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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SIMPSON STRONG-TIE COMPANY INC.
Petitioner

v.

COLUMBIA INSURANCE COMPANY
Patent Owner

Case PGR2024-00050
Patent No. 11,920,339

THIRD DECLARATION OF RICHARD T. KACZKOWSKI

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I, Richard T. Kaczkowski, hereby declare as follows:

I. INTRODUCTION

1. I previously provided a First Declaration (Exhibit 2001) and a Second Declaration (Exhibit 2050) in which I provided my opinions regarding the validity of U.S. Patent No. 11,920,339 (“the ‘339 Patent”) in response to Simpson Strong-Tie Co. Inc.’s (“Petitioner” or “Simpson”) Petition for Post Grant Review. My First and Second Declarations are incorporated herein by reference.

2. My qualifications and background are provided in detail in my First Declaration. EX2001: ¶¶1-6. My qualifications and background are incorporated by reference into this declaration.

3. In providing the testimony set out in my declarations to date, I have reviewed the specification and claims of the ‘339 Patent, the file history of the ‘339 Patent, Simpson’s Petition for Post Grant Review of the ‘339 Patent (“Petition” or “Simpson Petition”), the prior art and other documents attached to the Petition, Patent Owner’s Preliminary Response, Patent Owner’s Response, Simpson’s Reply, the prior art and other documents attached to Simpson’s Reply, Patent Owner’s Contingent Motion to Amend (“MTA”), Simpson’s Opposition to Patent Owner’s Contingent Motion to Amend (“OMTA”), the prior art and other documents attached to Simpson’s Opposition to Patent Owner’s Contingent Motion to Amend, the first declaration (Exhibit 1003) of Mr. Fennell (“the First

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Fennell Declaration”), the second declaration (Exhibit 1068) of Mr. Fennell (“the Second Fennel Declaration”), the Institution Decision (“ID”), and the Preliminary Guidance on the MTA. I have also reviewed the following documents which have been submitted as exhibits by Columbia Insurance Company (“Columbia” or “Patent Owner”):

Exhibit No.	Description
2003	U.S. Patent No. 11,142,902
2004	U.S. Patent No. 11,225,787
2005	U.S. Publication No. 2021/0396000
2006	U.S. Publication No. 2022/0243455
2007	DGT/DGHT Fire Wall Hangers
2008	“Mass Timber and Wood Framing,” Architectural Record Magazine, McGraw Hill Construction, November 2012, pp. 165-169
2009	Top Flange Hangers LBV/BA/B/HB
2010	Merriam-Webster’s Collegiate Dictionary – Definition of Bound
2011	New Oxford American Dictionary – Definition of Bound
2012	U.S. Patent No. 11,065,667
2013	U.S. Publication No. 2019/0136520
2014	U.S. Patent No. 4,560,301
2015	U.S. Patent No. 6,112,495
2016	Simpson Strong-Tie: New Fire Wall Hangers Optimized for Power Nailers
2017	Simpson Strong-Tie: DGHT Top-Flange Fire Wall Hanger
2018	Simpson Strong-Tie: DGT Top-Flange Fire Wall Hanger
2019	Simpson Strong Tie Co., Inc. Design No. SST/WPCF 120-01 Fire Resistant Joist Hanger DG Series Fire Wall Hanger
2020	Simpson Strong-Tie: Your Go-To, Load-Rated Fire Wall Hanger
2021	Simpson Strong-Tie: Allowable Loads for the DG and DGH hanger installed on walls over wood structural panel sheathing
2022	Simpson Strong-Tie: DGH Fire Wall Hanger Now Available Skewed or with Offset Top Flange
2023	Simpson Strong-Tie: DG/DGB/DGH Fire Wall Hangers

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2024	Merriam-Webster's Collegiate Dictionary – Definition of Outwardly
2025	New Oxford American Dictionary – Definition of Outward
2026	U.S. Publication No. 2002/0104279
2027	U.S. Patent No. 11,560,707
2028	U.S. Publication No. 2002/0148191
2029	U.S. Publication No. 2013/0133284
2030	Merriam-Webster's Collegiate Dictionary – Definition of Close
2031	New Oxford American Dictionary – Definition of Close
2032	Merriam-Webster's Collegiate Dictionary – Definition of Conform
2033	New Oxford American Dictionary – Definition of Conformance
2034	U.S. Patent No. 9,938,709
2035	U.S. Patent No. 5,237,613
2036	U.S. Patent No. 6,135,687
2037	Transcript of the May 25, 2022 Deposition of Mr. Fennell
2038	2012 International Building Code – Table 721.1(2)
2039	Fire Ratings of Masonry Walls
2040	Fire and Concrete Structures
2041	Fire Protection Safety with Concrete
2042	2012 International Building Code: Definition of “Fire Wall”
2043	Structural Design for Fire Safety
2044	Press Releases – MiTek Residential Construction Industry
2045	MiTek Releases FWH Fire Wall Hanger, A New USP Structural Connector Product
2046	USP Structural Connectors 2015-2016 Product Catalog
2047	Wood-Frame House Construction
2048	Proposed Stipulated Protective Order
2049	Amended Protective Order
2051	Declaration of Paul Tucker
2052	Declaration of Tom Irtmer
2053	Declaration of Andrea Baranyk
2054	Expert Report of Michael Alley
2055	Declaration of Dwight J. Duncan, CFA
2056	Declaration of Matt Church
2057	Declaration of Joe Dunkle
2058	Declaration of Ryan Holmes
2059	Declaration of Michael Nelson
2060	Declaration of Chris Horwitz

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2061	May 14, 2025 Deposition of William Andrew Fennell
2062	May 25, 2022 Deposition of William Andrew Fennell
2063	October 5, 2022 Deposition of William Andrew Fennell
2064	January 28, 2025 Deposition of Sam Hensen
2065	March 17, 2025 Deposition of Sam Hensen
2066	January 29, 2025 Deposition of Bryan Wert
2067	April 16, 2025 Deposition of Bryan Wert
2068	January 27, 2025 Deposition of Roger Dankel
2069	January 22, 2025 Deposition of Steven Brekke
2070	January 31, 2025 Deposition of Mark Rolf
2071	January 23, 2025 Deposition of Kristi Campbell
2072	January 24, 2025 Deposition of Mike Nelson
2073	Declaration of W. Andrew Fennell in Support of Petitioner's Reply to Patent Owner's Response and Petitioner's Opposition to Patent Owner's Contingent Motion to Amend (PGR2021-00109)
2074	Declaration of Sam Hensen in Support of Opposition to Motion for Preliminary Injunction
2075	Expert Report of Kenneth S. Serwin, PH.D.
2076	Expert Report of Nathan Hoffmann, PE
2077	U.S. Patent No. 537,504
2078	U.S. Patent No. 3,885,363
2079	U.S. Patent No. 6,230,466
2080	U.S. Patent No. 9,790,684
2081	U.S. Publication No. 2012/0285020
2082	U.S. Publication No. 2013/0047539
2083	File History of U.S. Application No. 18/492,460
2084	New Oxford American Dictionary – Definition of Open
2085	Merriam-Webster's Collegiate Dictionary – Definition of Opening
2086	Simpson Design File for Gypsum Board Cantilever Hanger
2087	Simpson Emails Re: DHU vs. USP's FHW (1/2)
2088	Simpson Emails Re: USP Gypsum Hanger (1/4)
2089	Simpson Emails Re: USP Gypsum Hanger (2/4)
2090	MiTek Emails Re: FWH
2091	USP: FWH Fire Wall Hanger Testing
2092	Simpson Emails Re: USP Gypsum Hanger (3/4)
2093	MiTek Emails Re: Cantilevered Hanger (Highly Confidential – Prosecution Bar)
2094	Simpson Emails Re: Status of DHU/DHUTF

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2095	Simpson Emails Re: New DHT Drywall Hanger – Forecast Estimate
2096	Simpson Emails Re: Fire Rated Hanger
2097	Simpson Emails Re: Group Field Trial in Baltimore
2098	Simpson Emails Re: USP FWH
2099	Simpson Emails Re: Firewall Hanger (1/2)
2100	Simpson Emails Re: USP Fire Wall Hangers FWH Series
2101	Simpson Emails Re: DGF/DGHF and DGBF
2102	Simpson Emails Re: Fire Wall Hangers
2103	Simpson Emails Re: DU – DHU – DHUTF Challenge
2104	Simpson Emails Re: FWH USP (1/4)
2105	Simpson Emails Re: DHU
2106	Simpson Emails Re: USP FWH Hanger Talking Points
2107	Simpson Emails Re: FWH USP (2/4)
2108	Simpson Emails Re: Drywall Hanger
2109	Simpson Emails Re: Mitek FWH Meeting
2110	Simpson Emails Re: DHU vs. USP's FWH (2/2)
2111	Simpson Emails Re: Confidential Drywall Hanger
2112	Simpson Emails Re: Hanger Team Meeting Minutes
2113	Photograph of Initial Simpson FWH and MiTek FWH
2114	Simpson Emails Re: Baltimore Summary / Patent Meeting
2115	July 21, 2017 Simpson Hanger Team Minutes
2116	Simpson Emails Re: DGH/DGB Firewall Hanger is Now Available (1/2)
2117	Simpson Emails Re: DGH/DGB Firewall Hanger is Now Available (2/2)
2118	MiTek Emails Re: USP FWH Fire Wall Hanger
2119	MiTek Emails Re: FWH Fire Wall Hanger for 2 Hour Envelope
2120	MiTek Emails Re: Fire Wall Hanger – UFP
2121	MiTek Emails Re: Fire Wall Hanger
2122	MiTek Emails Re: Question? FWH Series – Fire Wall Hangers
2123	MiTek Emails Re: FWH3518
2124	Simpson Emails Re: New Fire Wall Hanger
2125	MiTek Emails Re: Standard Pricing – Reliable- Los Angeles Apts – Laurence Hovenier 1-27-15.xlsx
2126	Simpson Emails Re: Rumbings
2127	Simpson Emails Re: Top Flange Hanger Over 2 Layers of Gypsum Board

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2128	Simpson Emails Re: B/HB Style Hanger for Wall with 2-Layers of Gyp
2129	Simpson Emails Re: FWH USP (3/4)
2130	Simpson Emails Re: FWH USP (4/4)
2131	Technical Bulletin: FWH Series Fire Wall Hangers
2132	Fire Wall Hangers FWH Series
2133	DG/DGB/DGH Product Literature: Your Go-To, Load-Rated Fire Wall Hanger
2134	DGF/DGHF/DGBF Product Literature: Your Go-To, Load-Rated Fire Wall Hanger
2135	DGT/DGHT Fire Wall Hanger
2136	Simpson Emails Re: DHU/DHUTF
2137	Simpson Emails Re: Firewall Hanger (2/2)
2138	Simpson Cantilever Drywall Hanger Testing
2139	Mitek Emails Re: Revised Firewall Hanger Sales Sheet – Correction to Narrower Width Allowable Loads
2140	Simpson Emails Re: MiTek USP FWH Fire Wall Hanger
2141	Simpson Emails Re: USP Gypsum Hanger (4/4)
2142	Curriculum Vitae of Paul Tucker
2143	April 15, 2025 Deposition of William Andrew Fennell
2144	2012 International Building Code: Chapters 6 and 7
2145	2000 International Building Code
2146	FW Hangers Top Mount
2147	1994 Timber Construction Manual
2148	DU-DHU-DHUTF Drywall Hangers
2149	1967 Uniform Building Code
2150	Performance Standard for Wood-Based Structural-Use Panels
2151	April 17, 2025 Deposition of Kenneth Serwin
2152	The Evolution of Engineered Wood I-Joists
2153	Performance Standard Considerations for I-Joists Used in Residential Floor Construction
2154	Fire Rated Systems
2155	ICC-ES Evaluation Report: ESR-3444
2156	ICC-ES Evaluation Report: ESR-4464
2157	ASTM E814
2158	FWH Fire Wall Hanger Installation Instructions
2159	Simpson Emails Re: USP – FWH Fire Wall Hanger
2160	File History of U.S. Application No. 17/235,349
2161	File History of U.S. Application No. 16/433,799

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2162	File History of U.S. Application No. 16/225,517
2163	File History of U.S. Application No. 15/675,409
2164	File History of U.S. Application No. 14/555,049
2165	Simpson Emails Re: Do You Have a Match for This?
2190	U.S. Patent No. 6,658,806
2191	U.S. Patent No. 3,867,802
2192	U.S. Patent No. 1,368,699
2193	U.S. Patent No. 8,205,402
2194	U.S. Patent No. 8,347,581
2195	ASTM E119 – 12a
2196	ASTM E814 – 13

4. I have been informed Exhibits 2166-2189 are exhibits that have been served by Columbia in response to evidence objections raised by Simpson. I have been informed Exhibits 2166-2189 have not been formally submitted to the Board. I have not reviewed Exhibits 2166-2189.

5. As stated in my First Declaration and my Second Declaration, I have relied upon various legal principles as included in the First Fennell Declaration, the Second Fennell Declaration, the Simpson Petition, the Simpson Reply, and the Simpson Opposition to Patent Owner's Contingent Motion to Amend, and explained to me by Patent Owner's counsel. These principles are listed throughout my First Declaration and my Second Declaration, and are incorporated by reference into this declaration.

6. I understand that Columbia, as the Patent Owner, is able to submit a Contingent Motion to Amend. I also understand that the Contingent Motion to

Amend seeks to substitute any issued claims of the '339 Patent found to be invalid with their corresponding substitute claims (claims 32-51).

II. WRITTEN DESCRIPTION SUPPORT

7. I understand that a patent claim has written description support if the specification conveys to a POSA that the inventor has possession of the claimed subject matter as of the effective filing date.

8. Based on my review, the specification and figures contained in the '339 Application, and the corresponding portion of the specification and figures contained in U.S. Patent Application Nos. 18/112,843, 17/235,349, 16/433,799, 16/225,517, 15/675,409, and 14/555,049, convey to a person of ordinary skill in the art (POSA) that the inventor of the '339 Patent was in possession of the subject matter recited in all the limitations in the substitute claims being challenged by Simpson. The written description support in these applications is generally identical, so for brevity and conciseness I will only refer to where in the '339 Patent written description support can be found.

9. I have been informed that word-for-word recitation of the claim terms is not required in the specification in order for the specification to provide written description support. I have also been informed that drawings alone are sufficient to provide written description support.

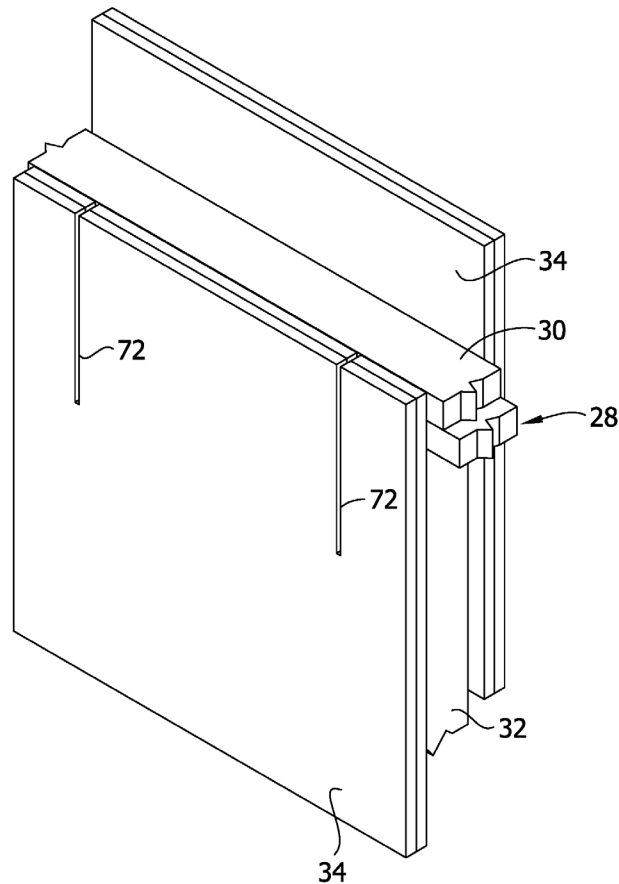
A. “Opening”

10. I understand that Simpson argues the term “opening”—e.g., as in “cutting an opening”—in the substitute claims lacks written description support because the “specification never uses the term ‘opening,’ only the term ‘slot,’” and as a result “[Patent Owner] was not in possession of the full breadth of the broadly recited ‘opening.’” OMTA: 1-2. I understand the Board in the Preliminary Guidance has preliminarily disagreed with Simpson and has preliminarily determined that the term “opening” has written description support. Preliminary Guidance: 6.

11. In my opinion, the specification of the ‘339 Patent demonstrates to the POSA that Columbia was in possession of there being an “opening” in the fire-retardant sheathing.

12. The drawings of the ‘339 Patent, such as at least Figs. 1, 9 (reproduced below), 10-12, 14, and 14A, all illustrate an opening (72) in the fire-retardant sheathing (34). As previously stated, I have been informed that drawings alone are sufficient to provide written description support.

FIG. 9



EX1001: Fig. 9.

13. I understand the specification of the ‘339 Patent does not recite the term “opening” outside of the claims and instead uses the term “slot.” EX1001. However, I have been informed that word-for-word recitation of the claim terms is not required in the specification in order for the specification to provide written description support.

14. In my opinion, the specification of the ‘339 Patent is not limited to only a “narrow slot” as argued by Simpson. OMTA: 1. The specification of the

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‘339 Patent describes the slot more generally. For example, the specification states the slot is cut to a size configured to receive the extension flanges or, more broadly, the hanger in general. EX1001: 6:15-17 (“cutting the slot 72 in the sheathing 34 to a size configured to receive the extension flanges 60 of the truss hanger 26”); 5:54-55 (“cutting the slot 72 to receive the truss hanger 26”). The specification also provides general dimensions for the slot, such as having an area less than or equal to 6 square inches, which gives the POSA the understanding that the recited “slot” is not so limited to the specific shape shown but can have other shapes that fall within the boundaries of the provided dimensions. EX1001: 5:37-39 (“the slot has an area less than or equal to 6 square inches, and the gap between the extension flanges 60 and the edge of the slot 72 is less than or equal to $\frac{1}{8}$ ”). To this end, the specification states “[t]he slot can be any suitable length.” EX1001: 7:33.

15. The specification uses other broadening language as well to describe the features of the recited “slot.” EX1001: 6:34-37 (“a drywall cutout tool with a $\frac{1}{8}$ ” or $\frac{1}{4}$ ” spiral bit is used to cut the slot 72, although other cutting tools are within the scope of the present invention”). For example, the specification explicitly informs the POSA that “all matter contained in the [‘339 Patent’s] description and shown in the accompanying drawings shall be *interpreted as illustrative and not in a limiting sense.*” EX1001: 12:17-19 (emphasis added). Given this explicit

instruction by the '339 Patent, the POSA would not view the term "slot" as being limited to just the illustrated "narrow slot" as asserted by Simpson.

16. Moreover, I agree with the Board that the POSA "would understand that the '339 patent essentially uses the terms 'opening' and 'slot' interchangeably." Preliminary Guidance: 6. In my opinion, the POSA would view the terms "opening" and "slot" to be interchangeable in the '339 Patent. This is how a POSA would view these terms in this art. I have been made aware of a Simpson patent (U.S. 6,658,806) which uses the terms "slot" and "opening" interchangeably. EX2190: 1:11 ("opening or slot"). I have also been made aware of other patents, some of which are in the same general CPC Classification Field of E04B (entitled GENERAL BUILDING CONSTRUCTIONS; WALLS, e.g. PARTITIONS; ROOFS; FLOORS; CEILINGS; INSULATION OR OTHER PROTECTION OF BUILDINGS) as the '339 Patent, which use the terms "opening" and "slot" interchangeably. EX2191: 4:68 ("opening or slot"); EX2192 (entitled: Fireproof Wall or Partition Construction): 1:90 ("slot or opening"); EX2193: 3:35-36 ("opening or slot"); EX2194: 6:28-29 ("opening or slot").

17. Accordingly, for these reasons, it is my opinion the '339 Patent provides written description for the term "opening" as recited by the substitute claims.

III. DEFINITENESS

18. I understand that a patent claim is definite if, when read in light of the patent's specification and the prosecution history, the claim informs those skilled in the art as to the scope of the invention with reasonable certainty.

A. Substitute Claims 44 and 48: “Constructed Fire-Resistive Wall Assembly has a 2-Hour Fire Resistance rating as Determined per ASTM E814 and ASTM E119”

19. Substitute claim 44 adds the limitation “wherein the constructed fire-resistive wall assembly has a 2-hour fire resistance rating as determined per ASTM E814 and ASTM E119.” Substitute claim 48 similarly adds this limitation.

20. I understand that Simpson is arguing that the recitation of the “ASTM E814 and ASTM E119” standards in the claims are indefinite because of “installation inconsistencies, deviations from manufacturer specification, and testing irregularities” and because the “standards are subject to revision.” OMTA:

3. I understand that the Board in the Preliminary Guidance has initially agreed with Simpson that the claims are indefinite because the standards “are subject to revision.” Preliminary Guidance: 8.

21. I have been informed that definiteness is measured from the view point of a POSA as of the *effective filing date*. With this understanding, in my opinion the use of the standards in the substitute claims 44 and 48 is definite because the POSA would know to use the edition of the standards in effect as of

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the effective filing date of the '339 Patent. Because definiteness is determined as of the effective filing date, the fact that the standards may change over time is of no consequence. The edition of ASTM E814 effective in 2013 is Exhibit 2196 and the edition of ASTM E119 effective in 2013 is Exhibit 2195. As shown in Exhibits 2195 and 2196, the ASTM standards clearly designate the approval and publication dates of each edition by footnote. Hence, a POSA would clearly understand which edition was in effect as of the effective filing date. Other editions of ASTM E814 and ASTM E119 are available online at ASTM.org (https://store.astm.org/e0814-24.html?_gl=1*1gfvm2j*_gcl_au*MTc3NDEwOTAzMy4xNzU4MDM5MTY2;https://store.astm.org/e0119-24.html). ASTM E119 and ASTM E814 are both testing standards known to the POSA. EX1001: 11:59-62. Exhibit 2195 is a true and accurate copy of ASTM E119 – 12a and Exhibit 2196 is a true and accurate copy of ASTM E814 – 13.

22. ASTM standards are highly regarded in the construction industry, as evidenced by the fact that they are frequently referenced in both domestic and international building codes.

23. I am very familiar with ASTM E814 and ASTM E119. While working as a manager in the Research and Development (R&D) Group of USG Corporation, the staff reporting to me was responsible for running developmental

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ASTM E119 and ASTM E814 tests in-house and certification tests performed at independent accredited testing agencies (such as Underwriters Laboratories (UL)). I witnessed many of these tests. Furthermore, a staff member reporting to me was a voting member of ASTM Committee E05, Fire Standards, which has jurisdiction over ASTM E119 and ASTM E814 (as noted in the footnotes of these standards). I reviewed proposed changes to the ASTM E119 and ASTM E814 standards with this staff member.

24. Moreover, for the reasons discussed in more detail below, I disagree with the statement that because “[c]ompliance with these standards is dependent on numerous context-specific facts ..., including installation inconsistencies, deviations from manufacturer specification, and testing irregularities,” as asserted by Simpson, renders substitute claims 44 and 48 indefinite. OMTA: 3. The POSA can have any wall assembly constructed according to the method of the substitute claims tested according to ASTM E814 and ASTM E119 to determine whether or not the constructed wall assembly has the 2-hour fire resistance rating. Testing any actually constructed wall assembly would inherently account for any such “installation inconsistencies” and “deviations from manufacturer specification” physically present in that wall assembly.

25. Further, Simpson’s statements, if true, would render any testing according to these ASTM standards (or any building standards) meaningless. A 2-

hour fire rating according to these ASTM standards would be worthless if the constructed wall assembly for the test is so subjected to possible variation that a person cannot be sure another wall constructed in the same way and manner in the field would pass the same test. Accordingly, and as further discussed below, these ASTM standards have been developed with specific requirements to address the issues raised by Simpson.

26. From my personal experience as a voting member with ASTM for over 20 years, ASTM standards are developed by committees of relevant industry professionals who meet regularly in an open and transparent process. These standards are developed through deliberate and formal voting procedures, with the goal of minimizing “testing irregularities” (OMTA: 3) and producing comparable results regardless of which testing agency is conducting the tests. As one example, Section 10.5 of ASTM E119 – 12a discusses interlaboratory test comparison studies that concluded that test results per this standard were shown to have a high degree of repeatability and reproducibility between different laboratories.

EX2195: 13 (Section 10.5). Further, building officials typically require the ASTM fire tests be performed at accredited and reputable laboratories, such as UL, that are inspected and audited for accreditation purposes.

27. Further, these standards recognize that results for any given test specimen may be skewed by “installation inconsistencies” and “deviations from

manufacturer specification”. OMTA: 3. The standards address these concerns by requiring that the test specimen be representative of the intended construction, and that the tested configuration be appropriately documented. For example, ASTM E119 states “[t]he test specimen shall be *representative of the construction* that the test is intended to assess, as to *materials, workmanship*, and *details* such as dimension of parts, and shall be *built under conditions representative of those applied in building constructions and operation.*” EX2195: 2 (Section 5.1).

Similarly, ASTM E814 states “[t]he construction of the test firestop systems shall be of sufficient size and include all conduits, pipes, cables (jacket types, sizes, conductor types, percent fills), required supports, or other through-penetrating items so as *to produce a representative firestop system* for which evaluation is being sought.” EX2196: 5 (Section 7.1.1) (emphasis added).

28. Accordingly, in my opinion, “wherein the constructed fire-resistive wall assembly has a 2-hour fire resistance rating as determined per ASTM E814 and ASTM E119” as recited by substitute claims 44 and 48 is definite.

IV. PRIOR ART GROUNDS

29. Simpson’s obviousness grounds in the OMTA replace the hanger references (Cullen, Yamaguchi, and Robinson) applied in the Petition with new hanger references Kanai (Exhibit 1071) and Tsukamoto (Exhibit 1008), but otherwise still rely on combining the hanger references with Bundy and Allan.

OMTA: 3-25. In my opinion, the application of these new hanger references does not materially change the obviousness analysis as it pertains to Simpson's use of Bundy and Allan. The substitute claims are patentable over Simpson's OMTA prior art combinations for many of the same reasons I provided in my First and Second Declarations. EX2001: ¶¶235-239, 257-258, 269-271, 273-284, 299-313; EX2050: ¶¶69-93, 107-114, 119-120, 132-133, 137-150, 197-372.

30. Neither Kanai, nor Tsukamoto, suggest building a wall with fire-retardant sheathing and their respective hangers. EX1071; EX1008. Neither do Kanai and Tsukamoto suggest a fire wall with fire-retardant sheathing that blocks the passage of a fire through a wall. Instead, Kanai and Tsukamoto are similar to Yamaguchi in that these hanger references are all concerned with connecting a joist to sill sitting on a foundation wall, with the foundation wall being thicker than the sill. EX1071: Reference Diagram Illustrating Usage State; EX1008: Figs. 5 and 6. Just like the original hanger references of Cullen, Yamaguchi, and Robinson, Kanai and Tsukamoto provide no disclosure or suggestion regarding fire-retardant sheathing, nor its installation. EX1071; EX1008.

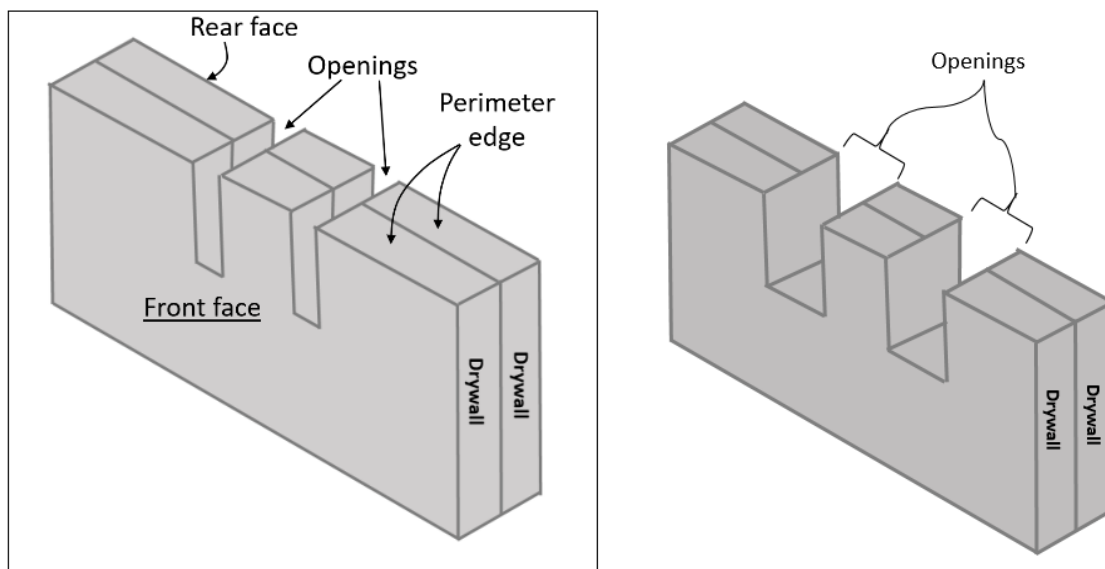
A. Substitute Claims 44 and 48

31. Substitute claims 44 and 48 add the limitation "wherein the constructed fire-resistive wall assembly has a 2-hour fire resistance rating as determined per ASTM E814 and ASTM E119," among other limitations. Simpson

asserts these claims are obvious over Kanai/Tsukamoto in view of Bundy, Allan and newly applied references GypMan (Exhibit 1017) and IBC (Exhibit 1034).

Gypman stands for the Gypsum Association's Fire Resistance Design Manual and IBC stands for the International Building Code.

32. As I stated in my First Declaration, I have been informed that for each of its obviousness grounds, Simpson must demonstrate a reasonable expectation of success of developing the claimed invention. EX2001: ¶18. In my opinion, Simpson has failed to demonstrate a reasonable expectation of success that their prior art combinations result in a method that constructs a “fire-resistive wall assembly [having] a 2-hour fire resistance rating as determined per ASTM E814 and ASTM E119” as recited by substitute claims 44 and 48. This is because Simpson's prior art combinations require multiple openings to be cut in the fire-retardant sheathing—as shown below.



OMTA: 6 (for Kanai), 21 (for Tsukamoto).

33. In my opinion, the POSA at the time of invention of the ‘339 Patent would not have had a reasonable expectation of success of maintaining a 2-hour fire-resistance rating of a fire wall after cutting openings in the fire-retardant sheathing of the fire wall. As I explained in my First Declaration, cutting a hole in a fire barrier can result in the complete loss of the fire barrier’s fire-resistance and rating. EX2001: ¶280; EX2043: 22-23 (“A severe fire will find any weakness in a separating barrier, and many such weaknesses are not visible during normal operation of a building. Care must be taken to ensure that poor quality workmanship or penetration for services and fittings do not compromise the performance of fire- resisting walls”), 122 (“Penetrations through walls and floors can severely reduce the ability of these barriers to contain a fire”).

34. As I explained in my Second Declaration, conventional wisdom in the art at the time of invention of the ‘339 Patent was to avoid disruptions in the fire-resistant sheathing of a firewall. EX2050: ¶86. Simpson’s own personnel did not believe it was possible (let alone have some sort of reasonable expectation of success) to penetrate the fire-retardant sheathing with a hanger and still maintain the fire-restive rating of the firewall. For example, Simpson’s personnel stated the following in viewing MiTek’s FWH hanger (the commercial embodiment of the ‘339 Patent):

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- [REDACTED] (EX2087: SST0077466);
- [REDACTED] (EX2088: SST0087827);
- [REDACTED] (EX2089: SST0087752);
- [REDACTED] (EX2092: SST0087800);
and
- [REDACTED] (EX2141).

35. One of Simpson's Senior Vice Presidents has further testified that in designing the Bundy hanger, [REDACTED]
[REDACTED] (EX2064: 168:23-170:13) and that [REDACTED]
[REDACTED] (EX2065: 107:20-108:23). EX2090
([REDACTED]
[REDACTED]
[REDACTED]).

36. GypMan does not provide any indication that there would be a reasonable expectation of success in having a wall assembly with multiple openings cut in the fire-retardant sheathing for a hanger that would still meet a 2-hour fire resistance rating. Instead, GypMan supports that a wall assembly with

solid/unpenetrated type-X gypsum wallboard would meet a 2-hour fire rating.

EX1017: 88. The table entries on page 88 of GypMan cited by Simpson provide no provision nor illustration of any openings in the two layers of 5/8-inch type X gypsum wallboard. The same is true for pages 13 and 14 of GypMan cited by Simpson. EX1017: 13-14. Page 13 of GypMan just states the fire resistance capabilities of gypsum wallboard as tested by ASTM E119. EX1017: 13. And page 14 of GypMan just states the fire resistance ratings “described in this Manual” are from tests performed according to ASTM E119. EX1017: 14.

37. Section 714.3.2 of the IBC states that membrane penetrations¹ “shall comply with Section 714.3.1.” IBC: 40 (Section 714.3.2). Section 714.3.1 states “penetrations of fire-resistance-rated walls shall comply with Section 714.3.1.1 or 714.3.1.2.” IBC: 40 (Section 714.3.1). Section 714.3.1.2 does not apply as this section requires protection by a separate “firestop system,” which is not being employed in Simpson’s obviousness combination. IBC: 40 (Section 714.3.1.2). The applicable section is Section 714.3.1.1 which states that “[p]enetrations shall be installed as tested in an *approved* fire-resistance-rated assembly.” IBC: 40

¹ Simpson’s obviousness combinations result in membrane penetrations, as opposed to through penetrations, as shown in OMTA. A membrane penetration is a breach in only one side of the wall assembly (e.g., through the fire-resistive sheathing on one side of the frame wall), whereas a through penetration is a breach that passes through the entire wall assembly (e.g., into the fire-resistive sheathing on one side of the frame wall and out the fire-resistive sheathing on the opposite side of the frame wall).

(Section 714.3.1.1) (emphasis in original). In other words, the IBC requires membrane penetrations—such as the Kanai/Tsukamoto hangers extending through the two-layers of drywall proposed by Simpson’s obviousness combinations—to be approved by testing. The required fire tests are involved and expensive to conduct, often requiring extensive trial and error iterations. Given that the conventional wisdom in the art at the time of invention of the ‘339 Patent was to avoid disruptions in the fire-resistant sheathing of a firewall (as shared by Simpson’s own staff), it is unlikely that a POSA would have a reasonable expectation of successfully achieving a 2-hour fire rating per ASTM E119 and E814 after cutting openings in the fire-resistant sheathing for the hanger. A POSA would recognize that, just because the IBC specifies a requirement, does not mean that any arbitrary openings may be cut in the fire-resistant sheathing and still satisfy that requirement.

38. Section 714.3.2 lists several exceptions to the requirement that membrane penetrations “shall comply with Section 714.3.1,” but none of these exceptions apply to Simpson’s obviousness combinations. IBC: 40 (Section 714.3.2). Nor do the exceptions listed under Section 714.3.2 give the POSA an indication of reasonable expectation of success because (1) these exceptions are for electrical boxes or automatic sprinklers (not hangers), and (2) these are exceptions to having the assembly meet approved testing requirements, and do not mean that

these exceptions themselves would necessarily pass the required testing. IBC: 40-41 (exceptions under Section 714.3.2).

B. Secondary Considerations

39. In my Second Declaration, I provided testimony on various secondary considerations providing further evidence of non-obviousness. This testimony is incorporated herein by reference. EX2050: ¶¶197-372.

40. As I stated in my Second Declaration, I understand that a nexus is required between the merits of the claimed invention and the objective evidence of secondary considerations and that nexus can be shown in two ways: (1) via a presumption, or (2) via a showing the evidence is a direct result of the unique characteristics of the claimed invention. EX2050: ¶354.

41. All the objective evidence of secondary considerations I discussed in my Second Declaration related to MiTek's FWH hanger and Simpson's DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers and/or the claimed method of installing the unique fire wall hanger prior to drywall. EX2050: ¶356. In my Second Declaration, I mapped the features of the FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers to the original claim 1 to demonstrate how these products embody the full scope of the claimed invention and are coextensive with the claimed features, thereby being entitled to the presumption of a nexus. EX2050: ¶¶357-361, Appendix A-Appendix D.

42. In my opinion, the secondary considerations evidence is also entitled to a presumption of nexus with the substitute claims for the same reasons as the original claims and that the FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers embody at least some, if not all, of the additional features added by amendment via the substitute claims. For example, the FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers all embody the full scope of the additional features added by amendment to original claim 1 in substitute claim 32 and are coextensive with these additional claimed features.

43. The additional features added by substitute claim 32 from original claim 1 are:

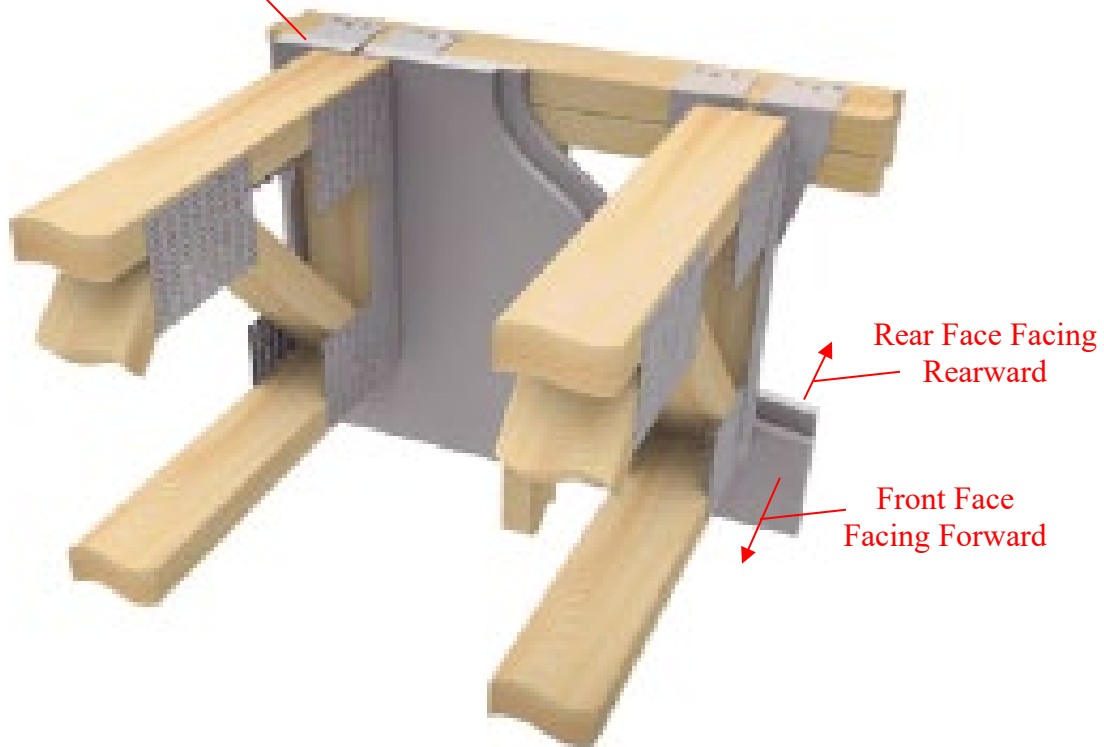
- “exterior perimeter edge” of the fire retardant sheathing;
- “the exterior perimeter edge extending from the front face of the fire retardant sheathing to the rear face of the fire retardant sheathing”;
- the rear face of the fire retardant sheathing facing “rearward”; and
- “the front face of the fire retardant sheathing fac[ing] forward away from the studs of the frame wall.”

44. As shown below, the method of installing the FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers have these additional claimed features:

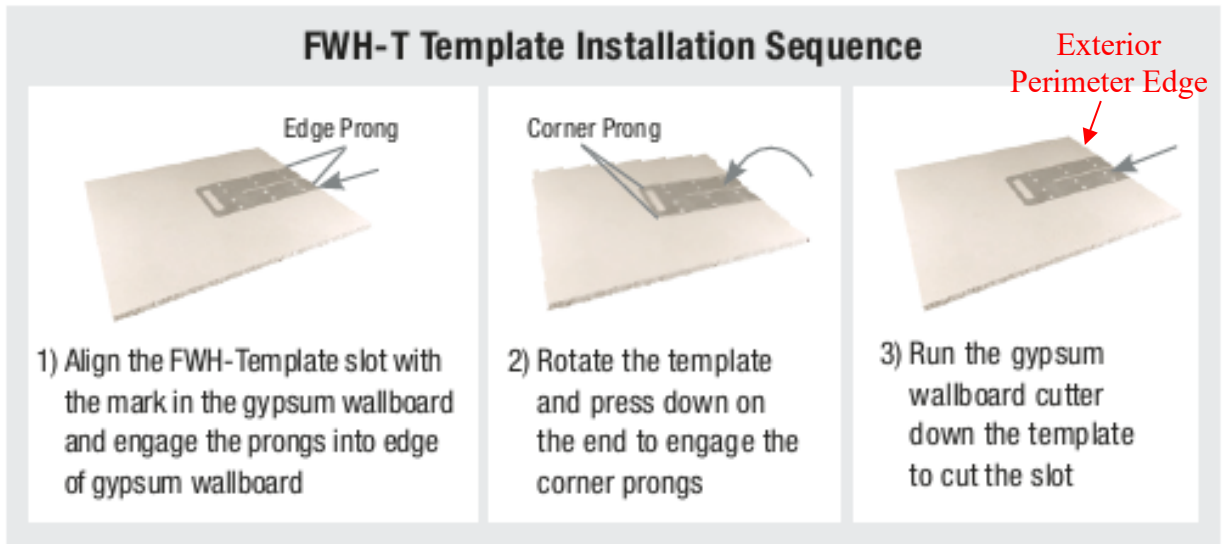
REDACTED

FWH

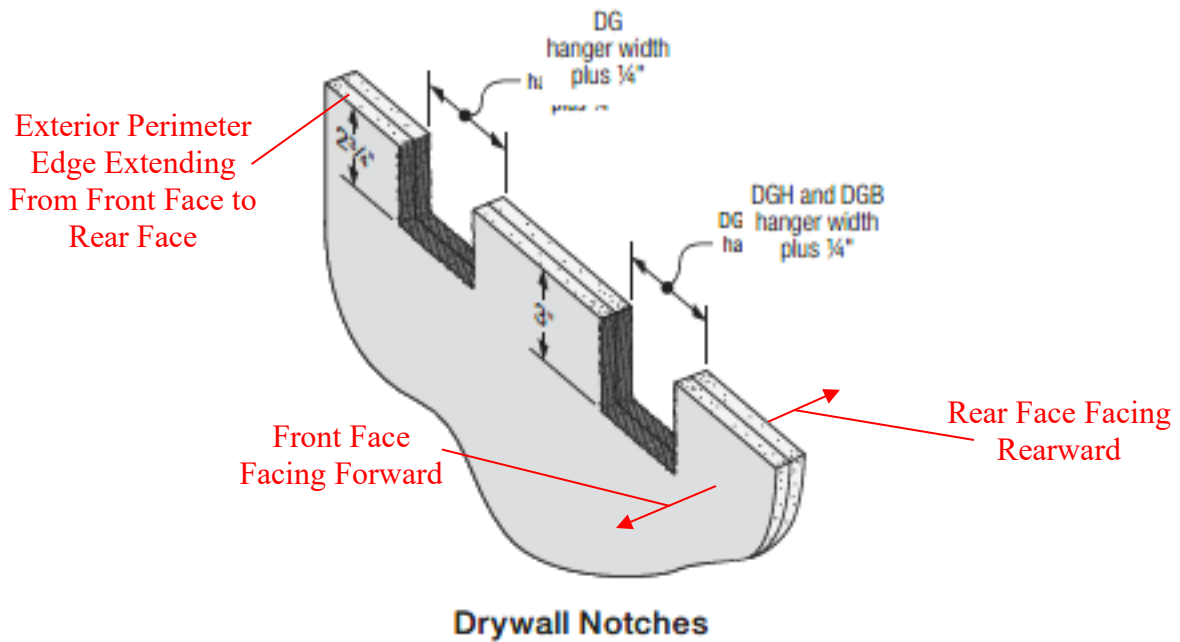
Exterior Perimeter Edge Extending
From Front Face to Rear Face



**Typical FWH stud wall with
(2) layers of 5/8" gypsum
wallboard installation**

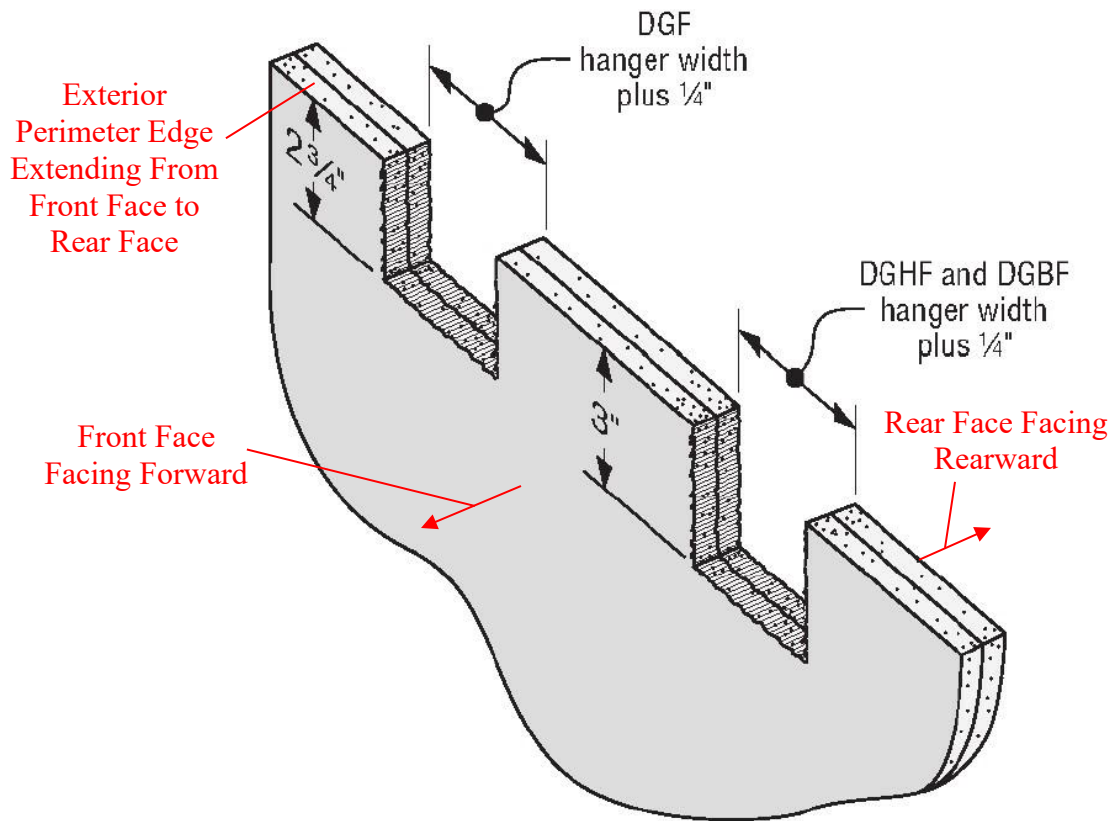


DG/DGB/DGH



REDACTED

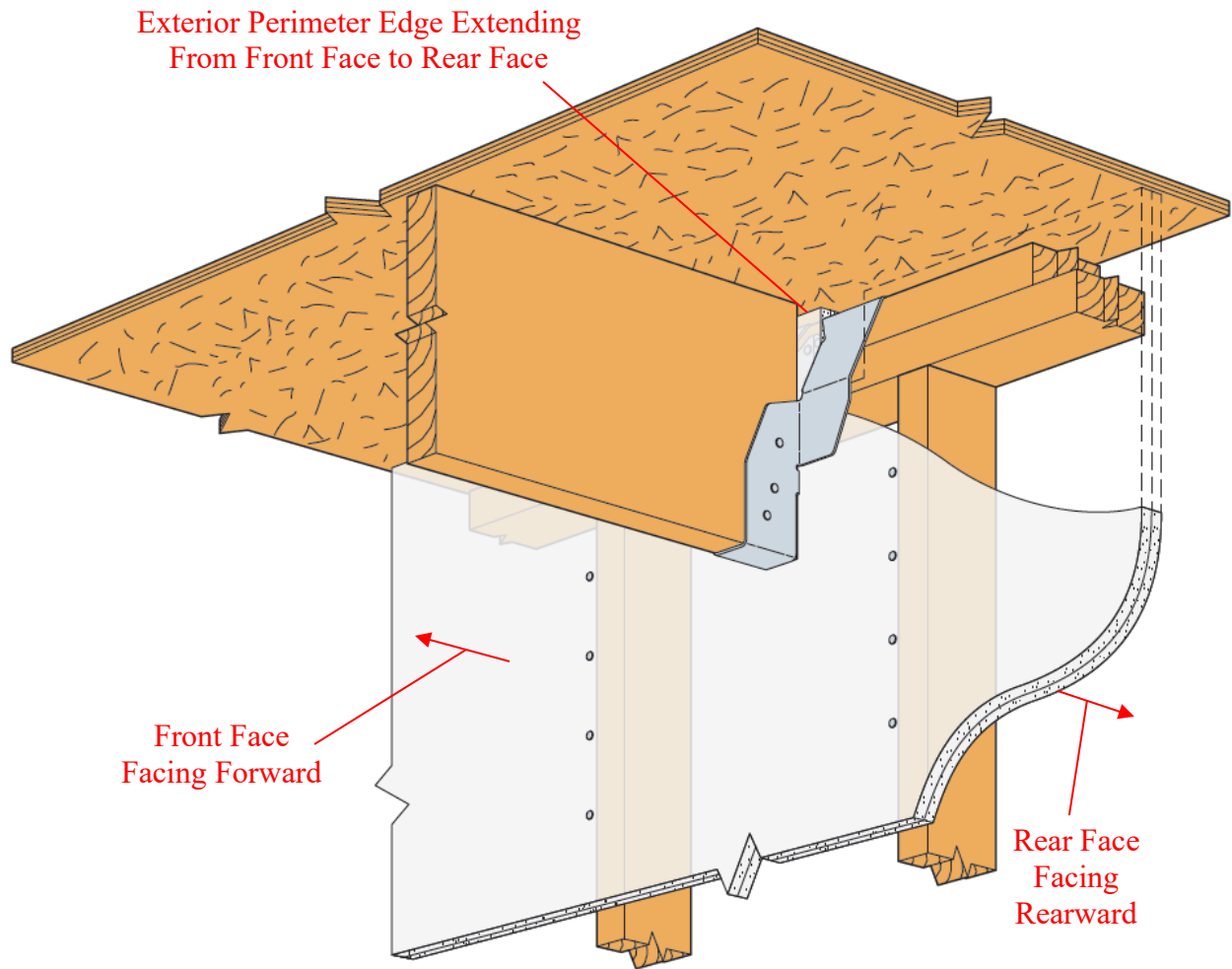
DGF/DGHF/DGBF



Drywall Notches

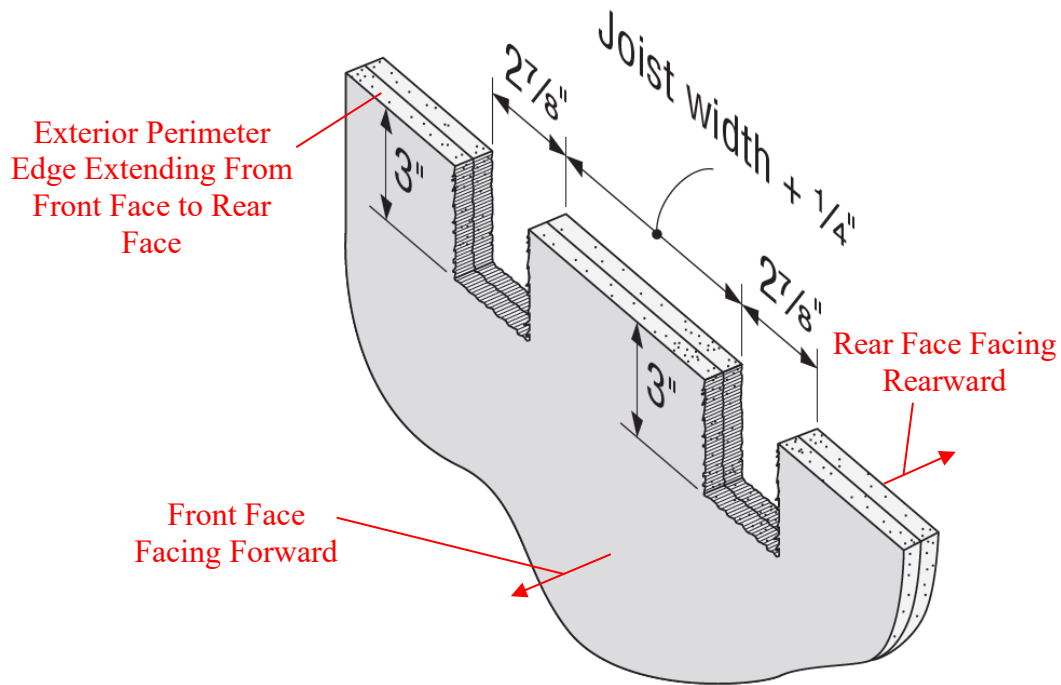
REDACTED

DGT



DGT Hanger Installation (DGHT similar)

REDACTED



Drywall Notches

45. The other features recited in substitute claim 32 are the same as original claim 1, and, thus, the FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers all embody the other features recited by substitute claim 32 for the same reasons as original claim 1. EX2050: ¶¶357-361, Appendix A-Appendix D. Therefore, for these reasons, in my opinion the presumption of a nexus between the evidence of secondary considerations and the claimed invention applies to the substitute claims.

46. Even absent the presumption of nexus, in my opinion the evidence of secondary considerations has a nexus to the claimed invention because the evidence is the direct result of the unique characteristics of the claimed invention.

REDACTED

The substitute claims add features to the original claims. As a result, the substitute claims still recite the method of constructing a fire-resistive wall assembly that includes, first, “mounting a fire hanger on a frame wall,” and then “installing the fire retardant sheathing” “after mounting the fire wall hanger on the frame wall,” that is recited in the original claims. As I explained in my Second Declaration, the secondary consideration evidence pertaining to FWH, DG/DGB/DGH, DGF/DGHF/DGBF, and DGT/DGHT hangers is all directly tied to this unique characteristic recited in in the original claims. EX2050: ¶¶362-372. As this unique characteristic is also recited by the substitute claims, there is also a nexus between the evidence of secondary considerations and the substitute claims. While the FWH hanger may have more than one desirable feature, such as the configuration of the extension flanges, the feature that further establishes a nexus for the evidence of secondary considerations evidence is the unique sequence of installation.

47. The sequence of assembly is the unique characteristic that provides the nexus, not penetration of the fire barrier. The POSA would have had a strong preference for a hanger that could be used in a fire barrier context, which does not affect the fire rating of the barrier. If protecting the fire barrier integrity is the only consideration, the DU hanger would be most preferable to the POSA because no penetration is required. The POSA would never desire a hanger that required

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penetration of the fire barrier membrane (e.g., the fire-retardant sheathing), for that reason alone. Some other benefit or feature must be present in order to tolerate the penetration of the membrane. Thus, in my opinion a preference by a POSA for a hanger that penetrates the fire barrier membrane without affecting the fire rating, while important, is not a feature of the hanger that would distinguish a hanger over other fire wall hangers, such as the DU hanger.

48. As a nexus exists between the evidence of secondary considerations and the substitute claims, the evidence of secondary considerations demonstrates the non-obviousness of the substitute claims for the same reasons I explained in my Second Declaration. EX2050: ¶¶199-353.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 26th day of September, 2025.

By Richard Kaczowski: 