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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN JOSE DIVISION

ZINUS, INC., )  
 )  
 Plaintiff, )  
 )  
 v. )  
 )  
 SIMMONS BEDDING COMPANY, et al., )  
 )  
 Defendants. )  
 )  
 \_\_\_\_\_ )  
 AND RELATED CROSS-ACTION )  
 \_\_\_\_\_ )

Case No.: C 07-3012 PUT  
**ORDER GRANTING PLAINTIFF  
ZINUS, INC.’S MOTION FOR  
RECONSIDERATION; AND  
GRANTING PLAINTIFF’S MOTION  
FOR SUMMARY ADJUDICATION**

On October 2, 2007, Zinus, Inc. (“Zinus”) filed a motion seeking summary adjudication that its “Swirl Wrap” packaging method did not infringe, either literally or under the doctrine of equivalents, U.S. Patent Re. 36,142 (“the ‘142 Patent”).<sup>1</sup> Defendant and Counterclaimant Dreamwell, Ltd. (“Dreamwell”) opposed the motion solely with regard to infringement under the doctrine of equivalents. In its reply, Zinus made two arguments it had not presented in its moving papers. First, it argued that the range of equivalents Dreamwell seeks is precluded by prosecution history estoppel. Second, it argued that the doctrine of equivalents cannot be used to cover the Swirl Wrap packaging method because that method was obvious from prior art, specifically U.S. Patent

<sup>1</sup> Zinus’ Motion for Summary Adjudication of Non-Infringement, filed herein on October 2, 2007 at docket # 33, is referred to herein as “Zinus’ Moving Brief.”

1 No. 4,711,067 (the “Magni Patent” or “Magni”).<sup>2</sup> Dreamwell moved to strike those arguments.

2 On December 6, 2007, the court issued an order denying Plaintiff’s motion for summary  
3 adjudication without prejudice, denying Dreamwell’s motion to strike as moot, and scheduling a  
4 Case Management Conference. At the Case Management Conference Statement the court granted  
5 leave for Zinus to file a motion for reconsideration of this court’s denial of Zinus’ motion for  
6 summary adjudication.

7 On December 17, 2007, Zinus filed its motion for reconsideration. Dreamwell opposed the  
8 motion. After reviewing the papers submitted by the parties, the court ordered additional briefing  
9 and calendared the motion for February 19, 2008.

10 On February 19, 2008, the parties appeared for hearing before Magistrate Judge Patricia V.  
11 Trumbull. Based on the briefs and arguments submitted, and the file herein,

12 IT IS HEREBY ORDERED that Plaintiff’s motion for reconsideration is GRANTED.

13 IT IS FURTHER ORDERED that Plaintiff’s motion for summary adjudication is GRANTED  
14 for the reasons set forth herein.

15  
16 **I. INTRODUCTION**

17 Plaintiff Zinus is a business engaged in the manufacture of mattresses. Among other  
18 products, Zinus makes a “Mattress-In-A-Box” product using a “Swirl Wrap” method. Prior to this  
19 action, Zinus was selling its Mattress-In-A-Box through Wal-Mart Stores, Inc. (“Wal-Mart”).

20 Defendant Dreamwell is a wholly-owned subsidiary of Defendant Simmons Bedding  
21 Company (“Simmons”), and is the assignee of the ‘142 Patent. The ‘142 Patent covers a method of  
22 packaging a particular type of inner spring mattress assembly in a compressed state for shipment.

23 In May of 2007, Dreamwell sent cease and desist letters to Zinus and Wal-Mart, claiming that  
24 Zinus’ Mattress-In-A-Box infringes the ‘142 Patent. This action for declaratory relief ensued.

25 In the present motion, Zinus seeks summary adjudication that its “Swirl Wrap” packaging  
26 method does not infringe the ‘142 Patent.

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<sup>2</sup> Zinus had vaguely alluded to this argument in the “Legal Standards” section of its motion, but it failed to actually make the argument in the “Application of the Law to the Facts” section.

1           **II.     LEGAL STANDARDS**

2           **A.     SUMMARY JUDGMENT**

3           Under Rule 56 of the Federal Rules of Civil Procedure a party claiming relief or against  
4 whom relief is sought may move for summary judgment on all or part of a claim. The purpose of  
5 summary judgment “is to isolate and dispose of factually unsupported claims or defenses.” *Celotex v.*  
6 *Catrett*, 477 U.S. 317, 323-24 (1986). To obtain summary judgment, a party must demonstrate that  
7 no genuine issue of material fact exists for trial, and that based on the undisputed facts he is entitled  
8 to judgment as a matter of law. *Id.*, at 322.

9           The moving party “bears the initial responsibility of informing the district court of the basis  
10 for its motion, and identifying those portions of ‘the pleadings, depositions, answers to  
11 interrogatories, and admissions on file, together with the affidavits, if any’ which it believes  
12 demonstrate the absence of a genuine issue of material fact.” *Id.* at 323. If the moving party meets its  
13 initial burden, then the non-moving party “must—by affidavits or as otherwise provided in this  
14 rule—set out specific facts showing a genuine issue for trial.” FED.R.CIV.PRO., Rule 56(e).

15           The moving party is not required to negate the elements of the non-moving party’s case on  
16 which the non-moving party bears the burden of proof. *Celotex*, 477 U.S. at 323. On the contrary,  
17 “regardless of whether the moving party accompanies its summary judgment motion with affidavits,  
18 the motion may, and should, be granted so long as whatever is before the district court demonstrates  
19 that the standard for the entry of summary judgment, as set forth in Rule 56(c), is satisfied.” *Ibid.*

20           The non-moving party cannot defeat a proper motion for summary judgment simply by  
21 *alleging* a factual dispute between the parties. To preclude summary judgment, the non-moving  
22 party must bring forth material facts, i.e., “facts that might affect the outcome of the suit under the  
23 governing law.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986).

24           If the non-moving party cannot, for reasons stated, present by affidavit facts essential to  
25 justify the party’s opposition, the court may either deny or continue the motion to allow additional  
26 discovery. FED.R.CIV.PRO., Rule 56(f). However, “[t]he burden is on the party seeking additional  
27 discovery to proffer sufficient facts to show that the evidence sought exists, and that it would prevent  
28 summary judgment.” *See Chance v. Pac-Tel Teletrac Inc.*, 242 F.3d 1151, 1161 n. 6 (9th Cir. 2001).

1           The court must draw all reasonable inferences in favor of the non-moving party. *See Masson*  
2 *v. New Yorker Magazine, Inc.*, 501 U.S. 496, 520 (1991); *see also Matsushita Elec. Indus. Co. v.*  
3 *Zenith Radio*, 475 U.S. 574, 588 (1986). However, the opposing party “must do more than simply  
4 show that there is some metaphysical doubt as to the material facts.” *See Matsushita*, 475 U.S. at  
5 588. “Where the record taken as a whole could not lead a rational trier of fact to find for the  
6 non-moving party, there is no ‘genuine issue for trial’” and summary judgment is thus warranted.  
7 *See Matsushita*, 475 U.S. at 587.

8           In a patent case, summary judgment is appropriate: 1) where “only one conclusion as to  
9 infringement could be reached by a reasonable jury;” or 2) “when the patent owner’s proof is  
10 deficient in meeting an essential part of the legal standard for infringement, because such failure will  
11 render all other facts immaterial.” *See TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1369  
12 (Fed.Cir. 2002). An accused infringer is entitled to summary judgment if the patent holder fails to  
13 put forth *evidence* that each limitation of the asserted claim is met in the accused device or method,  
14 either literally or by a substantial equivalent; mere assertions are insufficient to shoulder the  
15 non-movant’s burden. *See, e.g., Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577-78 (Fed.Cir. 1989)  
16 (“Mere assertion of similarity in the accused and patented devices is insufficient to create a genuine  
17 factual issue”); *see also Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876  
18 (Fed.Cir. 1998) (patentee failed, through the conclusory statements of experts, to raise a genuine  
19 issue of material fact precluding summary judgment).

## 20           **B.       PATENT INFRINGEMENT**

21           Patent infringement analysis involves two steps: 1) claim construction; and 2) application of  
22 the properly construed claims to the accused device or method. *See Markman v. Westview*  
23 *Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir. 1995) (en banc ), *aff’d*, 517 U.S. 370 (1996). The first  
24 step is a matter of law. *Id.* at 979. The second step is a factual question. *See Bai v. L & L Wings,*  
25 *Inc.*, 160 F.3d 1350, 1353 (Fed.Cir. 1998). To prove infringement, a patent holder must show that  
26 the accused device or method meets each claim limitation, either literally or under the doctrine of  
27 equivalents. *See Deering Precision Instruments, L.L.C. v. Vector Distribution Systems, Inc.*, 347  
28 F.3d 1314, 1324 (Fed.Cir. 2003).

1           **1.       Claims Construction**

2           Claim construction is a matter of law for the court. *See Markman*, 52 F.3d at 979. In  
3 interpreting disputed claim terms, the court should look first to the intrinsic evidence of record.  
4 *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Intrinsic evidence  
5 includes the language of the claims, the specification, and the file history, if in evidence. *Id.*

6           “Claim language generally carries the ordinary meaning of the words in their normal usage in  
7 the field of invention” at the time of invention. *See Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d  
8 1364, 1367 (Fed. Cir. 2003); *see also, CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366  
9 (Fed. Cir. 2002) (noting there is a “‘heavy presumption’ that a claim term carries its ordinary and  
10 customary meaning.”) A court determines the meaning of a technical term in a patent claim “in  
11 accordance with its usage in the specification, elaborated if appropriate by the prosecution history  
12 and with due consideration to usage in the field of the invention.” *Norian Corp. v. Stryker Corp.*,  
13 363 F.3d 1321, 1326 (Fed. Cir. 2004).

14           Dictionaries can be helpful in ascertaining the plain and ordinary meaning of claim language.  
15 *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed. Cir. 2002). However, the  
16 Federal Circuit has clarified the role of dictionary definitions in claim construction, finding that the  
17 *Texas Digital* line of cases too often has been “improperly relied upon to condone the adoption of a  
18 dictionary definition entirely divorced from the context of the written description.” *Phillips v. AWH*  
19 *Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc) (“*Phillips*”). The Federal Circuit explained  
20 “[t]he problem is that if the district court starts with the broad dictionary definition in every case and  
21 fails to fully appreciate how the specification implicitly limits that definition, the error will  
22 systematically cause the construction of the claim to be unduly expansive.” *Id.*

23           The specification is the “single best guide to the meaning of a disputed term” and “acts as a  
24 dictionary when it expressly defines terms used in the claims or when it defines terms by  
25 implication.” *See Phillips*, 415 F.3d at 1321, *quoting Vitronics*, 90 F.3d at 1582; *see also, Bell Atl.*  
26 *Network Servs., Inc. v. Covad Comms. Group, Inc.*, 262 F.3d 1258, 1268 (Fed.Cir. 2001) (“[A] claim  
27 term may be clearly redefined without an explicit statement of redefinition.”)

28

1           **2.       Literal Infringement**

2           Once the claims have been correctly construed to determine their scope, the claims must be  
3 compared to the accused device. *See Markman*, 52 F.3d at 976. “To establish literal infringement,  
4 all of the elements of the claim, as correctly construed, must be present in the accused system.”  
5 *TechSearch, L.L.C.*, 286 F.3d at 1371. “Any deviation from the claim precludes such a finding.”  
6 *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1330 (Fed.Cir.2001).

7           **3.       The Doctrine of Equivalents**

8           Infringement under the doctrine of equivalents requires a showing that the difference between  
9 the claimed method and the accused method is insubstantial or that the accused method performs  
10 substantially the same function in substantially the same way with substantially the same result as  
11 each claim limitation of the patented method. *See Aqua-Tex Indus., Inc. v. Techniche Solutions*, 479  
12 F.3d 1320, 1326 (Fed.Cir. 2007). Infringement under the doctrine of equivalents does not require  
13 complete identity for every purpose and in every respect, but does require substantial identity of  
14 function, means, and result. *Graver Tank and Mfg. Co., Inc. v. Linde Air Products Co.*, 339 U.S.  
15 605, 608-09 (1950).

16           The doctrine of equivalents cannot allow a patent to encompass subject matter existing in the  
17 prior art or which are obvious or trivial variations of the prior art. *See K-2 Corp. v. Salomon S.A.*,  
18 191 F.3d 1356, 1367 (Fed.Cir. 1999), citing *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*,  
19 904 F.2d 677, 684 (Fed.Cir. 1990) (“[A] patentee should not be able to obtain, under the doctrine of  
20 equivalents, coverage which he could not lawfully have obtained from the PTO by literal claims.”)  
21 overruled in part on other grounds by *Cardinal Chem. Co. v. Morton Int’l*, 508 U.S. 83 (1993).

22           In order to facilitate a determination of whether an accused device or method was obvious  
23 from the prior art so as to preclude use of the doctrine of equivalents to establish infringement,  
24 courts sometimes employ an “hypothetical claim” procedure. *See Wilson Sporting Goods Co.*, 904  
25 F.2d at 684-685. With this procedure the patentee proposes an hypothetical patent claim which is  
26 sufficiently broad in scope to *literally* cover the accused device (or method). *Ibid.* The pertinent  
27 question is whether that hypothetical claim would have been patentable over the prior art. If not, the  
28 patentee cannot obtain that coverage under the doctrine of equivalents. *Ibid.*

1 The hypothetical claim procedure does not give a patent holder free rein to “cut and trim,  
2 expanding here, and narrowing there, to arrive at a claim that encompasses an accused device, but  
3 avoids the prior art.” See *Streamfeeder, LLC v. Sure-Feed Sys., Inc.*, 175 F.3d 974, 983 (Fed.Cir.  
4 1999). “Slight broadening is permitted at that point, but not narrowing.” *Ibid.*

#### 5 **4. Prosecution History Estoppel**

6 Reliance on the doctrine of equivalents can be foreclosed by prosecution history estoppel.  
7 See *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997). “Estoppel arises  
8 when an amendment is made to secure the patent and the amendment narrows the patent’s scope.”  
9 See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (“*Festo*”). “Under  
10 this doctrine, the surrender of subject matter during patent prosecution creates a presumption that the  
11 patentee is precluded from recapturing *that* subject matter through the doctrine of equivalents.” See  
12 *Aqua-Tex Indus.*, 479 F.3d at 1325 (emphasis added).

13 Once a court determines that a patentee made an amendment during prosecution which is  
14 narrowing, and which was made for the purpose of patentability, a presumption arises “that the  
15 patentee has surrendered all territory between the original claim limitation and the amended claim  
16 limitation.” See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1367  
17 (Fed.Cir. 2003) (*en banc*) (“*Festo II*”). Thus, a court must determine the actual scope of subject  
18 matter that has presumably been surrendered by the patentee. See *Id.* at 1367 (“the third question in  
19 a prosecution history estoppel analysis addresses the scope of the subject matter surrendered by the  
20 narrowing amendment”).

21 A patentee can rebut the presumption of surrender by showing that: 1) “the alleged equivalent  
22 would have been unforeseeable at the time of the narrowing amendment;” 2) “the rationale  
23 underlying the narrowing amendment bore no more than a tangential relation to the equivalent in  
24 question;” or 3) “there was ‘some other reason’ suggesting that the patentee could not reasonably  
25 have been expected to have described the alleged equivalent.” See *Festo II*, 344 F.3d at 1368.

26 Whether a patentee has rebutted the presumption of surrender is a question of law. See  
27 *Biagro Western Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1301-02 (Fed.Cir. 2005). To the  
28 extent the rebuttal of the presumption is subject to underlying factual issues, those factual issues may

1 properly be decided by the court. *See Biagro Western Sales, Inc.*, 423 F.3d at 1302; *see also Festo*  
2 *Corp. v. Shoketsu Ltd.*, 493 F.3d 1368, 1375 (“*Festo III*”) (“In our second en banc, we held that  
3 rebuttal of the presumption of surrender was a question of law to be tried by a court and not a jury.”)

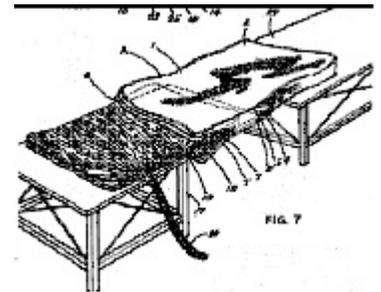
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5 **III. THE PATENT IN SUIT, THE MAGNI PRIOR ART, AND THE ACCUSED SWIRL WRAP METHOD**

6 **A. THE ‘142 PATENT**

7 **1. Prosecution of the Patent**

8 On April 4, 1995, inventors C. Edward Steed and Rickey F. Gladney (the “Applicants”) filed  
9 the application on which the ‘142 Patent is based.<sup>3</sup> The original application contained four claims  
10 (one independent and three dependent), which sought broad coverage of a method of packaging  
11 “compressed articles,” rather than inner spring mattress assemblies. Each of the claims included the  
12 following element: “inserting said evacuated tube into a containment sleeve which is dimensioned  
13 and configured to retain said compressed article in a compressed state.”

14 In its initial Office Action, the United States Patent and  
15 Trademark Office (“Patent Office”) rejected all four claims of the  
16 original application as obvious in light of the “Broyles” prior art  
17 reference, which relates to a method for putting mattress springs into  
18 a mattress cover. (*See Wallace Decl.*,<sup>4</sup> Exhs. W-D & W-E.)



*Broyles Prior Art*

19 The Applicants submitted a response to the Office Action in  
20 which they amended the subject matter of the claims from a “a resiliently compressible article” to  
21 “an assembly of coil springs wherein each spring is contained within an individual pocket of fabric.”  
22 In arguing for the patentability of the amended claims, the Applicants noted that the patented  
23 invention “is directed to reducing the volume of coil springs and retaining them in a compressed  
24 state in a containment sleeve such that the springs can be shipped more economically to remote  
25 locations.” (*See Wallace Decl.*, Exh. W-E.) They also argued “[t]here is no containment sleeve

26  
27 <sup>3</sup> The description of the prosecution history is based on Dreamwell’s papers along with the  
pertinent file wrappers (attached as exhibits to the Wallace Declaration) to which Dreamwell cites.

28 <sup>4</sup> “Wallace Decl.” refers to the Declaration of Darien K. Wallace in Support of Zinus, Inc.’s  
Motion for Summary Adjudication of Non-Infringement, filed herein on October 2, 2007.

1 disclosed in Broyles which is intended to maintain the innerspring in a compressed state after  
2 evacuation. The claims of the instant application all call for such a containment sleeve.” (*Id.*)

3 The Applicants also argued in this Amendment that “[i]n an effort to distinguish even more  
4 clearly over Broyles, claim 1 has been amended herein to specifically recite a method of packaging  
5 pocketed coils.” (*Id.*) To support their argument, the Applicants submitted the Declaration of  
6 co-inventor Ricky F. Gladney (“Gladney Declaration”). Gladney detailed the results of certain tests  
7 that he had conducted which showed that the use of pocketed coil spring assemblies with the other  
8 steps of the claimed method achieved, in his opinion, substantial and unexpected benefits over  
9 utilizing those steps with the Broyles prior art method. (*See* Wallace Decl., Exh. W-E.)

10 Notwithstanding these arguments, the Patent Office issued a “final rejection” of all claims in  
11 light of the Broyles patent. The Patent Office noted that “Applicant’s arguments filed 1/22/96 have  
12 been fully considered but they are not deemed to be persuasive. . . . Broyles shows a containment  
13 sleeve 43 holding the springs in a compressed state. . . . [L]ittle patentable weight is given to the  
14 actual product since the manipulative steps of Broyle [sic] could package any type of compressible  
15 material.” (*Id.*)

16 In response, on or about July 1, 1996, the Applicants submitted an Amendment After Final  
17 Rejection in which they amended the subject matter of the claims from “an assembly of coil springs”  
18 to “a mattress assembly constructed of coil springs.” (*Id.*) They also added the following  
19 highlighted language to the “containment sleeve” element: “inserting said evacuation tube into a  
20 containment sleeve which is dimensioned and configured to retain said compressed *mattress*  
21 assembly in a compressed state *for shipment.*” (*Id.*) The Applicants then added the following two  
22 additional limitations to the one independent claim from the original application: “removing said  
23 evacuated tube from said containment sleeve;” and “puncturing said evacuated tube to allow said  
24 mattress assembly in said tube to gradually return to an uncompressed state.” (*Id.*) The Applicants  
25 noted that in these new elements, “the structure and functioning of applicants’ containment sleeve is  
26 more clearly and specifically defined.” (*Id.*) They also argued that “[t]here is no containment sleeve  
27 in Broyles which is meant to be placed over an evacuated tube of compressed springs to indefinitely  
28 retain the springs in a compressed state for shipment. . . . There is no suggestion at all in Broyles of

1 using a containment sleeve to retain the springs in compression.” (*Id.*)

2 The Patent Office refused to enter the proposed Amendment for a variety of reasons,  
3 including the fact the Amendment added two entirely new steps. (*Id.*) As a result, on August 9,  
4 1996, the Applicants filed a continuation application containing the four claims from the June 26,  
5 1996 Amendment, and abandoned the original application. (*Id.*) On October 30, 1996, the Patent  
6 Office issued a Notice of Allowability, and on April 22, 1997, the Patent Office issued U.S. Patent  
7 No. 5,622,030 (the “‘030 Patent”), which included these claims. (*Id.*)

8 About four months after the ‘030 Patent issued, Applicants filed an application for a  
9 broadening reissue of the patent. The new application contained a broader version of original  
10 independent claim 1 that (among other things) eliminated the limitation of “puncturing the evacuated  
11 tube,” and added 5 new dependent claims that provided variations on the original patented method.  
12 (*See* Wallace Decl., Exh. W-D.) One such claim (claim 7) added back the limitation of “puncturing  
13 the evacuated tube,” while another (claim 8) specified the limitation of “severing the containment  
14 sleeve retaining the evacuated tube to allow the mattress assembly therein to gradually return to an  
15 uncompressed state.” (*Id.*)

16 The Applicants argued that while claim 1 of the ‘030 Patent required “puncturing said  
17 evacuated tube to allow said mattress assembly in said tube to gradually return to an uncompressed  
18 state,” this element “unnecessarily narrows the scope of the invention of the ‘030 patent.  
19 Specifically, while puncturing the evacuated tube certainly is one way of allowing the mattress to  
20 gradually return to an uncompressed state, it is not the only way.” (*Id.*)

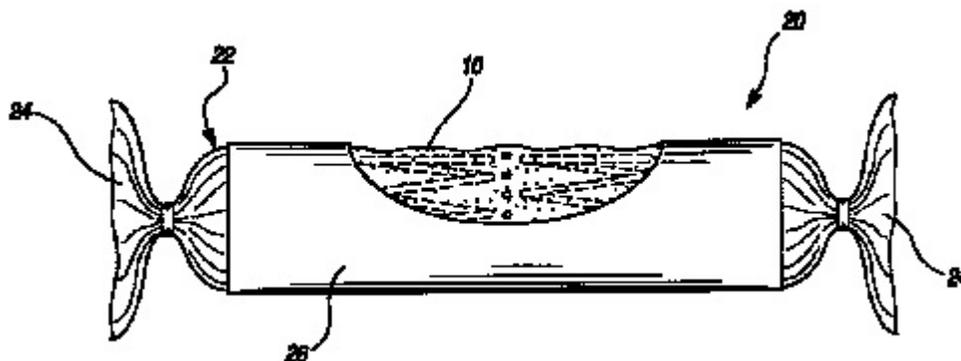
21 On February 3, 1998 the Patent Office issued an Office Action rejecting claims 1-9 under 35  
22 U.S.C. section 112 as being indefinite. The examiner noted that “[i]n claim 1 line 26, there is no  
23 manipulative step recited in ‘allowing said mattress assembly in said tube to gradually return to an  
24 uncompressed state’.” The examiner also rejected broadened claims 1-4 as obvious in light of  
25 Broyles, and rejected claims 5-9 as being dependent on a rejected base claim. (*Id.*) In response, the  
26 Applicants submitted an Amendment in which they amended claim 1 to combine the last two steps  
27 so that “allowing said mattress assembly . . . to gradually return to an uncompressed state” was  
28 recited as a result of “removing said evacuated tube from said containment sleeve.” The Applicants

1 also rewrote claims 5-8 in independent form. In pointing out the differences between claim 1 and the  
2 Broyles reference, the Applicants again noted that “Broyles discloses a mattress assembly with an  
3 inner spring 9 comprised of exposed, open spring coils 13. In contrast, as stated in claim 1,  
4 applicants’ claims cover a method of packaging ‘a mattress assembly constructed of coil springs  
5 wherein each spring is contained within an individual pocket of fabric.’” (*Id.*) The Applicants also  
6 noted that “[t]here is no discussion or even remote suggestion in Broyles relating to the shipment of  
7 the compressed mattress. Consequently, Broyles does not need to use – or even suggest using – a  
8 containment sleeve ‘to retain said compressed mattress assembly in a compressed state for  
9 shipment,’ as required in the present claims.” (*Id.*)

10 After considering this Amendment and the argument contained therein (as well as some  
11 technical claim modifications made in a Supplemental Amendment), the Patent Office allowed the  
12 new set of claims. (*Id.*) On March 16, 1999, these claims issued as the ‘142 Patent. (*Id.*)

## 13 2. The Approved Claims of the ‘142 Patent

14 The ‘142 Patent contains five independent claims. Each claim of the ‘142 Patent discloses a  
15 method for packaging “a mattress assembly constructed of coil springs wherein each spring is  
16 contained within an individual pocket of fabric.” The process starts with a tube of deformable  
17 material having a predetermined length 22. The mattress assembly 10 is placed in the tube 22, and  
18 one end of the tube is sealed. In the next step, air is evacuated from the tube, causing the tube to  
19 deform around the mattress assembly and causing the mattress assembly to compress. The second  
20 end of the tube may be sealed at this point. The next step involves inserting the evacuated tube into  
21 a containment sleeve 26 which is dimensioned and configured to retain the mattress assembly 10 in a  
22 compressed state for shipment. See ‘142 Patent at Fig. 3 (pictured here) and 3:10-39 and 4:5 – 6:30.



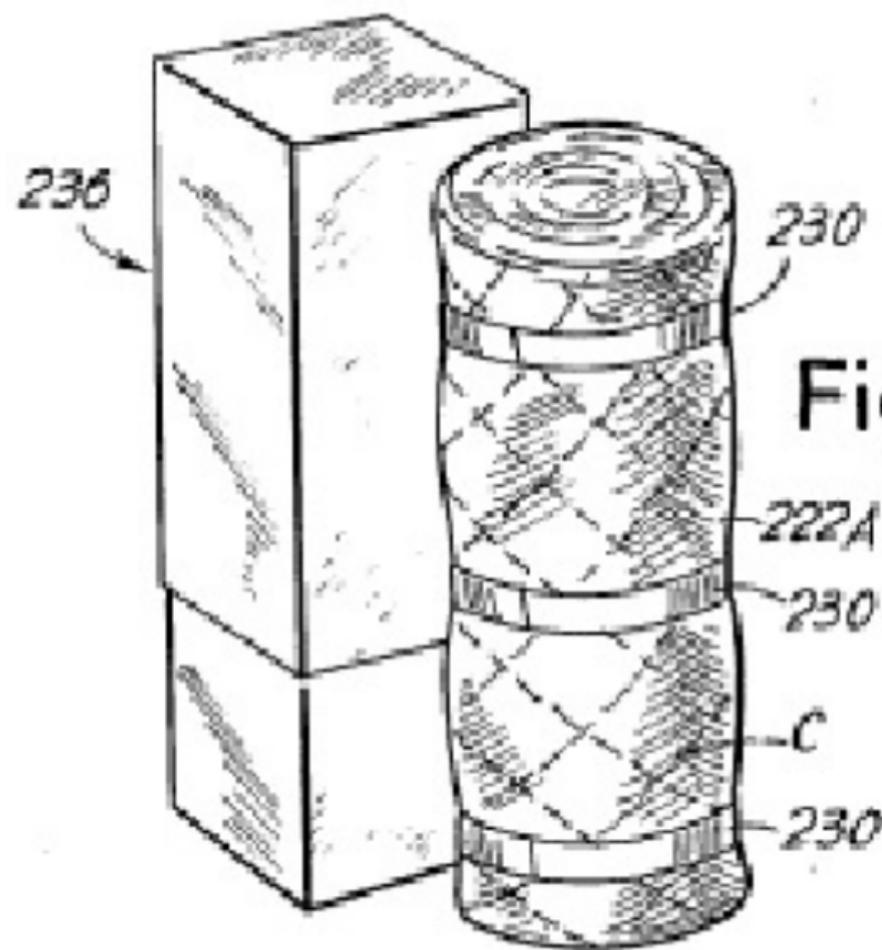
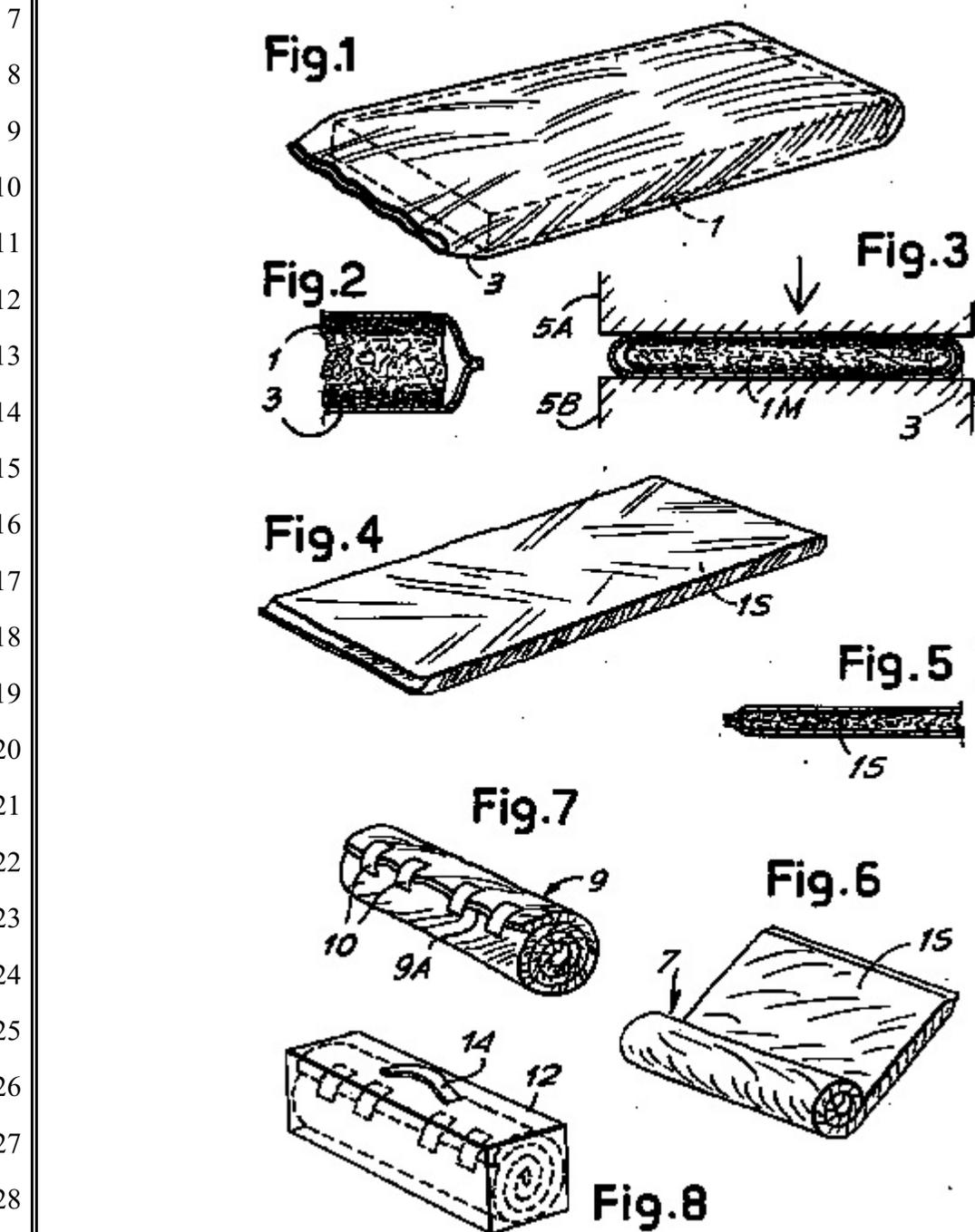


Fig.13

1 most basic method disclosed in the Magni Patent involves:

2 “a method of individually packaging a mattress including the steps of inserting the  
3 mattress into a flexible and sealable wrapper, compressing the wrapped mattress by  
4 squeezing compression means to reduce the thickness of the mattress within limits  
5 compatible with the elastic structure of the mattress, and to remove air from the inside  
6 of the wrapper, thereafter sealing the wrapper, rolling up the squeezed and sealed  
7 mattress, stabilizing the rolled up shape, and placing the rolled mattress in a container  
8 therefore.” See Magni Patent, 1:42-52.

9 The Magni Patent illustrates this basic method in Figures 1 through 8:



1           **C.       THE ACCUSED SWIRL WRAP METHOD**

2           Zinus’ “Swirl Wrap” method of packaging a mattress involves putting the mattress in a  
3 plastic “sheath” (similar to the Magni airtight wrapper), compressing the mattress, rolling up the  
4 compressed mattress and sheath together with a rectangular sheet of flexible film, which film is  
5 slightly wider than the mattress and long enough so that the film will wrap completely around the  
6 finished roll, and then putting bands of either adhesive tape or plastic stripping around the roll to  
7 secure it. The secured roll is then put in a box.<sup>7</sup>

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**VI.     DISCUSSION**

**A.     ZINUS’ MOTION IS NOT PREMATURE**

Dreamwell argues that Zinus’ motion is premature.<sup>8</sup> If Dreamwell believed it needed time to obtain affidavits to support its opposition, or to take depositions or other discovery, it was required

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<sup>7</sup> The statement of the accused method is based on Dreamwell’s description and its supporting evidence. The photos were put in evidence by Zinus, without objection by Dreamwell.

<sup>8</sup> Dreamwell also complains that it was given inadequate time to prepare its Opening Brief Re Hypothetical Claim Analysis. The interim order gave Dreamwell twelve calendar days to file a brief regarding the hypothetical claim analysis. If it needed more time to prepare its papers, Dreamwell was free to file either a stipulation or request for additional time pursuant to Local Rule 6. Dreamwell did not seek any such additional time.

1 to file a Rule 56(f) affidavit. Rule 56(f) provides:

2           **“When Affidavits Are Unavailable.** If a party opposing the motion  
3 shows by affidavit that, for specified reasons, it cannot present facts  
4 essential to justify its opposition, the court may:

5                           “(1) deny the motion;

6                           “(2) order a continuance to enable affidavits to be obtained,  
7 depositions to be taken, or other discovery to be undertaken; or

8                           “(3) issue any other just order.”

9           The closest Dreamwell comes in its papers to seeking relief under Rule 56(f) is the statement  
10 in its Opening Brief Re Hypothetical Claim Analysis that “[g]iven additional time to develop the  
11 factual record and engage experts on these issues, there can be little question that Dreamwell would  
12 be able to offer even more evidence of non-obviousness.” At the hearing Dreamwell also noted that  
13 it had not yet lined up all its experts for this case, and that in a “perfect world” it would have  
14 submitted expert testimony, but that it just had not had time.

15           Zinus first filed its motion for summary judgment on October 2, 2007. The “Legal  
16 Standards” section of Zinus’ Moving Brief contained the following passage:

17                           “The application of the doctrine of equivalents, however, is limited in various  
18 ways. For example, the scope of equivalency may not encompass previously  
19 disclosed material. In *Tate Access Floors, Inc. v. Interface Architectural Resources,*  
20 *Inc.*, 279 F.3d 1357, 61 USPQ2d 1647 (Fed. Cir. 2002), the Federal Circuit held that  
21 the scope of equivalency is constrained by the prior art. The court stated, “the  
22 doctrine of equivalents is an equitable doctrine and it would not be equitable to allow  
23 a patentee to claim a scope of equivalents encompassing material that had been  
24 previously disclosed by someone else, or **that would have been obvious** in light of  
25 others’ earlier disclosures.” *Tate Access Floors*, 279 F.3d at 1367. *See also Wilson*  
26 *Sporting Goods Co. v. David Geoffrey & Associates*, 904 F.2d 677, 684-685, 14  
27 USPQ2d 1942, 1948 (Fed. Cir. 1990) cert. denied, 498 U.S. 992, 111 S. Ct. 537  
28 (1990) (scope of equivalency is limited by prior art demonstrating either anticipation  
or **obviousness**.” (See Zinus’ Moving Brief at 17:9-20 (emphasis added)).

29           Zinus raised the issue more clearly in its reply papers. (See Plaintiff Zinus, Inc.’s Reply to  
30 Dreamwell’s Opposition to Plaintiff’s Motion for Summary Adjudication of Non-Infringement, filed  
31 herein on November 27, 2007, at 6:5 – 9:4.) At the Case Management Conference on December 11,  
32 2007, the court granted Plaintiff leave to move for reconsideration of the court’s denial of its motion  
33 for summary adjudication. Thus, Dreamwell was first put on notice that it would need evidence  
34 relevant to the issue of obviousness over the Magni Patent almost three months before its Opening  
35 Brief Re Hypothetical Claim Analysis was filed. And at a minimum, Dreamwell knew it would need

1 such evidence seven weeks before its Opening Brief was filed. As such, Dreamwell had ample time  
2 to obtain and submit expert declarations.<sup>9</sup>

3 Under Rule 56(f), the burden is on the party seeking additional discovery to proffer sufficient  
4 facts to show that the evidence sought exists, and that it would defeat summary judgment. *See*  
5 *Chance v. Pac-Tel Teletrac Inc.*, 242 F.3d at 1161 n. 6. Because Dreamwell fails to proffer facts  
6 sufficient to show that evidence exists which could defeat this motion for summary adjudication,  
7 continuance of this motion is not warranted.

8 **B. CONSTRUCTION OF RELEVANT CLAIM TERMS**

9 **1. “Inserting ... into”**

10 The intrinsic evidence contained in the specification, claim language and file history  
11 constitutes a sufficient basis for construing the term “inserting . . . into,” and thus the court need not  
12 consider dictionary definitions (no expert opinions were submitted by the parties regarding  
13 construction of this term).

14 Zinus argues that “inserting” should be construed to mean “to put or set into or between,”  
15 such as inserting an arm into a shirt sleeve and inserting a record into a record sleeve. It argues that  
16 “inserting [A] into [B]” has no special meaning.

17 Dreamwell argues that the phrase “inserting said evacuated tube into a containment sleeve” is  
18 properly construed as “arranging the evacuated tube and containment sleeve such that the evacuated  
19 tube is inside or within the boundaries of the containment sleeve.”

20 The court construes the term “inserting . . . into” to mean “to arrange two objects so that the  
21 first object is inside of the second object.” From the specification it is clear that this method step can  
22 be performed by installing the containment sleeve *over* the evacuated tube. Thus, the construction of  
23 “inserting . . . into” must be broad enough to cover either moving the evacuated tube into the sleeve  
24 or fitting the sleeve over the evacuated tube.

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25  
26 <sup>9</sup> In opposing Zinus’ original motion for summary adjudication, Dreamwell filed a  
27 declaration by Michael S. DeFranks, Simmons’ Director of Engineering. DeFranks is clearly skilled in  
28 the relevant art. He has worked for Simmons for twelve years in a variety of engineering and leadership  
roles related to Simmons’ bedding products. He is named as an inventor on seven patents and several  
patent applications related to springs, mattresses and other bedding products. Dreamwell does not  
explain why it could not have obtained a declaration from DeFranks for use in connection with its  
briefing on its proposed hypothetical claim.

1           **2.       “Containment sleeve”**

2           The parties both agree that “containment” means “the act or condition of containing” and that  
3 “containing” means “holding or keeping within limits.” They also appear to agree that a “sleeve” is  
4 a part designed to fit over another part. They dispute, however, the shape of the “sleeve.” Zinus  
5 contends the shape of the sleeve must be a tube or “pocket” (meaning one end of the tube is sealed)  
6 because it is designed to fit over an object that the specification purportedly discloses as being  
7 tubular.<sup>10</sup> Dreamwell contends there is nothing in the intrinsic or extrinsic record that would warrant  
8 imposing such a limitation. Dreamwell, citing the American Heritage Dictionary,<sup>11</sup> suggests the  
9 sleeve be construed to mean a “case” (or “cover”) into which an object or device fits. The two  
10 proposed constructions are not entirely incompatible.

11           The court construes the term “containment sleeve” to mean “a tube-like form with at least  
12 one open end, which holds or keeps within limits an object within it.” The term is not limited to a  
13 round shape. While the specification indicates the containment sleeve is preferably an extruded  
14 “tube” of 4 mil polyethylene, the specification also discloses a containment sleeve that appears to  
15 have an essentially rectangular shape, with perhaps some rounding at the corners. Figure 3 of the  
16 ‘142 Patent (*see* illustration at Section III.A.2., *supra*) shows a “string” or row of four compressed  
17 coil springs being held within a containment sleeve. The tops and bottoms of the springs clearly  
18 would form flat surfaces. The sides of the row of springs would also form an essentially flat surface  
19 when covered by taut material. Thus, while not shown end-on, it is obvious from the shape of the  
20 object being contained that a cross-section of the “tubular” containment sleeve would have an  
21 essentially rectangular shape. *See* ‘142 Patent at Figure 3 and 1:60-61 (“bolsters each having a  
22 generally rectangular cross-section”).

23           By “tube-like” the court means that, while not necessarily round, the form is like a tube in  
24 that it is only open at the end(s). The term “containment sleeve” is modified by the following

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26           <sup>10</sup>       The ‘142 Patent actually refers to a “tube of deformable material” the evacuation of which  
27 causes it to deform around the string of coils (i.e., the mattress assembly). *See* ‘142 Patent at 3:10-39.  
28 Thus, the object the sleeve fits over is a *deformed* tube, which has taken on the shape of the row of coils.

<sup>11</sup>       Again, the intrinsic evidence contained in the specification, claim language and file  
history is a sufficient basis for construing this term, and thus dictionary definitions are unnecessary.

1 language: “which is dimensioned and configured to retain said compressed mattress assembly in a  
2 compressed state.” If the containment sleeve could be something that started out being open along  
3 its length and then later was secured around the mattress assembly using some restrictive device such  
4 as adhesive tape, it would not be a sleeve that “*is*,” at the time that the compressed mattress assembly  
5 is inserted into it, “configured to retain said compressed mattress assembly in a compressed state.”

6  
7 **C. AS THE COURT ALREADY RULED, THE SWIRL WRAP METHOD DOES NOT  
LITERALLY INFRINGE THE ‘142 PATENT**

8 Because it was undisputed that the Swirl Wrap method does not literally infringe the ‘142  
9 Patent, this court granted summary adjudication with regard to literal infringement. In a footnote in  
10 its claim construction brief, Dreamwell complained that this court’s grant of summary adjudication  
11 that the Swirl Wrap method did not literally infringe the ‘142 Patent was improper because: 1) Zinus  
12 purportedly had not sought that relief; 2) the court had not yet construed the claims; and  
13 3) Dreamwell had never asserted that the Swirl Wrap method literally infringed the ‘142 Patent.

14 Contrary to Dreamwell’s contention, Zinus *did* request summary adjudication as to literal  
15 infringement in its moving papers. *See* Zinus’ Moving Brief, at 7:13-18, as well as Zinus’  
16 [Proposed] Order Motion for Summary Adjudication of Non-Infringement, also filed herin on  
17 October 2, 2007.

18 As to Dreamwell asserting literal infringement, Dreamwell’s counterclaim for infringement is  
19 not limited to infringement under the doctrine of equivalents. Thus, regardless of whether  
20 Dreamwell has expressly asserted literal infringement, that issue was properly raised in Zinus’  
21 motion because it was within the scope of Dreamwell’s counterclaim.

22 Finally, as Dreamwell confirmed at the hearing of this matter, it had not opposed Zinus’  
23 motion with regard to literal infringement. To the extent the court should have nonetheless  
24 construed the pertinent claim terms first, rather than simply granting as unopposed Zinus’ motion  
25 with regard to literal infringement, the court has now done so and reaches the same result. Zinus’  
26 Swirl Wrap method does not literally infringe the ‘142 Patent because, at a minimum,<sup>12</sup> it does not

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27  
28 <sup>12</sup> There appear to be other differences between the Swirl Wrap method and the ‘142 Patent  
as well. For example, it appears that the Swirl Wrap method does not include a step of “evacuating air  
from said tube through said second end thereby deforming said tube around said mattress assembly and

1 involve a step of inserting a mattress assembly<sup>13</sup> into a “containment sleeve” as the court has  
2 construed that term.

3 **D. PROSECUTION HISTORY ESTOPPEL DOES NOT BAR DREAMWELL FROM ASSERTING**  
4 **INFRINGEMENT UNDER THE DOCTRINE OF EQUIVALENTS**

5 **1. Amendment-Based Estoppel Does Not Apply In This Case**

6 In its papers, Zinus fails to identify the actual scope of subject matter presumably surrendered  
7 by the Applicants when they amended the claims. Once the scope is properly identified, it is readily  
8 apparent that the Applicants did not give up any equivalent to “inserting into .... a containment  
9 sleeve” that involves wrapping up an individually pocketed coil spring mattress assembly with a  
10 flexible sheet of film and securing the roll with adhesive tape or plastic stripping.

11 When the Applicants amended the subject matter of the claims from a “compressible article”  
12 to an “assembly of coiled springs wherein each spring is contained within an individual pocket of  
13 fabric,” the subject matter they surrendered was compressible materials, including springs, other than  
14 individually pocketed springs.

15 When the Applicants amended the subject matter of the claims from “an assembly of coil  
16 springs” to “a mattress assembly constructed of coil springs,” and from “inserting said evacuation  
17 tube into a containment sleeve which is dimensioned and configured to retain said compressed  
18 assembly in a compressed state” to “inserting said evacuation tube into a containment sleeve which  
19 is dimensioned and configured to retain said mattress assembly in a compressed state for shipment,”  
20 they surrendered the following subject matter: 1) assemblies of coil springs that were not mattress  
21 assemblies; and 2) containment sleeves that are not designed to keep the mattress assembly in a  
22 compressed state for shipment.

23 Zinus has not submitted any evidence that would support a finding that Applicants made any  
24 amendments to the claims which surrendered an equivalent of wrapping up an individually pocketed

25 \_\_\_\_\_  
26 causing said mattress assembly to compress.” However, the court does not rely on those other  
27 differences in ruling on the motion, it notes them only as a possible explanation of why Dreamwell did  
not oppose the motion with regard to literal infringement.

28 <sup>13</sup> The court has not found it necessary to interpret the term “mattress assembly” because  
it finds summary adjudication of no literal infringement warranted without regard to the meaning of that  
term.

1 coil spring mattress assembly with a flexible sheet of film and securing the roll with adhesive tape or  
2 plastic stripping.

3 Put more simply, the only limitations added by the amendments are limitations that are also  
4 present in the accused method. Thus, the addition of those limitations did not create any  
5 presumption that Dreamwell surrendered the subject matter of the accused method, so amendment-  
6 based estoppel does not bar Dreamwell from asserting that method as an equivalent in this action.

## 7 **2. Argument-Based Estoppel Does Not Apply In This Case**

8 Zinus has also failed to show that the prosecution history evinces “a clear and unmistakable  
9 surrender” of the method of wrapping up an individually pocketed coil spring mattress assembly  
10 with a flexible sheet of film and securing the roll with adhesive tape or plastic stripping. All of the  
11 arguments Zinus cites involve the Applicants’ attempt to distinguish the patented method from the  
12 Broyles prior art, which prior art had nothing to do with wrapping up a mattress assembly with a  
13 flexible sheet of film and securing the roll with adhesive tape or plastic stripping. The Applicants’  
14 arguments, like the amendments, all related to showing that the use of individually pocketed springs  
15 with the patented method resulted in surprisingly more compression than the use of non-pocketed  
16 springs with the Broyles method, and to showing that, unlike Broyles, the claims are directed at a  
17 containment sleeve which is only used for shipment, not as a permanent cover of the mattress.

18 Because the prosecution history does not evince a clear and unmistakable surrender of the  
19 accused method, argument-based estoppel does not apply.

## 20 **3. Even If the Presumption of Surrender Applied, Dreamwell Has Rebutted It**

21 Even if the presumption applied, Dreamwell has adequately rebutted it by showing that the  
22 reason for the amendments and arguments were only tangentially related, *if at all*, to the method of  
23 wrapping up an individually pocketed coil spring mattress assembly with a flexible sheet of film and  
24 securing the roll with adhesive tape or plastic stripping.

25 The reasons for the amendments and arguments involved the Applicants’ attempt to  
26 distinguish the patented method from the Broyles prior art, which prior art had nothing to do with  
27 wrapping up a mattress assembly with a flexible sheet of film and securing the roll with adhesive  
28 tape or plastic stripping. Thus, even if the presumption applied, Dreamwell has rebutted the

1 presumption and is not barred from asserting the accused method is a substantial equivalent to  
2 “inserting into....a containment sleeve.”

3       **E.       THE SWIRL WRAP METHOD DOES NOT INFRINGE THE ‘142 PATENT**  
4       **UNDER THE DOCTRINE OF EQUIVALENTS BECAUSE IT WOULD HAVE**  
5       **BEEN OBVIOUS FROM THE MAGNI PRIOR ART**

6       Zinus argues that deeming the Swirl Wrap method to be an equivalent in this case would  
7 impermissibly ensnare the prior art because it was obvious from that prior art. *See* 35 U.S.C. § 103;  
8 *see also, Wilson Sporting Goods*, 904 F.2d at 684 (barring use of doctrine of equivalents where the  
9 differences between the prior art and a proposed hypothetical claim were “so slight and relatively  
10 minor that the hypothetical claim . . . viewed as a whole would have been obvious.”)

11       The Supreme Court has set forth four factors to be considered in considering whether a claim  
12 is impermissibly “obvious:” 1) the scope and content of the prior art, 2) the differences between the  
13 prior art and the claims at issue, 3) the level of ordinary skill in the pertinent art, and 4) secondary  
14 considerations such as commercial success, long felt but unresolved needs, etc. *See Graham v. John*  
15 *Deere Co.*, 383 U.S. 1, 17 (1966). Obviousness is a question of law based on the factual inquiries  
16 required by the *Graham* factors. *See Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411  
17 F.3d 1332, 1336 (Fed.Cir. 2005).

18       To facilitate a determination of whether the Swirl Wrap packaging method was obvious from  
19 the prior art so as to preclude using the doctrine of equivalents, the court is employing the  
20 “hypothetical claim” procedure of *Wilson Sporting Goods* (*see* 904 F.2d at 684-685). Dreamwell has  
21 set forth two alternate versions of three hypothetical patent claims<sup>14</sup> which it argues are sufficiently  
22 broad in scope to literally cover the Swirl Wrap packaging method, and which Dreamwell argues  
23 would have been allowed by the patent office. Given this court’s construction of the term “inserting  
24 ... into,” only the first version of the proposed hypothetical claims need be evaluated.<sup>15</sup>

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25       <sup>14</sup>       Dreamwell has proposed a set of three hypothetical claims, all of which contain as a  
26 common claim element, a modified version of the “inserting ... into a containment sleeve” element of  
27 the ‘142 Patent. It is that specific claim element on which the parties have focused in their briefs.

28       <sup>15</sup>       The second hypothetical claim element proposed by Dreamwell was (with omitted  
original language bracketed and new language italicized and bolded): “[inserting] **positioning** said  
evacuation tube [into] **within** a [containment sleeve] **pre-cut, solid cover or barrier of flexible material**  
**that substantially covers the exposed surface of the mattress assembly and** which is dimensioned or  
configured, **including by use of tape, adhesives or fasteners**, to retain said compressed mattress

1           The specific hypothetical claim element proposed by Dreamwell is (with omitted original  
2 language bracketed and new language italicized and bolded): “inserting said evacuation tube into a  
3 [containment sleeve] ***pre-cut, solid cover or barrier of flexible material that substantially covers***  
4 ***the exposed surface of the mattress assembly and*** which is dimensioned or configured, ***including by***  
5 ***use of tape, adhesives or fasteners***, to retain said compressed mattress assembly in a compressed  
6 state for shipment.”

7           The court recites here only the “inserting . . . into the pre-cut, solid cover” step of the  
8 hypothetical claims. The entire hypothetical claims are set forth in Appendix A hereto (hereinafter,  
9 the “Hypothetical Claim”). There is at least one element of the Hypothetical Claim that does not  
10 appear to read literally on the accused method: the step of evacuating air from the tube causing the  
11 tube to deform around and compress the mattress assembly. There is no evidence in the record from  
12 which a rational trier of fact could find this element present in the accused method. Thus, as an  
13 alternate ground for the court’s ruling herein, the court finds that the Hypothetical Claim *as drafted*  
14 is improper, and cannot be used to establish that the accused method was not obvious in light of  
15 Magni. Because Dreamwell could have written its Hypothetical Claim slightly broader to refer  
16 simply to “compressing said mattress assembly in the tube,” regardless of the means used to do so,  
17 the court will nonetheless also evaluate the Hypothetical Claim as if it was properly drafted.

18           In connection with this motion, the burden was on Dreamwell to show that its proposed  
19 Hypothetical Claim would *not* have been obvious from, and thus does not ensnare, the prior art. *See*  
20 *Wilson Sporting Goods*, 904 F.2d at 685. Dreamwell has failed to make that showing.

21           Dreamwell argues that the proposed Hypothetical Claim would not have been obvious, and  
22 thus would have been patentable over Magni because: 1) Magni does not disclose packaging of an  
23 inner spring mattress with individually pocketed coil springs; 2) Magni does not disclose the step of  
24 inserting the compressed mattress and surrounding plastic tube into “a pre-cut, solid cover or barrier  
25 of flexible material that substantially covers the exposed surface of the mattress assembly;” and  
26 3) neither of those would have been obvious from Magni. Dreamwell also argues there are triable  
27

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28 assembly in a compressed state for shipment.” The court’s analysis would be essentially the same for  
this hypothetical.

1 issues of material fact with regard to secondary considerations of non-obviousness, specifically  
2 whether the use of pocketed springs resulted in unexpected superior results.

3         Zinus argues that the Hypothetical Claim would not have been patentable because, among  
4 other things: 1) the patent office already rejected the argument that packaging “pocketed” coil  
5 springs distinguishes the claims over packaging open spring mattresses; 2) the Magni Patent *does*  
6 disclose a solid cover or barrier of flexible material that substantially covers the exposed surface of  
7 the mattress (the ribbon-shaped film); and 3) the Magni Patent *does* disclose film that is “pre-cut,”  
8 and that limitation would be obvious in any event.

9         Based on the undisputed evidence in the record, as discussed more fully *infra* at Parts VI.E.1  
10 through VI.E.4 (addressing the *Graham* factors), the court finds that the differences between the  
11 Hypothetical Claim and the methods disclosed in the Magni Patent are such that the subject matter as  
12 a whole would have been obvious to a person having ordinary skill in the art at the time the  
13 invention was made, and thus would not have been patentable. Because the Hypothetical Claim  
14 would not have been patentable, Dreamwell cannot use the doctrine of equivalents to establish  
15 infringement and summary adjudication is warranted.

#### 16         **1.         The Scope and Content of the Prior Art**

17         Dreamwell has not met its burden of showing there is a genuine issue of material fact that  
18 would preclude summary adjudication with regard to the scope and content of the Magni prior art.  
19 Unlike the cases relied on by Dreamwell, there are no conflicts between expert declarations here that  
20 would require resolution by a trier of fact. *See, e.g., Mars, Inc. v. Coin Acceptors, Inc.*, 1996 WL  
21 34385063 (D.N.J. 1996) (unpublished case in which the court noted it could not summarily resolve  
22 the legal question of whether the hypothetical claim there was obvious in light of the prior art  
23 because there was a “disagreement among experts regarding what the relevant prior art teaches”). In  
24 any event, because the disclosures of the Magni Patent are “easily discernible from [its] drawings  
25 and written descriptions, no testimony, expert or otherwise, regarding their scope and content [is]  
26 necessary.” *See Chore-Time Equipment, Inc. v. Cumberland Corp.*, 713 F.2d 774, 779 (Fed.Cir.  
27 1983). As discussed herein, there is no genuine issue of material fact with regard to what the Magni  
28 Patent teaches.

1           ***a. Dreamwell Has Not Shown That Use of a Solid Cover or Barrier of Flexible***  
2           ***Material That Substantially Covers the Exposed Surface of the Mattress Is Not***  
3           ***Disclosed by Magni***

4           Zinus argues that the Magni Patent discloses a film approximately as wide as the mattress,  
5 and thus it *does* create a barrier of flexible material that substantially covers the exposed surface of  
6 the mattress. Dreamwell contends the term “ribbon-shaped film” should be construed to mean  
7 “material having a long, narrow shape resembling a thin line.”<sup>16</sup>

8           Dreamwell cites various dictionary definitions of “ribbon,” including one from the American  
9 Heritage Online Dictionary which defines “ribbon” as, among other things, “[s]omething, such as a  
10 tape measure, that resembles a ribbon” or “[a] long thin strip: a ribbon of land along the shore.”<sup>17</sup>  
11 Dreamwell also relies on the deposition of Zinus’ President, Scott Reeves, who testified that he  
12 understood the term “ribbon-shaped” to mean “significantly longer than it is wide.”<sup>18</sup> Dreamwell  
13 further argues that the Magni Patent’s use of the term “ribbon-shaped” to refer to the film even after  
14 the film has been cut shows that the film must be very narrow compared to the width of the  
15 mattress.<sup>19</sup> Dreamwell also argues that, for claim consistency, the phrase “ribbon-shaped” in the  
16 terms “ribbon-shaped film” and “ribbon-shaped strings” should be interpreted to mean “having a  
17 long, narrow shape resembling a thin line.”<sup>20</sup> None of this is sufficient evidence from which a  
18 rational trier of fact could find that Magni does *not* disclose the use of film as wide as the mattress.

---

19           <sup>16</sup> Although the court asked the parties to brief the meaning of “ribbon-shaped film” as a  
20 matter of claim construction, Dreamwell appears to be correct that interpreting prior art is a factual  
21 determination of what one of ordinary skill in the art would understand the prior art disclosed. Thus,  
22 the court is applying the latter standard rather than “construing” the term.

23           <sup>17</sup> The fact the dictionary definitions include a reference to a “ribbon of land along the  
24 shore” shows that the term “ribbon” is not limited to widths substantially narrower than a mattress.

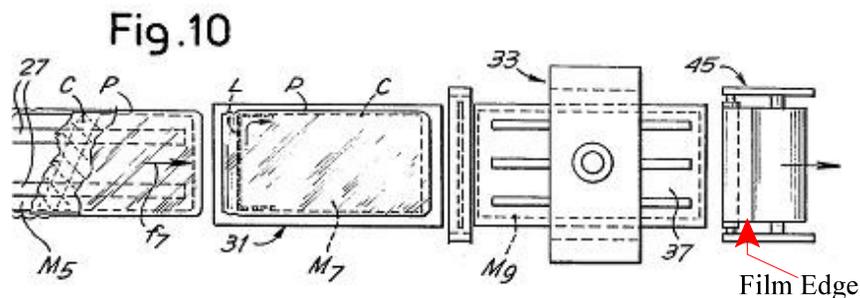
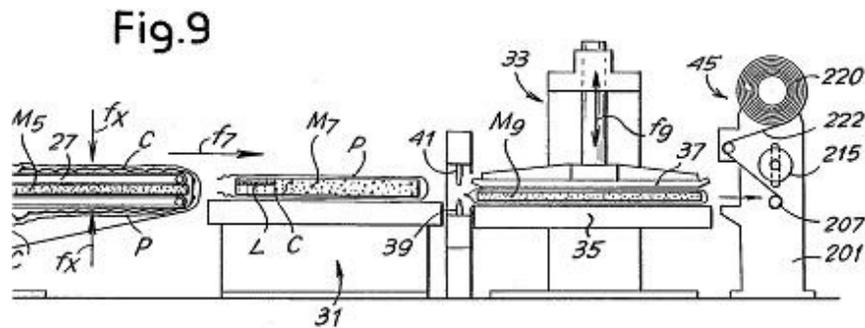
25           <sup>18</sup> Reeves’ testimony is not inconsistent with the ribbon-shaped film being as wide as the  
26 mattress in the Magni Patent.

27           <sup>19</sup> Magni’s continued use of the term “ribbon-shape” after the film has been cut to size is  
28 of little or no import. One does not stop calling ribbon “ribbon” simply because it has been cut into  
small pieces. Moreover, changing the term by which the same film was referenced in the patent after  
it had been cut to size would have introduced unnecessary inconsistency into the patent claims.

<sup>20</sup> This argument fails because there would be no reason to use two different phrases to refer  
to exactly the same thing. The fact that the patent uses these two phrases is actually further evidence that  
the term “ribbon-shaped” refers only to the fact the object is substantially longer than it is wide. Viewed  
in the context of the Magni Patent as a whole, the only *reasonable* inference is that the use of the terms  
“string” and “film” distinguish between the two items based on their actual width.

1 The only rational reading of the Magni Patent shows that the “ribbon-shaped film” is  
2 significantly longer than it is wide, and that it is approximately as wide as the mattress. The width of  
3 the ribbon-shaped film is evident from the illustrations, specification and claim language of Magni.  
4 *See Bell Atl. Network Servs., Inc. v. Covad Comms. Group, Inc.*, 262 F.3d at 1268 (a specification  
5 may “define claim terms ‘by implication’ such that the meaning may be ‘found in or ascertained by a  
6 reading of the patent documents’”).

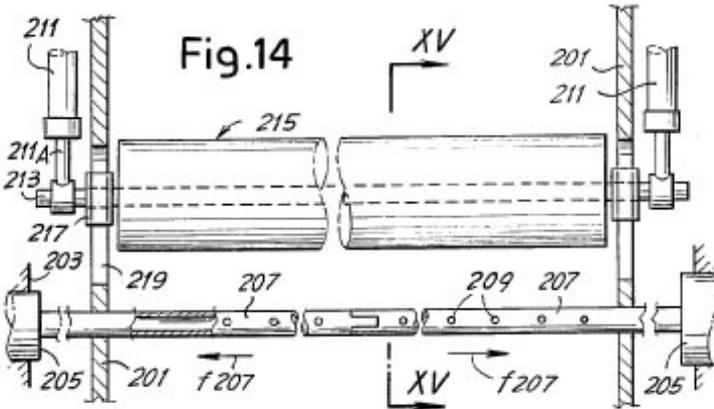
7 Figures 9 and 10 of the Magni Patent show an apparatus for performing the Magni packaging  
8 method. *See Magni Patent at Figs. 9 & 10 (shown below), 3:20-21, 4:18 – 5:9, and 8:67 – 10:34.*  
9 The spool 220 of ribbon-shaped film 222 is located at the top of the rolling-up device 45. *See Magni*  
10 *Patent at 5:5-7 & Fig. 14–19.* The only overhead view of the spool of film shows that the film is  
11 approximately the same width as the mattress. *See Magni Patent at Figure 10.*



24 The rolling-up device 45 has two side frames 201 which are perpendicular to the spool of  
25 film. *See Magni Patent at Fig. 14 and 5:57-58.* Other than the two side frames 201, the Magni  
26 Patent discloses only one structure that extends from the reservoir-spool 220 to the guide means 224,  
27 and that is the ribbon-shaped film 222 itself. *See Magni Patent at Figs. 14 through 19 and 5:66-68.*

1 Thus, the two lines in the drawing of the rolling-up device 45 in Figure 10<sup>21</sup> which are parallel to the  
2 side frames and which run from the edges of reservoir-spool 220 to the guide means 224 *must* be  
3 depicting the edges of the ribbon-shaped film 222 flowing from the reservoir-spool down to the guide  
4 means. Those lines clearly show that the ribbon-shaped film 222 is approximately as wide as the  
5 mattress.

6 The fact that the ribbon-shaped film is *not* a narrow strip compared to the mattress is also  
7 evinced by the statements in the Magni Patent that “[t]he end of the film 222 can thus be made to  
8 adhere by pneumatic suction against the mandrel” (See Magni Patent at 6:4-6) with such suction  
9 coming through “holes 209 distributed *along* each semi-mandrel” (See Magni Patent at 5:50-52,  
10 emphasis added). The holes 209 along *each* semi-mandrel are depicted in Figure 14 (shown here).  
11 (See Magni Patent at 5:36-53.) The positions of the holes 209 spread out along the semi-mandrels  
12 show that the ribbon-shaped film is intended to be as wide as the cylinder 215.



22 Finally, the Magni Patent discloses that at least two adhesive ribbon-shaped strings 230 are  
23 placed at *spaced apart* positions over the outside convolution of *one* ribbon-shaped film 222A  
24 around the rolled mattress.<sup>22</sup> (See Magni Patent at Fig. 13 and at 6:29-35, 7:50-53 & 8:30-33.)

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26 <sup>21</sup> The copy of Figure 10 on this page has the words “Film Edge” and a red (if viewed on  
screen or printed in color) arrow added to show the location of one of the two lines discussed herein.

27 <sup>22</sup> The fact the mattress cover is visible in Figure 13 is fully consistent with the ribbon-  
28 shaped film being as wide as the mattress, because at least one definition of the word “film” is a “thin,  
flexible, *transparent* sheet, as of plastic, used in wrapping or packaging.” See The American Heritage®  
Dictionary of the English Language, Fourth Edition (accessed online at Dictionary.com) (emphasis

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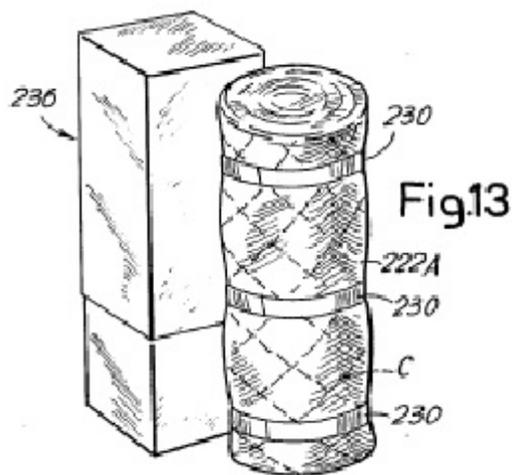


Figure 13 (shown here) can only be interpreted as showing the three ribbon-shaped strings 230 on top of the outside convolution of a *single* mattress-wide ribbon-shaped film 222A. Every reference to “ribbon-shaped film” in the claims of the Magni Patent is in the singular: there is no “s” at the end of the word “film,” the phrase is always modified by “a” or “said,” and in one instance it is referred to as “it” (not “them”).<sup>23</sup> By contrast, each reference in the claims to “ribbon-shaped strings” is in the plural, each time referring to “at least two adhesive ribbon-shaped strings” (emphasis added).<sup>24</sup> These repeated references to “film” in the singular as opposed to “strings” in the plural, indicate that only *one* ribbon-shaped film is used in the Magni method. *See, e.g., Insituform Technologies, Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098 (Fed. Cir. 1996).<sup>25</sup> This construction is

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added).

<sup>23</sup> See Magni Patent at 7:37 (“a ribbon-shaped film”), 7:44 (“said ribbon-shaped film”), 7:49 (“said film”); 7:51-52 (“on said at least one convolution of ribbon-shaped film”); 8:25 (“a ribbon-shaped film”); 8:27 (“said ribbon-shaped film”), 8:29 (“said film”), 8:31-32 (“on said at least one convolution of ribbon-shaped film”); 9:13-14 (“a ribbon-shaped film”), 9:15-17 (“and means for feeding said ribbon-shaped film for rolling it together with the flattened mattress”) and 10:10 (“said ribbon-shaped film”) (emphasis added).

<sup>24</sup> See Magni Patent at 7:50-51; 8:30-31; 8:61-62; 9:18-20; 10:29-30.

<sup>25</sup> *Insituform* dealt with claim language and a specification that strongly suggested that the claim language “a cup” was meant to encompass only one cup. There, the asserted claim repeatedly described a single cup, using the term “the cup” and describing a process in terms of a single cup. *Insituform*, 99 F.3d at 1105-06. The claim at issue in *Insituform* also used the phrase “region of vacuum application” in a “manner indicating that only one such region exists at any given time” and was thus “inconsistent with the use of more than one cup at any given time, as each cup creates its own associated region of vacuum application.” *Id.* Moreover, the court in *Insituform* found that “neither the specification nor the drawings discloses the use of more than one cup,” and in fact repeatedly described

1 confirmed by the specifications, which also repeatedly modifies the phrase ribbon-shaped film with  
2 “a,” “the,” or “said,” and which never includes an “s” at the end of “film,” as contrasted with the  
3 specification’s consistent use of the plural form of “strings.”<sup>26</sup> There is also nothing in the  
4 specifications, drawings or claims of the Magni Patent that discloses the use of more than one  
5 ribbon-shaped film.<sup>27</sup>

6 **b. *Dreamwell Has Not Shown That the Magni Patent Teaches Away from the Use of***  
7 ***a Pre-cut, Solid Cover or Barrier***

8 Dreamwell argues that the Magni Patent teaches away from the use of a pre-cut, solid cover  
9 or barrier because it discloses as alternatives “[t]he rolling up may be also operated starting without  
10 the film 222 and by inserting it during the rolling up, or even without using the film and applying the  
11 ribbon-shaped strings on the wrapper.”

12 “[I]n general, a reference will teach away if it suggests that the line of development flowing  
13 from the reference’s disclosure is unlikely to be productive of the result sought by the applicant.”  
14 *See In re Gurley*, 27 F.3d 551, 553 (Fed.Cir. 1994). Nothing about the alternatives noted in the  
15 Magni Patent suggests that using a pre-cut, solid cover or barrier is unlikely to be productive. They  
16 are simply alternative ways to perform the Magni method. And a mere disclosure of alternatives  
17 does not “teach away.” *See In re Fulton*, 391 F.3d 1195, 1199-1200 (Fed.Cir. 2004).

18 In any event, Dreamwell has not offered any *evidence* to support its argument that one skilled  
19 in the art would have considered anything in the Magni Patent taught away from the use of a pre-cut,  
20 solid cover or barrier. *Cf. Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH*, 139 F.3d 877,  
21 884 (Fed.Cir. 1998) (finding existence of genuine dispute of material fact regarding whether prior art  
22 taught away from the claimed invention based on express cautionary statement in prior art along with  
23 two expert declarations expressing skepticism in the art). Because the burden was on Dreamwell to

24 \_\_\_\_\_  
25 or depicted “the cup.” *Id.* Thus, the court in *Insituform* found that the claims were properly limited to  
26 a single cup. *Id.*

27 <sup>26</sup> *See* Magni Patent at 5:66 – 6:65.

28 <sup>27</sup> Dreamwell’s argument that on Figure 13 the criss-crossed lines of the mattress cover or  
the hash marks of the shading could somehow instead disclose multiple convolutions of ribbon-shaped  
film is untenable viewed in context of the rest of the patent. No rational juror could so find.

1 submit evidence on the issue of non-obviousness (*see Wilson Sporting Goods*, 904 F.2d at 685), its  
2 failure to submit any *evidence* that supports its position on this issue warrants finding that, as a  
3 matter of law, the Magni Patent did not so teach.

## 4 **2. The Differences Between the Prior Art and the Hypothetical Claim**

5 Dreamwell has not met its burden of showing there is a genuine issue of material fact with  
6 regard to the differences between the Magni prior art and the Hypothetical Claim that would  
7 preclude summary adjudication.

### 8 ***a. The Use of Individually Pocketed Spring Mattresses in the*** 9 ***Hypothetical Claim Is an Insignificant Difference from the Possible*** 10 ***Use of Spring Mattresses Disclosed in Magni***

11 Magni expressly refers to “spring” mattresses (*see* Magni Patent at 1:17-22) and it notes that  
12 “[t]he method of packing to be described may be adopted for *many* types of mattresses.” (*See* Magni  
13 Patent at 2:4-5 (emphasis added)). In prosecuting the ‘142 Patent (and the ‘030 Patent before it), the  
14 Applicants made various amendments to overcome rejection by the patent office. Among other  
15 things, they added the limitation that the springs be “pocketed.” The Patent Office rejected the  
16 proposed claims, noting that “Regarding the actual product that is being compressed, Broyles clearly  
17 shows the manipulative steps to package a resiliently compressible article. Broyles operation could  
18 package the product of the invention to a compressible state; therefore, *little patentable weight is*  
19 *given to the actual product since the manipulative steps of Broyle [sic] could package any type of*  
20 *compressible material.*” (*See* Wallace Decl., Exh. W-E. Emphasis added.)<sup>28</sup>

21 The use of pocketed springs is even less significant when compared to the Magni prior art  
22 than when compared to the Broyles prior art. In Broyles, suctioning air out of the end of an assembly  
23 of open springs obviously runs a risk that adjacent springs will become enmeshed or entangled.  
24 Because the Magni method involves applying pressure directly down on the springs, there is far less

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25 <sup>28</sup> There is no reason to give the limitation of “pocketed” any more “patentable weight” with  
26 regard to Magni than the Patent Office did with regard to Broyles. While the court is not bound by the  
27 Patent Office’s prior finding (one way or the other), it is relevant to the question of how significant or  
28 insignificant the difference is between the Hypothetical Claim and the Magni Patent. While the question  
of what the differences actually are between the Hypothetical Claim and the Magni Patent is a question  
of fact, the question of how significant those differences are is part of the court’s legal determination of  
obviousness. *See Wilson Sporting Goods*, 904 F.2d at 685 (assessing significance of differences between  
hypothetical claim and prior art as a matter of law.)

1 risk that springs will move laterally and become entangled.

2 In light of the fact the burden of persuasion is on Dreamwell to show non-obviousness, and  
3 based on the evidence of record herein, the court finds that the difference between using pocketed  
4 versus open springs or other compressible mattress materials is insignificant.

5 ***b. The use of a “pre-cut” cover or barrier in the Hypothetical Claim is an***  
6 ***Insignificant difference from the use of a spool of film disclosed in Magni***

7 Dreamwell argues there is at least a triable issue of material fact as to whether Magni  
8 discloses a “pre-cut”<sup>29</sup> sheet of material, and that there is no evidence in the record to support a  
9 finding that it would have been obvious to one of ordinary skill in the art to use a pre-cut sheet of  
10 material. Both arguments fail.

11 There is no genuine issue of material fact with regard to what Magni teaches regarding  
12 whether the film is “pre-cut.” As Zinus pointed out, the ribbon-shaped film in Magni is “pre-cut” on  
13 one end before it is rolled up with the mattress, and it is also “pre-cut” on both sides. Thus, three  
14 sides of the rectangle are “pre-cut” before the mattress and film are rolled up together.<sup>30</sup> Dreamwell  
15 submits no evidence, and does not even argue, that the film is *not* “pre-cut” on those three sides.  
16 The parties’ dispute is thus over the legal implication of that disclosure rather than the question of  
17 what is actually disclosed.

18 Dreamwell has not submitted any *evidence* from which a rational trier of fact could find that  
19 it would not have been obvious to one of ordinary skill in the art to pre-cut the forth side of the  
20 rectangle as well. It argues only that there is no record evidence to support a finding of obviousness.  
21 However, in this motion the burden was on Dreamwell to come forward with evidence that the use  
22 of sheets of film which were “pre-cut” on all four sides would *not* have been obvious to one of  
23 ordinary skill in the art. *See Wilson Sporting Goods*, 904 F.2d at 685. Despite having access to  
24 Simmons’ employees skilled in the art, such as Michael DeFranks, Dreamwell offers no evidence

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26 <sup>29</sup> The court has construed “containment sleeve” in such a way that it does not include a  
27 sheet of material that is either dimensioned or configured *after* the tube is “inserted.” Thus, the added  
28 limitation “pre-cut” does not impermissibly narrow the claim. *See Streamfeeder*, 175 F.3d at 983.

<sup>30</sup> And, in fact, for the last mattress rolled up using a particular spool of film, if the  
remaining length of film is approximately the right length, the film is “pre-cut” on all four sides.

1 whatsoever that would support a finding that one of ordinary skill in the art would *not* have found  
2 use of such a pre-cut sheet of film obvious.<sup>31</sup> In any event, obviousness is a question of law which is  
3 to be determined by the court based on the factual considerations set forth in *Graham*, including the  
4 extent of differences between the claim at issue and the prior art. *See Graham*, 383 U.S. at 17

5 In the Magni method, when the ribbon-shaped film is completely rolled up with and around  
6 the compressed mattress, the fourth side of the rectangle is cut. Both the Magni method and the  
7 method of the Hypothetical Claim result in the compressed mattress being wrapped up in exactly the  
8 same size and shape of flexible material. The court finds that the Hypothetical Claim’s use of a  
9 “pre-cut” sheet of material is not significantly different from Magni’s use of a spool of ribbon-  
10 shaped film which is cut to size as it is rolled up with the compressed mattress.

### 11 3. Level of Ordinary Skill in the Pertinent Art

12 It is well-established that in certain situations, such as with relatively simple and  
13 understandable technology, a factual determination of the level of skill in the art is unnecessary  
14 because the prior art itself is representative of the relevant level of ordinary skill. *See Chore-Time*,  
15 713 F.2d at 779 & n. 2. The court finds that the technology at issue falls on the simple end of the  
16 complexity spectrum,<sup>32</sup> and the prior art reflects the relevant level of ordinary skill. Accordingly, no  
17 factual determination regarding the level of ordinary skill in the art is necessary. Dreamwell has

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21 <sup>31</sup> Even aside from the lack of evidence, Dreamwell’s argument is unpersuasive. Dreamwell  
22 argues it is “hard to imagine” someone skilled in the art would think to replace the spool of film with  
23 a pre-cut sheet of film and eliminate the rolling up-and pressing machine. (Its argument regarding  
24 changing the width is inapplicable given the court’s ruling herein.) However, the Magni Patent itself  
25 discloses an embodiment that does not use any rolling-up machine. It is easy to imagine someone of  
26 ordinary creativity, let alone skill in the art, wondering how to use the non-mechanized method depicted  
in Figures 1 through 8 along with the flexible film 222. The obvious answer would be to first cut the  
film to the right length, put it on the floor with the compressed mattress on top of it, and then simply  
follow the rest of the method expressly disclosed in Figures 4 through 8 of the Magni Patent. *See also*,  
Magni Patent at 3:35 – 4:17.

27 <sup>32</sup> The Hypothetical Claim involves simply compressing a mattress assembly, positioning  
28 the compressed mattress assembly together with a solid cover so that the mattress assembly is inside of  
the solid cover, securing the resulting package with tape or other fasteners to keep the mattress assembly  
compressed for shipment, and then, after shipment, removing the compressed mattress from the cover  
and allowing the compressed mattress to gradually return to an uncompressed state.

1 submitted no evidence to the contrary.<sup>33</sup>

#### 2 **4. Secondary Considerations**

3 The Gladney Declaration is the only evidence, as opposed to argument, Dreamwell offers on  
4 the issue of whether the method of the Hypothetical Claim would have been obvious. That  
5 declaration contains an expert’s opinion finding, based on actual testing, that the use of pocketed  
6 springs achieved “unexpected” results. Dreamwell argues this evidence should be considered as a  
7 secondary consideration that would support a finding that the Hypothetical Claim would not have  
8 been obvious.

9 However, the Gladney Declaration does not discuss the Magni prior art or the Hypothetical  
10 Claim at all. Instead, Gladney attested that the use of pocketed springs assemblies with the other  
11 steps *of the method claimed in the application for the patent-in-suit* achieved a result that “was  
12 unexpected and would not have been obvious” when *compared with the Broyles method*. (See  
13 Wallace Decl., Exh. W-E.) The Gladney Declaration thus has little, if any, relevance to the question  
14 of whether the Hypothetical Claim would have been non-obvious in light of Magni. There is no  
15 evidence in the record that would support a finding that the use of pocketed springs would produce  
16 an unexpected superior result when used with the Hypothetical Claim method as compared to the use  
17 of springs or other compressible mattress materials with the methods disclosed in Magni.

18 The court has given the Gladney Declaration due consideration. However, because it does  
19 not address either the Magni prior art or the Hypothetical Claim, it is of little assistance in  
20 determining whether the Hypothetical Claim would have been obvious in light of Magni.

#### 21 22 **VII. CONCLUSION**

23 As noted above, it is undisputed that the Swirl Wrap method does not literally infringe the  
24 ‘142 Patent. Having now construed the claim terms the parties identified as relevant, the court  
25 reiterates its finding that summary adjudication of no literal infringement is warranted.

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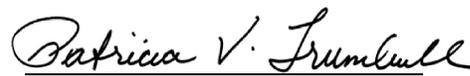
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27 <sup>33</sup> In any event, the burden was on Dreamwell to show that one of ordinary skill in the art  
28 would not have found the Hypothetical Claim to be obvious. Dreamwell’s decision not submit evidence  
as to the level of ordinary skill cannot defeat summary adjudication on an issue for which it bears the  
burden of proof.

1 As to infringement under the doctrine of equivalents, Zinus made essentially three main  
2 arguments in its motion for summary adjudication: 1) that its Swirl Wrap method is not a substantial  
3 equivalent to the patented method; 2) that prosecution history estoppel precludes resort to the  
4 doctrine of equivalents to prove infringement; and 3) the doctrine of equivalents cannot be used in  
5 any event, because to do so in this case would impermissibly ensnare the prior art.

6 As discussed herein, prosecution history estoppel does not apply. However, because based  
7 on the evidence herein no rational trier of fact could find the existence of a set of facts which would  
8 support a legal conclusion that the Hypothetical Claim was *not* obvious in light of Magni,  
9 Dreamwell is precluded from asserting infringement under the doctrine of equivalents.<sup>34</sup>

10 For all the reasons stated herein, Thus, summary adjudication of non-infringement is  
11 warranted with regard to Zinus' Swirl Wrap method.

12 Dated: 3/11/08

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14 PATRICIA V. TRUMBULL  
15 United States Magistrate Judge  
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27 <sup>34</sup> Whether the Swirl Wrap method is a substantial equivalent to the patented method is a  
28 closer question that does not appear to be amenable to summary adjudication. In light of the court's  
finding that the allowing use of the doctrine of equivalents in this case would impermissibly ensnare the  
prior art, it does not reach that question.



1           **Claim 7.** A method of packaging a mattress assembly constructed of coil springs wherein  
2 each spring is contained within an individual pocket of fabric, comprising the steps of:

3           providing a tube of deformable material, said tube having a predetermined length;

4           inserting a mattress assembly constructed of pocketed coil springs into said tube, said  
5 mattress assembly having a length which is less than the length of said tube, thereby defining first  
6 and second tube ends of excess material;

7           sealing a first end of said tube;

8           evacuating air from said tube through said second end thereby deforming said tube around  
9 said mattress assembly and causing said mattress assembly to compress;

10           inserting said evacuated tube into a [containment sleeve] ***pre-cut, solid cover or barrier of***  
11 ***flexible material that substantially covers the exposed surface of the mattress assembly and***  
12 which is dimensioned or configured, ***including by use of tape, adhesives or fasteners***, to retain  
13 said compressed mattress assembly in a compressed state for shipment;

14           removing said evacuated tube from said [containment sleeve] ***cover or barrier of flexible***  
15 ***material***; and

16           allowing said mattress assembly in said tube to gradually return to an uncompressed state;  
17 and

18           said evacuated tube is punctured to allow said mattress assembly in said tube to gradually  
19 return to said uncompressed state.  
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