

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CURRENT LIGHTING SOLUTIONS, LLC
D/B/A GE CURRENT

Petitioner,

v.

JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO., LTD.

Patent Owner.

Case No. IPR2023-00676

Patent No. 9,939,140

PATENT OWNER'S PRELIMINARY RESPONSE

Table of Contents

EXHIBIT LIST	ii
I. INTRODUCTION	1
II. THE '140 PATENT	4
III. BRIEF DESCRIPTION OF IVEY345	8
IV. CLAIM CONSTRUCTION	9
V. PETITIONER HAS NOT ESTABLISHED A REASONABLE LIKELIHOOD OF PROVING ANY CHALLENGED CLAIM INVALID.....	10
A. Ground 1: The Ivey813-Ivey345 Combination Fails to Render Obvious Any Challenged Claim.....	10
B. Ground 2: The Sadwick-Ivey345-Ivey813 Combination Fails to Render Obvious Any Challenged Claim.....	27
C. Grounds 3-4 Also Fail to Render Obvious Any Challenged Claim.....	36
VI. THE PETITION IS TIME-BARRED UNDER 35 U.S.C. § 315(B)	37
A. Factual Background.....	38
B. Ruising is a Time-Barred Privy of Petitioner.	42
C. Ruising is Also a Time-Barred Real Party in Interest.....	51
VII. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 314(A) / <i>FINTIV</i>	54
A. The Petition Relies Primarily on Prior Art That Has Already Been Considered.....	54
B. Discretionary Denial is Appropriate Under <i>Fintiv</i>	55
VIII. CONCLUSION.....	62

EXHIBIT LIST

Exhibit	Description
Ex. 2003	Complaint for Patent Infringement in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2004	Proof of Service on Ruising in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2005	Order of Final Judgment in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2006	
Ex. 2007	Declaration of Miguel Bombach in Support of Patent Owner's Preliminary Response
Ex. 2008	Case Docket for <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2009	Scheduling Order in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2010	Defendant Current Lighting Solutions, LLC d/b/a GE Current's Preliminary Invalidity Contentions in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2011	Appellants' Opening Brief in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , No. 2023-1715 (Fed. Cir.)
Ex. 2012	Excerpt from Trial Transcript in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)

Ex. 2013	Proposed Joint Final Pretrial Order in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2014	International Publication No. WO 2015/066566 A1 (Sadwick '566)
Ex. 2015	Declaration of Joshua Phinney, Ph.D. in Support of Patent Owner's Preliminary Response
Ex. 2016	Jury Verdict From <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)

I. INTRODUCTION

Current's Petition should be denied because each of the proposed obviousness combinations in Grounds 1-4 are fatally flawed.

U.S. Pat. No. 9,939,140 (the “'140 Patent”) claims an installation detection circuit for an LED tube lamp that detects whether it has been properly installed. To prevent shock to an installer, the installation detection circuit is wired so that it has a switch on the LED tube lamp's power loop. This switch receives a few small pulses to momentarily turn the LEDs on to allow the installation detection circuit to perform a quick detection. If a person is touching the LED tube lamp's ground pin, the switch will not turn on. If the LED tube lamp is installed properly, the installation detection circuit turns the switch on to allow the LED tube lamp's power loop to be conducting current, thereby turning the LEDs on.

None of Petitioner's Grounds contains the claimed switching mechanism.

Ground 1 (the Ivey345-Ivey318 combination) fails because Ivey345 has two separate switches that Petitioner treats as one in trying to arrive at the claims. Ivey345's two switches have very different functions and are operated by separate circuits. The first switch is tied to—and controlled by—an oscillator, and that switch conducts a test path separate from the current path of the power loop. The second switch is controlled by detection circuitry, and it activates the power loop

to turn off the LEDs based on the current value of the test path. Attempting to equate two separate elements as one fails as a matter of law.

Moreover, Ground 1 fails because there is no motivation to combine Ivey345 and Ivey813. Ivey345 teaches circuitry for screw-in light bulbs. As such, having a continuously operational test current path is safe. Placing this current path in an LED tube lamp (as Petitioner's combination envisions) creates a potential danger because, during an improper install, the only current path to ground will be through a human's body. A POSITA would not have been motivated to make this change.

Petitioner's Ground 2 fares no better. Petitioner re-architects the Ivey345 circuit to fix the switch problem of Ground 1, but in doing so arrives at a circuit that does not teach other elements. Petitioner proposes wiring Ivey345's oscillator-controlled switch to the power loop. But Petitioner relies on that oscillator providing a clock output, which would have a 50% duty cycle (*i.e.*, be on half the time). This causes the LED lights to remain on, regardless of Ivey345's other circuit elements. The Petitioner-concocted circuit does not teach the claim limitations that require the LEDs to be turned off, *i.e.*, "control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open."

Beyond lacking the above limitations, a POSITA would have had no motivation to arrive at Petitioner's Ground 2 modifications to the Ivey345 circuit. As noted, this circuit provides a power loop that always conducts and LEDs that cannot remain off. This defeats the purpose of Ivey345's main load shut-off latch, which is designed to shut the power loop off if there is a detected problem. Moreover, having a power loop that continuously conducts current creates a shock hazard. Because Ivey345 is directed to a circuit that shuts off the power loop for safety purposes, a POSITA would not have arrived at Petitioner's combination in Ground 2.

Petitioner's Grounds 3-4 do not cure the above deficiencies. Instead, they further highlight the problems of the combinations, by making-clear that an oscillator providing a clocked output is used, and was always intended to be used, in its modifications of Ivey345's circuit in Ground 2.

Moreover, Ivey345 and Sadwick do not render the claims obvious, and this is apparent from the fact that they have been substantively reviewed against the '140 Patent claims before. Sadwick was overcome in prosecution, and Patent Owner overcame the same substantive Ivey345-Sadwick combination Petitioner now relies on when Petitioner's privy tried it at trial. The Petition should also be denied institution under 35 U.S.C. §§ 314 and 325(d).

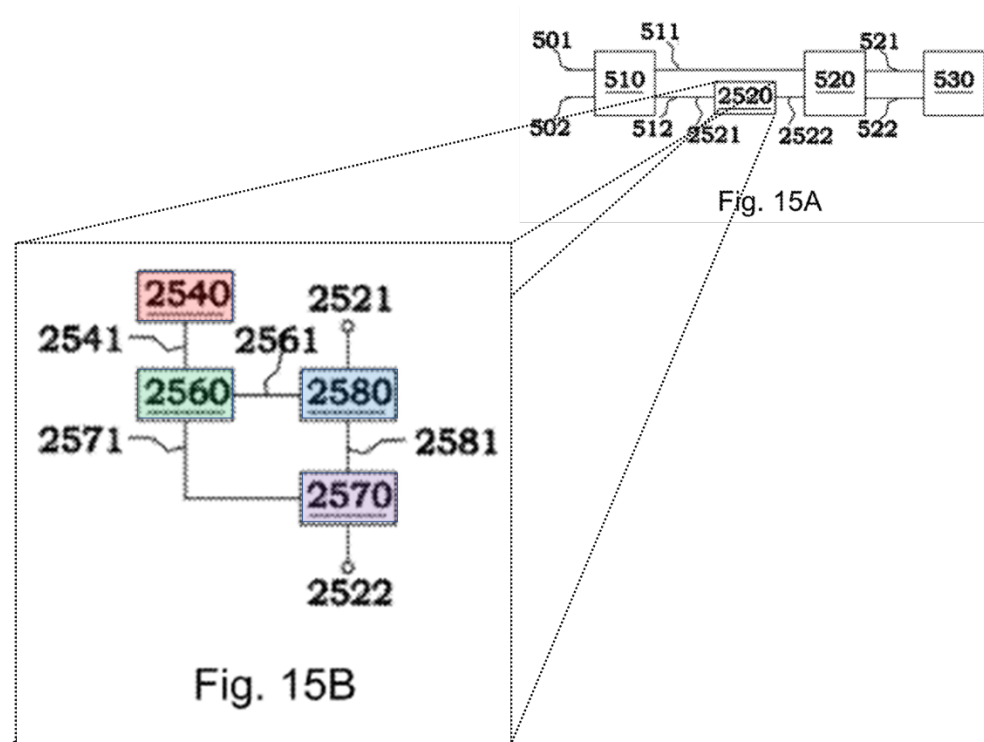
Finally, Current's Petition challenging the '140 Patent is also time-barred because Current's contract manufacturer [REDACTED], Shaoxing Ruising Lighting Co., Ltd., was sued more than a year ago and found to infringe the same '140 Patent. Given the preexisting substantive legal relationship between the two entities, Ruising is a time-barred privy of Current. Moreover, given Ruising is a clear beneficiary of this proceeding that has a preexisting, established relationship with Current, Ruising is a time-barred real party in interest as well.

II. THE '140 PATENT

The '140 Patent is directed to an installation detection circuit in an LED tube lamp that prevents shocking a person that improperly installs the light, *e.g.*, by plugging one end to a lamp socket's voltage source while touching the other end, thereby grounding the light through their body and not via the lamp socket. '140 Patent at Abstract, 3:62-66, 5:7-26, 40:55-59, 43:9-15. This causes a shock risk to the person installing the light if they are not careful and accidentally touch the LED tube lamp's ground pin before the light is safely in the light socket.

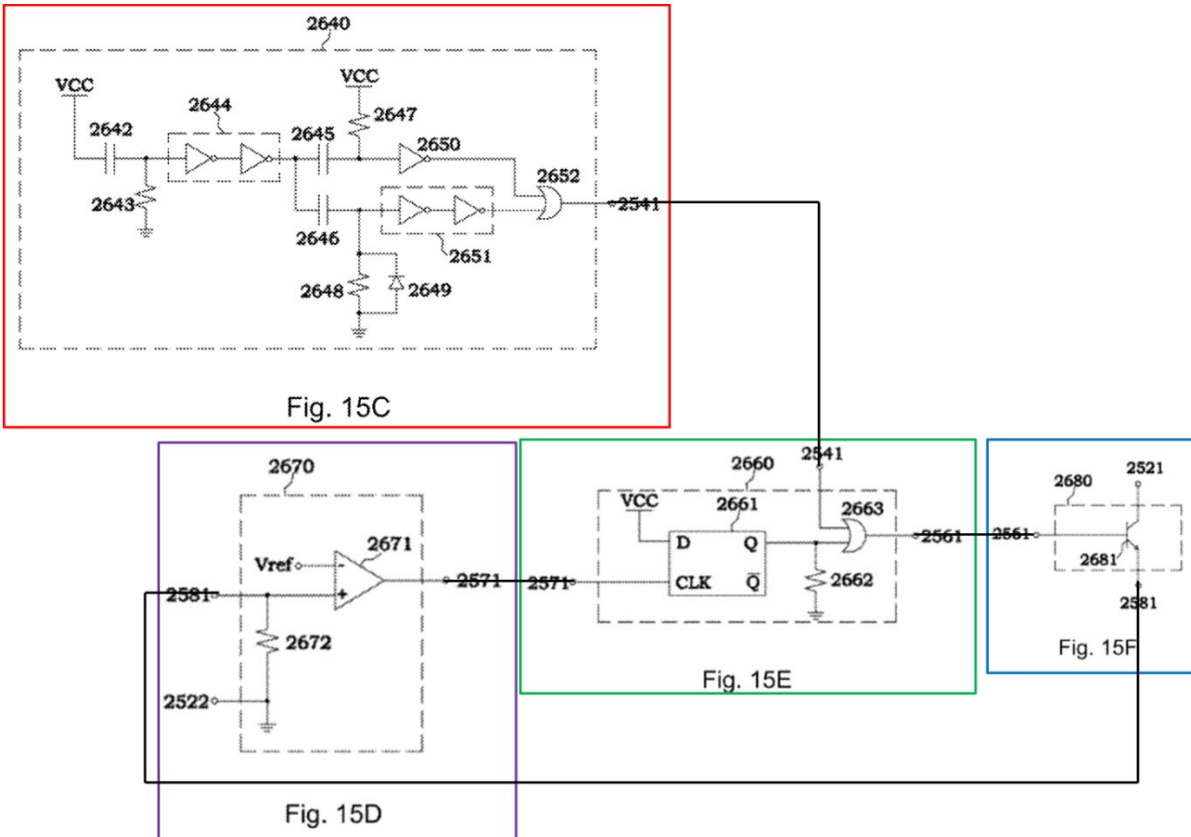
To avoid shock, the installation detection module tests and controls the power-loop before turning the LEDs on whenever it is energized. '140 Patent at 37:43-63. It does this by sending a few short pulses that momentarily turn the power-loop on (*id.* at 45:38-55) and detection circuitry turn it on permanently if the LED tube lamp has been properly installed. *Id.* at 45:65-46:2.

This circuit components—and the installation detection module’s placement on the power-loop—are briefly described below. FIG. 15A (below) is a block diagram of an LED tube lamp, where the installation detection module 2520 (also shown in FIG. 15B) is on the power-loop path between the rectifier 510 outputting the voltage source and filter 520/LED lights 530. ’140 Patent at 37:32-38:4.



The installation detection module 2520 (also depicted in FIG. 15B) has several components to perform its tests, including a switch circuit 2580 (annotated blue, above), a detection pulse generating module 2540 (red), a detection result latching circuit 2560 (green), and a detection determining circuit 2570 (purple). ’140 Patent at 38:39-46. Similar components/annotations for FIG.

15B are also in the below demonstrative of FIGS. 15C-15F, which shows specific circuit elements and how they are wired together.



The process of detecting whether there is a person on the power-loop starts by sending the switch controlling the LEDs a few short pulses. The detection pulse generating module 2640 (red) generates two high pulses ('140 Patent at 42:17-27) that are fed to the detection result latching circuit 2660's (green) OR gate 2663. (*Id.* at 43:34-40.) The output of that signal is fed to close the switch 2680 (blue), whereupon the power-loop is activated. (*Id.* at 43:59-44:17.) The detection determining circuit 2670 measures the value on the power-loop to see whether a person is in the power-loop and, if not, the detection result latching

circuit latches the switch on. (*Id.*) Via the OR gate 2663, the pulses or the detection result latching circuit can turn the lights on. (*Id.*) The light is kept on when the circuit determines that there is a proper installation because it is assumed that the LED tube lamp is properly in its light socket (and no longer touchable by an operator). (*Id.*; *see also id.* at 42:28-45.)

Exemplary claim 1 is provided below, with Petitioner's organizations of clauses, *i.e.*, [1pre]-[1g].

[1pre] 1. An installation detection circuit configured in a light-emitting diode (LED) tube lamp configured to receive an external driving signal,

[1a] the installation detection circuit comprising:

a pulse generating circuit configured to output one or more pulse signals;

[1b] wherein the installation detection circuit is configured to detect during at least one of the one or more pulse signals whether the LED tube lamp is properly installed on a lamp socket, based on detecting a signal generated from the external driving signal; and

[1c] a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit;

[1d] wherein the installation detection circuit is further configured to:

when it is detected during one of the one or more pulse signals that the LED tube lamp is not properly installed on the lamp socket, control the switch circuit

to remain in an off state to cause a power loop of the LED tube lamp to be open; and

[1e] when it is detected during one of the one or more pulse signals that the LED tube lamp is properly installed on the lamp socket, control the switch circuit to remain in a conducting state to cause the power loop of the LED tube lamp to maintain a conducting state,

[1f] wherein the signal generated from the external driving signal is a sampling signal on the power loop, the installation detection circuit further comprises a detection determining circuit configured to detect the sampling signal for determining whether the LED tube lamp is properly installed on the lamp socket, and the power loop includes the switch circuit and the detection determining circuit, and

[1g] wherein the pulse generating circuit is configured to output one or more pulse signals independent of whether the detection determining circuit detects the sampling signal.

III. BRIEF DESCRIPTION OF IVEY345

Because the Petition relies extensively on the circuit in Ivey345's Figure 3, Petitioner briefly discusses it here at the outset.

Ivey345 provides a circuit for a light bulb (Ivey345 at [0003]-[0005]) to detect when there is a person in the current path. *Id.* at [0010]. Ivey345 provides a test-load switch 135 (red) that activates a current path over a test load 140. *Id.* at [0021]. Detector 150 detects a variation in the current draw (*id.* at [0024]) and, when there is a person detected, main load shut-off latch 315 forces power-loop switch 175 (blue) open in order to break the current flow to the main load 180.

Id. at [0044]. As can be seen below, these two switches (135/175) control separate current paths.

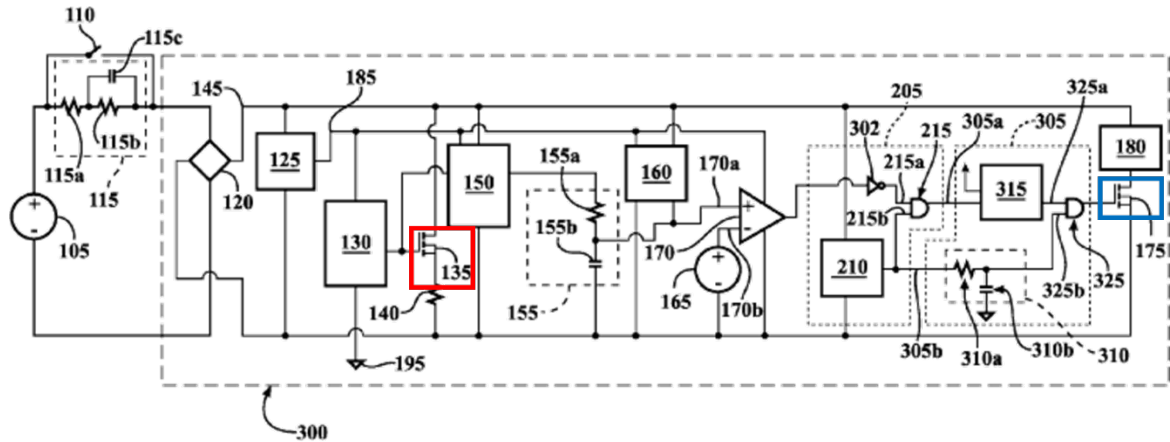


FIG. 3

Switch 135 is activated by oscillator 130, which continuously oscillates on/off.¹ (Ivey345 at [0020].) This is done because Ivey345’s Fig. 3 circuit’s normal operational state is “on,” and Ivey345 shuts down the circuit if a problem is detected. (*Id.* at [0041].) As such, Ivey345 needs to continually detect if a person is on the voltage line.

IV. CLAIM CONSTRUCTION

In IPR proceedings, the Board construes claims in accordance with their ordinary and customary meaning as understood by one of ordinary skill in the art.

¹ Petitioner asserts that Ivey345’s oscillator provides a clocked output. (Pet. at 21 (stating that “‘oscillator 130’ [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”).)

See 37 C.F.R. § 42.100; *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). At this preliminary stage and because construction is not necessary to reach non-institution, no constructions are presented. Patent Owner reserves the right to present constructions should the PTAB institute.

V. PETITIONER HAS NOT ESTABLISHED A REASONABLE LIKELIHOOD OF PROVING ANY CHALLENGED CLAIM INVALID.

A. Ground 1: The Ivey813-Ivey345 Combination Fails to Render Obvious Any Challenged Claim.

The Petition fails to present a reasonable likelihood of success because:

- (a) Ground 1 fails to teach a pulse circuit controlling the power-loop's switch; and
- (b) a POSITA would not have been motivated to combine Ivey345's light bulb shock protection circuitry with Ivey813's tube lamp, because doing so results in a potentially dangerous light.

1. Ivey813 and Ivey345 Fail to Teach or Suggest all the "Switch Circuit" Limitations of the Challenged Claims.

Ivey345 and the '140 Patent are fundamentally different in how they test for a human's presence on the power-loop, and this results in important claim limitations relating to the claimed switch to be non-obvious.

The '140 Patent provides short pulses to a switch controlling the power-loop to detect during those pulses whether a person is touching the power-loop. This is described in the claims, where the pulse generating circuit outputs pulses

to a switch [1c], where that same switch also controls the LEDs off [1d] or on [1e]. The claims further make clear that “the power-loop includes the switch circuit.” [1f]. The exemplary clauses are excerpted below, with emphasis:

[1c] ***a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit;***

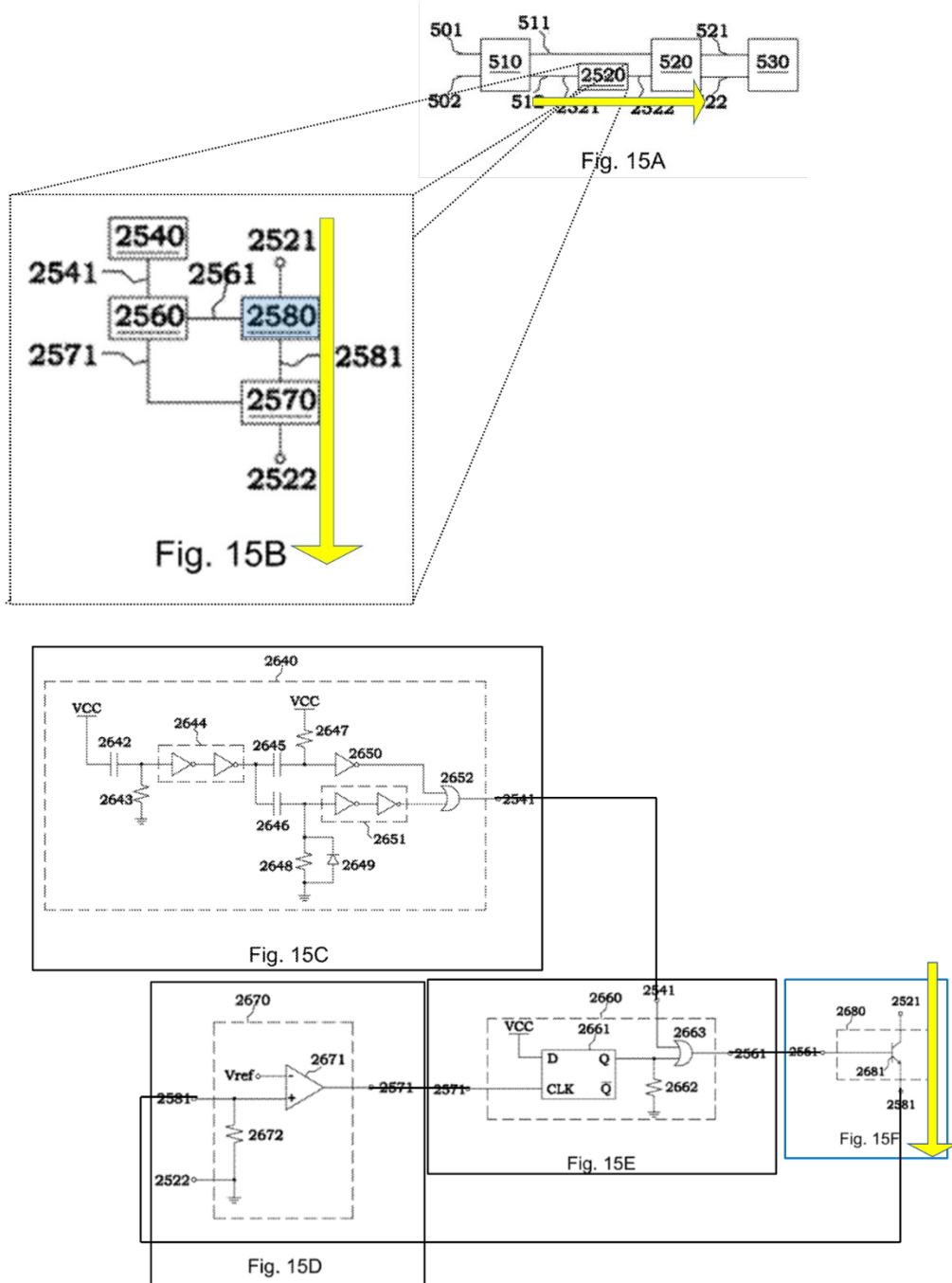
[1d] wherein the installation detection circuit is further configured to:

when it is detected during one of the one or more pulse signals that the LED tube lamp is not properly installed on the lamp socket, ***control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open;*** and

[1e] when it is detected during one of the one or more pulse signals that the LED tube lamp is properly installed on the lamp socket, ***control the switch circuit to remain in a conducting state to cause the power loop of the LED tube lamp to maintain a conducting state,***

Substantively similar limitations are present in independent claims 4 and 21. *See* [4c]-[4g], [21c]-[21f]. Claim 24 recites the same concept, but only slightly differently. *See* [24c] (“receiving the one or more pulse signals ... by a switch circuit wherein the switch circuit is on the power loop”), [24d] (“controlling the switch circuit to remain in an off state”).

This claimed aspect is demonstrated in the figures. Provided below are the demonstratives from § II *supra*, with the switch in blue, and the power-loop shown via the yellow arrow.



Ivey345 does not have this switch that is both controlled by the pulse generator to receive pulses, and controls the power-loop on and off. Ivey345 provides two switches (135 and 175), where one switch 135 is continuously oscillated via oscillator 130 to draw current on a test path (annotated red, below),

and the other switch 175 (blue) that controls the LEDs on the power loop. (Ivey345 at [0021]-[0024], [0036].) In Ivey345, the power-loop switch 175 is not used for detections, and switch 135 is not used to turn on/off the LEDs—they provide entirely different functions, and are controlled by entirely different circuits.

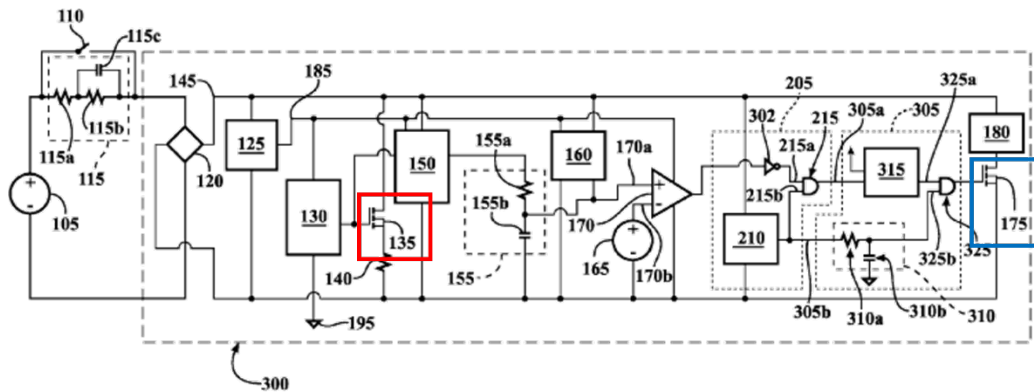


FIG. 3

Ivey345 does not use the same switch that: (1) receives pulses from a pulse generator and (2) controls the power loop. The claims require, for the switch: “one or more pulse signals control turning on and off of the switch circuit” [1c], “control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open” [1d], “control the switch circuit to remain in a conducting state to cause the power loop of the LED tube lamp to maintain a conducting state” [1e], and “the power loop includes the switch circuit” [1f]. All other independent claims require substantively similar limitations. See [4c]-[4g], [21c]-[21f], [24c]-[24d].

None of the challenged claims are taught by Ivey345's two-switch circuit, and non-institution is thusly appropriate. *See also* Ex. 2015 at ¶¶ 2, 26-27 (Dr. Phinney—who the jury in the *Ruising* litigation previously agreed with on the same issue—concurring with his assessment and analysis).

(a) Both of Petitioner's Theories Fail for Claims 1, 4, and 21 and Their Dependent Claims.

Acknowledging this gap, Petitioner advances weak arguments as to how Ivey345 discloses the recited switch circuit, one based on load switch 175 and another based on load switch 175 in combination with test load switch 135. Neither withstand scrutiny. How Petitioner applies its theories to independent claims 1, 4, and 21 are described below, followed by a discussion of independent claim 24.

(i) Load Switch 175 Does Not Satisfy the Switch Circuit Limitations.

The claims require that the pulse generator control the switch. Limitation [1c] recites “a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit.” Limitations [4c] and [21c] are substantially similar.

Petitioner identifies oscillator 130 as the “pulse generating circuit” (Pet. at 21-22) and argues that because certain elements that control load switch 175 are synchronized with oscillator 130, that its pulses control turning on and off the

switch circuit. (Pet. at 24.) Petitioner is wrong. First, switch 175 and oscillator 130 are not synchronized, as oscillator 130 controls switch 135 and not switch 175. Second, if switch 175 and oscillator 130 (which Petitioner describes as having a clock-output) were synchronized, the power-loop would oscillate and would provide LEDs that always emit light, defeating the purpose of the main load shut-off latch 315.² Petitioner's interpretation is plainly wrong on its face—limitation [1c] does not require the switch circuit to be synchronized or coincidentally overlap in some instances, and instead requires that the on/off state of the switch circuit *is controlled* by the pulse signals of the pulse generating circuit.

In Ivey345's FIG. 3, load switch 175 is controlled, *i.e.*, turned on and off, by a combination of the main load shutoff circuit 305 (annotated yellow) and the detection validation circuit 205 (aqua). Those signals are ANDed together by AND gate 325 (*i.e.*, either the main load shutoff circuit 305 or detection validation circuit 205 can force the switch open by outputting a "0") and the

² Petitioner, in its Ground 2 analysis, implicitly concedes that this argument of synchronization carries little weight, as it rewires Ivey345 to synchronize the oscillator and switch 175. How this argument, and synchronization, fails is further described in the Ground 2 argument.

resulting signal controls load switch 175. (Ivey345 at FIG. 3.) The alleged pulse generator (oscillator 130 (annotated red, below)) does not control load switch 175 (blue), but instead controls switch 135 (also red).

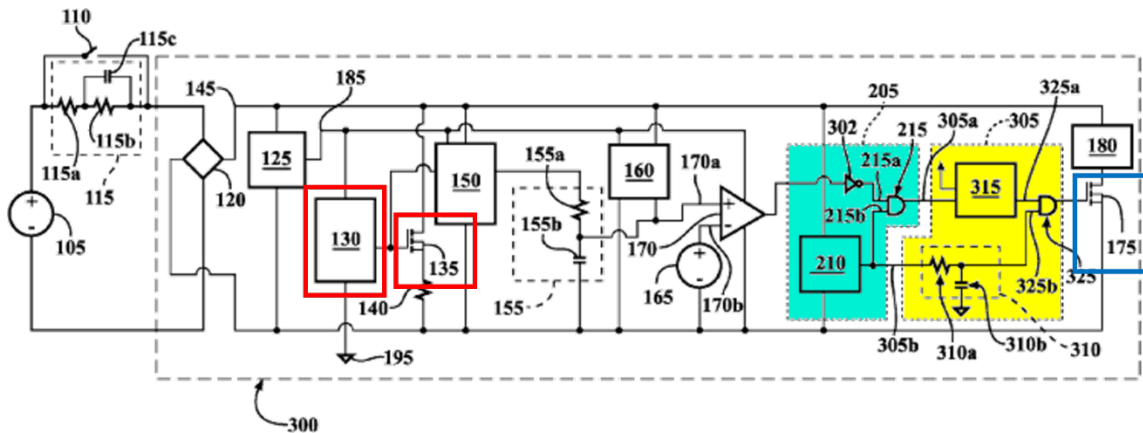


FIG. 3

Accordingly, the on/off state of the alleged switch circuit 175 is not controlled by the pulse signals of oscillator 130 (the alleged pulse generating circuit), and denial of institution is appropriate.

(ii) Load Switch 175 and Test Load Switch 135, Taken Together, Do Not Satisfy the Switch Circuit Limitations.

Petitioner's back-up argument that load switch 175 and test load switch 135 together form the claimed "switch circuit" fares no better. As discussed, limitation [1c] recites "a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit" and limitations [4c] and [21c] are substantially similar.

As an initial matter, neither Petitioner nor its expert meaningfully attempt to explain when a switch circuit comprised of two completely separate and independent switch elements would be considered on or off. *See* Pet. at 24-25. Indeed, Petitioner’s second theory maps two *different* switches to meet different claim limitations associated with the *same* switch circuit; an invalidity theory so divorced from the claims cannot be sustained in this manner. *See Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016) (“Subsequent use of the definite articles ‘the’ or ‘said’ in a claim refers back to the same term recited earlier in the claim.”).

As discussed in the preceding section, the on/off state of load switch 175 is *not* controlled by pulses from oscillator 130, and test load switch 135 is not the light switch, *i.e.*, it does not control turning the lights on or off. *See* claim elements [1d], [1e], [4d], [4e], [21d], [21e]. Rather, oscillator 130 controls the opening and closing of test load switch 135, not main load switch 175. Ivey345 at [0021]; Fig. 3.

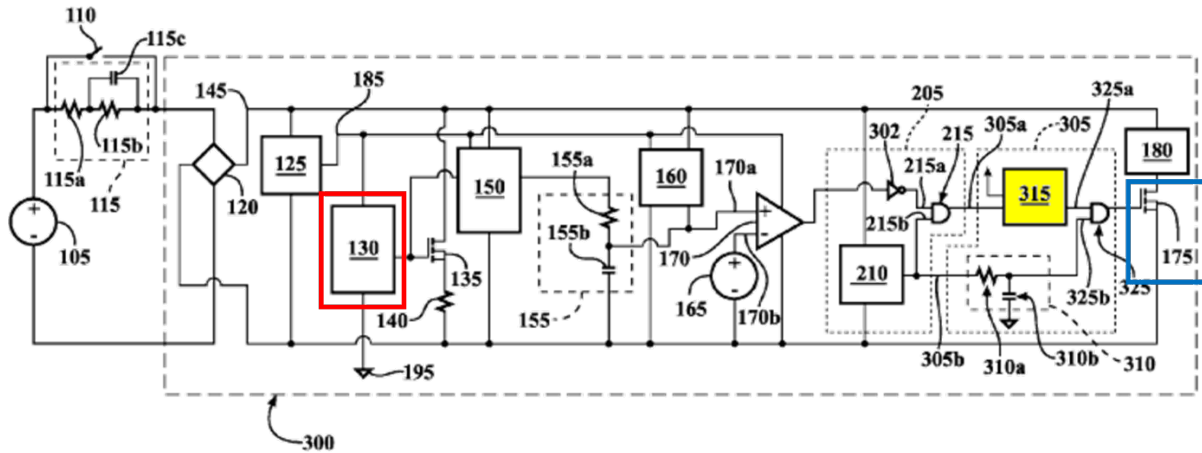
These two switches control two entirely different functions and cannot be cobbled together in efforts to re-create the claims as Petitioner has done.

(b) Petitioner’s Theories Also Fail for Claims 24-28

Claim 24 recites “receiving the one or more pulse signals through a detection result latching circuit by a switch circuit, wherein the switch circuit is

on the power loop” and “controlling the switch circuit to remain in an off state to cause the power loop of the LED tube lamp to be open.” Pet. at xiii (limitations [24c], [24d]). The pulses are generated with a pulse generating circuit. [24a] (“generating one or more pulse signals by a pulse generating circuit”). As with the other independent claims discussed above, Petitioner fails to show that Ivey345’s load switch 175, either alone or in combination with test load switch 135, meet these limitations.

As to the first theory based on load switch 175 alone, load switch 175 does not receive the pulse signals from the alleged pulse generating circuit element (*i.e.*, oscillator 130) through a detection result latching circuit as claimed. Load switch 175 (annotated blue, below) does not include a clock input or any input that receives the signal output by oscillator 130 (red). Rather, in the Fig. 3 embodiment on which Petitioner relies, load switch 175 has just one input for a control signal which is the output of AND gate 325. AND gate 325 functions to output a “1” only if both of its inputs are “1,” meaning that any of its inputs (*e.g.*, main shut-off latch 315 or detection validation timer filter 310) can force it low. (Ivey345 at [0045]; Fig. 3.) The purpose of the main shut off latch 315 (yellow) is to latch-off the switch 175 when there is a risk of shock protection, and not pulse it from oscillator 130. (*Id.* at [0044].)

**FIG. 3**

Petitioner is wrong to infer that detector 150 being clocked with oscillator 130 is adequate because one of the signals received by load switch 175 indirectly depends on detector 150. Limitation [24c] requires the pulse signals actually be received by the switch circuit. Pet. at xiii (claim language); *see also, e.g.*, '140 patent at 47:23-27 ("The detection result latching circuit 2760 is coupled (e.g., electrically connected) to the switch circuit 2780 via a path 2761, and is configured to receive and output the pulse signal(s) from the detection pulse generating module 2740.'). Load switch 175 does not receive pulse signals from oscillator 130, and Petitioner's attempt to argue that momentary overlap in oscillator 130's output and switch 175's output meets the claims fails, because the limitations would require that switch 175 receives pulses from the oscillator 130.

As with the other independent claims discussed above, Petitioner's back-up argument based on a combination of load switch 175 and test load switch 135 is a thinly-veiled effort to rely on two separate and independent switches to meet the

limitations required of a single “switch circuit.” As just discussed, load switch 175 does not actually receive pulses from oscillator 130. As to test load switch 135, it does not receive pulses from oscillator 130 “through a detection result latching circuit” as claimed. Petitioner points to “logic inverter 302 and latch 315” in combination as the alleged detection result latching circuit. *See* Pet. at 39. But those identified structures do not output any signal to test load switch 135, let alone pulses from oscillator 130. *See* Ivey345 at Fig. 3.

2. A POSITA Would Not Have Been Motivated to Combine Ivey813 and Ivey345 As Proposed.

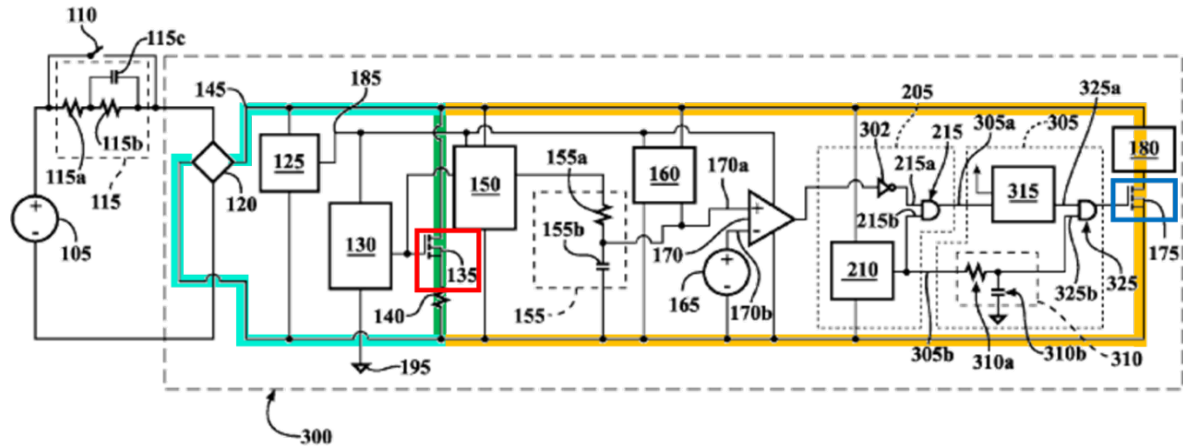
A POSITA would not have been motivated to use Ivey345’s circuit in Ivey813’s LED tube lamp as proposed by Petitioner’s combination (*e.g.*, Pet. at 19-20) because doing so would provide a light that would provide a continued current through a person, which would potentially be unsafe. (Ex. 2015 at ¶¶ 27-33.)

Ivey345’s circuit in FIG. 3 is safe for light bulbs, and same is not true for double-ended tube lamps. Ivey345 is directed to a light bulb, *e.g.*, one that has threaded, bayonet, or pinned connectors (examples below). (Ivey345 at [0003]-[0005].) For these bulbs, both source and ground are on one end, and would be connected to ground/source at the same time. (Ex. 2015 at ¶ 29.) There would be no realistic way to simultaneously have the light powered—and bypass ground—

if a bulb were screwed in. (*Id.*) The shock-hazard from a bulb from an installer touching the bulb end, thereby providing a second path to ground. (*Id.*)

Threaded	Bayonet	Pinned
		

The concern of shock occurring near the bulb—and not by creating a sole-ground path—is apparent via Ivey345’s figures. Ivey345 provides two separate current paths, one path (annotated orange) goes to main load 180 (*i.e.*, the LED or CFL light (Ivey345 at [0037])) and is controlled via main load switch 175 (blue), and another path (green) that is controlled by test load switch 135 (red). (Ivey345 at [0021]-[0022], [0044].) Ivey345 shuts-off the main load switch 175 when a person is detected. (*Id.* at [0044].)

**FIG. 3**

Even when switch 175 shuts off the main load current path, current will still be drawn down the secondary path (green annotated below). This is because switch 135 continuously oscillates via its connection to oscillator 130³ (Ivey345 at [0019]-[0020] (stating oscillator provides a continuous sinusoidal signal)) pulling a continued current from the source rectifier to ground. (Ex. 2015 at ¶ 31; *see also* Ground2 analysis (describing in more detail).) This path acts as a “current sink.” (Ivey345 at [0023].)

This prevents a singular source to ground through a person. (Ex. 2015 at ¶ 29.) Whenever a person touches an exposed part of the bulb, they will draw

³ Petitioner relies on oscillator 130 as having a clocked output. (Pet. at 21 (stating that “‘oscillator 130’ [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”).) This means it would have a 50% duty cycle, *i.e.*, a signal that is on half the time. (Ex. 2015 at ¶ 28)

current to ground, but will do so via a second higher-impedance path (annotated aqua below).⁴ Shown below is a demonstrative showing where in the circuit a person would be touching.

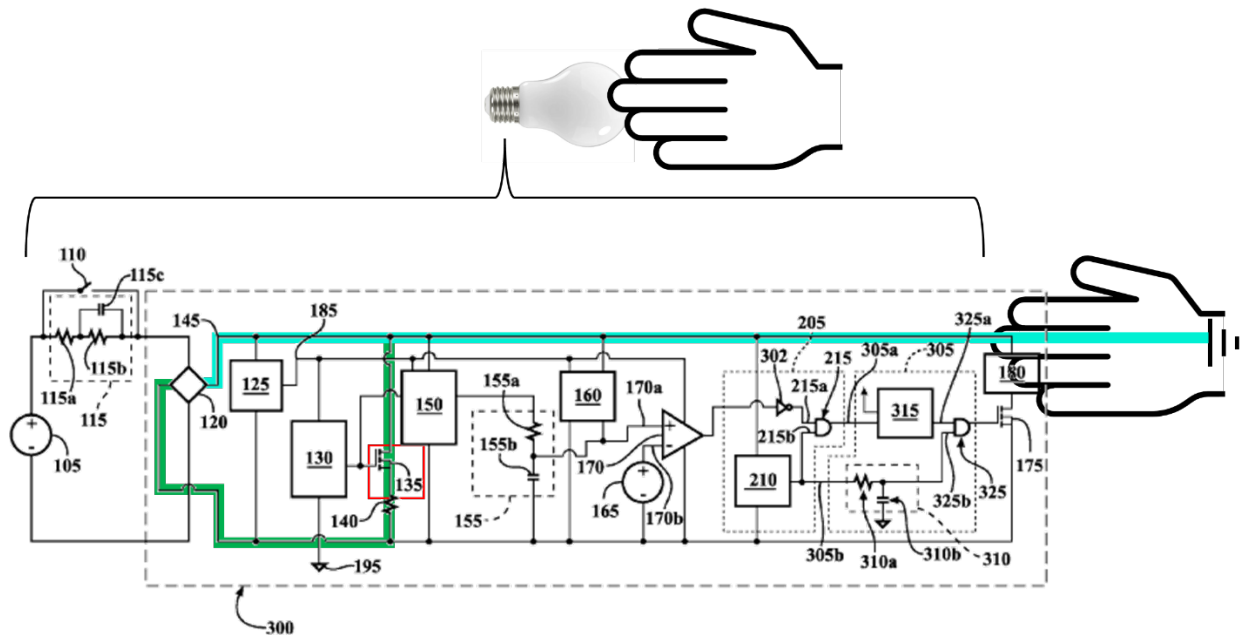
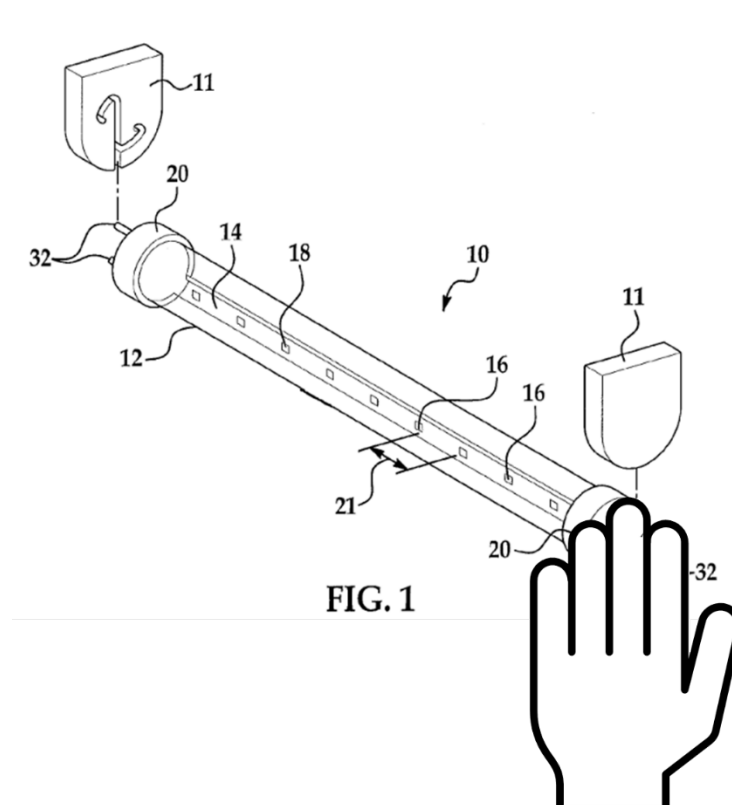


FIG. 3

Placing this circuit from Ivey345 in a tube lamp—as Petitioner’s combination seeks—provides a singular path to ground through a human, which a

⁴ And, the shutoff latch 315 will close the power loop to the LEDs, further limiting current exposure if they touch the bulb in an un-energized area, *e.g.*, after the switch 175. (Ivey345 at [0044] (stating that “main load shut-off latch 315 may be configured to prevent the activation of the load switch 175” when a person is detected).)

POSITA would have known to avoid. Shown below is the tube lamp from Ivey813 from Petitioner's combination. A POSITA would understand that, in tube lights, one end would be plugged into a source while the other end would have the grounded connections.⁵ (Ex. 2015 at ¶ 31.) If an operator improperly installs, and touches the ground pin instead of connecting it to the ground fixture, they form a current path from source to ground. (*Id.*)



⁵ Although many lights have a ground on one end with the source, many have a ground and source on opposite ends. (Ex. 2015 at ¶ 31.)

This is problematic in Ivey345's circuit due to the test path that is continuously energized due to oscillator 130. Switch 135 (annotated red, below) is continually flipped-on and off at the oscillator 130's set frequency which is a sinusoidal signal between, *e.g.*, 30 Hz and 1 KHz (Ivey 345 at [0019]-[0020]), which Petitioner describes as a clock output. This provides a continued current, I_{RMS} (Root Means Squared), pulsing on half the time based on Petitioner's reliance on the oscillator. (Ex. 2015 at ¶ 28; *see also* Pet. at 21 (stating that “oscillator 130' [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”).) While Ivey345 does state that the test load is chosen to be high enough to prevent current harm to a person (Ivey345 at [0023]), a POSITA would not be motivated to design a circuit where the sole path for a rectified mains voltage to ground would be through a person. (Ex. 2015 at ¶ 32.)

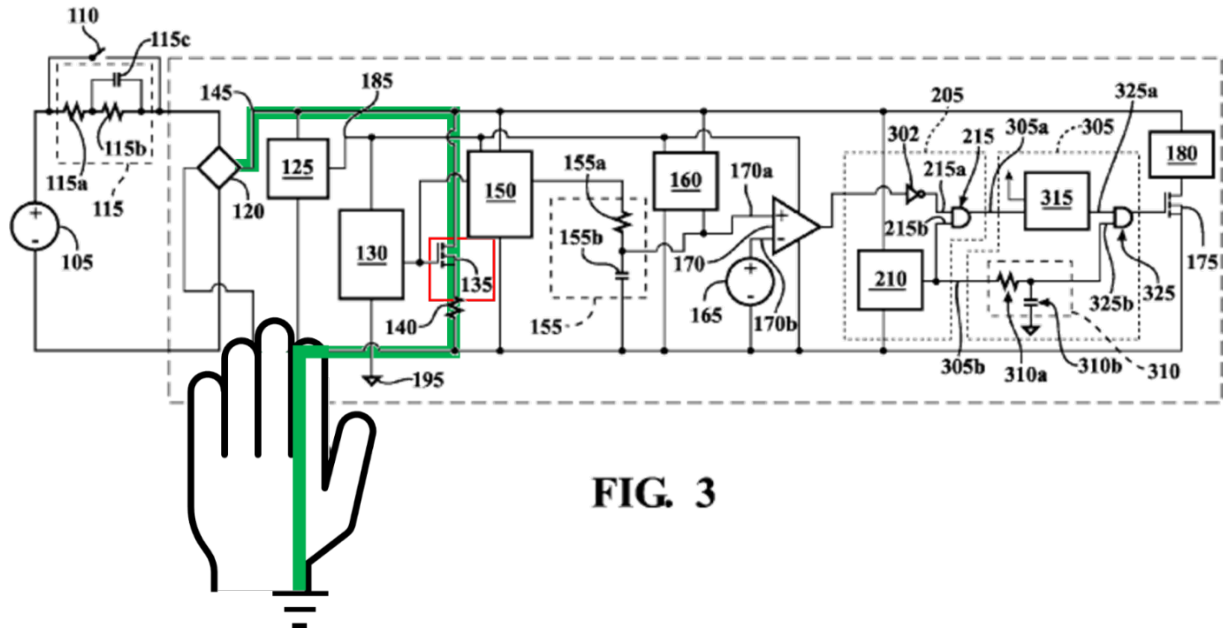


FIG. 3

Finally, while Ivey345's secondary test path provides a safety feature for a bulb fixture because it continually sinks current to ground, it becomes a safety risk in an LED tube lamp because there are realistic situations where the only sink to ground is via a human. (Ex. 2015 at ¶ 31.) Ivey345 is directed to shock protection (Ivey345 at [0002]), and a POSITA would not have been motivated to use it in a manner where it would provide a safety concern. (Ex. 2015 at ¶ 32.) Petitioner does not address, or otherwise reconcile this problem in its Ivey813-Ivey345 combination.

As such, there is no motivation to combine Ivey345's circuit with Ivey813's tube lamp, and institution should be denied.

B. Ground 2: The Sadwick-Ivey345-Ivey813 Combination Fails to Render Obvious Any Challenged Claim.

Petitioner—in attempt to meet the claims—collapses Ivey345’s two switches into one. Doing so, however, fundamentally changes the operation of Ivey345’s circuit, resulting in Petitioner’s combination having two fatal flaws where: (1) the LEDs are always on; and (2) the power-loop for the LEDs always draws current and cannot be turned off, causing a shock hazard. This circuit defeats the purpose of Ivey345’s circuits, and results in limitations of all independent claims (*e.g.*, “control/controlling the switch circuit to remain in an off state”) not being taught and, furthermore, results in no motivation to arrive at the purported combination.

1. Petitioner’s Proposed Sadwick-Ivey345-Ivey813 Combination

Before getting into Petitioner’s deficiencies—and to frame the discussion—Petitioner’s modifications to Ivey345 deserve emphasis because they create a power-loop that draws a continuous current.

Petitioner takes Ivey345’s FIG. 3’s oscillator 130 and wires it to the main power-loop switch 175 instead of a test path switch 135. (Pet. at 54 (stating that in its combination that “the output of oscillator 130 (solid-red) is connected to and controls load switch 175 rather than test load switch 135”); *see also* Pet. at 57-58 (limitation [1b] analysis).) Oscillator 130 oscillates high and low, creating a 50%

duty cycle, and directly controls the power-loop switch 175. (*See, e.g.,* Pet. at 57 (acknowledging that “the gate of load switch 175 ... opens and closes at least when the oscillator 130’s clock signal oscillates low and high, respectively”).) Due to the oscillator controlling the power-loop, it is always-energized creating always-on LEDs and a shock hazard.

Ivey345’s FIG. 3 circuit is first shown below, followed by further detail of Petitioner’s modifications. In FIG. 3, oscillator 130 is wired to switch 135 (both annotated red) which forms a test current branch (green) that is different from the power-loop (aqua). As can be seen from the below, switch 135 controls a test path; it does not control the LED main load 180 path.

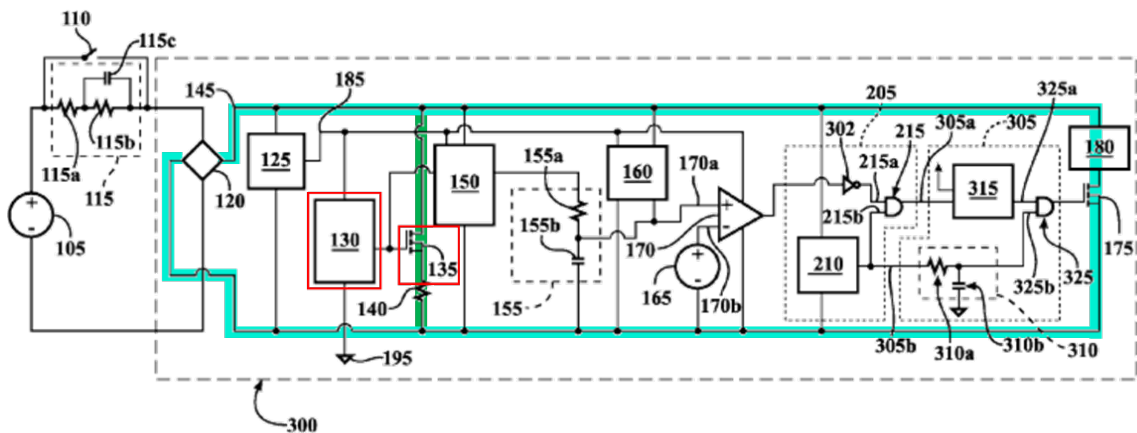
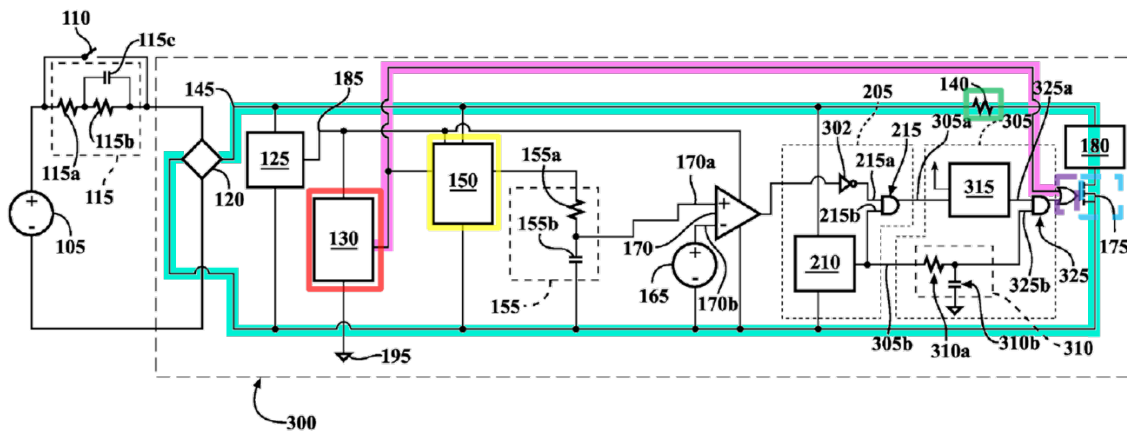


FIG. 3

(Ivey345 at FIG. 3 (annotated).) Petitioner’s combination eliminates this test path, and uses the oscillator-controlled switch to directly energize the power-loop. (Pet. at 11-13 (stating that Ground 1 is utilizing Ivey813’s tube lamp); *see also id.* at 43 (modifying Ground 1 combo).) With Petitioner’s modification, oscillator

130 (Petitioner's red annotation)⁶ controls the power-loop switch 175 (Petitioner's blue annotation). Switch 175 is activated via the output of Petitioner-created OR gate (Petitioner's purple annotation), and is turned on under two conditions: (1) when oscillator 130 provides a voltage; or (2) when AND gate 325's output is high. In other words, switch 175 will flicker on and off continuously at the rate of oscillator 130's frequency and on-period, even if AND gate 325 attempts to turn the switch off.



In Petitioner’s modified circuit, the power-loop(aqua) will provide a continuous current draw because it will be continually flipped-on and off at the oscillator 130’s set frequency which is between, *e.g.*, 30 Hz and 1 KHz. (Ivey 345 at [0019]-[0020]; *see also* Ex. 2015 at ¶¶ 34-35.) And, as described by Petitioner in its combination, oscillator 130 provides a clocked output, *i.e.*, the

⁶ Patent Owner's annotations are provided for the oscillator-to-switch control path (pink) and power-loop (aqua).

signal will be high half the time. (Pet. at 21 (stating that “‘oscillator 130’ [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”), *id.* at 57.) As a result, the main load 180 will receive a continuous current draw, defined as I_{RMS} (Root Means Squared). (Ex. 2015 at ¶ 38.) How this impacts the claims and Petitioner’s motivations are described below.

2. Petitioner’s Sadwick-Ivey 345 Combination Fails to Teach or Suggest Certain Limitations of all Challenged Claims.

The ’140 Patent is directed to preventing shocks and, accordingly, key limitations of all challenged claims are directed to keeping the LEDs off when there is a shock risk to a human. *See, e.g.*, ’140 Patent at Abstract, Claims 1, 4, 21, and 24. The claims require “when it is detected ... that the LED tube lamp is not properly installed on the lamp socket,” to “control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open.” *See* Claim [1d], [4d], [21d]; *see also* Claim [24d] (stating “controlling” instead of “control”). These critical limitations are not met via Petitioner’s modifications to Ivey345’s circuit.

Petitioner’s combination results in LEDs are always on, and cannot be turned off. According to Ivey345, oscillator 130 runs at a continuous frequency that can range from 30 Hz to 1 KHz. (Ivey345 at [0030].) And, with Petitioner’s combination, the LEDs would be turned on and off at the same rate via an

oscillator's clock output. (Pet. at 21 (stating that “oscillator 130' [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”).) The human eye will perceive light flickering at 30 times a second (which is 30 Hz) to be dimmer than a light flickering at 1,000 times a second (1 KHz). (Ex. 2015 at ¶ 35.) In either case, the LEDs will always output light and cannot be turned off. (*Id.*)

Petitioner does not address—and instead overlooks—the critical problem created with its modifications. Petitioner, in conclusory fashion, states that the limitation are met, assuming that its rewiring of the oscillator to the power-loop provides zero impact to other portions of the Ivey345 circuit. (Pet. at 59.) But, as detailed above, Petitioner's rewiring results in a continuous current draw and LEDs that are always on and cannot be turned off. As such, the limitation of “control[s] the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open” present in all claims is not taught via Petitioner's combination.

3. A POSITA Would Not Have Been Motivated to Modify Ivey345 in the Manner Proposed by Petitioner.

Beyond not teaching limitations, a POSITA would not have modified Ivey345's circuits as described by Petitioner. This is because the modification provides a circuit that defeats the purpose of Ivey345's main load shutoff-latch 315 and is unsafe. (Ex. 2015 at ¶¶ 37-39.)

(a) Petitioner’s Combination Renders Ivey325’s Main Load Shutoff Latch 315 Ineffective.

Petitioner’s combination—and its always-on configuration—destroys the purpose of a critical component of Ivey345’s circuit: the main load shutoff latch 315, whose purpose is to keep Ivey345’s LED power-loop off whenever there is a person detected. (Ivey345 at [0044]-[0045].)⁷ Ivey at [0044] states:

The *main load shut-off latch 315 may be configured to prevent the activation of the load switch 175 once the current limiting circuit 300 detects a subject*, for example a person, is electrically connected to the circuit and until the device is disconnected and power is reapplied. For example, the main load shut-off latch 315 may be configured, such that if the device power rail 145 is found to be active, but the output of the comparator 170 indicates that there is a person electrically connected to the circuit, *the main load shut-off latch 315 will be*

⁷ Notably, the addition of a main load shut-off circuit is the focus of Fig. 3. (See Ivey345 at [0009] (“FIG. 3 is an electrical schematic diagram of an exemplary current limiting circuit *including a main load shut-off circuit*,”); [0041] (“FIG. 3 is an electrical schematic diagram of a current limiting circuit 300 similarly configured as the previously described current limiting circuit 200, but may also include *a latching main load shut-off circuit 305*.”).)

triggered and produce an output that will prevent both present and future activation of the load switch 175.

The main load shut-off latch 315 may also be configured to reset to its initial state when power is removed from the circuit and reapplied.

(*Id.* at [0044]) (emphasis added.)

Due to main load shut-off latch 315's critical function of turning off the power-loop, Ivey345's circuit gives it direct shut-down control of the power-loop switch 175. As shown in FIG. 3 below, main load shut-off latch 315's (annotated orange) output is tied to the input of AND gate 325 (yellow), where it can force the AND gate's output to "0" by outputting a "0" itself thereby disabling the power-loop, regardless of any other output the AND gate receives. (Ex. 2015 at ¶ 37.)

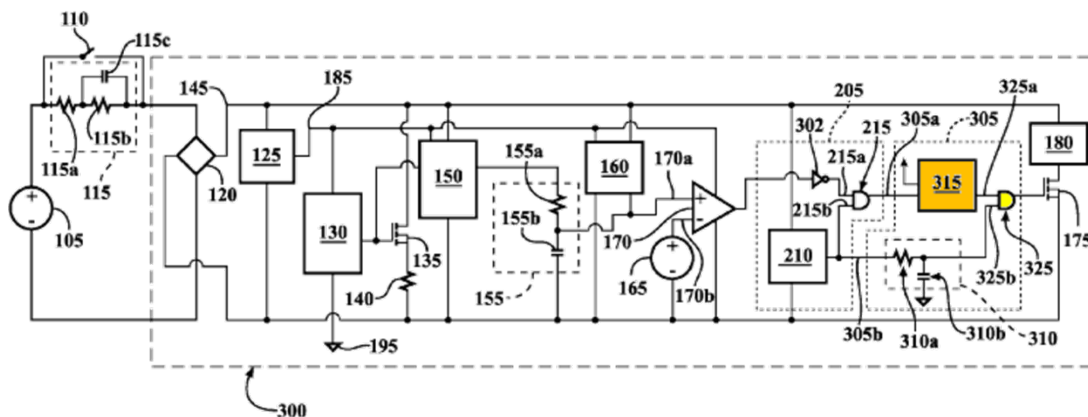
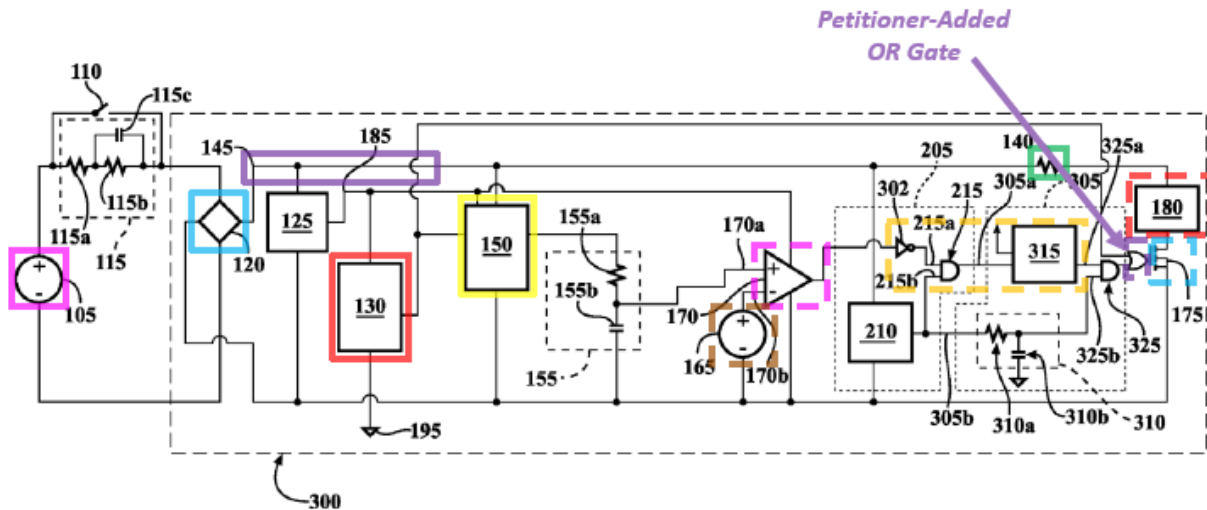


FIG. 3

Petitioner's combination nullifies main load shut-off latch 315's function entirely, by inserting a Petitioner-created OR gate (annotated below to

Petitioner's modified circuit) to the output of the AND gate 325. Because of the OR gate, main load shut-off latch 315 can no longer force-off the main load switch 175.



Pet. at 54 (purple text and arrow added); *see also id.* at 55 (discussing addition of OR gate). As can be seen from the above, the inputs to the Petitioner-created OR gate are (i) AND gate 325's output and (ii) oscillator 130's output. Petitioner explains that "[l]oad switch 175 therefore closes when latch 315's output is high, oscillator 130's output is high, or both, and opens otherwise." Pet. at 55. And, as explained in the preceding section, because Petitioner's combination connects an sinusoidal oscillator 130 providing a clock output to the main load switch 175, the LEDs are always-on.

Petitioner's proposed configuration eliminates the main load shut-off latch 315's ability to turn off the LEDs, because it now goes through an OR-gate with the oscillator 130. This eliminates a critical component of Ivey345 designed to

keep the LEDs off when there is a risk of shock. A POSITA would not have been motivated to arrive at Petitioner's proposed modifications because doing so would defeat the purpose of the main shutoff latch. (Ex. 2015 at ¶ 37.)

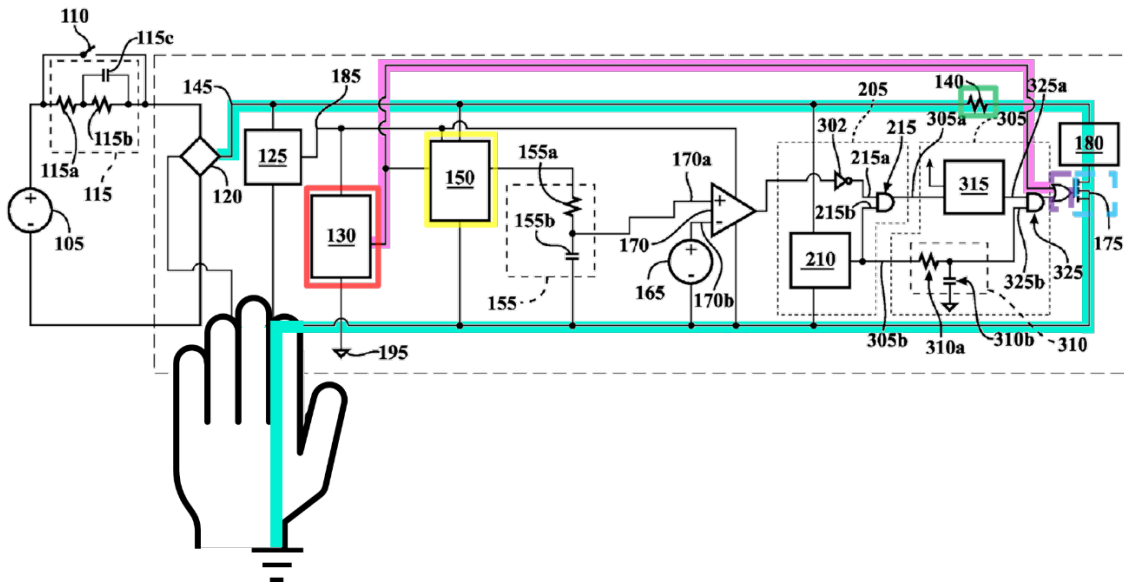
(b) Petitioner's Proposed Modified Circuit Provides a Shock Hazard.

As previously described, Petitioner's combination results in an always energized power-loop having a current I_{RMS} . More specifically, full bridge rectifier 120 (Ivey345 at [0015]) rectifies a 120V AC RMS source (mains power 105), resulting in a rectified DC source of the 340 V peak-to-peak signal. (Ex. 2015 at ¶ 38.) This draws a dangerous current, whose oscillation merely lowers its peak current value to I_{RMS} (*id.*) which is approximately half of full current based on the oscillator's clocked output. (Pet. at 21 (stating that “‘oscillator 130’ [] outputs a clock signal that oscillates high and low” when alleging it to be the claimed “pulse generating circuit”).) The resulting I_{RMS} current is enough to cause serious harm to a person. (Ex. 2015 at ¶ 38.)

With Petitioner's combination, the entirety of the I_{RMS} current will go through the human installer who improperly installs the tube lamp. Via Petitioner's combination,⁸ if an installer is touching the ground pin of the tube

⁸ Petitioner's combination modifies Ivey345 to be a tube lamp (*e.g.*, Pet. 43; *see also* Pet. at 11-12).

lamp via an improper install, the entire current draw would pass through the installer to ground, as depicted to the annotations to Petitioner's combination below. This goes against Ivey345's goal of being safe. (Ivey345 at [0012].)



Petitioner's combination is clear hindsight bias in attempt to arrive at the '140 Patent claims and should be rejected. Petitioner adds an OR gate and rewires several of Ivey345's circuits. But in doing so it creates a lighting apparatus that cannot be turned off, and one that defeats many of the stated purposes of Ivey345. A POSITA would not have had any motivation to arrive at Petitioner's suggested combination, and Ground 2 fails to teach any claims of the '140 Patent.

C. Grounds 3-4 Also Fail to Render Obvious Any Challenged Claim.

Petitioner relies on Powell for Grounds 3-4. (Pet. at 68-78.) Powell provides an RC oscillator, which does not cure any of the deficiencies of Grounds

1-2, and instead amplifies them by clarifying that a clocked output signal is used. (Pet. at 70.) Grounds 3-4 fail for the same reasons as described with Grounds 1-2. (Ex. 2015 at ¶ 40.)

VI. THE PETITION IS TIME-BARRED UNDER 35 U.S.C. § 315(B)

35 U.S.C. § 315(b) states that “[a]n *inter partes* review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.”

“It is ‘the IPR petitioner who bears the burden of persuasion to demonstrate that its petitions are not time-barred under § 315(b) based on a complaint served on a real party in interest more than a year earlier.’” *Ventex Co., Ltd. v. Columbia Sportswear N.A., Inc.*, IPR2017-00651, Paper 148 at 4 (PTAB Jan. 24, 2019) (precedential) (quoting *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed. Cir. 2018) (alteration added). The petitioner also bears the burden of persuasion regarding privity. *Ventex*, Paper 148 at 4-5.

The present Petition is time-barred because Shaoxing Ruising Lighting Co., Ltd. (“Ruising”) was served with a complaint alleging infringement of the ’140 Patent more than one year before Petitioner filed the present Petition. EX. 2003 (amended complaint asserting ’140 Patent). Ruising was served on November 12,

2020. Ex. 2004 (proof of service).⁹ Petitioner filed the present Petition more than two years later on June 30, 2023.

A. Factual Background

1. The *Ruising* Litigation

In 2020, Patent Owner filed a patent infringement suit against Ruising and its affiliate CH Lighting Technology Co., Ltd. (“CH”). *Jiaying Super Lighting Electric Appliance Co. Ltd. v. CH Lighting Technology Co. Ltd.*, No. 6:20-cv-00018-ADA (W.D. Tex.) (“*Ruising* litigation”). The ’140 patent was among the asserted patents. Ex. 2003 (amended complaint). The case proceeded to trial in November 2021 and a jury returned a unanimous verdict finding that Ruising and CH willfully infringed the ’140 patent along with two other patents. Ex. 2016 (jury verdict); Ex. 2005 (order of final judgment).

2. Petitioner’s Preexisting Legal Relationship with Ruising

Ruising is Petitioner’s contract manufacturer. [REDACTED]

[REDACTED]

[REDACTED]

⁹ On November 11, 2020, Ruising filed a “Statement of Non-Opposition to Motion for Alternative Service” in which it consented to electronic service of process through its counsel. *Ruising* litigation, Dkt. 61.

[REDACTED]

[REDACTED]

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B. Ruising is a Time-Barred Privy of Petitioner.

1. Legal Standard

The Board’s precedential decision in *Ventex* provides a helpful introduction to the concept of privity:

Privity “prevent[s] successive challenges to a patent by those who previously have had the opportunity to make such challenges in prior litigation.” [*WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1319 (Fed. Cir. 2018) (citation omitted).] In *Taylor v. Sturgell*, 553 U.S. 880, 894–95 (2008), the Supreme Court provided a non-exhaustive list for examining whether the legal relationship between two parties establishes that one is the privy of the other: “(1) an agreement between the parties to be bound; (2) pre-existing substantive legal

relationships between the parties; (3) adequate representation by the named party; (4) the nonparty's control of the prior litigation; (5) where the non-party acts as a proxy for the named party to relitigate the same issues; and (6) where special statutory schemes foreclose successive litigation by the non-party (e.g., bankruptcy and probate).” [*Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1360 (Fed. Cir. 2018) (“*AIT*”)] (Reyna, J., concurring) (citing *Taylor*, 553 U.S. at 894–95).

Ventex Co., Ltd. v. Columbia Sportswear N.A., Inc., IPR2017-00651, Paper 148 at 11-12 (PTAB Jan. 24, 2019) (precedential).

“Analysis under any one of the factors can support a finding of privity.” *Id.* at 12 (citations omitted). For example, in *Ventex*, the Board found that “at least [*Taylor*] factors 2 and 5 support[ed its] conclusion that [Ventex’s customer] Seirus and Ventex[we]re privies.” *Id.*

2. Petitioner and Ruising are Privies Based At Least on *Taylor* Factors 2, 3, and 5.

(a) *Taylor* Factor 2

In *Ventex*, the Board reasoned that the second Taylor factor (pre-existing substantive legal relationships between the parties) supported a finding of privity. *Ventex*, Paper 148 at 12. The Board explained that “the parties had a preexisting substantive legal relationship in the form of two contracts, a Supplier Agreement

with an obligation to indemnify and defend, and an Exclusive Manufacturing agreement.” *Id.*; *see also id.* at 7 (discussing agreements).

[REDACTED]

[REDACTED]

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[REDACTED]. Thus, as in *Ventex*, finding Petitioner and Ruising “in privity with one another comports with the goal of ‘tak[ing] into account the practical situation, and [extending privity] to parties, to transactions, and other activities *relating to the property in question.*’” *Ventex*, Paper 148 at 12-13

(quoting Trial Practice Guide, 77 Fed. Reg. at 48,759) (alterations and emphasis original).

The present facts are also similar to those in *Microsoft Corp. v. Science Applications International Corp.*, IPR2019-01311, Paper 35 (PTAB Jan. 27, 2020), another case in which the Board found privity based primarily on a preexisting contractual relationship. There, “Petitioner [Microsoft had] entered into a contract with the government to develop a system incorporating the allegedly infringing feature.” *Microsoft*, Paper 35 at 7. Patent Owner had brought a suit against the government in the Court of Federal Claims. *Id.* The Board found that “both Petitioner and the government share a common interest in canceling the allegedly infringed claims.” *Id.* at 8. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In *Microsoft*, the Board analyzed provisions of the agreement and determined that Microsoft and the government’s “preexisting relationship [wa]s not insignificant.” *Id.* at 8 (“According to Petitioner, ‘[i]f the RTA feature is found to infringe the [patents-at-issue], Microsoft may be compelled to violate its contractual obligations, negotiate with SAIC for authorization to comply with its contractual obligations, or undertake some other action.’”). [REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

Accordingly, the preexisting legal relationship between Petitioner and Ruising here is significant.

The Board’s decision in *PayPal, Inc. v. PersonalWeb Technologies, LLC*, also supports a finding of privity here. IPR2019-01111, Paper 27 (PTAB Nov. 22, 2019). In *PayPal*, the Board found that “[t]he evidence of record shows that the relationship between Amazon and these Petitioner Entities went beyond typical transactions between supplier and buyer because there exists a substantive legal relationship between them that is defined by legal obligations and a sufficient degree of commonality in interest.” *Id.* at 20. The Board focused on Amazon’s indemnification obligations to the petitioners which pertained to an Amazon product implicated in the infringement lawsuits the patent owner had filed against the petitioners. *Id.* at 22 (“Tellingly, Petitioner Entities do not deny

the existence of the indemnification agreements, nor contest that those indemnification agreements pertained to Amazon’s S3, one of the accused products.”). The Board noted that the Federal Circuit has indicated that indemnification agreements can support findings of privity.

As noted by the Federal Circuit, “an indemnification agreement . . . has alone been enough to find privity.” *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 839 (Fed. Cir. 1991); *AIT*, 897 F.3d at 1362 (Reyna, J. concurring) (Under *Taylor*, “non-party preclusion could apply between an indemnitor and an indemnitee.”) (citing *Intel Corp.*, 946 F.2d at 839).

Id. at 22.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Furthermore, in *PayPal*, the Board found that the petitioners and Amazon “continue[d] to share the same interest in their use of [the accused Amazon] S3

[technology]” because there was a pending appeal concerning a district court’s noninfringement finding. *PayPal*, Paper 27 at 23-24. Again, the same is true here. Ruising is appealing various issues from the district court case that determined its products infringe the ’140 patent, including the court’s denial of judgment as a matter of law that the asserted claims of the ’140 patent are invalid. Ex. 2011 (appellants’ appeal brief).

The Board rejected the petitioners’ arguments in *PayPal* “that Amazon [wa]s not a privy because [the petitioners] ha[d] additional interests related to non-Amazon products” accused of infringement by Patent Owner. *PayPal*, Paper 27 at 25.

The Federal Circuit has explained that, “in drafting § 315(b), Congress ‘chose language that bars petitions where proxies or privies would benefit from an instituted IPR, even where the petitioning party might separately have its own interest in initiating an IPR.’” *Power Integrations, Inc. v. Semiconductor Components Indus., LLC*, 926 F.3d 1306, 1316 (Fed. Cir. 2019)] (second emphasis added) (quoting *AIT*, 897 F.3d at 1347). Thus, representing their own interests in addition to those of Amazon[] does not negate a finding [] privity. Similarly, Petitioner Entities’ potential liability concerning the non-S3 products does not negate the shared interest in S3 or

Amazon's indemnity obligations and defense related to their shared interest in S3.

PayPal, Paper 27 at 26. In the event Petitioner here tries to argue that its separate interests in invalidating the '140 patent somehow negate a finding of privity with Ruising, the argument should be rejected by the Board for the same reasons.

(b) Taylor Factor 3

In *PayPal*, the Board found that the petitioners' interests were adequately represented in the prior litigation by Amazon who shared the same interests. *PayPal*, Paper 27 at 34 (“[W]e conclude that Petitioner Entities have been adequately represented by Amazon, who has the same interest as at least one Petitioner Entity (e.g., PayPal) and who was a party to an earlier suit (i.e., the Texas Action), thereby providing an additional basis to conclude that there is privity between Amazon and Petitioner Entities in this proceeding pursuant to § 315(b).”). The Board also rejected the petitioners' arguments that their separate interests negated a finding of privity based on the third *Taylor* factor. *Id.* at 32-34.

Here, similar to *PayPal*, Ruising was a party to the *Ruising* litigation and shared Petitioner's interests in invalidating the '140 Patent. [REDACTED]

[REDACTED]

[REDACTED] Ruising moved for

JMOL that the asserted claims of the '140 Patent were invalid and, as mentioned, Ruising is appealing the district court's denial of JMOL on that issue. *See* Ex. 2011 (appeal brief).

(c) *Taylor* Factor 5

In *PayPal*, the Board analyzed the fifth *Taylor* factor and found “that Petitioner Entities [we]re representing Amazon’s interests in th[e IPR] proceeding.” *PayPal*, Paper 27 at 34. Given Amazon’s indemnification obligations to the petitioners, the Board reasoned that it was Amazon that would “bear the cost” of a determination of infringement by the petitioners. *Id.* at 35 (“Petitioner Entities, then, are representing Amazon’s continued interests, as well as their own, in the instant IPR proceeding, at least as to those interests pertain to S3 and the ‘310 patent. We, thus, conclude that Petitioner Entities are serving as proxies of Amazon.”) (citing *Taylor*, 553 U.S. at 895).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

C. Ruising is Also a Time-Barred Real Party in Interest.

“Determining whether a non-party is a ‘real party in interest’ demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *AIT*, 897 F.3d at 1351. “[T]he terms ‘real party in interest’ and ‘privy’ were included in § 315 to serve two related purposes: (1) to ensure that third parties that have sufficiently close relationships with IPR petitioners would be bound by the outcome of instituted IPRs under § 315(e), the related IPR estoppel provision; and (2) to safeguard patent owners from having to defend their patents against belated administrative attacks by related parties via § 315(b).” *Id.* at 1350.

In *Ventex*, the Board found that Ventex’s customer, Seirus, who had been sued by the patent owner for infringement was a real party in interest. Ventex, Paper 148 at 7-11. Ventex exclusively manufactured Heatwave fabric for Seirus and indemnified Seirus against legal claims related to that material. *Id.* at 7. Seirus’ products that were accused of infringement incorporated the Heatwave fabric made by Ventex pursuant to the parties agreements. *Id.* Based on their agreements, the Board reasoned that “the parties had a mutual interest in the continuing commercial and financial success of each other.” *Id.* at 8; *see also id.* at 10 (“Based on our review of the contractual relationship between the parties

and the record as a whole, we conclude that Seirus will benefit from Ventex's actions and Ventex represents Seirus's interests in this action."). The Board found that the parties' agreements "incentivize[d] both parties to invalidate the claims of the [asserted patents]." *Id.* "In that sense," the Board explained, "Seirus is a clear beneficiary of Ventex's efforts in this *inter partes* review, and it follows readily that Ventex represents Seirus's interests in this proceeding." *Id.* And given Seirus was time-barred from filing an IPR itself, "the evidence suggests that Ventex filed this action, in part, to benefit Seirus." *Id.* (citing *AIT*, 897 F.3d at 1353).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] And, as in *Ventex*, given Ruising is time-barred from filing an IPR itself, the evidence suggests that Petitioner filed this action, at least in part, to benefit Ruising. *Ventex*, Paper 148 at 8. That Petitioner may also have distinct interests in invalidating the '140 patent has no bearing on whether Ruising is an RPI. *Ventex*, Paper 148 at 9

(“That Ventex had interest in invalidating the claims in the [asserted] patents does not address whether Seirus is a real party in interest—‘it is not an either-or proposition.’”) (quoting *AIT*, 897 F.3d at 1353).

In *Ventex*, the Board found that Seirus would benefit substantially from a finding that the asserted patent was invalid because Seirus was accused of infringing the claims challenged in the IPR. *Ventex*, Paper 148 at 10.

“Furthermore,” the Board explained, “it [was] clear that Ventex and Seirus had a specially structured, preexisting, and well established business relationship with one another, including indemnification and exclusivity arrangements.” *Id.* “In the [Board’s] view, those circumstances [we]re the type that, when adhering to the guidance articulated in *AIT*, give rise to a determination that Seirus should have been named a real party in interest.” *Id.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Accordingly, the record

here shows that Ruising should have been named a real party in interest, and the Petition is time barred under § 315(b) on that basis.

VII. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 314(a) / *FINTIV*

A. The Petition Relies Primarily on Prior Art That Has Already Been Considered.

In *NHK Spring*, the Board denied institution under Section 314(a) because institution of the IPR would be inefficient given the same prior art and arguments were being advanced in district court litigation that was likely to resolve prior to an instituted IPR proceeding. *See, e.g., NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 19-20 (PTAB Sept. 12, 2018) (precedential).

Institution of this Petition would similarly be inefficient because it is largely based on prior art that was already presented to and rejected by a jury. The defendants in the *Ruising* litigation argued at trial that the combination of Sadwick and Ivey³⁴⁵ rendered the '140 Patent invalid. Ex. 2012 (trial transcript) at 230:13-21.¹⁰ The jury rejected this prior art, however, and found the '140

¹⁰ Specifically, the *Ruising* defendants used International Publication Number WO 2016/066566 A1, a publication of PCT/US2014/063596. *See* Ex. 2014 (Sadwick '566). Here, Petitioner relies on a publication of the U.S. national stage application based on the very same PCT application. *See* Ex. 1009, cover page. Accordingly,

Patent claims were valid. Ex. 2016 (jury verdict) at 3.

Sadwick was also considered and overcome by Patent Owner during prosecution. The '140 Patent's original application was rejected as being anticipated by Sadwick, and the USPTO cited the very same FIG. 14 embodiment Petitioner now relies upon. Ex. 1003 at 231-232 (Aug. 7 Non-Final Rejection); *see also* Pet. at 44 (discussing Sadwick's Fig. 14). In response to the rejection, the '140 patent claims were amended to incorporate *inter alia* functionality for the pulse generating circuit and how it interacts with the installation detection circuit. Ex. 1003 at 377-390 (Nov. 7, 2017 Amendment). The claims were subsequently allowed over Sadwick. *Id.* at 399-402.

B. Discretionary Denial is Appropriate Under *Fintiv*

1. Legal Standard

The Board's precedential decision in *Apple, Inc. v. Fintiv, Inc.* identified six factors for consideration in determining whether to deny institution under § 314(a) where there is a parallel district court litigation:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;

Petitioner's Sadwick reference has the same description and figures as the Sadwick publication considered during the *Ruising* litigation.

2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential).

On June 21, 2022, the USPTO issued a Director's Memorandum, titled "Interim Procedure for Discretionary Denials in AIA Post Grant Proceedings with Parallel District Court Litigation" ("Director's Memo"). Among other things, the Director's Memo stated "Consistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB." Director's Memo at 3 (citing *Sotera Wireless Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A).

Petitioner offers a narrower stipulation that only agrees “not to pursue the instituted grounds” in this proceeding. *See* Ex. 1037. Petitioner’s stipulation does not agree “not to pursue ... any grounds that could have reasonably been raised before the PTAB.” Moreover, the *Fintiv* factors discussed below weigh in favor of a discretionary denial in view of the parallel district court litigation.

2. The Co-Pending District Court Litigation

On May 24, 2022, Patent Owner filed a complaint against Petitioner asserting infringement of several patents including the ’140 Patent. Ex. 2008 (docket report) at ECF 1.

A scheduling order was entered on December 12, 2022. Ex. 2009 (scheduling order). Fact discovery opened on April 20, 2023. *Id.* at 2.

Claim construction briefing has been completed. Ex. 2008 (docket report) at ECF 62, 64, 65.

Petitioner moved to transfer the district court case to the Northern District of Ohio. Following venue discovery and a hearing, the transfer motion was denied on April 20, 2023. Ex. 2008 (docket report) at ECF 69, 86, 90.

Petitioner has also filed a motion to dismiss certain claims in the litigation, and that motion has been fully briefed. *Id.* at ECF Nos. 14, 18, and 19.

The parties jointly moved to stay the case on July 17, 2023 based on settlement discussions. At this time, however, the parties have not yet reached a

settlement and are required to propose a new case schedule by September 1, 2023 if a settlement is not reached and finalized by that date. *Id.* at p. 8 (text order entered Aug. 18, 2023).

3. Factor 1: The Court Has Not Stayed the District Court Case and Is Very Unlikely to Do So

Petitioner has not moved to stay the district court case in view of its IPR filings nor even indicated it intends to do so. Even if Petitioner does so move, Judge Albright has typically denied motions to stay litigations based on instituted IPR proceedings. *See, e.g., Ravgen, Inc. v. Lab'y Corp. of Am. Holdings*, No. W-20-CV-00969-ADA, 2022 WL 4240937 (W.D. Tex. Aug. 16, 2022); *Sonrai Memory Ltd. v. LG Elecs. Inc.*, No. 6:21-CV-00168-ADA, 2022 WL 2307475 (W.D. Tex. June 27, 2022) (both denying post-institution motions to stay). Accordingly, *Fintiv* Factor 1 favors discretionary denial.

4. Factor 2: The District Court Trial Date Will Likely Take Place Months Before Issuance of a Final Written Decision

Even assuming the jury trial originally set for April 17, 2024 is delayed by a month or two because of the recent stay, a final written decision in this case is unlikely to be due much before December 2024 (*i.e.*, one year and 3 months after the August 31, 2023 filing date of the present paper). Accordingly, *Fintiv* Factor 2 favors discretionary denial.

5. Factor 3: Both Parties And The Court Have Invested Substantial Effort Into This Case And Will Invest Even More Before an Institution Decision

The parties have already invested substantial effort into the district court case. The claim construction process is almost complete and the parties are already into fact discovery. Moreover, Patent Owner already prevailed on Petitioner's transfer motion and Petitioner's motion to dismiss has been fully briefed. Accordingly, *Fintiv* Factor 3 favors discretionary denial. *See Fintiv*, Paper 15 at 15 (reasoning that factor 3 favored discretionary denial based on efforts already invested into claim construction and invalidity contentions).

6. Factor 4: Overlap Of Issues Raised In The Petition And District Court Case

Petitioner's invalidity contentions in the district court case rely on the same prior art advanced in the Petition. Ex. 2010 (invalidity contentions cover pleading) at 11 (listing Ivey345, Ivey813, Sadwick, and Powell as prior art to the '125 patent). Accordingly, *Fintiv* Factor 4 favors discretionary denial. *See Fintiv*, Paper 15 at 15. As noted above, Petitioner opted not to present a full scope *Sotera Wireless* stipulation in its Petition. Petitioner apparently intends to rely on different combinations of the same prior art references simultaneously before the PTAB and in district court. This is inefficient and increases the chance of inconsistent outcomes between the two fora.

7. Factor 5: Petitioner and the Defendant in the District Court Case Are the Same Party

Petitioner here is itself a defendant in the parallel district court proceeding. Accordingly, *Fintiv* Factor 5 favors discretionary denial. *See Fintiv*, Paper 15 at 15.

8. Factor 6: Fatal Flaws in the Petition Favor Discretionary Denial

Given the flaws in the Petitioner's obviousness arguments discussed above in Section V, the present Petition falls well short of the "compelling merits" standard required to avoid a discretionary denial based on *Fintiv* Factors 1-5. *See* Director's Memo at 4 (When determining whether there is a compelling unpatentability challenge, the Board evaluates whether the Petition presents challenges "in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.").

9. Additional Factors: The '140 Patent is At Issue in a Pending Appeal.

The *Fintiv* factors are not exclusive and the Board can consider other evidence that bears on its discretion under § 314(a). *See, e.g., NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential) (reasoning that the Board may consider the advanced state of a

related district court proceeding, among other considerations, as a “factor that weighs in favor of denying the Petition under § 314(a).”).

This proceeding and the *Current* litigation would not even be the only fora addressing invalidity challenges to the ’140 patent. In addition to the co-pending district court case involving Petitioner, there is a pending appeal at the Federal Circuit filed by Petitioner’s privy and RPI, Ruising, and Ruising’s parent, CH. In their brief, appellants assert that the ’140 Patent is anticipated by International Patent Application Publication WO 2012/066822. Ex. 2011 (appeal brief) at 48-51. The Board has used its discretion under § 314(a) to deny institution of IPR petitions where an appeal of a related district court litigation is pending. *See, e.g., Comtech Mobile Datacom Corp. v. Vehicle IP, LLC*, IPR2018-00531, Paper 9 at 12 (PTAB July 20, 2018) (exercising discretion not to institute trial for a proceeding with a co-pending related litigation on appeal to the Federal Circuit).

10. Conclusion

Similar to *Fintiv*, “the District Court case is ongoing, trial is scheduled to begin [several] months before [the Board] would reach a final decision in this proceeding, the District Court has expended effort resolving substantive issues in the case, the identical claims are challenged based on the same prior art in both the Petition and in the District Court, and the defendant in District Court and the Petitioner here are the same party.” *Fintiv*, Paper 15 at 17. Given that the *Fintiv*

factors decidedly favor a discretionary denial, instituting a trial based on this Petition would be an inefficient use of the Board's resources. This is even more true in view of the co-pending Federal Circuit appeal of the *Ruising* litigation. Accordingly, the Board should deny institution under § 314(a).

VIII. CONCLUSION

For all the reasons discussed above, the Board should deny institution of Petitioner's Petition for *inter partes* review of the '140 Patent.

Dated: August 31, 2023

Respectfully submitted,

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CERTIFICATION OF WORD COUNT UNDER 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Preliminary Response totals 12,150 excluding the parts exempted by 37 C.F.R. § 42.24(a). Accordingly, this Petition is under the word count limit of 14,000 words.

This word count was calculated by using the built-in word-count tool in Microsoft Word 2016, the software used to prepare the document.

Dated: August 31, 2023

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE and Exhibits 2003-2016 were served via electronic mail upon the following counsel of record for Petitioner:

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