

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEMPUR SEALY INTERNATIONAL, INC.,
SEALY TECHNOLOGY LLC, and
SEALY MATTRESS MANUFACTURING CO., LLC,

Petitioners,

v.

PURPLE INNOVATION, LLC,

Patent Owner.

Case IPR Unassigned

U.S. Patent No. 11,317,733

DECLARATION OF ALVIN ROY KLANCNIK

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I. INTRODUCTION

1. My name is Alvin Roy Klancnik. I have been retained by O'Reilly IP ("Counsel") on behalf of Tempur Sealy International, Inc., Sealy Technology LLC, and Sealy Mattress Manufacturing Co., LLC ("Petitioners") to provide technical assistance for the *inter partes* review of U.S. Patent No. 11,317,733 ("733 Patent" or "Challenged Patent"). This declaration sets forth my opinions on issues related to the patentability of claims 1 through 20 of the '733 Patent ("Challenged Claims"). I provide technical bases for these opinions as appropriate.

II. BACKGROUND AND QUALIFICATIONS

2. In this section, I have summarized my educational background, career history, and other relevant qualifications. My full *curriculum vitae* is attached as Appendix A to this declaration. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art.

3. I received a B.S. degree in Mechanical Engineering from Massachusetts Institute of Technology ("MIT") in 1961. While fully employed, from 1964 to 1967, I studied business in the Master of Business Administration program at the University of Chicago.

4. I have over forty years of experience in mattress design, engineering, manufacture, and quality control, including experience in related industries such as furniture, plastics and polymer engineering and testing. My experience includes

determining material specifications, determining mattress specifications, overseeing processes used to manufacture mattresses, and oversight of hundreds of mattress factories.

5. Since I retired from full-time employment in 2016, I remain active in the mattress industry. For example, I assisted in developing and implementing the mattress recycling programs of Connecticut, California and Rhode Island. In 2022, I conducted a returned mattress age study for the California Mattress Recycling Council. From 2021 through 2023, I was product manufacturing advisor to the Life Cycle Analysis Project of the nonprofit Mattress Recycling Council. I remain a technical advisor and Ex-Officio Board Member of the Mattress Recycling Council.

6. I have extensive experience in all aspects of mattress design, engineering, and manufacture, including manufacture and use of elastomeric polymers in mattress construction.

7. In 1975, I joined Sealy Inc. as Vice President of Manufacturing and Research and Development. In that position, I researched bedding, developed mattress specifications, and supervised quality control of products manufactured in Sealy factories. In 1988, my job expanded to include the Licensing, International and Contract Division, extending my responsibilities to licensing mattress factories

world-wide and touring licensees to ensure quality control of the manufactured mattresses.

8. In 1991, I joined Serta Incorporated (which became Serta Simmons Bedding Company in 2014) as Vice President of Manufacturing, and quickly moved up, becoming Managing Director of Serta International in 1992, and Group Vice President in 2002 until my retirement in 2016.

9. Serta Simmons Bedding is one of the largest mattress manufacturers in North America and a leading brand worldwide. In 1925, Simmons was the first company to mass-produce mattresses with pocketed coils¹—wire coils individually encased in fabric enclosures. In 2008, Simmons introduced a hybrid mattress, which included a memory foam layer above the pocketed coil innerspring.² In 2011, Serta introduced the use of gel/foam into its mattress products, including the use of zoned gel/foam support.

10. While at Serta Incorporated, I performed research and development, developed mattress specifications, and oversaw the set-up of factories for manufacture of mattresses.

¹ Dreamwell, Ltd., a division of Serta Simmons Bedding, holds the registered trademark for the term “pocketed coil” since 1996.

² See <https://www.beautyrest.com.au/history/>

11. As part of my career in mattress design, engineering, and manufacture, I served with a variety of associations dedicated to mattress safety and recycling. For example, as a member of the International Sleep Products Association, I was Chairman of the Combustibility Committee (1976-1993), on the Performance Life Task Force (1992-1994), and the Mattress Recycling Committee (2002-2013). From 1985 to 2007, I served on the Sleep Products Safety Council, as a Member of the Board of Directors (1993-2007, 2013-2022), Chairman of the Board (1998-2007), and Chairman of the Combustibility Committee (1993-1998). From 1975 to 2013, I was on the Life Safety Subcommittee on Furnishings and Contents for the National Fire Protection Association. In addition, since 2013, I have been technical advisor and Ex-Officio Board Member of the Mattress Recycling Council, in that capacity I support advising state legislators on the best methods of mattress recycling and participate in analyzing efficiency of mattress recycling facilities.

12. In 1992, I received the Robert MacMorran Memorial Award from the International Sleep Products Association Suppliers Council for my outstanding service to the mattress industry. In 2003, I received a Special Recognition Award from the Sleep Products Safety Council for my overall service to the council.

13. Further, I am an inventor on numerous international patents, including nine U.S. patents addressing mattress construction, mattress fire-resistance,

mattress innerspring, mattress fiber/foam layer above the innerspring, and mattress edge support. Several of my patents are cited references for the '733 Patent.

14. In addition, I have given numerous seminars worldwide on the subject of Bedding Product Knowledge, Research, Safety, and Marketing.

15. I have not testified as an expert at trial and/or by deposition within the last 4 years.

16. I am being compensated at my usual consulting rate of \$450 per hour. My compensation is not dependent on the outcome of the *inter partes* review or the testimony or opinions that I provide. I have no financial interest, benefit or otherwise, in any of the parties.

III. MATERIALS AND OTHER INFORMATION CONSIDERED

17. I have considered information from various sources in forming my opinions. My opinions are based on my review of documents as well as my years of education, training, research, knowledge, and personal and professional experience in the art of mechanical engineering, as well as mattress design, engineering, and manufacture, as discussed above in Section II.

18. I have reviewed and considered the following, in addition to any other documents referred to in my declaration, in forming my opinions:

- The '733 Patent (Ex. 1001) and portions of its file history (Ex. 1002);
- U.S. Patent No. 8,434,748 ("Pearce") (Ex. 1003);

- U.S. Patent Application Publication No. 20017/0252838 (“Whatcott”) (Ex. 1004);
- U.S. Patent No. 7,640,611 (“Kluft”) (Ex. 1010);
- *ComfortCore*, Leggett & Platt Bedding Group, (Oct. 22, 2017), <https://beddingcomponents.com/comfortcore> [<https://web.archive.org/web/20171022185929/https://beddingcomponents.com/comfortcore>] (Ex. 1015);
- *Definition of Innerspring*, Merriam-Webster.com Dictionary, (Jan. 2, 2017), <https://www.merriam-webster.com/dictionary/innerspring> [<https://web.archive.org/web/20170102194529/https://www.merriam-webster.com/dictionary/innerspring>] (Ex. 1016);
- *Why is Your Coil Fabric Polypropylene Instead of Natural Cotton?* European Sleep Design (June 8, 2016), <https://www.sleepdesign.com/Why-Is-Your-Coil-Fabric-Polypropylene-Instead-Of-Natural-Cotton> (Ex. 1017).
- U.S. Patent No. 5,749,111 (“’111 Patent) (Ex. 1018);
- U.S. Patent No. 6,026,527 (“’527 Patent) (Ex. 1019);

19. In comparing the terms of the Challenged Claims to the prior art, I have carefully considered the patent and relevant file history in light of the

understanding of a person of ordinary skill in the art at the time of the alleged invention.

IV. UNDERSTANDING OF THE LAW

20. I have applied the relevant legal principles provided to me by counsel in arriving at the opinions set forth in this declaration.

21. I understand that the claims of a patent define the scope of the rights conferred by the patent and point out and distinctly claim the subject matter which the inventors regard as their invention.

22. I understand that the terms of a claim have the ordinary and customary meaning they would have had to a person of ordinary skill in the art as of the effective filing date of the patent (a “POSA”), after reading the entire patent and prosecution history.

23. I understand that construing a claim term begins with and is focused on the claim language itself, and that the words of claims, the patent specification, and the prosecution history (together the intrinsic evidence) should be primarily relied on. I understand that words or terms in the claims should be given their ordinary and accepted meaning unless the claims, the patent specification, or the prosecution history show the inventor gave a term a particular definition or intentionally disclaimed, disavowed, or surrendered claim scope.

24. I understand that evidence external to the Challenged Patent and its prosecution history (extrinsic evidence), which may include dictionaries, treatises, principles, concepts, terms, and other resources available to a person of ordinary skill in the art may also be useful in understanding the meaning of a patent claim term.

V. RELEVANT TIMEFRAME

25. According to the face page of the '733 Patent, the earliest patent application leading the '733 Patent was U.S. Patent Application No. 15/816,983 ("Application") filed November 17, 2017. Thus, I considered the level of ordinary skill in the art on November 17, 2017 and evaluated meaning of the claim terms through the perspective of one of ordinary skill in the art as of that date.

VI. A PERSON OF ORDINARY SKILL IN THE ART

26. In determining the characteristics of a hypothetical person of ordinary skill in the art of the '733 Patent as of November 17, 2017 ("POSA"), I considered the prior art design of mattress assemblies, various prior art techniques relating to mattress manufacture, the types of problems with prior art mattress design and manufacture, and the rapidity with which innovations in mattress design and assembly were made. I also considered the sophistication of the technologies and processes involved, the educational background and experience of those actively working in the field, and the level of education and experience required to

understand the '733 Patent and the prior art in the time period of the alleged invention.

27. Based on the above considerations, and my experience meeting, working with, and managing mattress designers, I came to the conclusion that a POSA would have been a hypothetical person of ordinary skill comprising a multi-disciplinary research team of individuals with complementary backgrounds and skills, including (1) a Ph.D. with expertise in the area of polymer science with at least two years of experience working with polymers, polymer formation techniques, mechanism and kinetics of polymerization, and polymer structure-property relationships, and (2) a bachelor's degree in mechanical or manufacturing engineering, or a similar discipline, with at least two years of experience working in the mattress and bedding industry.

28. I am qualified to provide opinions concerning what a POSA would have known and understood at the time the '733 Patent was filed, based on my educational background in mechanical engineering and experience working in the mattress and bedding industry, as discussed above in the Background and Qualifications section. (*See* Section II.)

VII. TECHNOLOGY BACKGROUND

29. I understand that analyzing the state of mattress design and assembly, including design and construction of innerspring mattress assemblies and

elastomeric cushions during the years prior to the earliest possible priority date of the '733 Patent can provide valuable insight into what a POSA was aware of at that time, and the direction of the mattress industry.

30. Well before the 2017 priority date of the '733 Patent, all of the technology, design and assembly features at issue in the '733 Patent were well-known and broadly applied in the mattress industry.

31. When selecting and attaching the various layers of a mattress, POSAs in the industry generally applied a simple algorithm to mattress manufacture. With the limited scope of ingredients or building blocks available, manufacturers assembled the mattresses using these building blocks in different combinations and orders. A mattress assembly would have an inner core, which would be an innerspring, air, foam or water unit, at least one foam layer, and an outer covering. The inner core would vary in thickness between mattress designs. Also, multiple foam layers of different thicknesses would be used in different mattress designs. Different mattress assembly models would result from the choice of inner core, the number of layers used, the thickness of the layers, and the order in which the layers are placed.

32. In my opinion, no individual elements of the '733 Patent claims were novel at the time of the alleged invention, the options were limited, and there was nothing novel about the manner in which those elements were combined in the

claims and no barriers to combining the elements. Combining the elements in the manner claimed would have been normal operating procedure for a POSA and would have yielded predictable results.

A. Innerspring Mattress

33. Innerspring mattresses have been in use, and known in the mattress industry, for over a century, and are the core component of most mattress design. In the United States, the typical mattress is an innerspring. A POSA would know and understand that an innerspring mattress is comprised of coil springs within a padded casing. (Ex. 1016.) That is, the innerspring mattress has a spring core with at least an upper and lower layer of fabric, the upper layer above the coils and the lower base layer below the coils. These layers, typically called insulators in the mattress industry, protect the other mattress upholstery elements from damage due to contact with the coils and protects the other mattress upholstery elements from entering into and interfering with the coils. Most innerspring mattresses have an upper and lower layer of cushioning/upholstery material of varying firmness and thickness.

34. The coils of an innerspring are either open or pocketed. Pocketed coils consist of individual coils, each individually encased in at least one fabric pocket. The use of pocketed coils in an innerspring mattress was introduced over a century

ago.³ In 1925, Simmons invented a machine that automated the process of coil manufacture and insertion into individual cotton pockets, thereby reducing the cost of pocket coil mattress manufacture sufficient to place such mattresses into the general market. The pocketed coil became the basis of the Beautyrest line of Simmons mattresses.

35. Since at least 2000, pocketed coils were the coil type of choice in innerspring mattress design. Leggett & Platt, a major supplier of mattress innerspring units to Serta Incorporated and other mattress manufacturers for many years, manufactured innerspring units with pocketed coils. (*See* Ex. 1015.) A POSA would have known that innerspring mattresses manufactured by Leggett & Platt included pocketed coils. By 2017, pocketed coils were a standard innerspring for use in mattresses.

36. A POSA would have known that the individual pocketed coils could be arranged in a variety of ways, including arranging the coils in lateral and adjacent rows and columns to form a grid pattern or offset to form a nested or honeycomb pattern.

37. A POSA would have always considered pocketed coils as an option when designing any innerspring mattress.

³ U.S. Patent No. 698,529, issued Apr. 29, 1902.

B. Elastomeric Cushioning Material

38. Elastomeric material, which is polymeric material capable of recovering its original size and shape after deformation, has been used as cushioning material for decades. Some elastomeric cushioning materials were used in mattresses as early as the 1950s. For example, polyurethane foam was used as either the core mattress or mattress upholstery layers as early as the 1950s. Hybrid mattresses comprising elastomeric material and innerspring units were generally known in the art at the time of the effective filing date of the '733 Patent.

VIII. THE '733 PATENT

39. The application for the '733 Patent, entitled "Mattresses Including An Elastomeric Cushioning Element And A Pocketed Coil Layer And Related Methods," was filed on November 17, 2017.

40. The alleged invention of the '733 patent is a mattress assembly and method of assembling a mattress comprised of a pocketed coil layer between an upper and lower layer with an elastomeric cushioning layer above the upper layer, all encased in an outer covering. (Ex. 1001, Abstract, 14:26-44 (claim 1), 15:5-27 (claim 10), 16:8-23 (claim 16).) Figure 2 of the '733 Patent shows a mattress assembly comprised of a pocketed coil layer within an upper layer, a base layer, and side panels, with an elastomeric cushioning layer above the upper layer, and the entire assembly encased in an outer covering. (*Id.* Fig. 2, 4:16-18.)

IX. CLAIM CONSTRUCTION

41. Unless otherwise noted, I have afforded all the claim terms their ordinary and customary meaning as understood by a POSA.

X. OVERVIEW OF THE PRIOR ART

A. U.S. Patent No. 8,434,748 to Pearce (“Pearce”)

42. U.S. Patent No. 8,434,748, to the inventors Pearce and Pearce, was issued on May 7, 2013 from U.S. Patent Application 12/287,047 filed on October 3, 2008. (Ex. 1003, 1.)

43. A POSA would understand that Pearce discloses the following. Pearce discloses heat-pressing gel from an elastomeric cushioning element into the fibers of a fabric (“connecting element”) such that the elastomeric cushioning element is fused to the fabric. (*Id.*, 4:29-35, 6:35-40, Fig. 1A). Pearce further discloses that the gel that seeps through the fabric forms a surface on the side of the fabric that is not effacing the elastomeric cushion. (*Id.*, Figs. 1A-6A, 6:39-40, 7:25-56.) Pearce discloses that the surface formed by the seeped gel reduces the ability of the fabric to “slip” against another fabric that it is positioned against due to “gel friction.” (*Id.*, 13:16-31.) Pearce discloses the embodiment and assembly of a mattress with this elastomeric cushioning element/fused fabric unit above the innerspring mattress unit. (*Id.*, 7:61-8:6, 11:65-12:3.)

44. I understand that Pearce qualifies as prior art.

B. U.S. Patent Application Publication No. 2017/0251838 to Whatcott (“Whatcott”)

45. U.S. Patent Application Publication No. US 2017/0251838 to Whatcott was published on September 7, 2017, from an application filed on March 7, 2016. (Ex. 1004, 1.)

46. Whatcott discloses the Seepage Limitation using language nearly identical to that of the ’733 Patent specification:

[T]he lower layer **102** of the mattress topper **100** may comprise a scrim fabric (e.g., a woven or non-woven fabric material) and portions of the deformable support layer **202** may seep through (e.g., be melt-fused into, bleed through, push through, leak through, pass through, etc.) the scrim fabric of the lower layer **102**. For example, when the deformable support layer **202** includes a gel material, portions of the gel material may be heat fused through the lower layer **102** of the mattress topper **100**. The portions of the deformable support layer **202** that extend through the scrim fabric of the lower layer **102** may create a non-slip surface or reduced slip surface on a lower surface **204** of the lower layer **102** (e.g., surface that would contact a mattress) of the mattress topper **100**. The non-slip surface or reduced slip surface created by the deformable support layer **202** may help the mattress topper **100** stay in place relative to a mattress when fitted to a mattress.

(Ex. 1004, ¶ 0032; *compare* Ex. 1001, 4:47-63.)

47. A POSA would know and understand that the “lower layer of the mattress topper” comprising a “scrim fabric” that stabilizes the mattress topper to “stay in place relative to a mattress,” disclosed in Whatcott (Ex. 1004, ¶ 0032), is the same as the “stabilization layer comprising the scrim fabric” of the ’733 Patent claims 1 and 10 and the “stabilization layer” of the ’733 Patent claim 16. That is because the two are used in the same way to accomplish the same result, namely, to stabilize the layers and keep them in place.

48. A POSA would know and understand that the “deformable support layer” that “may include a cushion layer” comprised of a “hyper-elastic polymer” or “elastomeric gel,” disclosed in Whatcott (*Id.*, ¶¶ 0030, 0032), is the same as the “elastomeric cushioning element” of the ’733 patent claims 1, 10, and 16. That is because they both describe a cushion layer made of elastomeric gel.

49. I understand that Whatcott qualifies as prior art.

C. U.S. Patent No. 7,640,611 to Kluft (“Kluft”)

50. U.S. Patent No, 7,640,611 to Kluft was issued on January 5, 2010 from U.S. Patent Application 11/042,678 filed on January 25, 2005. (Ex. 1010, 1.)

51. A POSA would understand that Kluft discloses a method of assembling a mattress assembly comprising a pocketed coil layer between a base layer, an upper layer, and side panels with a stabilization layer above the upper layer and a cushioning layer above the stabilization layer, the entire assembly

enclosed in an outer casing. (Ex. 1010, Figs. 1-3, 5, 2:58-62, 3:59-65, 4:13-26, 4:33-35, 4:56-60, 4:63-67.) Kluft discloses that the base and upper layers comprise a polyurethane foam, and the pocketed coils are oriented in a grid or nested pattern. (*Id.*)

52. I understand that Kluft qualifies as prior art.

XI. MOTIVATION TO COMBINE PRIOR ART REFERENCES

A. Motivation to Combine Pearce and the Knowledge of a POSA

53. Considering the purpose of Pearce is to optimize the comfort of cushioning, including in a mattress, a POSA would have been motivated to combine the teachings of Pearce with its knowledge of the elements of a mattress assembly. In any mattress design, a POSA modifies and changes the design based upon the commonly used materials and cushioning elements. That is no different here. A POSA would have recognized the advantages that could be obtained by combining the teachings of Pearce with general mattress knowledge and would have had a reasonable expectation of success of arriving at the inventions of the '733 Patent, because the changes are very minor and of the type employed in almost every design.

54. Pearce teaches that the elastomeric cushion of its invention is intended to be used in mattresses (Ex. 1003, 8:32-35) and is “especially adapted” to be combined with other cushioning elements, such as an innerspring mattress core, to

make a composite assembly. (*Id.* 11:63-12:7.) Moreover, Pearce discloses the placement of the elastomeric cushioning element of its invention on top of a “mattress innerspring unit” (*Id.*, 6:35-46) and provides embodiments of a mattress assembly comprising the elastomeric cushion with a fused scrim fabric as an element within a mattress assembly. (*Id.*, 12:8-39 (Example 1), 7:61-8:6, Fig. 7.)

55. Thus, Pearce expressly motivates a POSA to combine its disclosures with other elements of a mattress assembly known to those of skill in the art, enabling a POSA to have a high expectation of successfully making the combination.

56. Considering the advantages that would be recognized by a POSA in combining Pearce and its knowledge of mattress components and assembly, a POSA would have been motivated to modify the cushioning element of Pearce with mattress features known in the art. This is merely combining the cushioning technologies described in Pearce and those known in the art to perform their intended functions with described and known benefits and predictable results, from which the prior art does not teach away.

B. Motivation to Combine Pearce and Kluft

57. A POSA would have recognized the advantages that could be obtained by combining the teachings of Pearce with the teachings of Kluft, and have a reasonable expectation of success of arriving at the inventions of the ’733

Patent, because of the similar design and purpose of optimizing mattress comfort of those two references.

58. Pearce is directed towards an elastomeric cushion that is heat-fused to a connecting material.

59. Kluft discloses a mattress, and its method of assembly, comprising a core pocketed coil innerspring unit within an encasement that has a base and upper layer and side panels, as well as a cushioning and stabilization layer above the upper layer. (Ex. 1010, 2:58-62, 3:59-65, 4:13-21, 4:24, 4:33-35, 4:56-60, 4:63-67, Figs.1, 2, 3, 5.)

60. Pearce teaches that the elastomeric cushion of its invention is intended to be used in mattresses (Ex. 1003, 8:32-35) and are “especially adapted” to be combined with other cushioning elements, such as an innerspring mattress core, to make a composite assembly. (*Id.*, 11:63-12:7.)

61. POSA would have understood that Pearce and Kluft both provided elements commonly used and combined in mattress design.

62. Considering the goals of Pearce and Kluft, as well as the advantages that would be recognized by a POSA in combining Pearce and Kluft, a POSA would have been motivated to combine their teachings, making the type of design modifications that a POSA routinely made.

C. Motivation to Combine Whatcott and Kluft

63. Considering the similar design and purpose of optimizing mattress comfort, a POSA would have recognized the advantages that could be obtained by combining the teachings of Whatcott and Kluft, and have a reasonable expectation of success of arriving at the inventions of the '733 Patent.

64. Whatcott is directed to a mattress topper that is comprised of a cushion of elastomeric material that seeps through a scrim fabric to form a reduced-slip surface. (Ex. 1004, ¶ 0032.)

65. Kluft discloses a mattress, and its method of assembly, comprising a core pocketed coil innerspring unit within an encasement that has a base and upper layer and side panels, as well as a cushioning and stabilization layer above the upper layer. (Ex. 1010, 2:58-62, 3:59-65, 4:13-21, 4:24, 4:33-35, 4:56-60, 4:63-67, Figs. 1, 2, 3, 5.)

66. A POSA would have combined the disclosures of mattress toppers with other elements of a mattress assembly, such as that disclosed in Kluft, because Whatcott teaches that its invention of a mattress topper is expressly intended “for fitting to a mattress” (Ex. 1004, Abstr., ¶¶ 0004, 0005, 0022) and “may be disposable on (e.g., fitted to) a mattress to add cushion (e.g., softness, comfort, pressure relief, etc.) and/or support (e.g. body support, spinal alignment, etc.) to the mattress.” (*Id.*, ¶ 0025.) Moreover, a POSA would have recognized that some of

the known elements disclosed in Kluft, that are used to improve a mattress assembly, could similarly be used for the same purposes when combined with the disclosures of Whatcott.

67. Considering the goals of Whatcott and Kluft, as well as the advantages that would be recognized by a POSA in combining Whatcott and Kluft, a POSA would have been motivated to combine the cushioning element of Whatcott with the mattress assembly disclosed by Kluft, thereby combining the cushioning technologies described in these references to perform their intended functions with described benefits and predictable results.

XII. THE '733 PATENT ELEMENTS⁴

A. Element [Pre]: “A mattress assembly” and “A method of forming a mattress assembly”

68. A POSA would understand that Pearce discloses a mattress assembly by disclosing the “embodiment of a mattress” and “[t]he entire assembly,” referring to the combined layers of the mattress including the mattress topper. (Ex.

⁴ The elements of the '733 Patent correspond to the elements listed in the Appendix of the Petition. References to independent claim elements are combined where appropriate, with reference made only to the language of claim 1. Omitted language from the other independent claims does not change my opinions.

1003, 12:11, 12:36-39.) Pearce also discloses assembly of the multiple “cushioning elements to make a composite cushion,” such as a mattress. (*Id.*, 11:63-67.)

69. A POSA would understand that the invention disclosed in Klufft is a mattress assembly and that Klufft relates to mattress construction. (Ex. 1010, 1:5-6, 6:11, 6:63.),

70. Whatcott discloses “a mattress topper for fitting to a mattress” and placing mattress toppers on a mattress for “adding cushion and/or support to the mattress.” (Ex. 1004, ¶¶ 0004, 0022.) A POSA would understand that the entire mattress, including the topper, is a mattress assembly.

B. Element [A]: “a base layer”

71. Pearce discloses a base layer, it reads “the base of the mattress is four inches of 36-ILD, 1.8-pound-density conventional polyurethane foam.” (Ex. 1003, 12:11-13.) A POSA would recognize that this is the base of a mattress.

72. A POSA would understand that Klufft discloses a base layer by disclosing a mattress assembly with “a foam encasement that contains an inner spring assembly” (Ex. 1010, 2:57-58) and “a generally planar base” underneath the coil layer.” (Ex. 1010, 4:4-5.)

C. Element [B]: “a coil layer disposed over the base layer, the coil layer comprising a plurality of pocketed coils; an upper layer disposed over the coil layer”

73. A POSA would understand that Pearce discloses a coil layer comprised of pocketed coils over an upper layer. Pearce states there is a “mattress innerspring unit” (Ex. 1003, 6:46, 12:1-3) and specifically references the “innerspring units by Leggett & Platt” (*Id.*, 8:3-4.). A POSA would know and understand that a mattress innerspring unit is comprised of coil springs within a casing that has a base layer below the coils and an upper layer above the coils. (Ex. 1016, (showing definition of innerspring on Jan. 2, 2017).) Within the mattress industry, the base (or lower layers) and upper layers are usually referred to as insulators, which protect the other mattress upholstery elements from damage due to contact with the coils and protects the other mattress upholstery elements from entering into and interfering with the coils. Because pocketed coils have been used to comprise the coil layer of a mattress for over 100 years, and some of the innerspring units manufactured by Leggett & Platt prior to the effective filing date of the ’733 Patent application were comprised of pocketed coils (Ex. 1015), a POSA would know that the coil layer could comprise pocketed coils wherein each coil is individually enclosed in one or more nested pockets or casings.

74. Whatcott discloses this element by disclosing that the mattress topper is fitted on a mattress. (Ex. 1004, ¶ 0035, Fig. 3.) As explained above (*see supra* ¶¶

35, 36, 73), a POSA would know and understand that a mattress could comprise a pocketed coil core between a base and upper layer, the pocketed coils arranged in rows or nested.

75. Kluft discloses a base layer underneath the coil layer. (*See supra* ¶ 72.) Kluft also discloses that “various layers of rectangular material” are “[p]laced directly on top of the spring assembly (Ex. 1010, 4:45-46), and a “first thin, sheet layer . . . is placed adjacent and to overlay the wrapped coils.” (*Id.*, 4:56-58.) A POSA would understand that these layers placed directly on the coil layer are upper layers.

76. A POSA would understand that Kluft discloses a pocketed coil layer by disclosing an “innerspring assembly” that comprises “individually wrapped” coils that “can be arranged in laterally extending rows” or can be “nested.” (Ex. 1010, 2:58-59, 4:15-17, 4:20-26, 4:33-36, Figs. 1, 3.)

D. Element [C]: “a stabilization layer comprising a scrim fabric”

77. A POSA would understand that Pearce discloses a stabilization layer made of scrim. Pearce discloses the use of a “connecting material” fabric used to stabilize and connect layers. (Ex. 1003, 6:30-40, 11:65-12:3.) A POSA would understand the term “scrim” to mean a relatively thin woven or non-woven fabric, consistent with the description of “scrim” in the ’733 Patent. (Ex. 1001, 4:38-52).

POSAs routinely used stabilization layers, specifically scrim, between mattress layers because a scrim is thin and easy to use for this purpose.

78. A POSA would understand that Whatcott discloses this element because Whatcott discloses that:

[T]he lower layer **102** of the mattress topper **100** may comprise a scrim fabric (e.g., a woven or non-woven fabric material) The portions of the deformable support layer **202** that extend through the scrim fabric of the lower layer **102** may create a non-slip surface or reduced slip surface on a lower surface **204** of the lower layer The non-slip surface or reduced slip surface created by the deformable support layer **202** may help the mattress topper **100** stay in place relative to a mattress when fitted to a mattress.

(Ex. 1004, ¶ 0032.)

79. This disclosure is nearly identical to the description of the Seepage Limitation in the '733 Patent, which replaces the phrase “the lower layer of the mattress topper” and “lower layer” with the phrase “the stabilization material” and the phrase “deformable support layer” with the phrase “elastomeric cushioning element” (Ex. 1001, 4:47-63). Moreover, the '733 Patent specification explains that the stabilization layer “may be used to provide a surface for adhering . . . the elastomeric cushioning element . . . to surrounding materials.” (Ex. 1001, 4:40-45.)

Thus, a POSA would understand that the “lower layer of the mattress topper” disclosed by Whatcott is the “stabilization layer” claimed in the ’733 Patent.

80. A POSA would understand that Kluft discloses a stabilization layer by disclosing a layer “constructed from cotton or equivalent materials” (layer 104 in Figure 2) that is “[p]laced on top of the first soft layer,” which a POSA would understand is the same as the “upper layer” of the ’733 Patent claims, and lies underneath a cushioning layer of “latex foam or other upholstery material.” (Ex. 1010, 4:63-66, Fig. 2.)

E. Element [D]: “an elastomeric cushioning element disposed over the stabilization layer”

81. A POSA would understand that Pearce discloses this element. Pearce discloses a fabric connecting layer, which is the same as the stabilization layer (*see supra* ¶ 77), that “is easily heat-fused into the gel” (Ex. 1003, 4:57-58) and a mattress assembly wherein the gel layer is disposed over and “fused to connector fabrics.” (*Id.* 1003, 7:61-66, Fig. 7.) A POSA would understand that the “gel layer” disclosed by Pearce is an elastomeric cushioning element. because Pearce explains that “[t]he term ‘gel,’ may refer to an elastomeric gel ...” (*Id.*, 1:55-56), the “preferred material” for the gel layer “because it has the ‘feel’ that is desired in many cushions such as mattresses.” (*Id.*, 2:21-25.) Pearce also states that “the elastomer will be referred to as ‘gel’” throughout. (*Id.*, 2:50-51.)

82. A POSA would understand that Whatcott discloses this element by disclosing “a mattress topper having a deformable support layer disposed between the lower layer and the upper layer.” (Ex. 1004, ¶¶ 0023, 0029.) As explained above (*see supra* ¶ 79), a POSA would understand the “lower layer” is the “stabilization layer” claimed in the ’733 Patent and that the “deformable support layer” is the “elastomeric cushioning element” claimed in the ’733 Patent. Moreover, Whatcott discloses that “the deformable layer may include a gel material” which may be “elastomeric.” (Ex. 1004, ¶¶ 0023, 0030, 0032.)

83. As explained above, a POSA would understand that Kluft also discloses a stabilization layer located underneath a cushioning layer. A POSA would understand that the “latex foam” cushioning material (Ex. 1010, 4:63-66) is elastomeric material because it is “a polymer capable of recovering its original size and shape after deformation” and has “elastic or viscoelastic properties.” (Ex. 1001, 3:28-34.)

F. Element [E]: “an elastomeric material of the elastomeric cushioning element seeping through the stabilization layer to secure an upper surface of the stabilization layer to the elastomeric cushioning element”

84. A POSA would understand that Pearce discloses this element. As explained above, a POSA would understand that the fabric “connecting material” disclosed by Pearce is the same as the stabilization layer in the ’733 Patent claims, and that the “gel” disclosed by Pearce is the “elastomeric material of the

elastomeric cushioning element” in the ’733 Patent claims. (*See supra* ¶¶ 77, 81.) Pearce states that the connecting material “[f]abric is easily heat-fused into the gel” and “should have sufficient air space or at least surface roughness to allow the gel to melt and flow into the fabrics (preferred)” (Ex. 1003, 6:56-58, 7:2-4) and that “[a]fter a sufficient period of time that allows the gel to melt and flow into the external and/or internal interstices of the fabric, the platen is raised, the gel is allowed to cool to the point of solidification and the assembly is removed from the press.” (*Id.*, 11:43-47.)

85. A POSA would understand that the “assembly” removed from the press is the elastomeric cushion secured to the fabric by the heat-fusion process.

86. A POSA would understand that Whatcott discloses this element by disclosing that:

[P]ortions of the deformable support layer . . . may seep through (e.g., be melt-fused into, bleed through, push through, leak through, pass through, etc.) the scrim fabric of the lower layer . . . For example, when the deformable support layer . . . includes a gel material, portions of the gel material may be heat fused through the lower layer . . . of the mattress topper ”

(Ex. 1004, ¶ 0032.) A POSA would understand that the “deformable support layer” is the same as the “elastomeric cushioning element” claimed by the ’733 Patent and that the “lower layer” is the same as the “stabilization layer” claimed by the

'733 Patent. (See *supra* ¶¶ 47, 48, 82.) A POSA would understand that heat-fusion of the gel from the elastomeric cushion through the stabilization layer secures the stabilization layer to the elastomeric cushion.

G. Element [F]: “the elastomeric material exposed and defining a reduced slip surface or a non-slip surface on a lower surface of the stabilization layer”

87. Pearce discloses this element. A POSA would have understood that Pearce discloses that the gel forms a surface on the underside of the fabric by disclosing that the gel is allowed to solidify after heat-fusing through the fabric (Ex. 1003, 11:43-47 (quoted above in ¶ 84)), and that the “gel friction” caused by the solidified gel surface reduces the ability of the fabric surface to “slip” when placed against another fabric. (*Id.*, 13:24-31.)

88. A POSA would have understood that Pearce teaches that too much bleed through of the gel will create a gripping surface, which is not desirable in some applications. Pearce teaches that when the cushion with the seeped gel is used in a shoe insert, bleed through of the gel should be minimized to minimize the anti-slip property which is not desirable in a shoe insert. Thus, a POSA would have understood that the gel surface created by the seepage could exhibit a range of gripping ability. A POSA would have known that same bleed through would also have had anti-slip properties when used in the mattress, particularly because Pearce

discloses that the gel utilized in the shoe insert is the same as that used in a mattress assembly. (Ex. 1003, 13:14-15.)

89. Whatcott discloses this element by disclosing that “portions of the deformable support layer 202 that extend through the scrim fabric of the lower layer 102 may create a non-slip surface or reduced slip surface on a lower surface 204 of the lower layer 102 (e.g., surface that would contact a mattress)” A POSA would understand that the “lower layer” of the mattress topper disclosed by Whatcott is the “stabilization layer” claimed in the ’733 Patent, and the “deformable support layer” is the “elastomeric cushioning element” claimed in the ’733 Patent. (*See supra* ¶¶ 47, 48, 82.)

H. Element [G]: “the reduced slip surface or the non-slip surface positioned against an upper surface of the upper layer”

90. A POSA would understand that Pearce discloses a mattress assembly wherein the claimed reduced- or non-slip surface of the stabilization layer (that had been adhered to the elastomeric cushion via heat-fusion) is positioned against the upper layer of the innerspring core. (Ex. 1003, 8:2-4, Fig. 7.) A POSA would understand that Pearce discloses that the process of heat-fusion and cooling ensures that the gel that seeped through the fabric forms a reduced- or non-slip surface on the side of the stabilization layer that is placed against the upper layer of the mattress. (*Id.*, 11:43-47.)

91. A POSA would understand that Whatcott discloses this elements by disclosing that:

The portions of the deformable support layer . . . that extend through the scrim fabric of the lower layer . . . may create a non-slip surface or reduced slip surface on a lower surface . . . of the lower layer . . . (e.g., surface that would contact a mattress) of the mattress topper . . .

(Ex. 1004, ¶ 0032.) Again, a POSA would understand that the “lower layer” is the same as the “stabilization layer” claimed in the ’733 Patent, and the “deformable support layer” is the same as the “elastomeric cushioning element” claimed in the ’733 Patent. (*See supra* ¶¶ 47, 48, 82.) A POSA would understand Whatcott’s disclosure of “a lower surface . . . of the lower layer (e.g., surface that would contact a mattress)” to mean the reduced- or non-slip lower surface of the stabilization layer would be placed on top of the upper layer of a mattress. As explained above (*see supra* ¶¶ 33, 73), a POSA would know that mattress core is covered by an insulator, which is an upper layer.

I. Element [H]: “an outer covering encasing the base layer, the coil layer, the upper layer, the stabilization layer, and the elastomeric cushioning element”

92. A POSA would understand that Pearce discloses this element by disclosing that “[t]he entire assembly is covered with a mattress cover ” (Ex. 1003, 7:61-8:6, 12:36-39.)

93. All mattresses have an outer cover.

94. A POSA would understand that Kluft discloses an outer covering that encases all layers of the mattress assembly by disclosing an outer covering comprising a “layer . . . intended to define the surface upon which the bed sheets are placed” and a “layer . . . to surround and encompass the sidewalls . . . extending . . . to cover the base.” (Ex. 1010, 5:1-11.) A POSA would be motivated to combine this disclosure of Kluft—a mattress outer covering—with the disclosures of Whatcott, because a mattress cover is known to improve a mattress assembly by keeping the mattress components together, protecting them from exposure, and enhancing the mattress appearance.

J. Dependent Claims 2-9, 11-15, and 17-20 of the '733 Patent

1. Dependent Claims 2, 3, and 9: Layer Thickness

95. A POSA would know that the 3.5 inch elastomeric cushioning element disclosed in Pearce (Ex. 1003, 12:19-20) falls within the range of thickness in claims 2 and 3 of the '733 Patent, and that the thickness of the cushioning element disclosed by Whatcott as between “about 0.5 inch (1.27 cm) to about 3.0 inches (7.62 cm)” (Ex. 1004, ¶ 0031) overlaps with the ranges of thickness in claims 2 and 3 of the '733 Patent. Moreover, a POSA would know that each layer of a mattress can be, and has been, manufactured in a variety of thicknesses to result in a sufficiently soft, elastic, and resilient mattress.

2. Dependent Claims 6, 8, and 20: Stabilization Layer Properties

96. A POSA would understand that Pearce discloses that “gel friction” causes the stabilization layer to be slip-resistant (Ex. 1003, 13:24-31), that “the fabric with fused-in gel members . . . facilitates gluing the assembly to other elements of the cushion” (*Id.*, 11:27-32), and that the stabilization layer may be secured to the mattress upper layer “with water based adhesive.” (*Id.*, 7:61-8:4, Fig. 7.) As explained above (*see supra* ¶¶ 46, 47, 64, 86), a POSA would understand that Whatcott discloses securing of the stabilization layer to the upper layer of the mattress by teaching that the stabilization layer provides a slip-resistant surface that secures the stabilization layer to the mattress upon which it is placed. (Ex. 1004, ¶ 0032.) A POSA would understand that the mattress core is covered by an upper layer upon which the reduced- or non-slip surface of the stabilization layer sits. (*See supra* ¶¶ 33, 73.) A POSA would understand that Whatcott’s disclosure that the mattress topper may be secured to the mattress by “other means” (Ex. 1004, ¶ 0026), would include adhesive methods.

3. Dependent Claims 11, 13 and 17-19: Coil Properties

97. A POSA would know that the term pocketed coils describes coils wherein each coil is individually encased in at least one fabric pocket. (*See supra* ¶ 34.) A POSA would have known that the fabric of the pockets of pocketed coils may be comprised of polypropylene. (Ex. 1017.) Based on the disclosure of the

Leggett & Platt innerspring unit in Pearce (Ex. 1003, 8:4), a POSA would have understood that the coils could be arranged in a grid pattern as they were in the Leggett & Platt innerspring. (Ex. 1015.) Kluft discloses that the pocketed coils may be arranged “in rows” and shows the coils arranged in a grid or nested pattern. (Ex. 1010, 4:33-35, Figs. 3a,b.)

4. Dependent Claims 12, 14 and 15: Elastomeric Cushioning Element Properties

98. A POSA would understand that placement of an elastomeric cushion on the upper layer of a mattress would cover at least a portion of the upper surface of the upper layer, as claimed in claim 15. Zoning of the cushioning layer, which may involve placement of different cushion pieces to cover different areas of the upper layer of the mattress, is known in the art. A POSA would also understand that Pearce discloses that the gel springs can be of “a limitless variety” to “create a cushion that is . . . zoned.” (Ex. 1003, 8:7-31.) A POSA would understand that Pearce also discloses an elastomeric cushioning element that is a grid of gel springs “that when compressed . . . will buckle,” are “connected to each other,” and “can be hollow.” (*Id.*, 4:15-28, 12:11-20.) A POSA would also understand that Whatcott discloses a cushioning element with connected hollow elastomeric columns that buckle under pressure, by incorporating by reference U.S. Patent Nos. 5,749,111 titled “Gelatinous Cushions with Buckling Columns” and 6,026,527 titled “Gelatinous Cushions with Buckling Columns” (Ex. 1004, ¶ 0030), each of

which make that disclosure. (Ex. 1018, 1:8-11, 9:51-58, 16:46-50, Fig. 7; Ex. 1019, 1 Abstract.) A POSA would understand that Kluft discloses two layers of elastomeric cushioning—one of “latex polyurethanes or visco-elastic or slow recovery foam” and one of “latex foam” —placed at different levels in the mattress assembly. (Ex. 1010, 4:56-67.) Furthermore, a POSA would understand that placement of the elastomeric cushion on the upper layer of a mattress would necessarily cover at least a portion of the upper surface of the upper layer of that mattress.

5. Dependent Claim 4: Side Panels Within the Outer Covering

99. A POSA would know that side panels are common features of a mattress and, thus, would have been motivated to modify the disclosures of mattress assemblies in Pearce to include side panels. A POSA would understand that the side panels would be within the outer covering, which Pearce discloses encloses the “entire assembly.” (*See supra* ¶ 92.) A POSA would understand that Kluft discloses mattress side panels that are encased within the outer covering of the mattress, as claimed in claim 4 of the ’733 Patent. Kluft discloses “two long foam sidewalls . . . and a pair of short, foam sidewalls” (Ex. 1010, 4:3-23) and an outer covering that “define[s] the surface upon which the bed sheets are placed,” “surround[s] and encompass[es] the sidewalls,” and “cover[s] the base.” (Ex. 1010,

5:1-11.) A POSA would understand that Kluft discloses an outer covering that would enclose the side panels.

6. Dependent Claim 5: Base and Upper Layers Comprising Polyurethane Foam

100. A POSA would know that the base and upper layers, the insulators, could be made from a variety of materials, including polyurethane foam, as claimed in claim 5 of the '733 Patent. Nonetheless, Kluft discloses that the base and upper layers of the mattress can be made from polyurethane foam. (Ex. 1010, 3:60-65, 4:57-60.)

XIII. RESERVATION OF RIGHTS

101. My opinions are based upon the information that I have considered to date. I reserve the right to supplement and/or amend my opinions in this declaration to respond to any arguments raised by Purple Innovation, LLC, its experts, testimony, additional documents, new information that becomes available to me, or as otherwise necessary.

XIV. OATH

102. I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true. I further understand that willful false statements and the like are punishable by fine or imprisonments, or both under Section 1001 of Title 18 of the United States Code. I declare under penalty of perjury that the foregoing is true and correct.

By:

2/6/2024

Date

A handwritten signature in black ink, appearing to read 'Alvin Roy Klancnik', written over a horizontal line.

Alvin Roy Klancnik

APPENDIX A

CURRICULUM VITAE

Alvin Roy Klancnik (AI)

27128 Kindlewood Lane
Bonita Springs, FL 34134

Mobile Phone 630 788 7132
Email al@klancniks.com

Date of Birth: November 22, 1939

Place of Birth: Chicago, IL

Nationality: United States of America

Education: Massachusetts Institute of Technology (MIT)
BS in Mechanical Engineering 1957 - 1961

University of Chicago
MBA Program (not complete) 1964 - 1967

Employment: **Retired** from full time employment December 31, 2016

Serta Simmons Bedding Company 2014 to 2016
Group Vice President – Hoffman Estates, IL

Serta International 2005 to 2014
Group Vice President – Hoffman Estates, IL

Serta Incorporated 1991 - 2004
Group Vice President (2002 to 2004)
Managing Director - Serta International (1992 to 2004)
V.P. Operations - Itasca, IL (1993)
V.P. Manufacturing - Itasca, IL (1991 to 1992)

L.J. Broutman & Associates, Ltd. 1990 to 1991
V.P. Product Design & Fire Evaluation - Chicago, IL

A.R. Klancnik & Associates, Inc. 1990
President - Park Ridge, IL

Sealy Incorporated 1975 - 1990
V.P. - Licensing, International and
Contract Division - Chicago, IL (1988 to 1990)
V.P. - Manufacturing and Research and
Development - Chicago, IL (1975 to 1988)

Merit Manufacturing Company 1973 - 1975
President - Rosemont, IL

Hi-Lo Manufacturing Corp. 1969 - 1973
General Manager - Chicago, IL

Procter & Gamble Mfg. Co. 1961 - 1969
 Plant Staff Industrial Engineer - Baltimore, MD
 Packing Synthetic Granules Manager - Baltimore, MD
 Making Synthetic Granules Mech. Zone Mgr. - Chicago, IL
 Making Synthetic Granules Supervisor - Chicago, IL
 Project & Methods Engineer - Chicago, IL

United States Army 1962 - 1963
 First Lieutenant Ordnance Corps.
 Fifth Army Special Services Officer - Fort Sheridan, IL
 Combined Maintenance Operations Officer - Fort Drum, NY

Professional: International Sleep Products Assoc. (ISPA) Alexandria, Virginia
 Chairman of the Combustibility Committee 1976 to 1993
 Member Suppliers Council 1989 to 1991
 Member Performance Life Task Force 1992 to 1994
 Member Ergonomic Task Force 2000 to 2001
 Communications Council 2003 to 2004
 Mattress Recycling Committee 2002 to 2013

Mattress Recycling Council Board and 2013 to present
 technical advisor - currently includes
 Fulfilling state mandated mattress recycling
 regulations in states of Connecticut,
 Rhode Island California an Oregon

Sleep Products Safety Council (SPSC) 1985 to 2007
 Chairman of the Board 1998 to 2007
 President & Chairman of the Board 1998 to 2004
 Executive Committee of the Board 1994 to 2007
 Member Board of Directors 1993 to 2007
 Rejoined Board after 5-year absence 2013 to 2022
 Chairman Combustibility Committee 1993 to 1998
 Member Indoor Air Quality Task Force 1993 to 1997

Boston Fire Department Advisory Committee
 on Flammability

National Fire Protection Association (NFPA) 1975 to 2013
 Technical Committee on Contents & Furnishings
 Life Safety Subcommittee on Furnishings & Contents

American Society for Testing & Materials (ASTM)
 Committee E-5 on Fire Standards 1975 to 2013
 Committee F-7 on Aerospace & Aircraft 1990 to 1998
 Committee F-33 Detention & Correctional Facilities 1996 to 2009

American Hotel & Lodging Association (AH&LA)
 Loss Prevention Committee 2000 to 2003

Robert MacMorran Memorial Award March 1992
ISPA Suppliers Council award for outstanding service to
the bedding industry including constructive action with
regard for his fellowman and dedication to the pursuit
of their common good.

Special recognition award from SPSC December 2003

Quality Circles Facilitator 1980

Innovation, Invention and Small Businesses
MIT Continuing Education 1978
Fire Brigade Procter & Gamble Mfg. Co. 1963 - 1969
Chicago, IL

Statistical Process Quality Control 1966
Proctor & Gamble Mfg. Co.

Organization & Methods - Roosevelt University 1963

Patents:

Mattresses Spring Unit Construction -
United States Patent 4,092,749
and various foreign countries.

Improved Innerspring Construction -
United States Patent 4,109,330.

Fire-Resistant Mattress and High-Strength
Fire-Resistant Composite - (Flameguard®)
United States Patent 4,504,991 and various
foreign countries.

Improved Surface for Mattresses (Comfort Quilt®)
United States Patent 5,317,768 and various foreign countries

Improved Frame for Box Springs (Triple Beam® Frame)
United States Patent 5,459,892 and various foreign countries

Improved Edge for an Innerspring Mattress (Total Edge)
United States Patent 6,568,014

Presentations
Projects
Publications:

Testimony before OSHA Committee on Cotton Dust Safety in
the workplace - 1976

Project Manager for major blown granules factory P&G Chicago Plant
1967

Supervised design, construction and move into new Sealy Pittsburgh Mattress plant 1977

Testimony before the Congressional Technical Subcommittee on Safer Cigarettes - 1984.

Supervised design of new Newark NJ Sealy plant 1986

"Call for a Partnership" - article on flammability issues affecting the bedding industry - Jan. 1989 Bed Times Magazine

Testimony in the Hoover V. Lear Siegler Patent lawsuit - 1987

Testimony in DuPont Plaza Hotel Fire Lawsuit San Juan 1990

Article on Mattress Flammability Standard Compliance - 1990 Bed Times Magazine

Training Manual for Manufacturing Managers and Supervisors - Sealy Bedding Plants - 1987

Specification and Quality Assurance Manual for Sealy Furniture Plants 1988

Specification and Quality Assurance Manual for Sealy Bedding Plants 1989

Specification and Quality Assurance Manuals for Serta Bedding Plants 1991

Seminar and workshop on Best Practices for Factory Layout of Mattress Plants ISPA 1987

Established Original Serta Research Center Rosemont IL 1991

Designed, selected contractors and built new Serta Incorporated Headquarters Office and Research Center Itasca, IL 1993

Seminar on Bar Code Application in the Furniture Industry ISPA Convention Oct. 1990

Numerous worldwide seminars on Bedding Product Knowledge, Research and Marketing

Numerous assignments setting up new or improved mattress manufacturing operations in Thailand, Singapore, China, South Korea, Japan, South Africa, Belgium, France, Spain, the United Kingdom, India, Indonesia, Taiwan, Mexico, Canada, Chile, Australia, New Zealand, Trinidad and Tobago, Jamaica, Puerto Rico and the United States.

Expanded Serta HQ and Research Center Itasca, IL 1999

Ad Hoc Member Sleep Research Board - Sealy Inc., 1980 - 1989

Annual Conference on Fire Research
National Institute of Standards & Technology - 1990

Symposium on Fire Hazard & Fire Risk Assessment
American Society for Testing & Materials - 1990

Seminar on Combustibility of Home Furnishings
International Sleep Products Assn. - March 1992

Presentation to the Polyurethane Foam Association on test protocols
for mattresses used in Public Occupancies - May 1992

Seminar on Safety Issues affecting the Mattress and Furniture
Industries

Sleep Products Safety Council Safety Workshop presenter
Dallas TX Nov 1993

Presentation to the Safety Committee of the American Hotel & Motel
Assn. on Safety and good sleep issues facing the Sleep Products
Industry

Sleep Products Safety Council Safety Workshop presenter
Dallas TX Nov 1994

Sleep Products Safety Council Safety Panel, Workshop & Tour of Fire
Testing Labs. Presenter - San Antonio, TX Nov 1995

Operation "Wide Awake" Sleeping Area Fires Study - Co Chair of
Survey Design Committee. Joint Project between Sleep Products
Safety Council (SPSC) and the National Association of State Fire
Marshals (NASFM) - May 1996

Trainer NASFM & SPSC Fire Investigator Training Sessions on how to investigate
and complete the in-depth Bedding Fire Survey.
Chicago Fire Department - Oct. 29, 1996
New York Fire Department - Nov. 20, 1996
Seattle Fire Department - Nov. 25, 1996

Sleep Products Safety Council Safety Workshop presenter
Dallas TX Dec. 1998

Sleep Products Safety Council Safety Workshop presenter
San Antonio, TX May 2000

Joint Task Force ISPA/SPSC with NASFM, National Institute of Standards and Technology (NIST) and Consumers Product Safety Commission (CPSC) to address the issue of Open Flame combustibility of residential sleeping rooms. Includes construction of mattresses, foundations and mini-mattresses and mini-foundations used in extensive burn testing. Also includes working with the American Textile Manufacturers Institute (ATMI) to evaluate impact of bedclothes on the issue. 1996 to 2003

Task Force to draft "Federal American Home Fire Safety Act" (NASFM, NIST, SPCS, ISPA and others) for legislative action to regulate fire performance of mattresses, bedclothes, candles, cigarettes and upholstered furniture. Sept. 2001 to 2003

Ticking substitution round robin and alternate protocol task force of SPSC 1998 – present

ISPA/SPSC Conference on Workplace safety and Flammability Project Update – Chicago, IL – presenter & participant – Nov. 2001

California Bureau of Home Furnishings AB603 progress workshop with NIST, CPSC, SPSC & CBHF – Sacramento CA – April 2002

Flammability workshop and briefing to Bed Clothes Industry and Suppliers – presenter – Alexandria VA – May 2002

California Bureau of Home Furnishings AB603 workshop on developing regulation for beds. NIST, CPSC, SPSC & CBHF – Sacramento CA –August 2002

Flammability Seminar on Research and Regulation ISPA, CPSC, NIST, CBHF, SPSC & NASFM – presenter – Aspen CO – October 4, 2002

Designed matrix of sleep set designs to be used in a Precision & Bias Study of the TB 603 protocol – 2003

Presented open flame resistance test data to the CPSC staff on Serta beds tested between Jan 2003 and June 2004 – June 2, 2004

Presenter to SPSC Phonecast Workshop on CA TB 603 requirements and how mattress producers could tackle the design, testing and production problems. - June 17, 2004

Invited witness to give oral testimony on bedroom fire safety before the United

States Senate Committee on Commerce, Science and Transportation – July 14, 2004 <http://commerce.senate.gov/hearings/witnesslist.cfm?id=1267>

Presenter SPSC Flammability Workshop on LA Crowne Plaza Hotel Dec. 7, 2004

Presenter at CPSC Public Comment Session on 16 CFR part 1633 – Bethesda, MD – March 3, 2005

Presenter on advertising claims and usage before the National Advertising Division of the Better Business Bureau. - June 2005 and 2013

Member and participant in Task Force for Health Canada to develop an open flame mattress standard for Canada – 2006 to 2009

Selected contractors, designed, built and occupied combined National Bedding Company and Serta International Headquarters and Research Center Hoffman Estates, IL 2005 to 2008

Assisted in the development and implementation of the Mattress Recycling Council programs for the states of Connecticut, California and Rhode Island.

Conducted returned mattress age study for the California Mattress Recycling Council - 2022

Participant and product manufacturing advisor to the MRC LCA (Life Cycle Analysis Project) 2021 until completion and report in 2023

Many assignments, as an expert witness, developing or supporting legal cases, arbitrations, depositions, etc. in the fields of patents, trademarks, flammability and product liability.