter 308 transmits the alarm signal to receiver, such as central security panel 116.</u> Alternatively, or in addition, transmitter 308 transmits the alarm signal to gateway 402 connected to a wide area network, such as the Internet, for presentation to remote server 400. [¶] At block 512, <u>central security panel 116 receives the alarm signal from the barrier alarm device and takes at least one action.</u> For example, central security panel 116 may <u>cause a loud siren inside the premises to activate and/or send a remote alarm signal</u> to a remote monitoring station so that the remote monitoring station may summon appropriate authorities to the premises. Remote server 400 may also provide a notification to interested parties that an alarm signal was received.”)
[6.pre] A central security panel, comprising:	To the extent the preamble is limiting, Lamb discloses a central security panel (e.g., “central security panel”). <u>E.g., Lamb:</u> See [1.c]. Lamb discloses “central security panel 116.” McNair, ¶¶91-93. • Fig. 1, [0020], [0036]-[0037][0041] (see [1.c]).
[6.a] a communication interface for receiving signals from a barrier alarm device;	Lamb discloses a communication interface for receiving signals from a barrier alarm device (e.g., a receiver for receiving signals from a “barrier alarm device”). <u>E.g., Lamb:</u> See [1.pre], [1.c]. Lamb discloses that central security panel 116 receives signals from a barrier alarm device. A POSITA would have recognized that although Lamb

Claim	Lamb in view of Williams
	does not <i>expressly</i> disclose central security panel 116 including a “communication interface” for receiving signals from the barrier alarm device, a “communication interface” or “receiver” would have been necessary for the disclosed Wi-Fi, RF, and telephone communications. See [1.c]. McNair, ¶¶94-96. • Figs. 1 and 3, [0020], [0036]-[0037], [0041] (see [1.c])
[6.b] a memory for storing processor-executable instructions; and	Lamb discloses a memory for storing processor-executable instructions. <u>E.g., Lamb:</u> Lamb discloses that the barrier alarm device is configured with memory 302 for storing processor-executable instructions, processor 300 for executing the instructions, and transmitter 308 for transmitting signals to central security panel 116. See [1.c]-[1.e]. McNair, ¶¶97-99. Lamb further discloses that central security panel 116 may be configured to “receive[] ... status signals” and “make determinations” based on the status signals instead of the barrier alarm device. Lamb, [0023], [0043]. A POSITA would have recognized that although Lamb does not <i>expressly</i> disclose central security panel 116 including a memory and processor for receiving and processing signals and making determinations, such configuration would have been obvious to include, if not necessary, because Lamb discloses central security panel 116 as a partial replacement/alternative for performing functions of the barrier alarm device, which is configured with such components, and because the reception and processing of such signals and data (<i>e.g.</i>, communicated over a network) is well-known to use memories and processors. McNair, ¶100. • [0023] (“In other embodiments, <i>central security panel 116</i> simply receives raw data from the barrier

Claim	Lamb in view of Williams
	<u>alarm devices and determines, based on the data, whether a local alarm condition has occurred.”)</u> • [0043] (“In another embodiment, barrier alarm device 106 does not make determinations as to when to transmit an alarm signal and/or a bypass signal. <u>Instead, processor 300 monitors barrier status determination device 306 and human detection device 304 and transmits a barrier status signal and a human status signal, respectively, to gateway 402, central security panel 116, or both, when a change in state of one or both devices occurs.</u> Remote server 400 and/or <u>central security panel 116 receives these status signals and determines whether a local alarm condition exists and whether to transmit an alarm signal to one or more remote devices 406 of interested parties and/or to a remote monitoring station 124.”)</u>)
[6.c] a processor coupled to the communication interface and the memory, for processing the processor-executable instructions that causes the central security panel to:	Lamb discloses a processor coupled to the communication interface and the memory, for processing the processor-executable instructions. <u>E.g., Lamb:</u> See [6.a]-[6.b]. As discussed for [6.a]-[6.b], Lamb discloses, and at least renders obvious, that central security panel 116 includes a communication interface for receiving signals from the barrier alarm device and a processor for processing processor-executable instructions. Because central security panel 116 receives signals and further processes and makes determinations based on those signals, based on executable instructions, Lamb discloses, and at least renders obvious, that the processor is coupled to the communications interface and memory to facilitate access to the signals and instructions. McNair, ¶¶101-103. • [0023], [0043] (see [6.b])
[6.d] receive a first alarm signal from a	Lamb discloses the processor processing the processor-executable instructions (see [6.c]) to cause

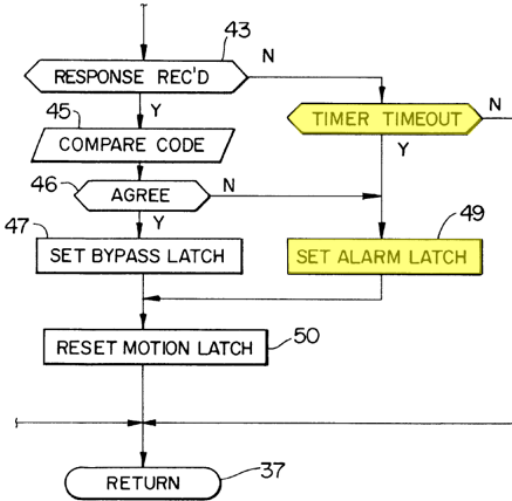
Claim	Lamb in view of Williams
barrier alarm device that monitors a barrier of a premises, the first alarm signal indicative of the barrier being opened;	the central security panel to receive a first alarm signal from a barrier alarm device that monitors a barrier of a premises, the first alarm signal indicative of the barrier being opened (e.g., “[i]f ... the authorized person ... opens the barrier, barrier alarm device 106 transmits a barrier status signal to ... central security panel 116”). <u>E.g., Lamb:</u> See [1.a], [1.c], [1.f], [6.a]-[6.c]. Lamb discloses that barrier detection device 306 of the barrier alarm device monitors and detects whether a barrier has been opened. See [1.a]. If a barrier has been opened, then the barrier alarm device “transmits a barrier status signal to ... central security panel 116 ... indicative of the barrier being opened.” Lamb, [0043]; McNair, ¶¶104-106. • [0043] (“If ... the authorized person instead opens the barrier, <i>barrier alarm device 106 transmits a barrier status signal</i> to gateway 402, <i>central security panel 116</i>, or both, <i>indicative of the barrier being opened.</i>”)
[6.e] respond to the first alarm signal by determining whether a human being has been indicated to be inside the premises and in proximity to the barrier;	Lamb discloses the processor processing the processor-executable instructions (see [6.c]-[6.d]) to cause the central security panel to respond to the first alarm signal by determining whether a human being has been indicated to be inside the premises and in proximity to the barrier (e.g., responds to an indication of the barrier being opened by determining “the last known state of human detection device 304”). <u>E.g., Lamb:</u> See [1.a]-[1.b], [1.f], [6.d]. Lamb discloses that central security panel 116 responds to a signal indicating a barrier being opened (as in [6.d]) by determining the last known state of human detection device 304, which indicates whether a human is inside a

Claim	Lamb in view of Williams
	premises in proximity to the barrier (as in [1.b], [1.f]). Different actions may be taken depending on whether a human has been indicated to be inside the premises. McNair, ¶¶107-109. • [0043] (<i>“If remote server 400 and/or central security panel 116 receives this status indication signal [of the barrier being opened], and the last known state of human detection device 304 is “person detected inside in proximity to barrier”, then remote server 400 and/or central security panel 116 does not generate an alarm signal (but may provide a notification to interested parties of the status of the barrier such as “barrier open/authorized person present”). If no authorized person was present when the human status signal was received indicating that the barrier had been opened, remote server 400 and/or central security panel 116 generates an alarm signal that may provided to one or more interested parties and/or to remote monitoring station 124.”</i>)
[6.f] begin a measuring of an elapsed time from when the first alarm signal was received when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier;	Lamb discloses the processor processing the processor-executable instructions (see [6.c]-[6.d]) to respond to a determination that the human being has been indicated to be inside the premises in proximity to the barrier (e.g., “[i]f ... person detected inside in proximity to the barrier ... provide a notification to interested parties of the status of the barrier”). <u>E.g., Lamb:</u> See [1.c]-[1.g]. See also: • [0043] (<i>“If... the last known state of human detection device 304 is “person detected inside in proximity to barrier”, then remote server 400 and/or central security panel 116 ... may provide a notification to interested parties of the status of the barrier such as “barrier open/authorized person present”).</i>

Claim	Lamb in view of Williams
	As discussed for [1.c] and [1.g], a POSITA would have been motivated to modify Lamb to initiate a timer associated with the central security panel, as taught by Williams, to provide significantly greater protection to individuals in the premises by verifying that the potential alarm is indeed caused by an authorized person, and not an unauthorized person, as discussed in §VIII.A.3. McNair, ¶¶110-111, 113. Williams discloses a central security panel configured to begin a measuring of an elapsed time when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier (<i>e.g.</i>, in response to receiving a signal when a human is detected, “control panel” initializes a timer that, upon timing out without receiving an authorized code, sets an alarm). <u>E.g., Williams:</u> See [1.c]. As discussed for [1.c] and [1.g], Williams discloses that a countdown timer is initialized upon determination of a potential alarm (<i>e.g.</i>, an open door or detected motion)—and so discloses the control panel processor configured to begin measuring an elapsed time from when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier. Williams, 1:64-2:8, 3:19-38, 3:56-4:3, 4:12-27, 5:3-5; McNair, ¶¶112, 114. • Figs. 2 and 2A, 1:64-2:8, 3:9-38, 3:49-4:39, 7:43-63, Claim 1 (<i>see</i> [1.c]) • See also Abstract, 2:11-18, Claims 5 and 8. To the extent this limitation is interpreted as measuring the elapsed time specifically starting from the receipt of the first alarm signal (indicative of the barrier being opened, as in [6.d]) and not measuring the elapsed time from the determination that the human being is inside the premises (as in [6.e]; <i>see</i> '340, 2:30-36, 16:54-57, 21:22-

Claim	Lamb in view of Williams
	32, 24:6-20), it would have been obvious to a POSITA to measure either elapsed time. As discussed, Lamb discloses that once an open barrier is detected, the processor checks “the last known state of [the] human detection device.” Lamb, [0043]. Because Lamb does not require a new reading of the human detection device, the difference between the receipt of the first alarm signal and the determination of the human being would have been the mere fractions of a second required to lookup “the last known state.” Accordingly, a POSITA would have recognized that, in view of Williams’ teachings to initialize the timer from any potential alarm situation, measuring an elapsed time from when the human being is detected is substantially the same, and therefore an obvious variation of, measuring an elapsed time upon receipt of the first alarm signal indicating the open door. McNair, ¶115. A POSITA would have further considered it obvious to do so because it is ultimately a design choice for implementation. Whether the time is counted as 3 seconds or 3.5 seconds is arbitrary, as Williams does not require the time period to be any particular length. Williams merely suggests an example period as “perhaps” one second. Williams, 3:67-4:3. A POSITA, possessing ordinary creativity and “being able to fit the teachings ... together like pieces of a puzzle,” would have balanced the various needs of security, speed, processing time, transmission time, etc. to choose an appropriate time period. <i>KSR International Co. v. Teleflex Inc.</i>, 550 U.S. 398, 420 (2007). McNair, ¶116.
[6.g] determine whether the elapsed time has exceeded a predetermined time;	Lamb in view of Williams renders obvious the processor processing the processor-executable instructions (see [6.c]-[6.d]) to cause the central security panel to determine whether the elapsed time has exceeded a predetermined time (e.g., determine a “time-out of the timer”).

Claim	Lamb in view of Williams
	As discussed for [6.f], Lamb in view of Williams renders obvious that the central security panel initializes a timer that, upon expiration, sets an alarm. Williams discloses that a “time-out of the timer” or “timer timeout” is determined. McNair, ¶¶117-119. <u>E.g., Williams:</u> See [6.f]. Fig. 2 <pre> graph TD 28([DETECTOR]) --> 29[BYPASS LATCH] 29 --> 30[ALARM LATCH] 30 --> 31[MOTION LATCH] 31 -- Y --> 33[RESET TIMER] 31 -- N --> 34[MOTION DETCTD] 34 -- Y --> 38[SET MOTION LATCH] 38 --> 39[TRANSMIT INQUIRY] 39 --> 41[INITIALIZE TIMER] 41 --> 43[RESPONSE REC'D] 43 -- N --> 44[TIMER TIMEOUT] 43 -- Y --> 45[COMPARE CODE] 45 --> 46[AGREE] 46 -- Y --> 47[SET BYPASS LATCH] 46 -- N --> 44 47 --> 48[BYPASS LATCH] 48 -- Y --> 49[SET ALARM LATCH] 48 -- N --> 50[RESET MOTION LATCH] 49 --> 50 50 --> 55[RESET PASS LATCH RESET ALARM LATCH] 55 --> 54[MOTION DETCTD] 54 -- Y --> 33 54 -- N --> 37([RETURN]) 44 -- Y --> 49 44 -- N --> 37 </pre> <i>FIG. 2</i> Fig. 2A

Claim	Lamb in view of Williams
	 <i>FIG. 2A</i> • 4:32-34 (“[I]f no response is received prior to <u>time-out of the timer</u>, ... set the alarm latch.”)
[6.h] generate a security response when it is determined that the elapsed time has exceeded the predetermined time; and	Lamb in view of Williams renders obvious the processor processing the processor-executable instructions (see [6.c]-[6.d]) to cause the central security panel to generate a security response when it is determined that the elapsed time has exceeded the predetermined time (e.g., setting the alarm, notifying of the alarm, illuminating lights, sounding alerts). As discussed for [6.f], Lamb in view of Williams renders obvious that the central security panel initializes a timer that, upon expiration, sets an alarm. Lamb and Williams each disclose that an alarm condition is a security response. McNair, ¶¶120-125. <u>E.g., Lamb:</u> • [0023] (“When a local alarm condition is detected, <u>central security panel 116 generates a system alarm which may comprise taking one or more actions, such as notifying remote monitoring station 124 that a local alarm condition has occurred, illuminating</u>

Claim	Lamb in view of Williams
	one or more lights, <u>sounding</u> one or more audible alerts, etc.”) • [0043] (“Remote server 400 and/or <u>central security panel 116</u> receives these status signals and <u>determines whether a local alarm condition exists and whether to transmit an alarm signal to one or more remote devices 406 of interested parties and/or to a remote monitoring station 124.</u>”) <u>E.g., Williams:</u> See [6.f]-[6.g]. • 4:32-34 (“[I]f no response is received prior to <u>time-out of the timer</u>, ... <u>set the alarm latch.</u>”)
[6.i] provide the generated security response to a receiver via the communication interface.	Lamb in view of Williams renders obvious the processor processing the processor-executable instructions (see [6.c]-[6.d]) to cause the central security panel to provide the generated security response to a receiver via the communication interface (e.g., “transmit an alarm signal” to a remote station or device of the alarm condition, via the communication interface). As discussed for [6.f], Lamb in view of Williams renders obvious that the central security panel initializes a timer that, upon expiration, sets an alarm. Lamb discloses transmitting signals to “remote” devices to notify others of the alarm condition. As discussed for [6.a], central security panel 116 communicates with other devices over, e.g., “Wi-Fi,” with the communication interface. McNair, ¶¶126-128. <u>E.g., Lamb:</u> See [6.a], [6.f]. • [0023], [0043] (see [6.h])
[11.pre] A method, comprising:	Lamb’s barrier alarm device of claim 1, which also transmits alarm signals to, and is therefore monitored by,

Claim	Lamb in view of Williams
[11.a] in response to a barrier status detection device associated with a barrier alarm device indicating that a barrier being monitored by the barrier alarm device has been opened, determining whether a human detection device associated with the barrier alarm device indicates that a human being is inside a premises monitored by a central security panel in proximity to the barrier; and	a central security panel, is configured to perform a method including the same steps claimed in [11.a]-[12]. See [1.c]-[1.f]. Lamb therefore discloses, or renders obvious in view of Williams, [11.a], [11.b], and [12] for the same reasons discussed in [1.f], [1.g], and [2], respectively. McNair, ¶¶129-143.
[11.b] transmitting by the barrier alarm device a timed alarm signal to the central security panel for the purpose of initiating a timer associated with the central security panel only when it is determined that the human detection device indicates that the human being is in inside the	

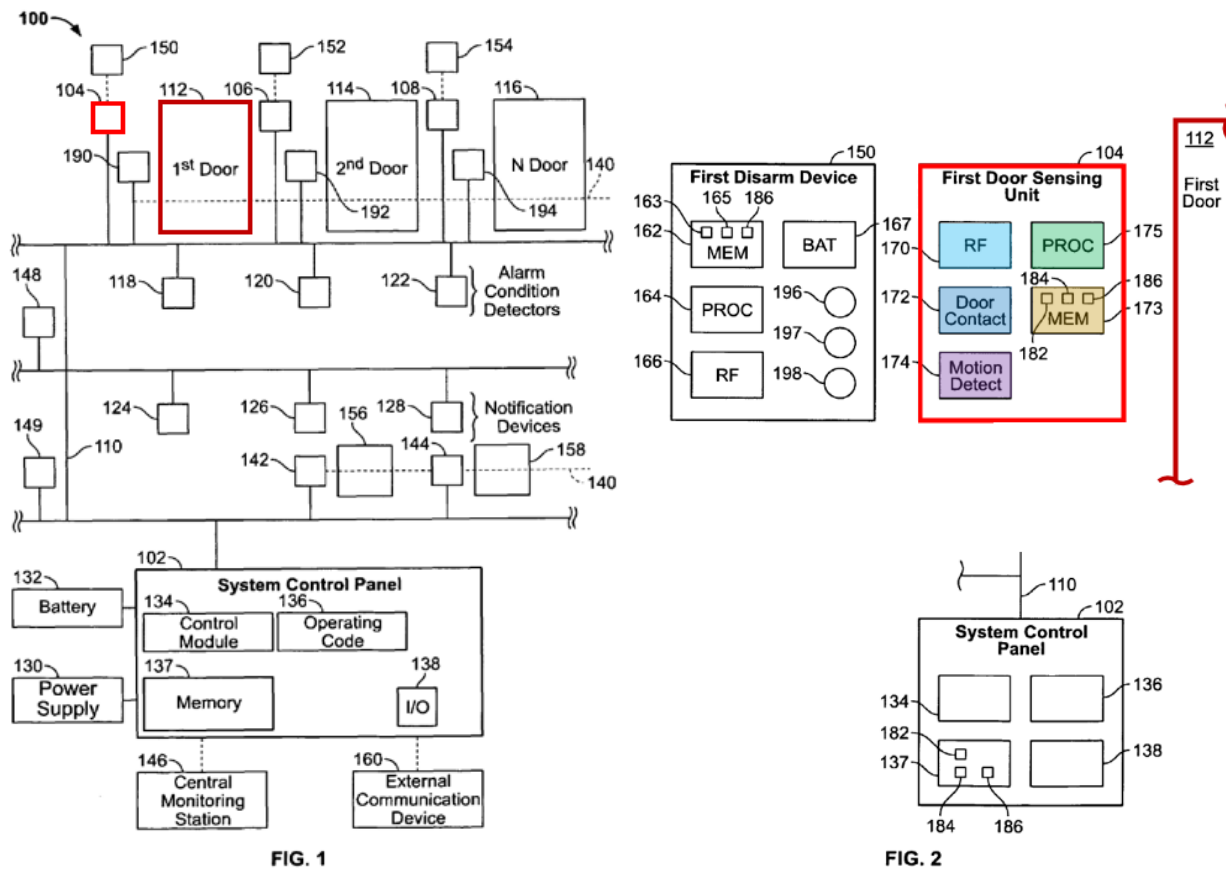
Claim	Lamb in view of Williams
premises and in proximity to the barrier. [12] The method of claim 11, further comprising transmitting by the barrier alarm device an immediate alarm signal to the central security panel for causing a security response to be initiated when it is determined that the human detection device does not indicate that the human being is in inside the premises and in proximity to the barrier.	
[16.pre] A method performed by a central security panel, comprising: [16.a] receiving a first alarm signal from a barrier alarm device that monitors a barrier of a premises, the first alarm signal indicative of the barrier being opened;	Lamb discloses a central security panel configured to perform a method including the same steps claimed in [16.a]-[16.f]. See [6.pre]-[6.i]. Lamb therefore discloses, or renders obvious in view of Williams, [16.a]-[16.f] for the same reasons discussed in [6.d]-[6.i], respectively. McNair, ¶¶144-168.

Claim	Lamb in view of Williams
[16.b] responding to the first alarm signal by determining whether a human being has been indicated to be inside the premises in proximity to the barrier;	
[16.c] starting a countdown timer when it is determined that the human being has been indicated to be inside the premises in proximity to the barrier;	
[16.d] determining whether the countdown timer has expired;	
[16.e] in response to determining that the countdown timer has expired, generating a security response; and	
[16.f] providing the generated security response to a receiver via a communication interface.	

B. Ground 2: Claims 1 and 11 are rendered obvious by Sharma

1. Overview of Sharma

Sharma is directed to automatically arming and disarming a barrier alarm. It teaches a **door sensing unit 104** placed “proximate” to **first door 112**. Sharma, 5:63-64. **Door sensing unit 104** comprises, among other components, a **door contact 172** and a **motion detector 174**. Sharma, 4:50-51.



Figs. 1 & 2 (annotated). **Door contact 172** detects whether **first door 112** is open or closed. 4:51-53. **Motion detector 174** senses motion “proximate to the inside of first door 112.” Sharma, 4:53-56. McNair, ¶169.

Figure 5 demonstrates how the device operates:

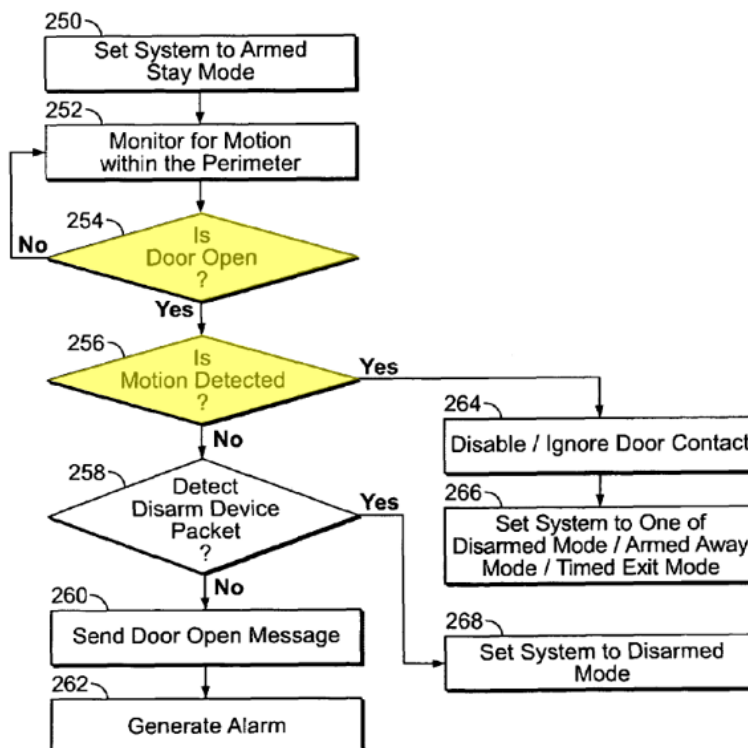


FIG. 5

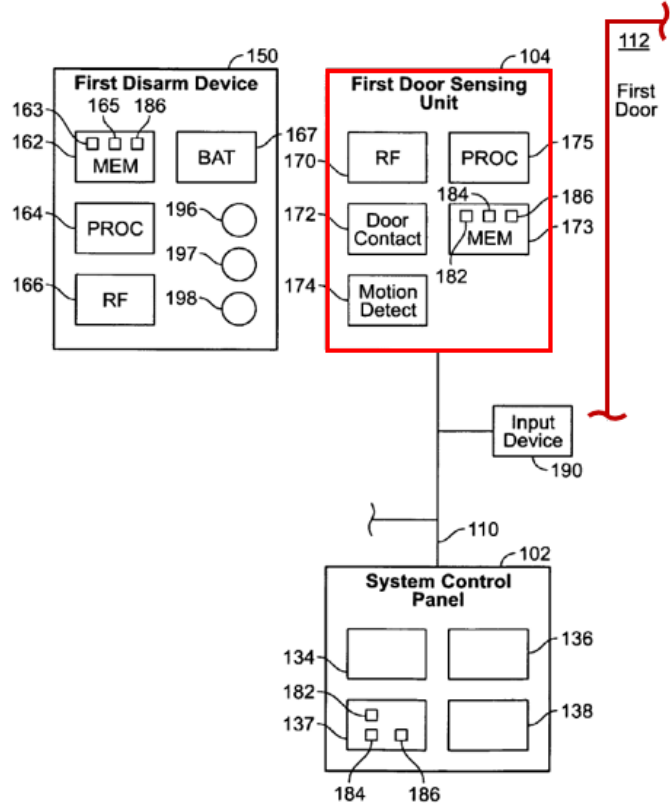
At 250, the system is set into Armed Stay mode. At 252, **motion detector 174** activates, although on its own, the detection of motion will not trigger any alarm. At 254, **processor 175** in **door sensing unit 104** determines, via signals from **door contact 172**, whether the **door** is open. Sharma, 7:52-54. If the **door** is open, then at 256, **processor 175** determines whether **motion detector 174** detects motion in proximity to the **barrier**. Sharma, 7:56-58. If motion is detected, then at 264, **processor 175** disables **door contact 172** and/or ignores the door open message from **door contact 172**. Sharma, 8:1-5. **Processor 175** sends a signal to **system control panel 102** to change the status of the system, *e.g.*, to a “Disarmed

Mode,” an “Armed Away Mode,” or a “Timed Exit Mode.” Sharma, 8:6-21. The “Timed Exit Mode,” for example, “allows people to leave the house or facility without having to interact with the system 100.” Sharma, 8:19-21. After a predetermined time, the system is reset. Sharma, 8:13-18. McNair, ¶170.

2. Claim Chart

Claim	Sharma
[1.pre] A barrier alarm device, comprising:	To the extent the preamble is limiting, Sharma discloses a barrier alarm device (<i>e.g.</i>, “door sensing unit” can generate an alarm). <u>E.g., Sharma:</u> Sharma discloses door sensing unit 104 placed proximate to a first door 112 to monitor its status and cause an alarm to be generated if the door is opened or compromised. McNair, ¶¶171-173. • Fig. 1

Claim	Sharma
	The diagram illustrates a security system architecture. At the top, a series of components are connected to a central bus (110). These include a 1st Door (112), a 2nd Door (114), and an N Door (116). Each door is associated with a sensor or detector (104, 106, 108, 110) and a corresponding alarm condition detector (118, 120, 122). The system also includes a set of Notification Devices (124, 126, 128, 130) and a set of Alarm Condition Detectors (132, 134, 136, 138). The System Control Panel (102) is the central hub, containing a Control Module (134), Operating Code (136), Memory (137), and I/O (138). It is powered by a Battery (132) and a Power Supply (130). The panel is connected to a Central Monitoring Station (146) and an External Communication Device (160). FIG. 1 Fig. 2

Claim	Sharma
	 FIG. 2 • 3:1-5 (“The system 100 has one or more door sensing units, such as <u>first door sensing unit 104</u>, second door sensing unit 106 through N door sensing unit 108 which may be <u>configured to monitor first door 112</u>, second door 114, through N door 116, respectively.”) • 4:3-24 (“During normal operation, the security system 100 may be set in several modes, such as Armed Away Mode, Armed Stay Mode and Disarm Mode. Other modes of operation may be used.... <u>Armed Stay Mode arms the perimeter monitoring devices, such as the first through N door sensing units 104-108</u> and the first through N window sensors 142 and 144. <u>This mode will generate an alarm when any of the first through N doors 112-116 or first through N windows 156 and 158 are opened or otherwise compromised</u>, but allows people to

Claim	Sharma
	move about within the perimeter 140 without generating an alarm.”) • <i>See also</i> 2:60-67, 4:50-58.
[1.a] a barrier status detection device for indicating that a barrier monitored by the barrier alarm device has been opened;	Sharma discloses a barrier status detection device for indicating that a barrier monitored by the barrier alarm device has been opened (e.g., “door sensing unit 104” includes “door contact 172” for generating a “door open signal” indicating that “first door 112” has been opened). <u>E.g., Sharma:</u> Sharma discloses that door sensing unit 104 includes door contact 172 that monitors and detects whether first door 112 has been opened and generates a signal when the first door 112 has been opened. McNair, ¶¶174-176. • Fig. 2 (excerpt) The diagram shows a block labeled 'First Door Sensing Unit' (104) enclosed in a red rectangle. Inside this unit are five sub-components: 'RF' (170), 'PROC' (175), 'Door Contact' (172), 'MEM' (182), and 'Motion Detect' (174). The 'Door Contact' (172) is highlighted with a blue background. To the right of the sensing unit is a vertical line representing the 'First Door' (112). A red line connects the 'Door Contact' (172) to the 'First Door' (112), indicating a signal path. The 'MEM' (182) component is connected to three small squares (184, 186, 173) within its block. • Fig. 5

Claim	Sharma
	<pre> graph TD 250[250 Set System to Armed Stay Mode] --> 252[252 Monitor for Motion within the Perimeter] 252 --> 254{254 Is Door Open?} 254 -- No --> 252 254 -- Yes --> 256{256 Is Motion Detected?} 256 -- Yes --> 264[264 Disable / Ignore Door Contact] 256 -- No --> 258{258 Detect Disarm Device Packet?} 258 -- Yes --> 268[268 Set System to Disarmed Mode] 258 -- No --> 260[260 Send Door Open Message] 260 --> 262[262 Generate Alarm] 264 --> 266[266 Set System to One of Disarmed Mode / Armed Away Mode / Timed Exit Mode] </pre> FIG. 5 • 3:1-5 (see [1.pre]) • 4:50-53 (“<u>The first door sensing unit 104 has an RF transceiver 170, a door contact 172 and a motion detector 174. The door contact 172 may be wireless and may be used to detect whether the first door 112 is open or closed.</u>”) • 7:52-58 (“At 254, the processor 175 (FIG. 2) of the first door sensing unit 104 <u>determines whether the door contact 172 has detected that the first door 112 is open.</u> If the first door 112 is not open, the method returns to 252, monitoring for both motion and an open door. <u>If the first door 112 is open,</u> at 256 the processor 175 determines whether the motion detector 174 has detected motion within the perimeter 140.”)

Claim	Sharma
	• 8:1-4 (“Returning to 256, if motion is detected, the method passes to 264 where the processor 175 may disable the door contact 172 and/or ignore the <u>door open signal from the door contact 172.</u>”) • <i>See also 6:6-7, 9:8.</i>
[1.b] a human detection device for indicating that a human being is inside a premises in proximity to the barrier;	Sharma discloses a human detection device for indicating that a human being is inside a premises in proximity to the barrier (e.g., “door sensing unit 104” includes “motion detector 174” for detecting the presence of a human proximate to the inside of “first door 112,” inside a “perimeter 140”). <u>E.g., Sharma:</u> Sharma discloses that door sensing unit 104 includes motion detector 174 that senses motion proximate to the inside of the first door 112, within a perimeter 140. Processor 175 utilizes the determinations from motion detector 174. A POSITA would have recognized that because motion detector 174 is, for example, an infrared detector, and because human beings emit infrared radiation, motion detector 174 is a human detection device.⁶ McNair, ¶¶177-179. • Fig. 2 (excerpt)

⁶ In the same way, the ’340 also describes using “an infrared transmitter/receiver” as a human detection device. ’340, 9:3-12.

Claim	Sharma
	The diagram shows a block labeled "First Door Sensing Unit" with reference numeral 104. This unit is enclosed in a red rectangular border. Inside the unit, there are five main blocks: "RF" (170), "PROC" (175), "Door Contact" (172), "MEM" (173), and "Motion Detect" (174). The "MEM" block (173) contains three smaller square blocks labeled 184, 186, and 182. To the right of the unit is a block labeled "First Door" (112). A red line with wavy ends at both ends connects the "First Door Sensing Unit" (104) to the "First Door" (112). • Fig. 5

Claim	Sharma
	<pre> graph TD 250[250 Set System to Armed Stay Mode] --> 252[252 Monitor for Motion within the Perimeter] 252 --> 254{254 Is Door Open?} 254 -- No --> 252 254 -- Yes --> 256{256 Is Motion Detected?} 256 -- Yes --> 264[264 Disable / Ignore Door Contact] 264 --> 266[266 Set System to One of Disarmed Mode / Armed Away Mode / Timed Exit Mode] 266 --> 268[268 Set System to Disarmed Mode] 256 -- No --> 258{258 Detect Disarm Device Packet?} 258 -- Yes --> 268 258 -- No --> 260[260 Send Door Open Message] 260 --> 262[262 Generate Alarm] </pre> FIG. 5 • 4:50-56 (“<u>The first door sensing unit 104 has an RF transceiver 170, a door contact 172 and a motion detector 174.... The motion detector 174 may be a passive infrared (IR) detector or other type of motion detector and may sense motion proximate to the inside of the first door 112 (within the perimeter 140).</u>”) • 7:47-51 (“At 252, <u>the motion detector 174 (FIG. 2) of the first door sensing unit 104 monitors the area within the perimeter 140 proximate to the inside of the first door 112 for motion.</u> Detection of motion by the motion detector 174 will not generate an alarm.”) • 7:56-8:4 (“If the first door 112 is open, at 256 <u>the processor 175 determines whether the motion detector 174 has detected motion within the</u>

Claim	Sharma
	<u>perimeter 140</u>. If motion is not detected, the method passes to 258.... [¶] Returning to 256, <u>if motion is detected</u>, the method passes to 264 where the processor 175 may disable the door contact 172 and/or ignore the door open signal from the door contact 172.”) • See also 9:5-7, Fig. 4 (showing person 176).
[1.c] a transmitter for transmitting a timed alarm signal to a receiver associated with a security panel, the timed alarm signal for initiating a timer associated with the security panel;	Sharma discloses a transmitter for transmitting a timed alarm signal to a receiver associated with a security panel (e.g., processor 175 transmits signals to a receiver of “system control panel 102,” over network 110, to enter a “Timed Exit Mode”), the timed alarm signal for initiating a timer associated with the security panel (e.g., for initiating a 30 second timer before the system is rearmed). <u>E.g., Sharma:</u> Sharma discloses that door sensing unit 104 includes processor 175, which communicates, and is interconnected with, system control panel 102 over network 110. On network 110, door sensing unit 104 has a unique address on network 110. A POSITA would have recognized or considered obvious that communications over the addressable network would have included the use of transmitters, receivers, and/or transceivers at the sending and receiving ends of the communications (i.e., at door sensing unit 104 and at system control panel 102) to facilitate the sending and receiving of signals across the network. McNair, ¶¶180-182. Sharma further discloses that processor 175 transmits signals to the system control panel 102 to arm, disarm, and set the mode of the system 100. Sharma, 1:64-67, 6:66-7:1, 7:61-64, 8:6-11. In one example, system 100 is signaled to enter a “Timed Exit Mode.” Sharma, 8:6-13. The signal to enter the Timed Exit Mode is a “timed alarm signal” because the signal is generated in response to detecting a door open and motion within perimeter 140

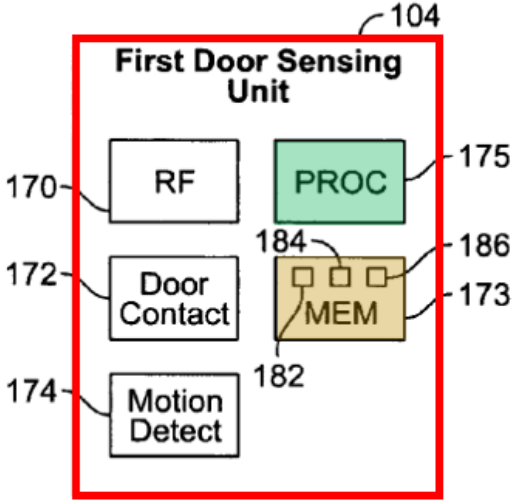
Claim	Sharma
	(in steps 254 and 256) and the signal initiates a timer for a predetermined amount of time (e.g., 30 seconds)—the claimed “timed alarm signal” is only “for initiating a timer” associated with the security panel.⁷ After, the system 100 (including system control panel 102) resets. Sharma, 7:52-8:21. Resetting the system, activating devices, etc., are functions of system control panel 102 (see Sharma, 3:45-48, 7:38-42), and thus the timer to reset the system is associated with system control panel 102. McNair, ¶183. • Fig. 2 (excerpt)

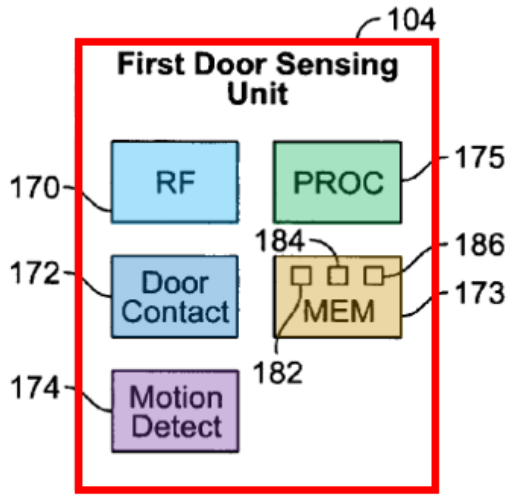
⁷ See fn. 5.

Claim	Sharma
	FIG. 2 • Fig. 5

Claim	Sharma
	<pre> graph TD 250[250 Set System to Armed Stay Mode] --> 252[252 Monitor for Motion within the Perimeter] 252 --> 254{254 Is Door Open?} 254 -- No --> 254 254 -- Yes --> 256{256 Is Motion Detected?} 256 -- Yes --> 264[264 Disable / Ignore Door Contact] 256 -- No --> 258{258 Detect Disarm Device Packet?} 264 --> 266[266 Set System to One of Disarmed Mode / Armed Away Mode / Timed Exit Mode] 258 -- Yes --> 268[268 Set System to Disarmed Mode] 258 -- No --> 260[260 Send Door Open Message] 260 --> 262[262 Generate Alarm] </pre> FIG. 5 • 1:54-57 (“A door sensing unit comprises <u>a first radio frequency (RF) transceiver interconnected with the system control panel</u> over a network.”) • 3:9-12 (“The first through N <u>sensing units 104-108</u> communicate with the system control panel 102 over the network 110. Each of the door sensing units 104, 106, and 108 has a unique address on the network 110.”) • 3:45-48 (“Other <u>functions of the system control panel 102</u> may include displaying the status of the system 100, resetting a component, a portion, or all of the system 100, silencing signals, turning off strobe lights, and the like.”) • 4:50 (“The first door sensing unit 104 has <u>an RF transceiver 170...</u>”)

Claim	Sharma
	• 8:6-21 (“At 266, <u>the processor 175 may send a signal to the system control panel 102 to set the system 100 to Disarmed Mode.... Alternatively, the system 100 may be set to Armed Away Mode. Alternatively, the system 100 may enter a Timed Exit Mode for a predetermined amount of time, such as 30 seconds.</u> When in Timed Exit Mode, the processor 175 may ignore the door control signal and/or disable the door contact 172. <u>After the predetermined amount of time has elapsed, the system 100 is reset to the Armed Stay Mode, continuing to provide protection from intruders.</u> Therefore, if the first door 112 is subsequently opened externally, an alarm is generated. The Timed Exit Mode allows people to leave the house or facility without having to interact with the system 100.”) • See also Abstract.
[1.d] a memory having processor-executable instructions stored thereon; and	Sharma discloses a memory (e.g., “memory 173”) having processor-executable instructions stored thereon. <u>E.g., Sharma:</u> Sharma discloses that door sensing unit 104 includes processor 175 and memory 173, implemented as, e.g., a general purpose processor and RAM, hard disks, and the like. Sharma, 2:44-56, 4:56-57. A POSITA would have recognized or considered obvious that, for the general purpose processor of door sensing unit 104 to perform the specific functions described by Sharma, memory 173 would have stored executable instructions for execution by the general purpose processor. See Sharma 3:57-61 (system control panel 102 including a control module operating based on code stored on memory). McNair, ¶¶184-186. • Fig. 2 (excerpt)

Claim	Sharma
	 • 2:44-56 (“To the extent that the figures illustrate diagrams of the functional blocks of various embodiments, the functional blocks are not necessarily indicative of the division between hardware circuitry. Thus, for example, one or more of the functional blocks (e.g., <u>processors or memories</u>) may be implemented in a single piece of hardware (e.g., <u>a general purpose signal processor or a block or random access memory, hard disk, or the like</u>). Similarly, the programs may be stand alone programs, may be incorporated as subroutines in an operating system, may be functions in an installed software package, and the like....”) • 4:56-58 (“A <u>memory 173</u> and a processor 175 <u>may also be within the first door sensing unit 104</u>”) • See also 5:4-8, 6:46-56.
[1.e] a processor coupled to the barrier status detection device, the human detection device, the transmitter, and the memory, for	Sharma discloses a processor (e.g., “processor 175”) coupled to the barrier status detection device (e.g., “door contact 172”), the human detection device (e.g., “motion sensor 174”), the transmitter (e.g., “RF transceiver 170”), and the memory (e.g., “memory 173”), for executing the processor-executable instructions (see [1.d]).

Claim	Sharma
executing the processor-executable instructions that cause the barrier alarm device to:	<u>E.g., Sharma:</u> See [1.a]-[1.d]. Sharma discloses that door sensing unit 104 includes processor 175. Sharma, 4:56-58. Processor 175 interacts with door contact 172, motion sensor 174, RF transceiver 170, and memory 173., and is therefore “coupled” to the same. Sharma, 6:47-50, 7:52-54, 7:56-64, 8:1-4, 8:13-15, 8:27-29; McNair, ¶¶187-189. Fig. 2 (excerpt)  <pre> graph TD subgraph 104 [First Door Sensing Unit] 170[RF] 172[Door Contact] 174[Motion Detect] 175[PROC] 173[MEM] 173 --- 182 173 --- 184 173 --- 186 end </pre> 4:56-58 (“A memory 173 and <u>a processor 175 may also be within the first door sensing unit 104</u>”) 6:47-50 (“...<u>processor 175 compares</u> the System ID 186 and the Device ID 163 sent in the disarm device packet 178 <u>to the values</u> (such as the System ID 186 and the list of approved Device IDs 182) <u>stored in the memory 173.</u>”) 7:52-64 (“At 254, the <u>processor 175</u> (FIG. 2) of the first door sensing unit 104 <u>determines whether the door contact 172 has detected</u> that the first door 112 is open.... If the first door 112 is open, at 256 the <u>processor 175 determines whether the motion detector 174 has detected</u> motion within the perimeter 140. If motion is not detected, the method

Claim	Sharma
	passes to 258 where the <u>processor 175 determines whether a valid disarm device packet 178 has been received by the RF transceiver 170</u>. If a valid disarm device packet 178 has not been received, the method passes to 260 where the <u>processor 175 sends a Door Open message to the system control panel 102</u>.”) • 8:1-4 (“...processor 175 may disable the door contact 172...”) • See also 8:13-15, 8:27-29.
[1.f] respond to the barrier status detection device indicating that the barrier has been opened by determining whether the human detection device indicates that the human being is inside the premises in proximity to the barrier; and	Sharma discloses the processor executing the processor-executable instructions to cause the barrier alarm device to (e.g., see [1.e]) respond to the barrier status detection device indicating that the barrier has been opened (e.g., responds to “door contact 172” indicating that “first door 112” has been opened) by determining whether the human detection device indicates that the human being is inside the premises in proximity to the barrier (e.g., responds by determining whether “motion detector 174” detects motion indicative of a human within perimeter 140 proximate to first door 112; see also [1.b]). <u>E.g., Sharma:</u> See [1.a]-[1.b], [1.d]-[1.e]. Sharma discloses that processor 175 in door sensing unit 104 “determines whether the door contact 172 has detected that the first door 112 is open,” and if first door 112 is open, the processor 175 responds by “determin[ing] whether the motion detector 174 has detected movement” inside the premises. Sharma, 7:52-58. As discussed for [1.b], motion detector 174 monitors the premises “proximate to the inside of first door 112” and detects the motion of humans. Sharma, 7:46-51; see [1.b]; McNair, ¶¶190-192. • Fig. 5

Claim	Sharma
	<pre> graph TD 250[250 Set System to Armed Stay Mode] --> 252[252 Monitor for Motion within the Perimeter] 252 --> 254{254 Is Door Open?} 254 -- No --> 252 254 -- Yes --> 256{256 Is Motion Detected?} 256 -- Yes --> 264[264 Disable / Ignore Door Contact] 264 --> 266[266 Set System to One of Disarmed Mode / Armed Away Mode / Timed Exit Mode] 266 --> 268[268 Set System to Disarmed Mode] 256 -- No --> 258{258 Detect Disarm Device Packet?} 258 -- Yes --> 268 258 -- No --> 260[260 Send Door Open Message] 260 --> 262[262 Generate Alarm] 262 --> 252 </pre> FIG. 5 • 4:50-56 (“The motion detector 174 may be a passive infrared (IR) detector or other type of motion detector and may <u>sense motion proximate to the inside of the first door 112 (within the perimeter 140).</u>”) • 7:52-8:2 (“At 254, the processor 175 (FIG. 2) of the first door sensing unit 104 determines whether the door contact 172 has detected that the first door 112 is open. If the first door 112 is not open, the method returns to 252, monitoring for both motion and an open door. <u>If the first door 112 is open, at 256 the processor 175 determines whether the motion detector 174 has detected motion within the perimeter 140. If motion is not detected,</u> the method

Claim	Sharma
	passes to 258.... [¶] Returning to 256, <u>if motion is detected</u>, the method passes to 264....”)
[1.g] transmit, via the transmitter, the timed alarm signal to the receiver only when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier.	Sharma discloses the processor executing the processor-executable instructions to cause the barrier alarm device to (e.g., see [1.e]) transmit, via the transmitter, the timed alarm signal to the receiver (e.g., transmit to the system control panel 102, via “RF transceiver 170,” the signal to enter the “Timed Exit Mode,” which initiates a 30 second timer before the system is rearmed; see [1.c]) only when it is determined that the human detection device indicates that the human being is inside the premises in proximity to the barrier (e.g., only when “motion is detected” by “motion detector 174”). <u>E.g., Sharma:</u> See [1.c]-[1.f]. As discussed for [1.c], Sharma discloses that door sensing unit 104 includes processor 175 and RF transceiver 170, and processor 175 is configured to send a timed alarm signal to system control panel 102 for system 100 to enter a “Timed Exit Mode.” Sharma discloses that the signal to enter the Timed Exit Mode is only transmitted when “motion detector 174” detects motion indicative of a human within perimeter 140 proximate to first door 112 (see Fig. 5: “Yes” in decision step 256). McNair, ¶¶193-195. • Fig. 5

Claim	Sharma
	<pre> graph TD 250[250 Set System to Armed Stay Mode] --> 252[252 Monitor for Motion within the Perimeter] 252 --> 254{254 Is Door Open?} 254 -- No --> 252 254 -- Yes --> 256{256 Is Motion Detected?} 256 -- Yes --> 264[264 Disable / Ignore Door Contact] 264 --> 266[266 Set System to One of Disarmed Mode / Armed Away Mode / Timed Exit Mode] 256 -- No --> 258{258 Detect Disarm Device Packet?} 258 -- Yes --> 268[268 Set System to Disarmed Mode] 258 -- No --> 260[260 Send Door Open Message] 260 --> 262[262 Generate Alarm] </pre> FIG. 5 7:52-8:21 (“If the first door 112 is open, <u>at 256 the processor 175 determines whether the motion detector 174 has detected motion within the perimeter 140...</u> [¶] Returning to 256, <u>if motion is detected</u>, the method passes to 264 where the processor 175 may disable the door contact 172 and/or ignore the door open signal from the door contact 172.... [¶] At 266, <u>the processor 175 may send a signal to the system control panel 102 to set the system 100 to Disarmed Mode.... Alternatively, the system 100 may enter a Timed Exit Mode for a predetermined amount of time, such as 30 seconds.</u> When in Timed Exit Mode, the processor 175 may ignore the door control signal and/or disable the door contact 172. <u>After the predetermined amount of time</u>

Claim	Sharma
	<u>has elapsed, the system 100 is reset to the Armed Stay Mode, continuing to provide protection from intruders.</u> Therefore, if the first door 112 is subsequently opened externally, an alarm is generated. The Timed Exit Mode allows people to leave the house or facility without having to interact with the system 100.”)
[11.pre] A method, comprising:	Sharma’s barrier alarm device of claim 1, which also transmits alarm signals to, and is therefore monitored by, a central security panel, is configured to perform a method including the same steps claimed in [11.a]-[11.b]. See [1.c]-[1.f]. Sharma therefore renders obvious [11.a] and [11.b] for the same reasons discussed in [1.f] and [1.g] respectively. McNair, ¶¶196-204.
[11.a] in response to a barrier status detection device associated with a barrier alarm device indicating that a barrier being monitored by the barrier alarm device has been opened, determining whether a human detection device associated with the barrier alarm device indicates that a human being is inside a premises monitored by a central security panel in proximity to the barrier; and	
[11.b] transmitting by the barrier alarm device a timed alarm signal to the central security panel for the purpose of initiating	

Claim	Sharma
a timer associated with the central security panel only when it is determined that the human detection device indicates that the human being is in inside the premises and in proximity to the barrier.	

IX. SECONDARY CONSIDERATIONS

There is no evidence in the prosecution history of the '340 or any related application that any arguments regarding secondary considerations exist, let alone that any such arguments could overcome the strong showing of obviousness above or that there is a sufficient nexus to any of the Challenged Claims. *See generally* EX1002; McNair, ¶205. Indeed, as demonstrated by the prior art referenced herein, any purported solutions to problems or unexpected results in the '340 were already well known. McNair, ¶205. To the extent PO asserts the existence of any secondary considerations in its responses, Petitioner reserves the right to address any such evidence.

X. CONCLUSION

Substantial, new, and noncumulative technical teachings have been presented for each Challenged Claim, which are disclosed and/or rendered obvious for the reasons set forth above. McNair, ¶206. There is a reasonable likelihood that Petitioner will prevail as to each of these Challenged Claims. IPR of Claims 1-2, 6, 11-12, and 16 of the '340 is accordingly requested.

Respectfully submitted,

Dated: March 29, 2023

By: /Scott A. McKeown /
Scott A. McKeown
Registration No. 42,866

Counsel for Petitioner Roku, Inc.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(a) and (d), the undersigned hereby certify that the Petition For *Inter Partes* Review complies with the type-volume limitation of 37 C.F.R. § 42.24(a)(i) because, exclusive of the exempted portions, it contains 13,945 words as counted by the word processing program used to prepare the paper.

Dated: March 29, 2023

By: /Scott A. McKeown/
Scott A. McKeown
Registration No. 42,866

CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b) on the Patent Owner by Federal Express of a copy of this Petition for *Inter Partes* Review and supporting materials at the correspondence address of record for the '340 patent:

34018 - GREENBERG TRAURIG, LLP
77 W. WACKER DRIVE
SUITE 3100
CHICAGO, IL 60601-1732

Dated: March 29, 2023

By: /Scott A. McKeown/
Scott A. McKeown
Registration No. 42,866