

Petitioner's Oral Argument Presentation

Casper Sleep Inc. v. Werner Media Partners, LLC

IPR2024-00474

U.S. Patent 10,842,301

January 24, 2025

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds of Obviousness

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The '301 Patent

1. A process for manufacturing bedding, which comprises:

[a] providing a solid, resilient, compressible foam block, said block having a surface;

[b] applying phase change material to said surface;

[c] forming a hole into said block and through said surface; and

[d] cracking said block.

(Ex. 1001, 12:36-51 (emphasis added))

2. A process for manufacturing bedding, which comprises:

[a] providing a solid, resilient, compressible foam block, said block having a surface;

[b] applying phase change material to said surface;

[c] forming a hole into said block and through said surface;

[d] compressing said block by pressing on said surface before the forming of the hole; and

[e] performing the forming of the hole while said block is compressed.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Challenged Grounds of Unpatentability Under 35 U.S.C. § 103 (Paper 2, 63)

Ground	Primary Prior Art Reference	Secondary Prior Art Reference
1 (claims 1 and 2)	Lievestro (Ex. 1013 translation) – Discloses all the steps of each claim 1 & 2, except “applying PCM.” PO’s expert, Mr. Gross, agrees. (Paper 24, 5-6; Ex. 1074, 74:14-22)	Schneider (Ex. 1010) applying PCM (Paper 24, 10)
2 (claims 1 and 2)	Crawford (Ex. 1011) – Discloses all the steps of each claim 1 & 2, except “hole forming.” Mr. Gross agrees. (Paper 24, 8-9; Ex. 1074, 134:24-135:12)	Lievestro (Ex. 1013) Hole forming (while the block is compressed) and also “cracking” (Paper 24, 5-6)
3 (claims 1 and 2)	Ohta (Ex. 1009) <u>For Claim 1:</u> If final construction of “cracking” includes a plate press, Ohta would disclose all the steps of claim 1, except “applying PCM.” (Paper 24, 7)	Schneider (Ex. 1010) applying PCM (Paper 24, 10)
4 (claims 1 and 2)	<u>For Claim 2:</u> Discloses all the steps of claim 2, except “applying PCM.” Mr. Gross agrees. (Paper 24, 7, Ex. 1074, 140:10-141:11)	Crawford (Ex. 1011) applying PCM and cracking – if final construction of “cracking” excludes a plate press. (Paper 24, 18)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Patent Owner's Expert, Mr. Gross, Admitted That Lievestro Discloses All The Steps of Each of Claim 1 and 2, Except for the Step of "Applying PCM" (Paper 24, 5-6)

Q. So would it be correct, in your view, to say that the only step that is missing in Lievestro, with respect to claim 1, is the step of applying phase change material to said surface?

A. Yes.

Q. Would it be fair to say that with respect to claim 2, the only step missing in Lievestro is the step of applying phase change material to said surface?

A. Yes.

(Gross 10/29/2024 Dep. Tr. - Ex. 1074, 134:24-135:12)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claims 1 and 2 v. Lievestro (Ex. 1013) [Lievestro is missing the Highlighted Step(s)] (Paper 2, 19-29)

1. A process for manufacturing bedding, which comprises:
[a] providing a solid, resilient, compressible foam block, said block having a surface;
[b] applying phase change material to said surface;
[c] forming a hole into said block and through said surface; and
[d] cracking said block.

2. A process for manufacturing bedding, which comprises:
[a] providing a solid, resilient, compressible foam block, said block having a surface;
[b] applying phase change material to said surface;
[c] forming a hole into said block and through said surface;
[d] compressing said block by pressing on said surface before the forming of the hole; and
[e] performing the forming of the hole while said block is compressed.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Device and method for making holes in deformable foam blocks. (Title)

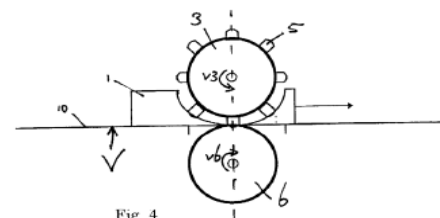


Fig. 4

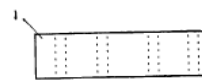


Fig. 5

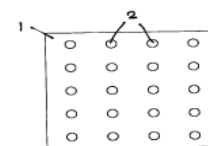


Fig. 6

"The invention also pertains to a method for making holes in deformable foam blocks, in particular mattresses" (Page 2).

"The additional advantage is that the device can also crush the foam blocks during compression and punching process. This crushing breaks cell walls within the foam of the foam blocks, resulting in a relatively open cell structure that enhances the comfort of the blocks during use." (Page 3).

"[t]he foam blocks 1 can be intended, for example, for making mattresses, ..." (Page 8).

Patent Owner's Expert, Mr. Gross, Admitted That Crawford Discloses All The Steps of Each of Claim 1 and 2, Except for "forming of the hole (while said block is compressed – claim 2 only) (Paper 24, 6)

Q. So do you agree that the only limitation that's missing in Crawford with respect to claim 1 is forming a hole into said block and through said surface?

A. Yes.

Q. Okay. Do you agree that the only limitations missing in Crawford with respect to claim 2 of the '301 patent are the steps of performing the forming of the hole while said block is compressed? Scratch that.

Do you agree that the sole steps missing in Crawford with respect to claim 2 is compressing said block by pressing on said surface before the forming of the hole and performing the forming of the hole while said block is compressed?

A. Yes.

(Ex. 1074, 74:14-22)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claims 1 and 2 v. Crawford (Ex. 1011) [Crawford is Missing the Highlighted Step(s)] (Paper 2, 45-62, see, e.g., 49 and 55)

1. A process for manufacturing bedding, which comprises:
 - [a] providing a solid, resilient, compressible foam block, said block having a surface;
 - [b] applying phase change material to said surface;
 - [c] forming a hole into said block and through said surface; and
 - [d] cracking said block.
2. A process for manufacturing bedding, which comprises:
 - [a] providing a solid, resilient, compressible foam block, said block having a surface;
 - [b] applying phase change material to said surface;
 - [c] forming a hole into said block and through said surface;
 - [d] compressing said block by pressing on said surface before the forming of the hole; and
 - [e] performing the forming of the hole while said block is compressed

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Surface Infusion of Flexible Cellular Foams With Novel Liquid Gel Mixture (Title)

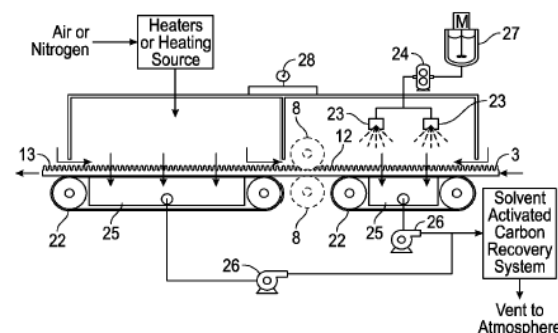


FIG. 27

"The invention relates to methods for making and using at least one surface infused gel layer located on ... cushioning foams and mattresses." Para. [0002]

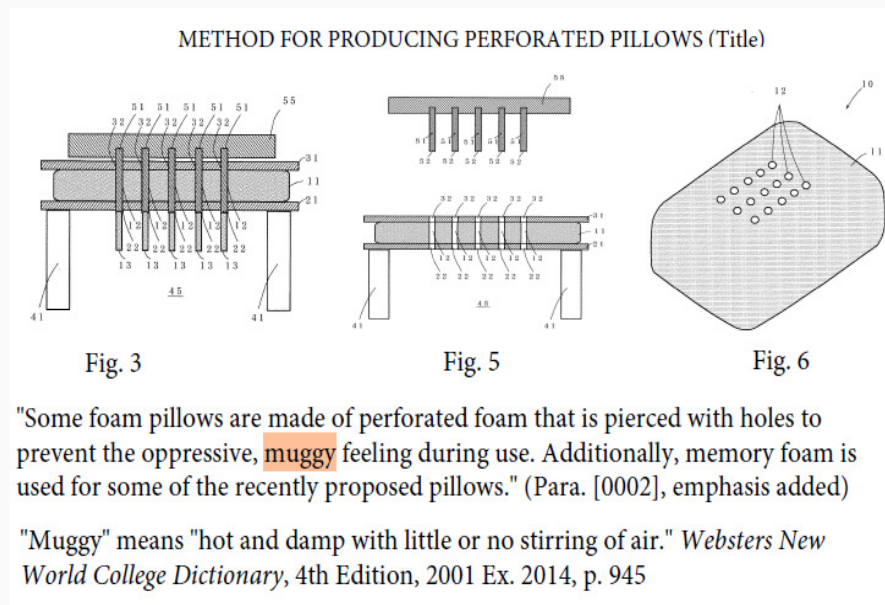
"Addition of phase change materials to the liquid gel mixture used for producing surface-infused gel layers allows the construction composite to store or release energy, which is higher than heat absorbed or released by heat capacity of non-thermally enhanced construction." Par. [0060]

"A method of forming a surface-infused gel layer with a lamination system comprising: ...compressing the layering substrate in the range of from about 0.1% to about 90%." (Claim 43)

Claims 1 and 2 v. Ohta (Ex. 1009 - translation) [Ohta is Missing the Yellow Highlighted Step(s). Presence of the “Cracking” Step Will Depend on the Board’s Final Construction] (Paper 2, 29-45, see e.g., 34 and 40; Paper 24, 7)

1. A process for manufacturing bedding, which comprises:
 - [a] providing a solid, resilient, compressible foam block, said block having a surface;
 - [b] applying phase change material to said surface;
 - [c] forming a hole into said block and through said surface; and
 - [d] cracking said block.
2. A process for manufacturing bedding, which comprises:
 - [a] providing a solid, resilient, compressible foam block, said block having a surface;
 - [b] applying phase change material to said surface;
 - [c] forming a hole into said block and through said surface;
 - [d] compressing said block by pressing on said surface before the forming of the hole; and
 - [e] performing the forming of the hole while said block is compressed.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



Patent Owner's Expert, Mr. Gross, Admitted That Ohta Discloses All The Steps of Claim 2 of the '301 Patent, Except for the Step of "Applying PCM" (Paper 24, 7)

Q. Okay. So would you agree that the only limitation not disclosed in Ohta with respect to claim 2, is the step of applying phase change material to said surface of the block?

A. Yes. And the Ohta is much more specific in defining the characteristics of the foam block.

(Ex. 1074,141:7-11)

Concerning Claim 1 of the '301 Patent, Mr. Gross, Admitted That Ohta Discloses the Preamble, Step [a], and Step [c] of Claim 1 (Paper 24, 7)

Q. Let's go to claim 1 of the '301 patent.

A. Um-hum.

Q. You agree that Ohta discloses a process for manufacturing bedding?

A. Yes.

Q. You agree that Ohta discloses providing a solid, resilient, compressible foam block, said block having a surface?

A. Yes. With some parameters associated with that.

Q. You agree that Ohta discloses forming a hole into said block and through said surface?

A. Yes.

(Ex. 1074,142:5-15)

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Concerning the “Cracking Said Block” (Step [d]) of Claim 1, Mr. Gross Admitted That Ohta’s Compression of 95% Will “Most Likely” Break Some Cell Walls of The Foam (Paper 24, 7)

Q. Does Ohta specifically disclose compressing ratio of 5 percent?

A. Yes.

Q. Okay. And the compression ratio of 5 percent translates into compression of 95 percent, correct?

A. Yes.

Q. Okay. Now, compressing by 95 percent, would that be sufficient to break some cell walls of the foam?

A. Most likely, yes.

(Ex. 1074,143:2-10)

Ground 1: Mapping of Liestro (Ex. 1013) and Schneider (Ex.1010) on Claims 1 and 2 of the '301 Patent (Paper 2, 65-67; Paper 24, 11-12)

1. A process for manufacturing bedding, which comprises:

- [a] providing a solid, resilient, compressible foam block, said block having a surface;
- [b] applying phase change material to said surface;
- [c] forming a hole into said block and through said surface; and
- [d] cracking said block.

Liestro

Liestro

Schneider

Liestro

Liestro

2. A process for manufacturing bedding, which comprises:

- [a] providing a solid, resilient, compressible foam block, said block having a surface;
- [b] applying phase change material to said surface;
- [c] forming a hole into said block and through said surface;
- [d] compressing said block by pressing on said surface before the forming of the hole; and
- [e] performing the forming of the hole while said block is compressed.

Liestro

Liestro

Schneider

Liestro

Liestro

Liestro

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Schneider (Ex. 1010) Discloses Applying PCM on the Surface of a Flexible Foam Block to Provide Cooling Benefits (Paper 2, 62-64)

WASHABLE MATTRESS ASSEMBLY (Title)

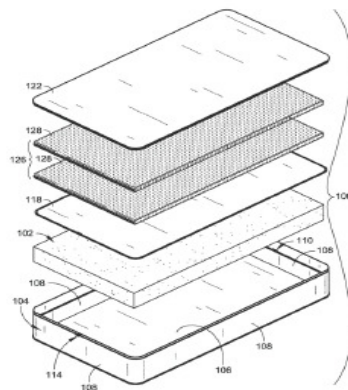


FIG. 6

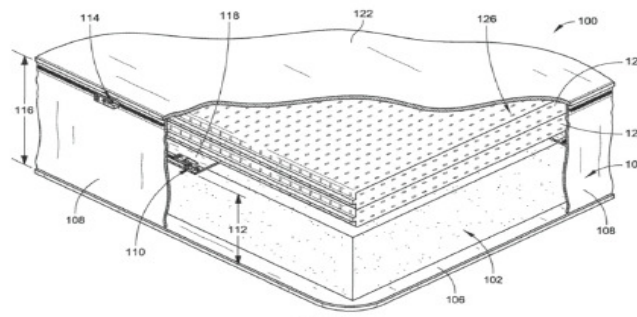


FIG. 8

“In some embodiments, the washable mattress comprises a microencapsulated **phase change material**. For instance, a second eight and one-quarter centimeter (8.25 cm) or three and one-quarter inch (3.25”) removable **layer of memory foam** can be coated with a **layer of phase change gel material**. This phase change gel material may be similar to the phase change gel material described in International Patent Application Number WO2011/107849, which is incorporated herein by reference. The phase change gel comprises extremely small capsules (typically five (5) to forty (40) microns for use in foam production) that permanently contain phase change materials (PCMs) and allow the PCM to absorb thermal energy when exposed to heat. Test results demonstrate the ability of **Phase Change Gel to provide significant cooling benefits when applied to flexible polyurethane foam.**” (Para. [0029] (emphasis added))

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Schneider (Ex. 1010) Discloses Using Viscoelastic (i.e., memory) Foam that can be, but does not have to be, Reticulated (Paper 24, 10, referencing Ex. 1074, 160: 9-14, 161: 1-4; and Ex. 1075:¶¶ 76-79)

"The encasement also includes absorbent foam (e.g., resilient or viscoelastic foam, which may be reticulated and/or attached to a substrate)."
(Abstract (emphasis added))

"The encasement also includes absorbent foam (e.g., resilient or viscoelastic foam, which may be reticulated and/or attached to a substrate)."
(Ex. 1010, ¶ [0002] (emphasis added))

15. An encasement to enclose a mattress base, the encasement comprising:
upholstery including a base panel with side panels extendable from the base panel;
a first fastener extending around the side panels at a first distance away from the base panel when the side panels are extended from the base panel;
a first panel fastenable to the side panels by the first fastener, the first panel, the side panels, and the base panel defining a first enclosure when the first panel is fastened to the side panels, the first enclosure to enclose the mattress base;
a viscoelastic foam;
a second fastener extending around the side panels at a second distance away from the base panel when the side panels are extended from the base panel, the second distance greater than the first distance; and
a second panel fastenable to the side panels by the second fastener, the second panel, the side panels, and the first panel defining a second enclosure when the second panel and the first panel are fastened to the side panels, the second enclosure to enclose the viscoelastic foam, the second panel constructed from a breathable and at least substantially waterproof material.

18. The encasement as recited in claim 15, wherein the viscoelastic foam is reticulated.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

WO2011/107848 (Rossi - Ex. 1085), is Incorporated in Schneider (Ex. 1010) by Reference as an Example of PCM Application on Foam. Rossi Discloses the Use of Paraffin-Based Gel Applied Onto a Viscoelastic (memory) Foam Substrate With Holes (Paper 24, 10, referencing Ex. 1075, ¶¶ 75-76)

PRODUCT WITH ABSORBED GEL (Title)

"The composition of said gel includes a SEBS, SBS, SIS, EVA, SEPS, SPBS polymer or their mixture, with parts by weight between 5% and 50%, and includes a paraffinic or aromatic oil with parts be [sic] weight of 95%." (Ex. 1085, Pages 2-3 (emphasis added)).

"The special soft gel covering allows you to increase the comfort and thermal properties of the substrates on which it is applied. In case of polyurethanes there is an increase in the lift." (Ex. 1085, Page 9 (emphasis added)).

This method and/or bonding is a joining of a compatible substrate, like polyurethane foam, viscoelastic polyurethane foam ... and any porous material that can absorb and/or bind with SEBS, SBS, SIS, EVA, SEPS, SPBS polymer based gel ... by means of .. spray coating using a solvent ..." (Ex. 1085, Page 5 (emphasis added)).

"Indeed, the application of this soft gel coating and/or absorption of the gel allows you to put holes in the above-mentioned products, before or after the application of the gel, thereby considerably increasing the breathability of the final product" (Ex. 1085, Page 7 (emphasis added)).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Patent Owner Improperly Limits Schneider (Ex. 1010) to Reticulated Foam Embodiment and Defines the Term “Solid ... Foam Block” in Claims 1 and 2 of the ‘301 Patent to Exclude Reticulated Foam (Paper 24, 3 and 10; Paper 12, 6)

“Schneider teaches away from the ‘301 Patent because it is not using foam that is punched, but rather reticulated foam, which is polyurethane foam created by an entirely different process and for a different purpose. (Ex. 2001, Gross Decl., 54)” (Patent Owner Response, Paper 12, 28-29).

“[T]he term ‘solid’ should be interpreted according to its ‘plain and ordinary meaning’, which is ‘***an object without an internal cavity or where the density of the object has a uniformly close and coherent texture***’.” (Patent Owner Response, Paper 12, 6 (emphasis added)).

At His Deposition, Patent Owner's Expert, Mr. Gross, Conceded That Schneider (Ex. 1010) Discloses the Use of Non-Reticulated Foam (Paper 24, 10)

Q. Okay. Let me come back to my question. One of the primary critiques of Schneider was that Schneider is limited in his disclosure to using reticulated foams?

A. It's not that he's limited, but that the primary embodiment here, and number of examples that are cited in this dispute, speak to holes in the foam which in this case were reticulated foams.

Q. Putting aside the holes issue, does Schneider disclose the use of non-reticulated foam?

A. In parts of his invention, yes.

Q. Okay. So you agree that Schneider is not limited to disclosure of reticulated foam?

A. I agree. (Ex. 1074, 160:2-14)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Even if Schneider Were Limited to Reticulated Foam, Patent Owner's Attempt to Redefine "Solid ... Foam," to Exclude Reticulated Foam, Contradicts the Plain and Ordinary Meaning of the Term as Used in the Art (Paper 24, 3-4)

Patent Owner relied on test results conducted according to the industry specification ANSI/RESNA SS-1:2019. (See, e.g., Paper 12, 58-59, relying on Quinn Declaration (Ex. 2013) and Element Test (Ex. 2017)). ANSI/RESNA SS-1:2019 defines "solid" as *"a substance that does not flow perceptibly under stress; under ordinary conditions, it retains its size and shape."* (Ex. 2026, Section 1.3.41). Petitioner's expert, Dr. Brienza, a co-author of ANSI/RESNA SS-1:2019 (see, Ex. 2026, 8), opined that Patent Owner's proposed construction of "solid" contradicts the meaning of "solid" as the term is used in the field of foam bedding. (Ex. 1075, ¶ 22).

At the same time, Patent Owner's technical expert, Mr. Gross, acknowledged that Petitioner's proposed construction of "solid" comports with the industry's definition:

Q. Do you see an industry -- national standard definition for the term solid as it applies to this specification?
A. Yes.

Q. Okay. Can you read that definition?

A. "A substance that does not flow perceptibly under stress, under ordinary conditions, it retains its size and shape."

Q. Does that comport with the definition that we read in the board's decision that was proposed by the Petitioner?

MR. POPOWITZ: Objection.

THE WITNESS: Yes.

(Ex. 1074, 46:15-24.)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 1: The Purpose of Lievestro's (Ex. 1013) Holes is to Improve Foam Block's Thermal Characteristics (Paper 2, 65-68; Paper 24, 5-6, referencing Ex. 1075, ¶¶ 35-36; and Ex. 1074, 75:21-76:16)

"[P]rimary goal of making holes in foam is for microclimate management, *i.e.*, to improve its cooling properties." (Brienza Decl., Ex. 1075, ¶ 35). See also the Ohta reference (Ex. 1009) confirming that "[S]ome foam pillows are made of perforated foam that is pierced with holes to prevent oppressive, muggy feeling during use." (Ex. 1009, ¶ [0002]).

Patent Owner's expert, Mr. Gross, admitted that a POSITA would understand Lievestro's vertical hole making to improve foam's thermal characteristics:

Q. You, as a POSITA, reading Lievestro, would understand that making holes as disclosed in Lievestro improves thermal characteristics of the foam block due to enhanced convection, correct?

A. Yes. Assuming that those vertical -- those holes are through the block. Lievestro talks about potentially modifying the direction of those holes, not to necessarily go vertically through the block, but to potentially go in another direction.

So it's not clear in those instances whether actually those holes would create a passthrough.

Q. But in the instances where Lievestro does show vertical holes being made, you would agree that would disclose improved convection?

A. Yes.

(Ex. 1074, 76:1-15)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 1: Schneider (Ex. 1010) Teaches Coating PCM on a Surface of a Foam Block To Improve The Foam's Thermal Characteristics (Paper 2, 63-64, and 66; Paper 24, 10)

In some embodiments, the washable mattress comprises a microencapsulated phase change material. For instance, a second eight and one-quarter centimeter (8.25 cm) or three and one-quarter inch (3.25") removable layer of memory foam can be coated with a layer of phase change gel material. This phase change gel material may be similar to the phase change gel material described in International Patent Application Number WO2011/107849, which is incorporated herein by reference. The phase change gel comprises extremely small capsules (typically five (5) to forty (40) microns for use in foam production) that permanently contain phase change materials (PCMs) and allow the PCM to absorb thermal energy when exposed to heat. Test results demonstrate the ability of Phase Change Gel to provide significant cooling benefits when applied to flexible polyurethane foam. (Ex. 1010, ¶ [0029] (emphasis added))

Ground 1: Because Both Liestro (Ex. 1013) and Schneider (Ex. 1010) Are in the Same Art and Both Deal With Improving Foam's Thermal Characteristics, A POSITA Would Look to Schneider's Use of PCM to Modify Liestro for That Purpose (Paper 2, 66-67; Paper 26, 11-12, referencing Ex. 1075, ¶¶ 87-89, which in turn references Ex. 1074, 182:14-183:5)

"Given that both prior art references are in the same art and both deal with enhancing comfort, which includes thermal comfort, a POSITA would have been motivated to coat the surface of foam block of Liestro with PCM as suggested by Schneider. ... This would yield a predictable result of having a bedding product that absorbs heat and provides an enhanced cooling effect to the user. " (Brienza Decl., Ex.1006, ¶ 88, see *a/so*, ¶ 91).

Patent Owner's expert, Mr. Gross, conceded that: (a) a POSITA would know that adding a PCM coating to Liestro's foam block as disclosed in Schneider would enhance the foam block's thermal properties; and (b) there is nothing in Liestro's disclosure preventing from applying PCM on Liestro's foam block to enhance the foam's thermal properties:

Q. So if a person uses Liestro, knowing that holes improve thermal characteristic of foam, and reading Schneider, would a POSITA know adding PCM to Liestro's block would enhance thermal properties of the block?

A. Reading Schneider, it might suggest that there could be a benefit to PCM, applied in the right context.

Q. And now with Liestro, what would prevent the teaching of Liestro being combined to use the PCM on the surface of Liestro?

A. Well Liestro describes a continuous process. And as we've seen elsewhere, applying PCM is not so easy. And that requires both application and curing. So to figure out where in said process that would fit would require some other information.

Q. Is there anything to prevent applying PCM following Liestro, the step of making holes in Liestro?

A. No, there is nothing explicit there.

(Ex. 1074, 182:14-183:5)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2: Patent Owner's Expert, Mr. Gross, Admitted That Crawford (Ex. 1011) Discloses All The Steps of Each of Claim 1 and 2, Except for "forming of the hole (while said block is compressed – claim 2 only) (Paper 26, 8-9)

Q. So do you agree that the only limitation that's missing in Crawford with respect to claim 1 is forming a hole into said block and through said surface?

A. Yes.

Q. Okay. Do you agree that the only limitations missing in Crawford with respect to claim 2 of the '301 patent are the steps of performing the forming of the hole while said block is compressed? Scratch that.

Do you agree that the sole steps missing in Crawford with respect to claim 2 is compressing said block by pressing on said surface before the forming of the hole and performing the forming of the hole while said block is compressed?

A. Yes.

(Ex. 1074:134:24-135:12)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2: Patent Owner's Expert, Mr. Gross, Admitted That Lievestro (Ex. 1009) Discloses All The Steps of Each of Claim 1 and 2, Except for the Step of "Applying PCM" (Paper 24:5-6)

Q. So would it be correct, in your view, to say that the only step that is missing in Lievestro, with respect to claim 1, is the step of applying phase change material to said surface?

A. Yes.

Q. Would it be fair to say that with respect to claim 2, the only step missing in Lievestro is the step of applying phase change material to said surface?

A. Yes.

(Gross 10/29/2024 Dep. Tr. - Ex. 1074, 74:14-22)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2: Mapping of the Crawford (Ex. 1011) - Lievestro (Ex. 1013) Combination on Claims 1 and 2 of the '301 Patent (Paper 2, 68-71; Paper 26:12-16)

1. A process for manufacturing bedding, which comprises:

- [a] providing a solid, resilient, compressible foam block, said block having a surface;
- [b] applying phase change material to said surface;
- [c] forming a hole into said block and through said surface; and
- [d] cracking said block.

Crawford

Crawford

Crawford

Lievestro

Lievestro and/or Crawford

2. A process for manufacturing bedding, which comprises:

- [a] providing a solid, resilient, compressible foam block, said block having a surface;
- [b] applying phase change material to said surface;
- [c] forming a hole into said block and through said surface;
- [d] compressing said block by pressing on said surface before the forming of the hole; and
- [e] performing the forming of the hole while said block is compressed.

Crawford

Crawford

Crawford

Lievestro

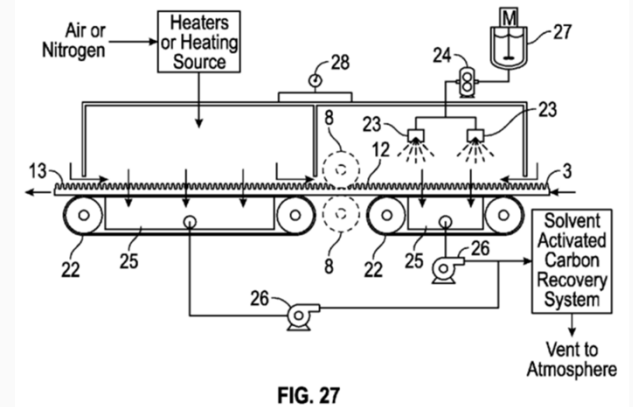
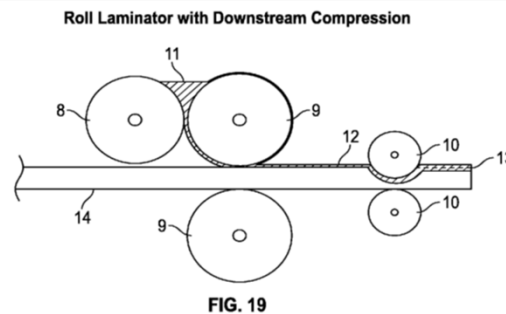
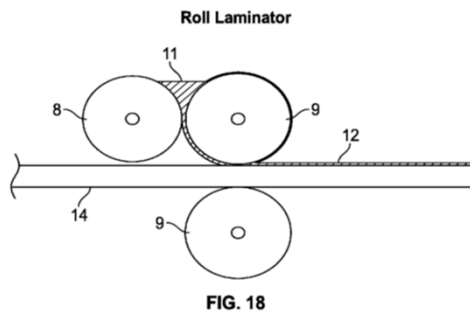
Lievestro

Lievestro

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2: Crawford (Ex. 1011) Teaches Coating PCM on a Surface of a Foam Block To Improve The Foam's Thermal Characteristics (Paper 2, 45-62, referencing Ex. 1006, ¶ 75; Paper 24, 12)

"Crawford discloses several methods for applying the liquid gel mixture, which optionally includes PCM, on the surface of a solid, resilient, compressible foam block, including those illustrated in Crawford Figs. 19 and 27." (Brienza Decl., Ex. 1006, ¶ 75)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2: Crawford (Ex. 1011) Teaches Coating PCM on a Surface of a Foam Block To Improve The Foam's Thermal Characteristics (Paper 2, 46-49, referencing Exs. 1011 and 1006)

"Alternatively, FIG. 18 depicts a lamination system used to coat a layering substrate 14 with liquid gel mixture 11. ... The product 12 is an evenly coated substrate with a surface-infused gel liquid layer." (Ex. 1011, ¶ [0071])

"Alternatively, FIG. 19 depicts a lamination system used to coat a layering substrate 14 with liquid gel mixture 11. ... The product 12 is an evenly coated substrate with a surface-infused gel liquid layer. The gel liquid-coated substrate 12 is then compressed to a varied thickness (50% in the drawn example) between two smaller-size rollers 10, which infuses the liquid gel mixture within the layering substrate. The product 13 is a substrate with a surface-infused gel liquid." (Ex. 1011, ¶ [0072])

"Alternatively, FIG. 27 depicts a spraying and drying system used to coat a non-planar substrate 3 with a liquid gel mixture 11. The result is an evenly coated substrate with a surface infused gel liquid 12. Optionally, two medium-sized rollers 8, vertically aligned on their center lines with an adjustable gap between them, may be utilized after spray coating. These rollers are driven and the coated substrate 12 is fed through the gap and compressed." (Ex. 1011, ¶ [0076])

"Addition of phase change materials to the liquid gel mixture used for producing surface-infused gel layers allows the construction composite to store or release energy, which is higher than heat absorbed or released by heat capacity of the non-thermally enhanced construction." (Ex. 1011, ¶ [0060]; see *also* [0056], [0061]–[0062]).

"[I]ncorporation of at least one surface-infused gel layer made with a liquid gel mixture and located on, under or in a cushion foam or mattress will improve heat transfer and provide a cooler and more comfortable sleep." (Ex. 1011, ¶ [0115] (emphasis added)).

Ground 2: The Purpose of Lievestro's (Ex. 1013) Holes is to Improve Foam Block's Thermal Characteristics (Paper 2, 65-68; Paper 24, 5-6, referencing Ex. 1075, ¶¶ 35-36; and Ex. 1074, 75:21-76:16)

"[P]rimary goal of making holes in foam is for microclimate management, *i.e.*, to improve its cooling properties." (Brienza Decl., Ex. 1075, ¶ 35). See also the Ohta reference (Ex. 1009) confirming that "[S]ome foam pillows are made of perforated foam that is pierced with holes to prevent oppressive, muggy feeling during use." (Ex. 1009, ¶ [0002]).

Patent Owner's expert, Mr. Gross, admitted that a POSITA would understand Lievestro's vertical hole making to improve foam's thermal characteristics:

Q. You, as a POSITA, reading Lievestro, would understand that making holes as disclosed in Lievestro improves thermal characteristics of the foam block due to enhanced convection, correct?

A. Yes. Assuming that those vertical -- those holes are through the block. Lievestro talks about potentially modifying the direction of those holes, not to necessarily go vertically through the block, but to potentially go in another direction.

So it's not clear in those instances whether actually those holes would create a passthrough.

Q. But in the instances where Lievestro does show vertical holes being made, you would agree that would disclose improved convection?

A. Yes.

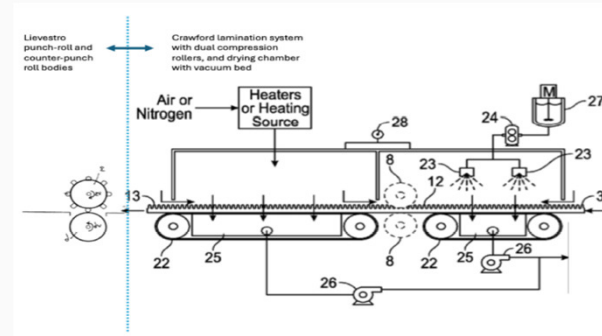
(Ex. 1074, 76:1-15)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2 – Because Both Crawford (Ex. 1011) and Lievestro (Ex. 1013) Are in the Same Art and Both Deal With Improving Foam’s Thermal Characteristics, a POSITA Would Modify Crawford’s PCM Applying Process with Lievestro’s Hole Making Process for That Purpose (Paper 2, 68-71; Paper 26, 12-16)

As previously shown, Crawford discloses all the steps of claim 1, except for the step of “forming a hole into said block and through said surface.”

Because “Crawford and Lievestro are in the same art and both deal with enhancing comfort, which includes thermal comfort, a POSITA at the time of the invention would have been motivated to perforate the surface of the foam block of Crawford as taught by Lievestro, yielding a predictable result of having a bedding product that absorbs heat and provides an enhanced cooling to the user. Because claim 1 allows the PCM application, hole forming, and cracking steps to be performed in any order, making holes in Crawford’s foam block could be achieved, by, for example, modifying Crawford’s system by adding Lievestro’s die-roll body (3) and counter-punching body (6) as a separate hole making assembly, located after the heat curing step of Crawford’s system as shown below.”



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

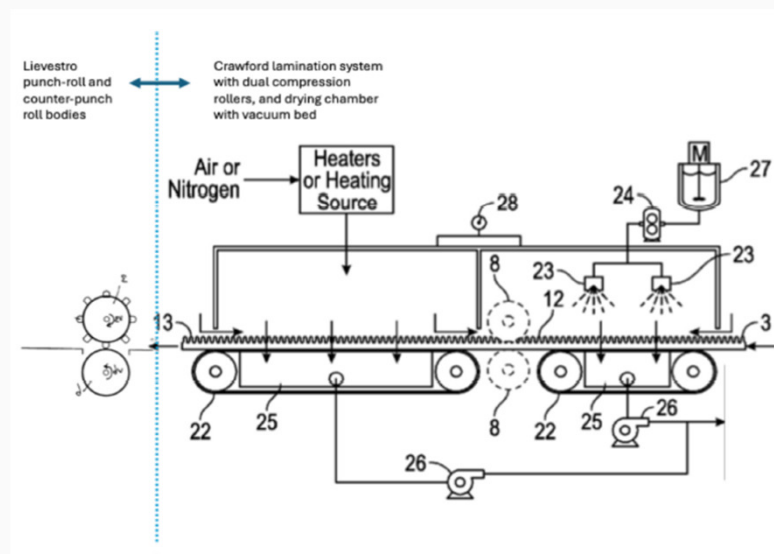
Ground 2: Because Both Crawford (Ex. 1011) and Lievestro (Ex. 1013) are in the Same Art and Both Deal With Improving Foam's Thermal Characteristics, a POSITA Would Modify Crawford's PCM Application Process with Lievestro's Hole Making Process for That Purpose (Paper 2, 68-71; Paper 26, 12-16)

As previously shown, Crawford discloses all the steps of claims 1 and 2, except for the "hole making" step(s).

Because "Crawford and Lievestro are in the same art and both deal with enhancing comfort, which includes thermal comfort, a POSITA at the time of the invention would have been motivated to perforate the surface of the foam block of Crawford as taught by Lievestro, yielding a predictable result of having a bedding product that absorbs heat and provides an enhanced cooling to the user. Because claim 1 allows the PCM application, hole forming, and cracking steps to be performed in any order, making holes in Crawford's foam block could be achieved, by, for example, modifying Crawford's system by adding Lievestro's die-roll body (3) and counter-punching body (6) as a separate hole making assembly, located after the heat curing step of Crawford's system as shown below." (Ex. 1075, ¶ 103; for claim 2, see ¶ 112)

"[A] POSITA would be motivated to combine or modify Crawford in view of Lievestro to create the process recited in each of claims 1 and 2 of the '301 Patent." (Id., ¶ 113)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



Ground 3: Mapping of Ohta (Ex. 1009) and Schneider (Ex.1010) on Claim 2 of the '301 Patent (Paper 2, 72-73; Paper 26:16-17)

2. A process for manufacturing bedding, which comprises:

[a] providing a solid, resilient, compressible foam block, said block having a surface;

[b] applying phase change material to said surface;

[c] forming a hole into said block and through said surface;

[d] compressing said block by pressing on said surface before the forming of the hole; and

[e] performing the forming of the hole while said block is compressed.

Ohta

Ohta

Schneider

Ohta

Ohta

Ohta

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 3: The Purpose of Ohta's (Ex. 1009) Holes Is to Improve Foam Block's Thermal Characteristics (Paper 2, 29-45; Paper 24, 7-8, referencing Ex. 1075, ¶ 57)

"The present invention pertains to a method for the production of perforated pillows that have through-holes formed therein.

BACKGROUND ART

Some foam pillows are made of perforated foam that is pierced with holes to prevent the oppressive, muggy feeling during use. Additionally, memory foam is used for some of the recently proposed pillows."

(Ex. 1009, ¶¶ [0001]-[0002])

"Muggy" means "hot and damp with little or no stirring of air." (Ex. 1014, p. 945)

"[A] POSITA would know that the purpose of [Ohta] making holes in a foam block is for thermal management." (2nd Brienza Decl., ¶ 57)

Ground 3: Because Both Ohta (Ex. 1009) and Schneider (Ex. 1010) Are in the Same Art and Both Deal With Improving Foam's Thermal Characteristics, A POSITA Would Look to Schneider's Use of PCM to Modify Ohta for That Purpose (Paper 2, 71-73, referencing Ex. 1006, ¶ 100; Paper 24, 16-17, referencing 1075, ¶ 118-127, with ¶ 118 referencing Ex. 1074:156:7-19)

During his deposition, Patent Owner's expert, Mr. Gross, conceded that "there is nothing in Ohta that would prevent coating of the foam block with PCM to create a cooling effect to the user." (Ex. 1074, 156:15-19)

"Given that both prior art references are in the same art and both deal with enhancing thermal comfort, a POSITA would have been motivated to coat the surface of perforated foam block of Ohta with PCM as suggested by Schneider. ... This would yield a predictable result of having a bedding product that absorbs heat and provides an enhanced cooling effect to the user. " (Brienza Decl., Ex.1006, ¶ 100, see *also*, ¶ 103).

Ground 3: Mapping of Ohta (Ex. 1009) and Schneider (Ex.1010) on Claim 1 of the '301 Patent Depends on Whether the Final Construction of the Term “Cracking” Will Cover a Plate-Press (Paper 2, 71-72; Paper 26:16-17)

- | | |
|---|-----------|
| 1. A process for manufacturing bedding, which comprises: | Ohta |
| [a] providing a solid, resilient, compressible foam block, said block having a surface; | Ohta |
| [b] applying phase change material to said surface; | Schneider |
| [c] forming a hole into said block and through said surface; | Ohta |
| [d] cracking said block | Ohta |

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 3: Because the '301 Patent Describes "Cracking" as a Term of Art in the Field, the BOARD's Final Construction Should Cover the Use of a Plate-Press (Paper 24, 4-5)

The Board previously determined that the Specification of the '301 Patent describes that "cracking" is a term of art in the field of foam bedding and construed the term "cracking said block" to mean *"the block is passed through a roller to open some of the closed cells that make up the foam block."* (Paper 7, 16).

Petitioner's expert, Dr. Brienza, and Patent Owner's expert, Mr. Gross, both agree that "cracking" is a term of art. (Ex. 1075, ¶23; 1074, 47:16-48:1).

To a POSITA, however, opening some of the closed cells that make up the foam block by a plate press also constitutes "cracking." (2nd Brienza Decl., Ex. 1075, ¶ 24). Importantly, Patent Owner's expert, Mr. Gross, also agrees with this:

Q. On the manufacturing line, how can this cracking be accomplished?

MR. POPOWITZ: Objection.

THE WITNESS: There are different ways you could accomplish that. That could be through rollers, through a platen, through the process of compressing. For instance, if it is a mattress in a box or pillow in a box, compressing and rolling and vacuum sealing. So there are a variety of ways to do that.

BY MR. SERBIN:

Q. I believe you just said platen?

A. Yes.

Q. What do you mean by that?

A. A platen would be a flat surface, sort of squeezing that product between two flat surfaces (indicating).

Q. So it would be like a plate press?

A. Yes.

(Ex.1074, 49:12-50:3)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 4: Mapping of Ohta (Ex. 1009) and Crawford (Ex.1011) on Claims 1 and 2 of the '301 Patent (Paper 2, 73-76; Paper 26:17-19)

1. A process for manufacturing bedding, which comprises:	Ohta
[a] providing a solid, resilient, compressible foam block, said block having a surface;	Ohta
[b] applying phase change material to said surface;	Crawford
[c] forming a hole into said block and through said surface; and	Ohta
[d] cracking said block.	Crawford (or Ohta, if plate-press)
2. A process for manufacturing bedding, which comprises:	Ohta
[a] providing a solid, resilient, compressible foam block, said block having a surface;	Ohta
[b] applying phase change material to said surface;	Crawford
[c] forming a hole into said block and through said surface;	Ohta
[d] compressing said block by pressing on said surface before the forming of the hole; and	Ohta
[e] performing the forming of the hole while said block is compressed.	Ohta

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 4 – Claim 2: Because Both Ohta (Ex. 1009) and Crawford (Ex. 1011) Are in the Same Art and Both Deal With Improving Foam’s Thermal Characteristics, A POSITA Would Look to Crawford’s Use of PCM to Modify Ohta for That Purpose (Paper 2, 73-76, referencing Ex. 1006; Paper 26:17-19, referencing Ex. 1075, ¶¶ 57, 129-141, with ¶ 128 of Ex. 1075 referencing Ex. 1074, 156:7-19)

Ohta:

As previously shown, “a POSITA would know that the purpose of [Ohta] making holes in a foam block is for thermal management.” (2nd Brienza Decl., Ex. 1075, ¶ 57).

During his deposition, Patent Owner’s expert, Mr. Gross, conceded that “there is nothing in Ohta that would prevent coating of the foam block with PCM to create a cooling effect to the user.” (Ex. 1074, 156:15-19).

Crawford:

“Addition of phase change materials to the liquid gel mixture used for producing surface-infused gel layers allows the construction composite to store or release energy, which is higher than heat absorbed or released by heat capacity of the non-thermally enhanced construction.” (Ex. 1011, ¶ [0060]; see *a/so*[0056], [0061]–[0062]).

“[I]ncorporation of at least one surface-infused gel layer made with a liquid gel mixture and located on, under or in a cushion foam or mattress will improve heat transfer and provide a cooler and more comfortable sleep.” (Ex. 1011, ¶ [0115] (emphasis added)).

“Given that both prior art references are in the same art and both deal with enhancing thermal comfort, a POSITA would have been motivated to coat the surface of perforated foam block of Ohta with PCM as taught by Crawford. ... This would yield a predictable result of having a bedding product that absorbs heat and provides an enhanced cooling effect to the user. ” (Brienza Decl., Ex.1006, ¶ 106, see *a/so*, ¶ 109).

Ground 4 – Claim 1: Because Both Ohta (Ex. 1009) and Crawford (Ex. 1011) Are in the Same Art and Both Deal With Improving Foam’s Thermal Characteristics, A POSITA Would Look to Crawford’s Use of PCM to Modify Ohta for That Purpose (Paper 2, 73-74; Paper 26:17-19)

The logic for combining the Ohta and Crawford references presented above for claim 2 applies equally to claim 1.

As previously shown, Crawford discloses all the steps of claim 1, except for the step of “forming a hole into said block and through said surface.”

Should the Board’s final construction of the term “cracking said block” exclude the use of a plate press, the Ohta-Crawford combination would still meet the “cracking said block” limitation *via* Crawford’s Fig. 27 embodiment, which uses a roller press. (See, Ex. 1075, ¶ 129).

Should the Board’s final construction of the term “cracking said block” include the use of a plate press, then the Ohta-Crawford combination would meet the “cracking said block” limitation *via* Crawford’s Fig. 27 embodiment and, separately, *via* Ohta. (*Id.*)

Secondary Considerations

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Nexus to Claimed Process (Paper 24, 20-22)

- Mr. Quinn confirmed that the merit of claim 1 lies solely in the “cracking” limitation and the merit of claim 2 lies solely in the “compressing and forming the hole while compressed” limitations. (Ex. 1078, 66:21-67:6).
- **Claim 1.** Mr. Quinn testified that it is impossible to determine whether a foam pillow with PCM and holes actually underwent “cracking” or not. (Ex. 1078, 80:18-22). Therefore, per Mr. Shiroff, there can be no nexus between the merit of claim 1 and any secondary consideration. (Ex. 1076, ¶47).
- **Claim 2.** Mr. Quinn testified that the holes in the GhostPillow could only be made by punching while the foam block and could not be made by drilling or molding. (Ex. 1078, 81:4-88:1).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Nexus to Claimed Process (Paper 24, 20-22)

This is contradicted by Patent Owner's technical expert, Mr. Gross, who testified that it is commercially feasible to drill holes into foam or mold holes out of foam without compression Gross Deposition (Ex. 1074, 27:12-20 →)

Q. What other ways of making holes are there?

A. You could potentially drill those holes when it's not compressed. You could, in some case, for instance the Talalay latex production process where it is actually -- the holes are actually molded into the product in the process. So there are different ways to put holes into foam material.

Q. So let me just back up a little. You can drill holes without compression, correct?

A. In some cases, possibly.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Nexus to Claimed Process (Paper 24, 20-22)

The Boers Technik Foam Pillow Drill 9101 Variable is specifically designed to drill holes in pillows without compression. (Ex. 1079; 1080; 1081→; 1076 ¶¶48-51).



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

- For the “(1) Market Share Analysis” category, Patent Owner’s allegation that the GhostPillow has a significant share (29.03%) within the “Molded Gel Memory Foam PCM pillow with punched holes” market, (Ex. 2013, ¶¶25-35), is fatally flawed for four reasons.
- **First**, Mr. Quinn created an artificially narrow market of “Molded Gel Memory Foam PCM pillow with punched holes,” and then populated that “market” with the GhostPillow and six other models from five companies (Casper, Malouf, Columbia, inight, and Serta). (Ex. 2013, ¶¶28, 34). This “market” should have included at least all memory foam pillows with cooling features. (Shiroff Declaration Ex. 1076, ¶¶57-63).

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

Patent Owner’s own GhostPillow marketing material identify two models (from Sleep Number and TEMPUR) not included in this “market.” (Ex. 2003→).

Compare our GhostPillow - Gel Memory Foam

Trust us: it's hard to compete with The Coolest Pillow in the World. See how we compare here.

	 GhostPillow - Gel Memory Foam	Casper Foam Pillow + Snow Technology™*	Sleep Number True Temp™*	TEMPUR-Cloud® Breeze Dual Cooling™*
Price	\$139	\$139	\$139	\$199
Available in the US	✓	✗	✗	✗
Design	✓	✗	✗	✗
Removable Cover	✓	✗	✗	✗
Material	✓	✓	✗	✗
Memory	✓	✓	✗	✓

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

- **Second**, Mr. Quinn failed to include all pertinent models even within its artificially narrow “market.” Mr. Quinn excluded the Casper Sleep Hybrid Snow Pillow (Ex. 1041), even as Patent Owner accused this same model of infringing the '301 Patent, (Ex. 1082). (Ex. 1078, 143:14-157:1). Mr. Quinn also excluded all king size models while including corresponding queen size models. (Ex. 1078, 157:23-159:19).
- **Third**, Mr. Quinn only analyzed Amazon pillow sales and ignored all non-Amazon e-commerce pillow sellers and all brick-and-mortar pillow sellers. (Ex. 1078, 102:1-105:2).

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

A 2022 Bedtimes article, (Ex. 1047→), reports that only 48% of pillows are purchased online (and not all online sales are from Amazon), meaning that the Patent Owner ignored a majority of all pillow sales.

Purchases at the Top » BedTimes Magazine

JULY 27, 2022

NEWS

Purchases at the Top



BY DAVID PERRY

Overall, brick-and-mortar retailers accounted for a slight majority (52%) of bedding accessories purchases, while online sales accounted for 46% of purchases.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

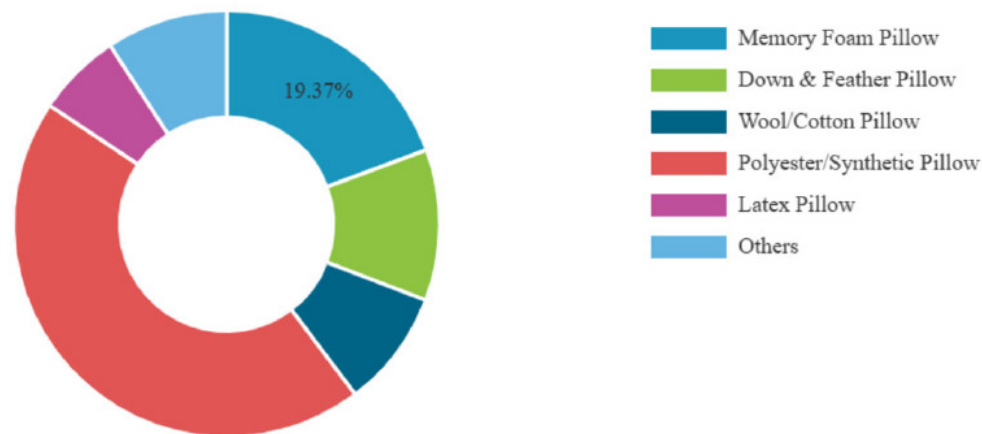
- **Fourth**, the total annual revenue of all seven models identified by Mr. Quinn was \$3,100,700. (Ex. 2013, ¶31 ↓).

31. The total revenue for all competing brands represents \$3,100,707.

“(1) Market Share Analysis” is Fatally Flawed (Paper 24, 22-24)

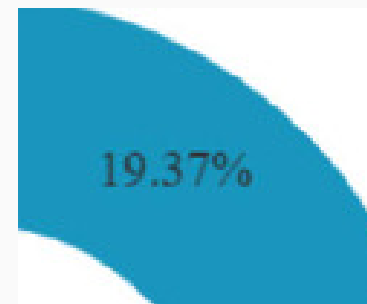
The U.S. pillows market size stood at USD 3.07 billion in 2022 and is projected to grow from USD 3.15 billion in 2023 to USD 4.28 billion by 2030, exhibiting a CAGR of 4.48% during the forecast period of 2023-2030.

U.S. Pillows Market Share, By Type, 2022



www.fortunebusinessinsights.com

A Fortune Business Insights reports that the U.S. pillow market was \$3.07 billion in 2022, and the U.S. memory foam pillow market was \$595 million. (←Ex. 1050, 1-2).



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

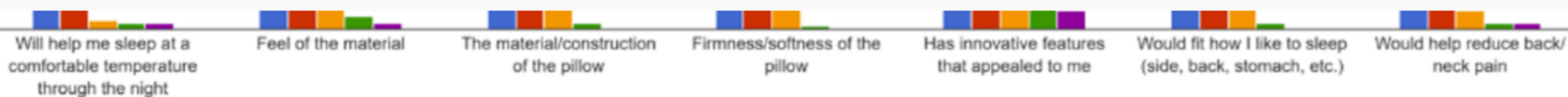
“(2) Market Survey Analysis” is Fatally Flawed (Paper 24, 24-25)

- For the “(2) Market Survey Analysis” category, Mr. Quinn’s conclusion—that 51% of 100 surveyed customers who identified “the cooling feature” as the reason for choosing the GhostPillow made that choice because of the ‘301 Patent (Ex. 2013, ¶¶45-46)—is fatally flawed for two reasons.

“(2) Market Survey Analysis” is Fatally Flawed (Paper 24, 24-25)

- **First**, the survey designed by Mr. Quinn did not ask anything relating to “cracking” or “compressing and hole forming” and thus revealed nothing about whether these claim limitations mattered to the surveyed customers. (Ex. 1078, 171:6-172:3; 1076, ¶¶73-74; 2013, ¶45↓).

What factors influenced your decision to purchase the GhostPillow over other brands?



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(2) Market Survey Analysis” is Fatally Flawed (Paper 24, 24-25)

- **Second**, the survey asked customers if they considered purchasing competing pillows from Casper, Sealy, Tempur-Pedic, Purple, or MyPillow before purchasing the GhostPillow. (Ex. 2013, ¶45 ↓). In the market share analysis, Mr. Quinn chose pillows from entirely different competitors (except for Casper). (Ex. 1078, 175:25-179:9).

While shopping for a new pillow, did you consider any of these brands



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)

- For the “(3) Testing Analysis” and “(6) Unexpected Results” categories. Patent Owner’s reliance on three test pairs conducted by Element Materials Technology (“Element”) is fatally flawed for four reasons.
- **First**, Element tested a large (~50”x50”x5”) foam block (“GBsolidFoam”) and a similarly large foam block with PCM and holes (“GBpunchedPCM”) for a Body Analog Test and a Sweating Guarded Hot Plate (“SGHP”) Method. But the GBpunchedPCM samples tested by Element were significantly different in material and density from the actual GhostPillow.

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)



- Comparing excerpt of Ex. 1067 ↑ (showing Ex. 1066), with excerpt of Ex. 1055 ↑ (showing Ex. 1054).
- The samples have different dimensions, different PCM application, and different density (3.3 vs. 4.0 lbs/ft³).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)

- Per Dr. Brienza, a co-author of the specification for which the large foam blocks were tested, these differences mean that the Element tests cannot provide a basis to draw conclusions about the properties of the GhostPillow. (Ex. 1075, ¶¶147-152). *See also, e.g.,* Ex. 2017, p. 4 ↓ :

Test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

Tested & Reported by:



Brent L. Larson
Manager
Sleep System Evaluation
Phone: (651) 659 – 7218

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)

- **Second**, Mr. Quinn draws incorrect conclusions from the results of the SGHP Method and Body Analog Test. For the SHP Method, Dr. Brienza notes that the differences in Q_{dry} , Q_{wet} , and R_{dry} are small (<3%) and fall within ambient conditions variations and sensor accuracy. (Ex. 1075, ¶155).
- With respect to evaporative capacity and R_{wet} , Dr. Brienza notes that the difference between these two metrics would be imperceptible to a person lying on either pillow for an extended period of time. (Ex. 1075, ¶156).
- For the Body Analog test, Dr. Brienza notes that the small differences in temperature (0.2 °C) and relative humidity (0.5%) are less than sensor tolerances and would be imperceptible to user. (Ex. 1075, ¶157).

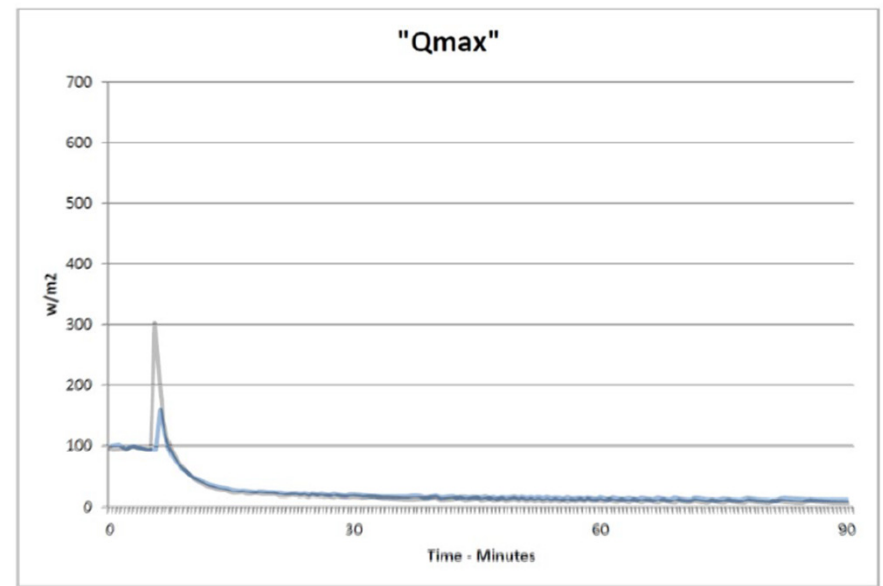
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)

- **Third**, Mr. Quinn relies on the differences in Q_{max} (maximum heat flux) in the SGHP Method between the GBsolidfoam and GBpunchPCM foam. (Ex. 1051→).
- Q_{max} —a transient response over the first minutes of an ~80-minute period when a hot plate is on the sample—is not a validated metric and should not be relied upon.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Heat & Moisture Dissipation Characteristics of Foam / Sweating Hot Plate Method



---- GBsolidfoam

(Exhibit 2017, page 5)

---- GBpunchPCM

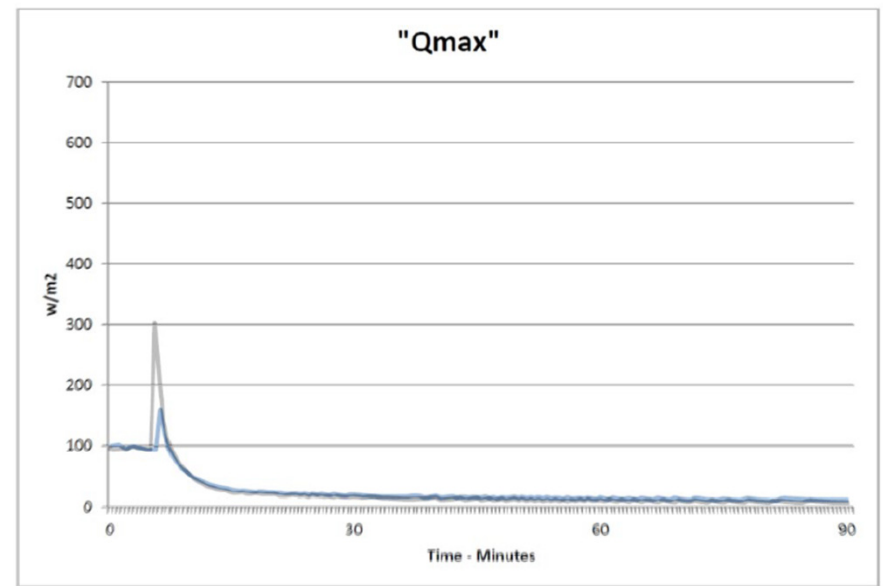
(Exhibit 2017, page 10)

“(3) Testing Analysis” and “(6) Unexpected Results” are Fatally Flawed (Paper 24, 25-30)

- The transient differences in Q_{max} would not be surprising to a POSITA given the known reaction that PCM on foam undergoes when heated.
- Dr. Brienza criticizes Mr. Quinn’s testimony that his expectation of a 20-30% improvement of Q_{max} instead of the actual 90% resulted from Mr. Quinn’s experience with other values, since variations of unvalidated Q_{max} may not correlate with variations of other foam values. (Ex. 1075, ¶¶158-161).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Heat & Moisture Dissipation Characteristics of Foam / Sweating Hot Plate Method



---- GBsolidfoam

(Exhibit 2017, page 5)

---- GBpunchedPCM

(Exhibit 2017, page 10)

“(4) Copy of the Invention Created by the ‘301 Patent by Others” and “(5) Length of Intervening Time Between Products” are Fatally Flawed (Paper 24, 30-32)

- Patent Owner’s reliance on the allegation that six competing models launched after the GhostPillow—and that most of these competing models launched more than two years after the GhostPillow (Ex. 2013, ¶¶90-93)—is fatally flawed for two reasons.

“(4) Copy of the Invention Created by the ‘301 Patent by Others” and “(5) Length of Intervening Time Between Products” are Fatally Flawed (Paper 24, 30-32)

First, Mr. Quinn conceded that this analysis was based only on copying a memory foam pillow having PCM with punched holes and was unrelated to either cracking the pillow or compressing the pillow while punching holes. (Ex. 1078, 258:5-13→; 1076, ¶84).

Q. And we've agreed that the features of the GhostBed pillow that motivated your determination that this copying occurred are: Memory foam pillow, having PCM with punched holes, correct?

A. Correct.

Q. And no other features motivated your analysis; is that right?

A. Correct.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(4) Copy of the Invention Created by the ‘301 Patent by Others” and “(5) Length of Intervening Time Between Products” are Fatally Flawed (Paper 24, 30-32)

- **Second**, at least two memory foam pillow models having PCM with punched holes were launched more than two years before the GhostPillow. In 2014, Fohm introduced memory foam pillow with PCM and punched holes, as shown below:



(←Excerpts of Ex. 1084; see also Ex. 1058, 1059, 1083; 1076, ¶86).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“(4) Copy of the Invention Created by the ‘301 Patent by Others” and “(5) Length of Intervening Time Between Products” are Fatally Flawed (Paper 24, 30-32)

- In 2015, Brooklyn Bedding introduced a Cooling Gel with PCM Ventilated Memory Foam Pillow as shown below.
- This negates any inference that the six competing models copied the GhostPillow and renders irrelevant the fact that most of these models launched more than two years after the GhostPillow. (Ex. 1076, ¶88).

(Except of Ex. 1057→; see also Ex. 1076, ¶87).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



Thank You

Mark I. Koffsky
Gary Serbin
Counsel for Petitioner

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE