

United States District Court,
D. Delaware.

CROWN PACKAGING TECHNOLOGY, INC. and Crown Cork & Seal USA, Inc,
Plaintiffs.

v.

REXAM BEVERAGE CAN CO,
Defendant.

Civil Action No. 05-608-MPT

May 17, 2007.

Background: Patent holder brought infringement action against competitor alleging infringement of patents directed at can ends and methods for joining can ends to can bodies. Competitor counterclaimed alleging infringement of its patents directed at particular score lines patterns near part of can that was opened by consumer, patents relating to method of reforming bottom of can body, or can base, and patent on method of reducing diameter of neck, or top, portion of can body. Parties consented to final disposition by magistrate judge. Court set forth to construe the claims.

Holdings: The District Court, Thyng, United States Magistrate Judge, held that:

- (1) phrase, "first and second chuck walls forming a juncture therebetween," meant first and second walls encircling the chuck forming a place between them at which they met;
- (2) phrase, "circumferentially extending peripheral cover hook," meant curved portion of the can end that was to be formed into a portion of a double seam;
- (3) phrase, "seaming panel," meant curved innermost portion of the peripheral cover hook;
- (4) phrase, "adapted to be formed into a portion of said double seam during said seaming operation," meant adapted to be formed into a portion of the double seaming during the seaming operation;
- (5) phrase, "adapted to be deformed during said seaming operation," meant adapted to have its shape altered during the seaming operation;
- (6) phrase, "second point forming a lowermost end of said wall," meant specific place on the wall nearest the central panel;
- (7) phrase, "passing through," meant at least penetrating into; and
- (8) phrase, "second score groove adjacent to the second end of said primary score and adjacent said hinge segment to direct fracture of metal of said hinge segment away from said second end of the score," did not have to be construed as means-plus-function limitation.

Ordered accordingly.

Court-Filed Expert Resumes

4,774,839, 5,222,385, 5,697,242, 6,129,230, 6,260,728, 6,848,875, 6,935,826. Construed.

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Frederick L. Cottrell, III, Anne Shea Gaza, Richards, Layton & Finger, Wilmington, DE, for Defendant.

MEMORANDUM ORDER

THYNGE, **United States Magistrate Judge.**

INTRODUCTION

This is a patent infringement case. On August 18, 2005 Crown Packaging Technology, Inc. and Crown Cork & Seal USA, Inc. (collectively "Crown") filed suit against Rexam Beverage Can Co. ("Rexam") and Rexam Beverage Can Americas, Inc. alleging infringement under 35 U.S.C. s. 271 of Crown's U.S. Patent No. 6,848,875 ("the '875 patent"). FN1 On August 30, 2005, Crown filed its First Amended Complaint adding a count alleging infringement of its U.S. Patent No. 6,935,826 ("the '826 patent"). FN2 On October 18, 2005, Crown filed an Unopposed Motion for Leave to File Second Amended Complaint FN3 which was granted on October 20, 2005 FN4 and that complaint was filed on the same date.FN5

FN1. D.I. 1 (Complaint for Patent Infringement).

FN2. D.I. 3 (First Amended Complaint for Patent Infringement). The ' 875 and '826 contain substantially identical specifications (the "common specification"). Citation to particular specification language in either of Crown's patents-in-suit is understood to refer to the same language in each patent, although the corresponding language may not appear in the same column or line in each patent.

FN3. D.I. 13.

FN4. D.I. 15.

FN5. D.I. 16. Rexam Beverage Can Americas, Inc. was terminated as a defendant on this same date. See D.I. 13, para. 4; D.I. 15. No additional patents were asserted by Crown in the Second Amended Complaint. See D.I. 16.

On November 3, 2005, Rexam filed its Answer to Second Amended Complaint for Patent Infringement and Counterclaims, denying infringement, raising certain affirmative defenses, and alleging infringement of its U.S. Patent Nos. 4,774,839 ("the '839 patent"), 5,222,385 ("the '385 patent"), 5,697,242 ("the '242 patent"), 6,129,230 ("the '230 patent"), and 6,260,728 ("the ' 728 patent").FN6 On December 23, 2005, Crown filed its answer to Rexam's counterclaims denying infringement and raising certain affirmative defenses. FN7

FN6. D.I. 17.

FN7. D.I. 37.

On September 11, 2006, the parties consented to the jurisdiction of the United States Magistrate Judge, pursuant to 28 U.S.C. s. 636(c) and Federal Rule of Civil Procedure 73, to conduct all proceedings and enter the order of judgment and the case was referred to the magistrate judge the following day. FN8 A *Markman* hearing was held on March 16, 2007. Subsequently, the parties submitted a stipulation identifying certain claim terms which remain in dispute and other claim terms to which the parties now agree as to the proper construction.FN9

FN8. D.I. 111; D.I. 114.

FN9. D.I. 325 (Stipulation Regarding Claim Construction).

BACKGROUND OF THE INVENTIONS

Crown's patents-in-suit are directed at beverage cans. Specifically, those patents are directed at can ends and methods for joining the can ends to can bodies. Crown's patented can ends are described as requiring less metal usage over prior can ends due to various geometrical aspects of its invention.

Rexam's patents-in-suit are also directed at beverage cans and can be grouped into the following categories.

The '230 and 728 patents are directed at particular score lines patterns near the part of the can which is opened by the consumer (the "score line" patents). These score lines are designed to prevent complete separation of the portion of the can end that is directed inside the can when the can is opened as may happen in the case of a damaged can, for instance due to being dropped.

The '385 and '242 patents relate to a method of reforming the bottom of a can body, or can base (the "bottom reforming patents"). The method described in these patent strengthens the can bottom, thereby reducing the thickness of the metal used for a can body, with resultant metal savings.

The '385 patent describes a method of reducing the diameter of a neck, or top, portion of a can body in what is known as smooth die necking (the "necking patent"). The reduction of the diameter of the neck of the can body permits a smaller diameter can end, thereby reducing the amount of metal used in the can end. Prior neck diameter size reduction created a can with ridges, bumps, or steps on the can neck. Other neck reducing methods used rollers to smooth the neck of the can but often left undesirable marks on that area of the can. This patent claims a method of using dies of decreasing size which achieve a smooth profile for the neck of a beverage can without ridges and without marks on the can's neck.

THE COURT'S CLAIM CONSTRUCTION

At Wilmington, this 17th day of May, 2007, having heard oral argument, having reviewed the papers submitted with the parties' proposed claim constructions, and having considered all of the parties arguments

(whether or not explicitly discussed below);

IT IS ORDERED that the disputed claim language in asserted claims of the patents-in-suit, as identified by the parties, shall be construed consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*, FN10 as follows:

FN10. 415 F.3d 1303 (Fed.Cir.2005).

Crown Patents

1. first and second circumferentially extending walls, said *first and second chuck walls forming a juncture therebetween*, said can end comprising: ('826 patent, claim 13);

providing a rotatable chuck comprising *first and second circumferentially extending walls*, said second chuck wall *depending from said first chuck wall so as to form a juncture therebetween*; ('875 patent, claim 50)

[1] Crown's proposed construction is "[f]irst and second walls encircling the chuck forming a place between them at which they meet." FN11 Rexam's proposed construction is "[w]hen looking at a cross section of a seaming chuck, an upper wall and a lower wall of a seaming chuck (also referred to as the first and second walls) meet at a point (juncture) to form a distinct angle." FN12

FN11. D.I. 325 at 1-2.

FN12. *Id.* In the parties' stipulation regarding claim terms which were, and were not, still in dispute, submitted after the *Markman* hearing, the parties each had slightly different verbiage for their proposed constructions regarding the juncture of the seaming chuck walls recited in claim 13 of the '826 patent and claim 50 of the '875 patent. *See Id.* at 9. Despite those slight variations, the parties' proposed construction for each of these claims maintained the primary differences described above and the court will construe the seaming chuck wall "juncture" limitations consistently for both claims.

Crown's proposed construction is adopted by the court. The primary difference between the parties' proposed constructions of these terms with whether the juncture at which the first and second chuck walls meets is a point or a place, with Rexam's proposed construction requiring the juncture forming "a distinct angle."

Neither the claim language nor the specification indicates that the "juncture" between the first and second chuck walls is defined by a "point to form a distinct angle" as Rexam proposes. FN13 Indeed, the common specification contradicts Rexam's proposed construction. In table 4, the chuck walls are described as meeting at a "sharp transition" or a "blend [radius]," R, of 0.5 millimeters. FN14 The common specification also recites:

FN13. The only time "juncture" is mentioned in common specification is the description of figure 5 that "[f]urther drive is obtained at the juncture of chuck wall 32 and cylindrical wall 33" '826 patent, 4:63-64.

FN14. '826 patent, 7:35-38.

Typically:-As shown in FIG. 8 the chuck comprises a cylindrical land of length 'l' typically 1.9 mm (0.075") and frustoconical drive surface 32 inclined at an angle Y (deg.), typically 43 (deg.), to the cylindrical [land] to which it is joined by a radius R typically 0.5 mm (0.020"). Angle "X" is typically 90 (deg.). FN15 FN15. '826 patent, 8:9-14. The court disagrees with Rexam's assertion that the blend radius is neither a chuck wall nor a juncture. The blend radius is a juncture, or place, where one chuck wall (the "cylindrical land") meets a second chuck wall (the "frustoconical drive surface 32").

The word "juncture" is not defined in the common specification and the court declines to narrowly construe the disputed term as proposed by Rexam. Crown's proposed construction encompasses both a point at which a distinct angle is formed where the first and second chuck walls meet (a "sharp transition") and a place where the first and second chuck walls meet (a "blend radius"). The court, therefore, agrees that the proper construction of these disputed claim terms are: "first and second walls encircling the chuck forming a place between them at which they meet."

2. a *peripheral cover hook*, said *peripheral cover hook* comprising ('826 patent, claim 13); a *circumferentially extending peripheral cover hook* ('875 patent, claims 32 and 50)

[2] Crown's proposed construction is a "[c]urved portion of the can end that is to be formed into a portion of a double seam." FN16 Rexam's proposed construction is "[w]hen looking at a cross section of the can end, the outermost portion of the can end that is curved or conforms to one or more radii, which engages a can body flange to form at least a part of a double seam, and ends where the curved or radiused portion(s) stops." FN17

FN16. D.I. 325 at 2.

FN17. Id.

The court adopts Crown's proposed construction.

Claim 13 of the '826 patent recites a "can end comprising: a *peripheral cover hook*, said *peripheral cover hook* comprising a seaming panel adapted to be formed into a portion of said double seam during said seaming operation." FN18 Claim 13 also recites "a wall extending inwardly and downwardly from said *cover hook*."FN19 The common specification uses the term "cover hook" and the term "curl" synonymously.FN20 The common specification also describes the peripheral cover hook as a "flange." FN21

FN18. '826 patent, claim 13, 10:43-47 (emphasis added). Similarly, claims 32 and 50 of the '875 patent recite "providing a can end having (i) a *circumferentially extending peripheral cover hook*, said *peripheral cover hook* comprising a seaming panel to be formed into a portion of said double seam during a seaming operation." '875 patent, claim 32, 13:4-7 (emphasis added); '875 patent, claim 50, 15:11-15 (emphasis added).

FN19. '826 patent, claim 13, 10:50-51 (emphasis added).

FN20. *See* '826 patent, 3:23-24 (describing a prior art can end, "FIG. 2 shows on an enlarged scale the chuck 5 and can end 10. The can end comprises a *peripheral curl* 13, a chuck wall 14 dependent from the interior of the curl") (emphasis added); '826 patent, 3:54-57. (describing a can end according to the invention, "FIG. 4 shows a can end, according to the invention, comprising a *peripheral cover hook* 23, a chuck wall 24 extending axially and inwardly from the interior of the peripheral cover hook") (emphasis added).

FN21. *See* '826 patent 4 :39-42 (describing a can end according to the invention, "FIG. 5 shows the *peripheral flange* 23 of can end 22 of FIG. 4 resting on the flange 11 of a can body 12 before formation of a double seam as discussed with reference to FIG. 1") (emphasis added).

At the *Markman* hearing, *Crown* noted that it did *not* disagree with the *first part* of Rexam's proposed construction ("the outermost portion of the can end that is curved or conforms to one or more radii, which engages a can body flange to form at least a part of the double seam") but disagreed with the last portion of that construction ("and ends where the curved or radiused portion(s)").FN22 Rexam argues that its proposed construction identifies the location of the cover hook and where the cover hook should begin and end—the end being where the curved portion ends. Rexam contends that *Crown's* proposed construction purportedly fails to identify the location at which the cover hook ends and the wall begins. Citing figures 4, 5, and 6 of the patents, Rexam argues that the only way to identify where the cover hook ends and the wall begins is that cover hook 23 is curved and wall 24 is not curved.

FN22. *See* D.I. 322 at 28 (transcript of March 16, 2006 *Markman* hearing).

The court declines to accept Rexam's additional limitations. To the extent that the can ends illustrated in the cited figures support Rexam's position, the Federal Circuit has cautioned against importing limitations contained in preferred embodiments into a patent's claims.FN23 Also, claim 32 of the '875 recites that the can end has a "first wall portion extending from said seaming panel to a first location on said wall and *comprising a radiused portion extending from said seaming panel.*"FN24 Moreover, the description of figure 4 includes radius r_1 , identified as "seaming panel/chuck wall radius," indicating that the chuck wall is not necessarily flat as Rexam contends.

FN23. *See* *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed.Cir.2005) (*en banc*) ("[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments."); *see also id.* ("[W]e have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.").

FN24. '875 patent, claim 32, 13:11-14 (emphasis added).

It is clear from the patents' common specification and claim language that Rexam's proposed construction must be rejected as it relies on the assertion that the chuck wall extending from the cover hook necessarily must be flat. Therefore, the court adopts Crown's proposed construction: "curved portion of the can end that is to be formed into a portion of a double seam."

3. a *seaming panel* ('826 patent, claim 13; '875 patent, claims 32 and 50).

[3] Crown's proposed construction is the "[c]urved innermost portion of the peripheral cover hook." FN25 Rexam's proposed construction is "[a]n uppermost portion of the peripheral cover hook formed by a constant radius that becomes part of the double seam during seaming to a can body." FN26

FN25. D.I. 325 at 2.

FN26. Id.

The court adopts Crown's proposed construction.

Claim 13 of the '826 patent recites a "can end comprising: a peripheral cover hook, said peripheral cover hook comprising a *seaming panel* adapted to be formed into a portion of said double seam during said seaming operation." FN27 Therefore, the seaming panel is part of the peripheral cover hook. Describing a preferred embodiment of the claimed invention in figure 4, the common specification identifies "a peripheral cover hook 23." FN28 That figure illustrates radii r_1 and r_2 which are described as "seaming panel/chuck wall radius" and "seaming panel radius," respectively. FN29

FN27. '826 patent, claim 13, 10:43-47 (emphasis added). Similarly, claims 32 and 50 of the '875 patent recite "providing a can end having (i) a circumferentially extending peripheral cover hook, said peripheral cover hook comprising a *seaming panel* to be formed into a portion of said double seam during a seaming operation." '875 patent, claim 32, 13:4-7 (emphasis added); '875 patent, claim 50, 15:11-15 (emphasis added).

FN28. '826 patent, 3:55.

FN29. '826 patent, 4:16-17.

"Seaming panel" is recited in each of the above-referenced claims and the parties' proposed constructions are the same for each claim. Claim 13 of the '816 patent recites "a peripheral cover hook, said coving hook comprising a *seaming panel* adapted to be formed into a portion of said double seam during said seaming operation" and "a wall extending inwardly and downwardly *from said cover hook*." FN30 Claim 32 of the '875 patent recites "a circumferentially extending peripheral cover hook, said peripheral cover hook comprising a seaming panel to be formed into a portion of said double seam during a seaming operation" and "a circumferentially extending wall comprising first and second portion[s] ... said first wall portion

extending *from said seaming panel* to a first location on said wall and comprising a radiused portion extending *from said seaming panel*." FN31 Claim 50 of the ' 875 patent recites "a circumferentially extending peripheral cover hook, said peripheral cover hook comprising a *seaming panel* to be formed into a portion of said double seam during a seaming operation" and "a circumferentially extending wall extending *from said seaming panel* to said reinforcing bead." FN32

FN30. '826 patent, claim 13, 10:44-51 (emphasis added).

FN31. '875 patent, claim 32, 13:4-14 (emphasis added).

FN32. '875 patent, claim 50, 15:11-17 (emphasis added).

At the *Markman* hearing, Rexam argued that the seaming panel is not the innermost part of the peripheral cover hook, as proposed by Crown, but that the seaming panel is "a section of the cover hook that is separated from a chuck wall because ... the innermost portion of the cover hook joins the chuck wall." FN33 According to Rexam, "there is a section of cover hook that ... extends from the chuck wall to the seaming panel that is not the seaming panel." FN34 The court finds that argument unavailing.

FN33. D.I. 322 at 40.

FN34. *Id.*

First, Rexam's position is contradicted by the language of claims 32 and 50 of the '875 patent reciting a can end wall extending "from said seaming panel." This unambiguously demonstrates that there is not a part of the peripheral cover hook located between the can end wall and the seaming panel as Rexam argues. Crown's proposed construction is consistent with the language of the relevant claims of the '875 patent. Claim 13 of the '826 patent recites that the can end wall extends "from said cover hook" but because the seaming panel is a part of the cover hook, Crown's proposed construction is not inconsistent with that claim language. This is particularly true since the parties have proposed the same construction for "seaming panel" for both the ' 826 patent and the '875 patent. Further support for Crown's construction is found in the common specification's identification of radius r_1 as the "seaming panel/chuck wall radius," FN35 rather than the "seaming panel/peripheral cover hook radius." Also, the common specification indicates the seaming panel does not necessarily have a constant radius (as required by Rexam's proposed construction) by its identification of r_2 as the "seaming panel radius" and r_1 as the "seaming panel/chuck wall radius."

FN35. '826 patent, 4:16.

Consequently, the court adopts Crown's proposed construction: "curved innermost portion of the peripheral cover hook."

4. [seaming panel] adapted to be formed into a portion of said double seam during said seaming

operation ('826 patent, claim 13)

[4] Crown's proposed construction is "[a]dapted to be formed into a portion of the double seaming during the seaming operation." FN36 Rexam's proposed construction is "[s]ome treatment or conditioning, done to the first wall portion of the can end that makes the first wall portion easier to deform than the rest of the can end." FN37

FN36. D.I. 325 at 2.

FN37. Id.

The court adopts Crown's proposed construction.

The claim language does not indicate the limitation Rexam proposes. The preamble of claim 13 of the '826 patent recites, in part, "[a] metal can end for use in packaging beverages under pressure and *adapted to be joined to a can body by a seaming process to form a double seam therewith using a rotatable chuck ... said can end comprising....*" FN38 The element at issue reads "a peripheral cover hook, said peripheral cover hook comprising a seaming panel *adapted to be formed into a portion of said double seam during said seaming operation.*" FN39 The use of "adapted" in the preamble, referring to the entire can end and repetition of that word in the disputed claim element supports Crown's position that the word "adapted" is merely a patent drafter's term describing functionality, i.e., to be formed into a double seam during the seaming operation.

FN38. '826 patent, claim 13, 10:37-43 (emphasis added).

FN39. '826 patent, claim 13, 10:34-47 (emphasis added).

Furthermore, nowhere in the common specification is there any indication that the seaming panel of the claimed *can end must be treated or conditioned so that* it is easier to deform than the rest of the can end as required by Rexam's proposed construction. Therefore, the court determines this claim term requires no further construction and adopts Crown's proposed construction: "adapted to be formed into a portion of the double seaming during the seaming operation."

5. a wall extending inwardly and downwardly from said cover hook ('826 patent, claim 13)

The parties agree that the proper construction of this term is "a can end wall extending inwardly and downwardly from the end of the cover hook." FN40

FN40. D.I. 325 at 3.

The court adopts the parties' proposed construction.

6. a first portion of said wall extending from said cover hook ('826 patent, claim 13)

The parties agree that the proper construction of this term is "a first portion of the can end wall extending from the end of the cover hook." FN41

FN41. Id.

The court adopts the parties' proposed construction.

7. *first point on said wall* ('826 patent, **claim 13**)

The parties agree that the proper construction of this term is "the point on the wall of the can end where the wall bends about the juncture of the two chuck walls of the seaming chuck during seaming." FN42

FN42. Id.

The court adopts the parties' proposed construction.

8. *said first wall portion adapted to be deformed during said seaming operation* ('826 patent, **claim 13**)

[5] Crown's proposed construction is "[a]dapted to have its shape altered during the seaming operation." FN43 Rexam's proposed construction is "[s]ome treatment or conditioning, done to the first wall portion of the can end that makes the first wall portion easier to deform than the rest of the of the can end." FN44

FN43. Id.

FN44. Id.

The court rejects Rexam's proposed construction requiring "some treatment or conditioning" done to part of the can end for the same reasons stated in number 4, above. The court adopts Crown's proposed construction: "adapted to have its shape altered during the seaming operation."

9. *bent upwardly around said juncture of said chuck walls at said first point on said wall* ('826 patent, **claim 13**);

The parties agree that the proper construction of this term is "to be turned upwardly around the juncture of the chuck walls against the first chuck wall at the first point on the can end wall." FN45

FN45. Id.

The court adopts the parties' proposed construction.

10. *to bend a portion of said can end wall upwardly around said juncture of said chuck walls at a first location on said can end wall* ('875 patent, **claim 50**)

The parties agree that the proper construction of this term is "turn a portion of the can end wall upwardly around the juncture of the first and second chuck walls and against the first chuck wall at a first location on the can end wall." FN46

FN46. Id. at 9.

The court adopts the parties' proposed construction.

11. a second portion of said wall extending from said first point to a second point forming a lowermost end of said wall ('826 patent, claim 13) a second location on said wall, whereby said first and second locations form end points of said second wall portion, said second wall location being the lowermost point of said wall ('875 patent, claim 32)

[6] Crown's proposed construction is "[a] second point that marks the lowest end of the can end wall." FN47
Rexam's proposed construction is "[t]he specific place on the wall nearest the central panel (toward the bottom of the can)." FN48

FN47. Id. at 3, 6.

FN48. Id.

The court adopts Rexam's proposed construction.

The parties' proposed constructions are very similar. Crown criticizes the reference to the central panel in Rexam's proposed construction by arguing that nothing in the claim language refers to the central panel. As a result, Crown insists that Rexam's definition is flawed by reference thereto. When read in its entirety, however, claim 13 of the '826 patent references various parts of the claimed can end including: a peripheral cover hook, a central panel, and a wall extending inwardly and downwardly from the peripheral cover hook. FN49 Likewise, the common specification describes the invention of Crown's patents in suit as comprising various features, including a central panel.FN50 Therefore, Rexam's definition is not flawed by its reference to the central panel of the can end.

FN49. '826 patent, claim 13.

FN50. '826 patent, 2:7.

As noted, three major parts of the can end recited in claim 13 of the '826 patent are: (1) a peripheral cover hook, (2) a central panel, and (3) a wall extending inwardly and downwardly from the cover hook. The parties agreed that the proper construction of "a wall extending inwardly and downwardly for said cover hook" refers to "a can end wall extending inwardly [toward the center of the can relative to the outside of the can] and downwardly [toward the bottom of the can relative to the top of the can]." FN51 The can end illustrated in figure 4 shows the can end wall (designated "chuck wall 24") extending inwardly and

downwardly from the "peripheral cover hook 23". FN52 That figure illustrates chuck wall 24 terminating, or having its lowermost end, or point, at the outer wall of anti-peaking bead 25, which bead extends radially inward from the chuck wall. FN53 Because the end wall, or chuck wall, extends inwardly and downwardly from the peripheral cover hook toward the central panel, the lowermost point on the end wall will necessarily be the location "nearest the central panel (toward the bottom of the can)." This would be true whether the can end has an annular reinforcing bead, as in the embodiment illustrated in figure 4, or a can end that does not have an annular reinforcing bead as Crown contends is the case with the invention described in claim 13 of the '826 patent.

FN51. *See* D.I. 325 at 3.

FN52. '826 patent, figure 4; 3:55-57.

FN53. '826 patent, figure 4; 3:57-59.

Consequently, the court adopts Rexam's proposed construction: "the specific place on the wall nearest the central panel (toward the bottom of the can)."

12. *annular reinforcing bead* ('826 patent, **claim 14**; '875 patent, **claim 50**)

[7] Crown's proposed construction is "[a] ring-like stiffening channel." FN54 Rexam's proposed construction is "an outwardly concave generally 'U' shaped groove (also called a countersink or anti[-]peaking bead) that is stamped or pressed into the can end, and is located inwards from the bottom of the wall (chuck wall) when looking at a cross section of the can end, which encircles and supports the center panel of the can end." FN55

FN54. D.I. 325 at 4, 8.

FN55. *Id.*

The court adopts Rexam's proposed construction as modified below.

Crown's proposed construction is based on a cobbled together series of dictionary definitions and it argues that Rexam's proposed construction improperly limits the phrase to the preferred embodiment illustrated by figure 4 of the common specification. The court declines to accept Crown's proposed construction and disagrees with the contention that Rexam's proposed construction erroneously limits the claim language to a preferred embodiment.

The common specification discusses several prior art can ends having reinforcing beads. U.S. Patent No. 4,093,102 "describes can ends comprising a peripheral cover hook, a chuck wall dependent from the interior of the cover hook, *an outwardly concave annular re-inforcing bead extending radially inwards from the chuck wall* and a central panel joined to *an inner wall of the reinforcing bead by an annular outwardly*

convex bead." FN56 U.S. Patent No. 4,217,843 "describes an alternative design of can end in which *the countersink has inner and outer flat walls, and a bottom radius which is less than three times the metal thickness.*" FN57 U.S. Patent No. 4,571,978 describes a can end comprising "a peripheral flange or cover hook, a chuck wall dependant from the interior of the cover hook, *an outwardly concave reinforcing bead extending radially inwards from the chuck wall from a thickened junction of the chuck wall with the bead,* and a central panel supported by *an inner portion of the reinforcing bead.*" FN58 U.S. Patent No. 5,582,319 describes the use of a particular alloy for a can end, the use of such alloy, "permitted manufacture of a can end with a *narrow, and therefore stronger reinforcing bead*" FN59

FN56. '826 patent, 1 :21-26 (emphasis added).

FN57. '826 patent, 1 :36-39 (emphasis added).

FN58. '826 patent, 1 :47-52 (emphasis added).

FN59. '826 patent, 1 :60-61 (emphasis added).

The common specification notes that known can ends "are held during double seaming by an annular flange of chuck, the flange being of a width and height to enter the anti-peaking bead. There is a risk of scuffing if this narrow annulus slips. Furthermore a narrow annular flange of the chuck is susceptible to damage."

FN60 The specification does not distinguish the prior art can ends on the basis that those ends had a concave annular reinforcing bead and the invention of Crown's patents-in-suit does not. It states that "[w]e have discovered that improvements in metal usage can be made by increasing the slope of the chuck wall and limiting the width of the anti peaking bead." FN61 Figure 5 shows a modified chuck used in attaching a can end to a can body. Contrasting the prior art illustrated in figure 2, the modified chuck illustrated by figure 5 "is designed to drive initially on the relatively large chuck wall 32 *without entering deeply into the anti-peaking bead 25.*" FN62

FN60. '826 patent, 1 :63-67.

FN61. '826 patent, 1 :33-35.

FN62. '826 patent, 4 :61-63 (emphasis added).

Also, "typical dimensions" of the invention illustrated in figure 4 include measurements of the "concave radius in antipeaking bead"; "maximum diameter of antipeaking bead"; "minimum diameter of antipeaking bead"; "height to top of antipeaking bead"; and "outer wall height." FN63

FN63. '826 patent, 4 :18-23.

The common specification also describes differently shaped annular reinforcing beads. "In a preferred embodiment of the can end an outer wall of the reinforcing bead is inclined to a line perpendicular to the central panel at an angle between -15 (deg.) and +15 (deg.) and the height of the outer wall is up to 2.5 mm." FN64 Another embodiment describes a reinforcing bead having "an inner portion parallel to an outer portion joined by said concave radius." FN65 Each of these embodiments would describe a "generally 'U' shaped groove," however, Rexam is not seeking to limit the claim language to any of the *specific* dimensions of the annular reinforcing (or antipeaking) beads recited in the common specification.

FN64. '826 patent, 2 :13-16.

FN65. '826 patent, 2 :17-19.

Moreover, the recitations of the patents' in suit with regard to annular reinforcing beads is not limited to a description of a concave annular reinforcing bead with respect to prior art discussed and the preferred embodiments described therein. The annular reinforcing bead is generally described as outwardly concave prior to the detailed descriptions of particular embodiments.

The abstract of the '826 patent describes a can end including:

a peripheral cover hook, a chuck wall dependant from the interior of the cover hook, *an outwardly concave annular reinforcing bead extending radially inwards from the chuck wall*, and a central panel supported by an inner portion of the reinforcing bead.... FN66

FN66. '826 patent, Abstract (emphasis added).

The common specification recites:

this invention provides a can end comprising a peripheral cover hook, a chuck wall dependant from the interior of the chuck wall, *an outwardly concave annular reinforcing bead extending radially inwards from the chuck wall*, and a central panel supported by *an inner portion of the reinforcing bead*, characterized in that, ... *the concave bead narrower than 1.5 mm (0.060")*. FN67

FN67. '826 patent, 2 :3-11 (emphasis added).

The court determines that the common specification supports Rexam's proposed construction with the exception of the portion reciting "stamped or pressed into a can end." Crown argues that this phrase limits the method of manufacture of an annular reinforcing bead. Rexam contends that phrase merely explains that a bead is a groove that is formed to extend into the can end and was included for clarity. The court does not find language in the claims or common specification that would warrant Inclusion of that portion of Rexam's proposed construction. Therefore, the court adopts Rexam's proposed construction as modified by the court: "an outwardly concave generally 'U' shaped groove (also called a countersink or anti peaking bead) that is located inwards from the bottom of the wall (chuck wall) when looking at a cross section of the can end,

which encircles and supports the center panel of the can end."

13. a circumferentially extending wall comprising first and second portion[s] ('875 patent, **claim 32**)

The parties agree that the proper construction of this term is "an end wall extending around the center panel that has upper and lower parts." FN68

FN68. D.I. 325 at 7.

The court adopts the parties' proposed construction.

14. said first wall portion extending from said seaming panel ('875 patent, **claim 32**)

The parties agree that the proper construction of this term is "the first wall portion extending from the end of the seaming panel." FN69

FN69. Id.

The court adopts the parties' proposed construction.

15. first location on said wall ('875 patent, **claim 32**)

[8] Crown's proposed construction is "first location on the can end wall." FN70 Rexam's proposed construction is "[t]he point on the wall of the can end that becomes the lowermost extent of the double seam." FN71

FN70. Id. at 5.

FN71. Id.

The court adopts Rexam's proposed construction.

Crown's proposed construction provides no additional information to the claim language being construed whereas Rexam's construction provides additional clarity to the disputed phrase and is supported by the claim language.

Claim 32 of the '875 patent is directed at "[a] method of forming a double seam between a can body and a can end." It describes a can end having a "peripheral cover hook comprising a seaming panel to be formed into a portion of said double seam during a seaming operation." The can end also has "a circumferentially extending wall comprising a first and second portion." The first wall portion is "to be formed into another portion of the double seam [along with the seaming panel]." The first wall portion extends from the "seaming panel to a *first location*" on the wall. The wall has a "second wall portion extending from said first wall portion at said first wall location to a second location on said wall, whereby said first and second locations form end points of said second wall portion, said second wall location being the lowermost point

of said wall." During the seaming operation of claim 32, the "seaming panel of said cover hook and said first wall portion and said body flange" are deformed into a double seam. After the seaming operation, the first location on the wall forms the transition from the double seam to the second wall portion.FN72

FN72. '875 patent, claim 32.

The claim language demonstrates that the first location is at the lowermost part of the first wall portion which portion is formed part of the double seam. Rexam's proposed construction is consistent with the claim language and is adopted by the court: "the point on the wall of the can end that becomes the lowermost extent of the double seam."

16. a radiused portion extending from said seaming panel ('875 patent, claim 32)

[9] Crown's proposed construction is "a portion formed on an arc extending from the seaming panel." FN73 Rexam's proposed construction is "[a] curved portion that is different from the radius of the seaming panel (i.e., the radiused portion of the upper portion of the wall is a part of the cover hook)." FN74

FN73. D.I. 325 at 5.

FN74. Id.

The court adopts Crown's proposed construction.

Claim 32 of the '875 patent recites a "first wall portion extending from said seaming panel to a first location on said wall and comprising a *radiused portion extending from said seaming panel*." The parties agree that the "first wall portion extending from said seaming panel" refers to "the first wall portion extending from the end of the seaming panel." FN75

FN75. Id. at 7.

Rexam's proposed construction presupposes that the court accepted its proposed construction of "peripheral cover hook" and "seaming panel" which were rejected in 2 and 3, above. Here, Rexam's proposal that the radiused portion of the can wall is "a curved portion that is different from *the* radius of the seaming panel" is inconsistent with the court's determination that the seaming panel is not limited to a single radius, but rather r_2 ("seaming panel radius") and r_1 ("seaming panel/chuck wall radius"). Also, the parenthetical of Rexam's definition, "(i.e., the radiused portion of the upper portion of the wall is a part of the cover hook)," adds undue confusion. That language begins with "the radiused portion of *the upper portion of the wall*," seemingly acknowledging that the wall has a radiused portion, but ends by defining that radiused portion as "a part of *the cover hook*."

The court, therefore, adopts Crown's proposed construction: "a portion formed on an arc extending from the seaming panel."

17. *between about 20 (deg.) and about 60 (deg.)* ('875 patent, claims 32 and 50)

Crown's proposed construction is "[b]etween about 20 (deg.) and about 60 (deg.)." FN76 Rexam's proposed construction is "[b]etween 20 (deg.) and 60 (deg.)." FN77

FN76. Id. at 6.

FN77. Id.

The court adopts Crown's proposed construction.

The parties' proposed construction are identical except Rexam's proposal elides the word "about" from the claim language. Rexam offers no support for the omission of the word "about" in its proposed construction, other than to assert that Crown's proposed construction does not clarify the meaning of the word; that the word is vague and, therefore, should be disregarded; and that the specification does not discuss an embodiment having chuck wall angles of less than 20 degrees or greater than 60 degrees. Rexam is correct that the common specification recites "between 20 (deg.) and 60 (deg.)" in describing the embodiments illustrated in figures 4 and 5. FN78 Claims 32 and 50 of the '875 patent, however, are broader than that specification language in that they recite "*between about 20 (deg.) and about 60 (deg.)*." FN79 Therefore, the court rejects Rexam's more restrictive proposed construction and agrees with Crown that the claim language needs no further construction than the words of the claims themselves: "between about 20 (deg.) and about 60 (deg.)."

FN78. '875 patent, 3 :48, 4 :29.

FN79. The court also notes that the inventors knew how to claim a specific range, as they did in claim 13 of the '826 patent which recites, in relevant part: "a line extending between said first and second points [on a wall extending from the cover hook] being inclined to an axis perpendicular to said central panel at an angle of *between 30 (deg.) and 60 (deg.)*." '826 patent, claim 13, 10:59-61 (emphasis added).

18. *at least a portion of said first portion of said can end wall is bent upward through an angle of at least about 16 (deg.)* ('875 patent, claim 32); *at least a portion of said portion of said can end wall bent upwardly during said seaming operation is bent upward through an angle of at least about 16 (deg.)* ('875 patent, claim 51)

[10] Crown's proposed construction is "[a]t least part of the first portion of the can end wall is turned upwardly through an angle of at least about 16 (deg.)." FN80 Rexam's proposed construction is "[a] portion of the upper wall (chuck wall), which is above and adjacent to the first location, is bent upwards, when looking at a cross section drawing, around the first location by 16 degrees (less 1 degree or plus 1 degree or more)." FN81

FN80. D.I. 325 at 6, 9.

FN81. Id. (emphasis and footnote omitted).

The court adopts Crown's proposed construction.

The primary difference between the parties' proposed constructions is the precision with which "at least about 16 (deg.)" should be defined. As with the claim element "between about 20 (deg.) and about 60 (deg.)," Rexam argues that Crown does not establish the meaning of the term "about." Although arguing that "about" in the that claim term should be completely ignored resulting in a construction of "between 20 (deg.) and 60 (deg.)," here Rexam proposes to define the phrase "at least about 16 (deg.)" to mean "16 degrees (less 1 degree or plus 1 degree or more)."

As with the prior claim term, Rexam points out that the common specification (when describing particular embodiments) does not use the word "about" in connection with the chuck wall angle of the can end or the +/4 degree angle of the substantially cylindrical portion of the chuck. With regard to these claim elements, however, Rexam suggests that "at least about" *does* have meaning. FN82 Curiously, Rexam ascribes the meaning of "less 1 degree" or "plus 1 degree or more" without explanation of why that meaning is appropriate with regard to these claim elements, but no meaning should be given to "about" in the prior claim terms. Despite its position that the common specification does not use the word "about" with reference to relevant aspects of the can end and seaming chuck, Rexam declares its "proposed construction is generous in this context." FN83

FN82. Rexam makes no argument that the words "at least" explain the contradiction between its position that for the phrase "between about 20 (deg.) and about 60 (deg.)" should be construed to ignore the word "about" while same word in the phrase "at least about 16 (deg.)" should be construed as something more or less than 16 degrees.

FN83. D.I. 294 at 30.

Moreover, Rexam does not explain why it proposes that "about" should be construed restrictively as "less than one degree" below 16 degrees but broadly as "plus 1 degree *or more*" above 16 degrees. The court, therefore, rejects Rexam's proposed construction and adopts Crown's proposed construction: "at least part of the first portion of the can end wall is turned upwardly through an angle of at least about 16 (deg.)."

19. said first location on said wall after said seaming operation forming the *transition from said double seam to said second wall portion* ('875 patent, claim 32)

[11] Crown's proposed construction is "[t]he first location, after seaming, at which the double seam region changes to the second wall portion." FN84 Rexam's proposed construction is "[t]he location on the end wall at the lowermost extent of the double seam." FN85

FN84. D.I. 325 at 6.

FN85. Id.

The court adopts Crown's proposed construction.

At 15, above, the court construed the "first location on said wall" to mean "the point on the wall of the can end that becomes the lowermost extent of the double seam." Each parties' construction properly references the fact that the disputed claim term is directed at a can end after a double seam has been formed with a can body.

This claim term, and the claim term "said wall and said reinforcing bead *forming a transition therebetween*," of claim 50 of the '875 patent (23, below) are similar in that the parties disagree about how the word "transition" should be defined. Crown argues that the specification does not define the term "transition" and does not indicate that word has a specialized meaning and, therefore, that the plain meaning should apply. Crown contends that the plain meaning of "transition" is "a passage from one state, condition, or place to another: change." The court agrees that, in the context of the patents-in-suit, that defining "transition" to mean changing from one place to another is appropriate and Crown's proposed construction is consistent with the claim language. This is also consistent with Rexam's argument that "the plain meaning of the claim terms means that the 'first location' recited by claim 32 of the '875 patent is the point *or place* where the seam ends and the lower portion or 'second wall portion' begins." FN86

FN86. D.I. 172 at 18 (emphasis added).

Crown's proposed construction of "transition from said double seam to said second wall portion," taken together with the court's construction of "first location" as "the point on the wall of the can end that becomes the lowermost extent of the double seam" and the claim's recital that the "first and second locations form end points of said second wall portion" provides sufficient basis to identify the location of the transition.

The court, therefore, adopts Crown's proposed construction: "the first location, after seaming, at which the double seam region changes to the second wall portion."

20. *between about 30 (deg.) and about 50 (deg.)* ('875 patent, claims 33 and 52)

Crown's proposed construction is "[b]etween about 30 (deg.) and about 50 (deg.)." FN87 Rexam's proposed construction is "[b]etween 30 and 50 degrees." FN88

FN87. D.I. 325 at 7.

FN88. Id.

The court adopts Crown's construction for the same reasons set forth in 17, above: "between about 30 (deg.) and about 50 (deg.)."

21. The method according to claim 33, wherein during said seaming operation at least a portion of

said can end wall first portion is reformed by bending upward by an angle of at least about 26 (deg.)
(875 patent, **claim 34**)

Crown's proposed construction is "[t]he can end wall first portion is formed again by turning upward by an angle of at least about 26 (deg.)." FN89 Rexam's proposed construction is "[a] portion of the upper wall (chuck wall), which is about the first location, is bent upwards, when looking at a cross section drawing, around the first location by 26 degrees (less 1 degree or plus 1 degree or more)." FN90

FN89. Id.

FN90. Id.

The court adopts Crown's construction for the same reasons set forth in 18, above: "the can end wall first portion is formed again by turning upward by an angle of at least about 26 (deg.)."

22. circumferentially extending wall extending from said seaming panel to said reinforcing bead ('875 patent, **claim 50**)

[12] Crown's proposed construction is "[c]an end wall encircling the center of the can end and extending from the seaming panel." FN91 Rexam's proposed construction is "[t]he end wall (or chuck wall) that begins where the seaming panel ends with a portion that has a different radius than the seaming panel." FN92

FN91. Id. at 8.

FN92. Id.

The court adopts Crown's proposed construction.

For the reasons discussed in connection with 16, above, Rexam's proposed construction is rejected as inconsistent with the court's determination that the seaming panel is not limited to a single radius. The court, therefore, adopts Crown's proposed construction as consistent with a plain reading of the claim language: "can end wall encircling the center of the can end and extending from the seaming panel."

23. said wall and said reinforcing bead forming a transition therebetween ('875 patent, **claim 50**)

[13] Crown's proposed construction is "[f]orming a place between two things at which one changes to the other." FN93 Rexam's proposed construction is "[a] radiused portion of the can end, when looking at a cross section of the end, between the vertical wall of the annular reinforcing bead (countersink) and the second portion of the wall (chuck wall)." FN94

FN93. Id.

FN94. Id.

The court adopts Crown's proposed construction.

As with 19, above, the court determines that the plain meaning of "transition" set forth by Crown is appropriate. Rexam's proposed construction is not supported by the language of the claim. For instance, the limitation in Rexam's definition describing "the vertical wall of the annular reinforcing bead" is not found in that claim. "Vertical" implies that the wall of the annular reinforcing bead must be at a right angle, or perpendicular, to the central panel of the can end.FN95 Claim 50 makes no reference to annular bead wall angles. The common specification also is at odds with Rexam's proposed construction. Although common specification states that "preferably the anti-peaking bead 25 is parallel sided," which would be consistent with Rexam's "vertical" limitation, it also states that "the outer wall may be inclined to a line perpendicular to the central panel at an angle between -15 (deg.) to +15 (deg.)," FN96 which would be inconsistent with that limitation.

FN95. That "vertical," with reference to the wall of the annular reinforcing bead would mean that that wall would be understood to be at a right angle, or perpendicular, to the central panel is supported by the common specification's use of "vertical" and "perpendicular" with respect to orientation of the chuck wall to the central panel. In describing figure 4, the chuck wall 24 is described as "inclined to an axis *perpendicular to the exterior of the central panel at an angle C*, between 20 (deg.) and 60 (deg.); preferably between 40 (deg.) and 45 (deg.)." '875 patent, 3 :47-49 (emphasis added). In a table of "[t]ypical dimensions of the example of the invention," the "chuck wall angle *to vertical*" for angle C is listed as 43 (deg.). '875 patent, 3 :60-4 :10 (emphasis added).

FN96. '875 patent, 3 :51-53.

Also, Rexam's inclusion of "the second portion of the wall (chuck wall)" adds confusion. While claim 32 of the '875 patent specifies "a circumferentially extending wall comprising *first and second portion[s]*"FN97 claim 50, of which the disputed phrase is part, does not specify different can end wall portions. Therefore, Rexam's proposed language introduces a "second portion of the wall" not required by claim 50.FN98 Rexam also provides no support for its inclusion of "a radiused portion of the can end" and the claim has no such limitation. Nor does it explain why "radiused portion" is a necessary limitation to the "transition" between the can end wall and reinforcing bead here, when no such limitation was proposed for the "transition" between the double seam to the second wall portion of claim 32.

FN97. '875 patent, claim 32, 13:8-9 (emphasis added).

FN98. Claim 50 recites "a rotatable chuck comprising first and second circumferentially extending walls," '875 patent, claim 50, 15:23-24, but the "circumferentially extending wall" pertinent to the disputed claim term is the wall of the can end, not the walls of the rotatable chuck.

The court, therefore, adopts Crown's proposed construction: "forming a place between two things at which one changes to the other."

Rexam Patents

A. '230 and 728 patents (*the score line patents*) FN99

FN99. The 728 patent is a continuation of the earlier-filed '230 patent and the two patents share the same specification. As with Crown's patents, citation to particular specification language in either of the score line patents is understood to refer to the same language in each patent, although the corresponding language may not appear in the same column or line in each patent.

24. *hinge segment* ('230 patent, claims 1 and 13; 728 patent, claim 1)

[14] Crown's proposed construction is "[t]he region of metal that undergoes bending as a result of angular displacement of the frangible panel during normal use." FN100 Rexam's proposed construction is "[t]he segment of metal between the first end and the second end of the primary score that stays attached to the central panel of the can end under normal opening conditions." FN101

FN100. D.I. 325 at 10.

FN101. Id.

The court adopts Rexam's proposed construction.

Crown argues that Rexam's proposed construction "seeks to redefine the '*hinge segment*' to ignore what it is, and instead to define it by where it might be (or might not) be located: 'the segment of metal between the first end and the second end of the primary score.'" FN102 Crown maintains that "Rexam's proposal to define the hinge segment without regard to what it does and without regard to where it is actually located should be rejected." FN103 The court disagrees. In making this argument, Crown truncates Rexam's definition which reads in full, "the segment of metal between the first end and the second end of the primary score *that stays attached to the central panel of the can end under normal opening conditions*" The non-italicized portion of Rexam's proposed construction indicates where the hinge section is located. The italicized portion of that construction describes what the hinge segment does, i.e., it is the segment of metal that remains attached to the central panel when the can is opened. Furthermore, Rexam's definition of "hinge segment" is supported by language of the score line patents' claims and common specification.

FN102. D.I. 280 at 29.

FN103. Id.

Claim 1 of the '230 patent recites:

a primary score groove in the central panel wall defining an outer perimeter of the frangible panel segment, the score groove having a first end adjacent the vent region, and a second end joined to the first end by a

curvilinear segment of the score groove, *the first end and the second end being separated by a generally linear hinge segment of the central panel wall, said hinge segment being non-frangible to integrally connect the frangible panel segment to an adjacent area of the panel.*FN104

FN104. '230 patent, claim 1, 8:6-14 (emphasis added).

Claim 13 of the '230 patent recites:

a frangible panel formed in the panel wall and being defined by a curvilinear score groove and a *hinge segment*, the score groove having a thickness residual and having a first end and a second end, *said hinge segment having a length defined by a generally straight line between said first end and said second end.*FN105

FN105. '230 patent, claim 13, 9:3-8 (emphasis added).

Claim 1 of the 728 patent recites:

a primary score groove in the central panel wall defining an outer perimeter of the frangible panel segment, the score groove having a first end adjacent to the vent region and a second end, *the first end and the second end being separated by a generally linear hinge segment of the central panel wall, said hinge segment integrally connecting to the frangible panel segment to an adjacent area of the panel.*FN106

FN106. '728 patent, claim 1, 8:4-11 (emphasis added).

Taken together, a plain reading of the claim language supports Rexam's proposed construction. The hinge segment is a generally linear part of the central panel between the first and second ends of a score groove and which remains attached to the central panel.

The score line patents' common specification supports that reading of the claim language. The "Summary of the Invention" section recites:

The score groove has a first end adjacent to the vent region and a second end joined to the first by a curvilinear segment of the score groove, whereby the first and the second end is separated by a generally linear hinge segment of the central panel wall. The hinge segment is non-frangible to integrally connect the frangible panel segment to an adjacent area of the panel. FN107

FN107. '230 patent, 3:17-24; *see also* '230 patent, 3:43-46 ("It is further an object of the invention to provide an end member having a curvilinear score groove with two ends separated by a hinge segment extending along a generally straight line between the two ends.").

The score line patents' common specification also describes an embodiment in which:

The central panel wall 12 has a displaceable tear panel 20 defined by a curvilinearfrangible score 22 with an

adjacent anti-fracture score 24 on the tear panel 20, and a non-frangible hinge segment 26. The hinge segment 26 is defined by a generally straight line between a first end 28 and a second end 30 of the frangible score 22.FN108

FN108. '230 patent, 4:56-61. An alternate embodiment is described in which "the end member 10 has a panel wall 12 having a tear panel 20 defined by a frangible score 22 with a first end 28 and a second end 30, and a hinge segment 26 along a straight line between the ends of the score 22." '230 patent, 6:59-62.

Because Rexam's proposed construction is supported by the intrinsic evidence, the court adopts its construction: "the segment of metal between the first end and the second end of the primary score that stays attached to the central panel of the can end under normal opening conditions."

25. *hinge line* (728 patent, claim 7)

[15] Crown's proposed construction is "[t]he hinge segment referred to in claim 1 of the 728 patent: The region of metal that undergoes bending as a result of angular displacement of the frangible panel during normal use by a user." FN109 Rexam's proposed construction is "[a] line between the first end and the second end of the primary score." FN110

FN109. D.I. 325 at 12.

FN110. Id.

The court adopts Rexam's proposed construction.

Claim 7 of the 728 patent recites "[t]he end member of claim 1, wherein, at least a portion of the second score groove passes through the hinge line generally transverse to *a hinge line* passing between the first end and the second end of the primary score groove." FN111

FN111. '728 patent, 8:38-41 (emphasis added).

The parties agree that this claim contains a drafting error as there is no antecedent basis for "the hinge line" first recited therein. Rexam argues that the drafting error was using "a" and "the" in the wrong order with respect to "hinge line," i.e., that claim 7 was meant to read "[t]he end member of claim 1, wherein, at least a portion of the second score groove passes through [*a*] *hinge line* generally transverse to [*the*] *hinge line* passing between the first end and the second end of the primary score groove." Crown argues that the drafting error was the recitation of "the hinge line" and that that language in claim 7 was referring back to the "hinge segment" of claim 1 from which claim 7 depends.

Reading other claims of the 728 patent demonstrates that Crown is incorrect and that the "hinge line" recited in claim 7 does not refer back to the "hinge segment" of claim 1 and, therefore, should not be given the same construction as "hinge segment."

Like claim 1, unasserted independent claim 10 recites a can end having a "hinge segment." Like claim 7, unasserted claim 15 (which depends from claim 10) recites "[t]he end member of claim 10, wherein, at least a portion of the second score groove passes through a *hinge line* generally transverse to a *hinge line* passing between the first end and the second end of the primary score." FN112 The repetition of "hinge line" in claim 15 lends support to Rexam's argument that the "hinge line" recited in claim 7 was not a mistake other than the error in drafting "*the* hinge line" in that claim rather than "a hinge line" as in claim 15. Additional evidence that the inventors intended that "hinge segment" is not the same as "hinge line" is found in unasserted independent claim 18 of the '728 patent where both terms are used: "a second end separated from said first end by a *hinge segment*, the *hinge segment* with a *hinge line* area." This likewise indicates that Crown is incorrect in its assertion that "the hinge line" of claim 7 is referring to, and means the same thing as, the "hinge segment" recited in claim 1. FN113

FN112. '728 patent, 9:24-27 (emphasis added).

FN113. *See* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed.Cir.2004) ("[T]he presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim."). The court also notes that the inventors included the term "hinge line" in unasserted claims 21 and 22 of the '230 patent. Independent claim 21 recites "a hinge line passing between the first and second end of the score groove; and, a second score groove in the panel wall and transecting the hinge line." '230 patent, claim 21, 10:23-26. Claim 22, which depends from claim 21, recites "[t]he end member of claim 21, wherein the second score groove is an anti-fracture score with an extended end passing through the hinge line." '230 patent, claim 22, 10:27-29. In comparison, the inventors also knew how to claim a hinge segment when that was their intention as in claim 14: "[t]he end member of claim 13, wherein, the tail portion passes through the hinge segment[, the antecedent for which was introduced by independent claim 13,] generally transverse to said straight line between the first and second end." '230 patent, claim 14, 9:18-20.

Given that Crown offers no alternative proposed construction should the court disagree with its contention that the "hinge line" refers to the "hinge segment," its construction must necessarily be rejected. The court also determines that the claim language and specification supports Rexam's proposed construction.

Claim 7 of the '728 patent states that the hinge line "pass[es] between the first end and the second end of the primary score groove." FN114 Describing the embodiment illustrated by figure 6, the specification states that "the tail portion 25 terminates in the end wall 12 beyond the score 22, and at least slightly transecting *the line* defining the hinge segment 26." FN115 Figure 6 illustrates the tail portion 25 of the anti-fracture score 24 ending at a dashed line which, although not given a separately-numbered designation, could be understood to illustrate the hinge line. The embodiment illustrated in figure 7 also has the same dashed line and that figure is described wherein "a tail portion 25 ... not only transects *the line* defining the hinge segment 26, but also extends and encircles the second end 30." FN116

FN114. '728 patent, claim 7, 40-41.

FN115. '728 patent, 7:28-30 (emphasis added).

FN116. '728 patent, 7:34-36 (emphasis added).

Therefore, the court adopts Rexam's proposed construction: "a line between the first end and the second end of the primary score."

26. *passing through* ('230 patent, **claim 13**); ***passes through*** ('728 patent, **claim 7**)

[16] Crown's proposed construction is "[g]oing from one end to the other end." FN117 Rexam's proposed construction is "[p]enetrating into." FN118

FN117. D.I. 325 at 11.

FN118. Id.

The court adopts Rexam's proposed construction as modified, below.

Claim 13 of the '230 patent recites: "a curvilinear anti-fracture score formed in the frangible panel generally parallel to said score groove, said anti-fracture score having a tail portion *passing through* the hinge segment." FN119

FN119. '230 patent, claim 13, 9:14-17.

Claim 7 of the 728 patent recites: "[t]he end member of claim 1, wherein, at least a portion of the second score groove *passes through* the hinge line generally transverse to a hinge line passing between the first end and second end of the primary score groove." FN120

FN120. '728 patent, claim 7, 8:38-41.

Here, the claim language does not clearly define what the inventors meant by "passing through." Examining the specification, Crown argues that the patent illustrates four embodiments depicting the anti-fracture, or second, score groove: figures 2, 4, 6, and 7. Crown maintains that figures 2, 4 and 7, each illustrate the second score "passing through the hinge segment 26 from one end to the other." FN121 Crown then cites the specification's description of figure 4 wherein the can end "includes a score gro[o]ve 62 that *passes through* the hinge segment 26." FN122 Crown acknowledges that the embodiment shown in figure 6 "appears to penetrate into but does not pass through the hinge segment 26," but contrasts the description of figure 6 with that of figure 4. FN123 Figure 6, Crown points out, is described differently: "[i]n the alternative embodiment of FIG. 6, the tail portion 25 terminates in the end wall 12 beyond the score 22, and at least *slightly transecting* the line defining the hinge segment 26." FN124 Crown argues that this difference in language indicates that in the embodiment illustrated in figure 6, the second score does not "pass through" the hinge segment and that "there is no reason why a claim term should be construed to encompass every embodiment described in the patent...." FN125 Crown also cites a dictionary definition of

"through" which purportedly supports its position. The court is not convinced by Crown's arguments.

FN121. D.I. 241 at 40.

FN122. '230 patent, 6:63-64 (emphasis added).

FN123. D.I. 241 at 40.

FN124. '230 patent, 7:24-27 (emphasis added).

FN125. D.I. 280 at 33.

First, although Crown accurately cites the specification's description relating to figures 4 and 6, the contrasts in those descriptions do not compel acceptance of Crown's proposed construction.

Describing figure 2, the specification states that "the anti-fracture score 24 has a tail portion 25 *that intersects* the hinge segment 26." FN126 The specification describes the preferred embodiment as having a "the tail portion 25 that *transects* the line defining the hinge segment 26." FN127 The inventors used various words (e.g., "intersects," "transects," "at least lightly transects," and "passes through") in describing various embodiments of the claimed invention and, arguably, a differing extent to which the anti-fracture score enters or crosses the hinge segment. The disputed phrase "passes through" in these claims encompasses penetrating into as proposed by Rexam and, as so construed, does not exclude an embodiment described in the specification.

FN126. '230 patent, 6:42-43 (emphasis added).

FN127. '230 patent 43-45.

Furthermore, when the inventors intended to claim a second score line "pass[ing] through the entire hinge, not merely penetrate into a portion of the hinge," as Crown argues, FN128 they were specific in their intent, as with claim 1 of the ' 230 patent: "a second score groove having a tail portion passing *from* the frangible panel *into* said adjacent area of the central panel and *transecting* said hinge segment." FN129 Finally, although not relied upon in construing these terms, the court notes that both parties cited dictionary definitions of the word "through" which would not require acceptance of Crown's proposed construction. Each cited a definition that included "penetration or passage within, along or across an object." FN130

FN128. D.I. 241 at 40.

FN129. '230 patent, claim 1, 8:15-17 (emphasis added).

FN130. *See* D.I. 172 at 26; D.I. 241 at 40. That definition also stated "usu[ally] from one side or surface to the opposite side." *See id.* The use of "usually" also indicates that Crown's proposed construction "going from one end to the other end" is not *required* by the very dictionary definition cited to the court.

Therefore, the court adopts a modified version of Rexam's proposed construction: "at least penetrating into."
FN131

FN131. The court added "at least" to Rexam's proposed construction of "penetrating into" in order to avoid any later argument that had the court simply defined the disputed terms as "penetrating into," it had somehow excluded the embodiments wherein the second score groove does pass all the way through the hinge segment/hinge line.

27. passing from the frangible panel into said *adjacent area of the central panel* ('230 patent, claim 1)

[17] Crown's proposed construction is "[p]ortion of the central panel near the hinge segment." FN132
Rexam's proposed construction is the "[a]rea of the central panel near the frangible panel." FN133

FN132. D.I. 325 at 10.

FN133. *Id.*

The court adopts Crown's proposed construction.

Rexam argues that the claim language, " 'a second score groove having a tail portion *passing from the frangible panel into said adjacent area of the central panel* and transecting said hinge segment,' " demonstrates that "the frangible panel and the adjacent area of the central panel lie next to each other." FN134 Rexam also cites the summary of the invention section's recitation of "the hinge region of the frangible tear panel" to support its argument that "this portion of the specification clearly suggests that the hinge segment is not mutually exclusive of the frangible panel." FN135 The court disagrees.

FN134. D.I. 294 at 36 (emphasis added by Rexam).

FN135. D.I. 294 at 36.

Claim 1 of the '230 patent recites: "said hinge segment being non-frangible to integrally connect the frangible panel segment to *an adjacent area of the panel*; and, a second score groove having a tail portion passing from the frangible panel into *said adjacent area of the central panel* and transecting said hinge segment." FN136

FN136. '230 patent, claim 1, 8:12-17.

The claim language identifies the hinge segment as "being non-frangible to integrally connect": (1) the frangible panel segment *to* (2) an adjacent area of the panel. That language also identifies a second score groove having a tail portion which: (1) passes *from* the frangible panel *into* (2) said adjacent area of the central panel *and* (3) *transecting* said hinge panel. This claim language supports Crown's proposed construction.

The court agreed with Rexam that the proper construction of "hinge segment" is "*the segment of metal between the first end and the second end of the primary score that stays attached to the central panel of the can end under normal opening conditions.*" That "segment of metal," which "stays attached to the central panel," is what "connect[s] the frangible panel segment *to* an adjacent area of the panel." That "segment of metal" is also what the "tail portion" of the second score groove "cuts across" FN137 as it "pass [es] *from* the frangible panel *into* said adjacent area of the central panel."

FN137. The parties agree that the proper construction of "transecting" is "cutting across." See *infra* at claim term 39.

Moreover, the specification's summary of the invention supports the court's interpretation of the claim language. It states:

The *hinge segment* is non-frangible *to integrally connect* the frangible panel segment *to* an adjacent area of the panel. A second groove is formed in the end, having a tail portion passing from the frangible panel *through the hinge segment* and *extending into* the adjacent area of the central panel.FN138

FN138. '230 patent, 3:22-27 (emphasis added).

This claim language and specification support Crown's proposed construction which references "the adjacent area of the central [central] panel" with respect to the hinge segment. Therefore, Rexam's proposed construction must be rejected and the court adopts Crown's proposed construction: "portion of the central panel near the hinge segment."

28. tail portion ('230 patent, **claims 1 and 13**)

The parties agree that the proper construction of this term is "the end portion of the second score (anti-fracture score)." FN139

FN139. D.I. 325 at 11.

The court adopts the parties' proposed construction.

29. transecting ('230 patent, **claim 1**)

The parties agree that the proper construction of this term is "cutting across." FN140

FN140. Id.

The court adopts the parties' proposed construction.

30. *direct fracture of metal of said hinge segment in a direction away from said second end of the score*
(728 patent, **claim 1**)

[18] Crown's proposed construction is "[m]eans clause Subject to [35 U.S.C.] s. 112, para. 6: A second score groove that is near the end of the primary score and the hinge segment and that performs the function of directing the fracture of metal of the hinge segment in a direction away from the end of the primary score. The structure for performing this function described in the specification is an anti-fracture score in which the tail portion 25 has a score residual differential less than that of the remaining portions of the anti-fracture score." FN141 Rexam argues this is not a means-plus-function limitation under 35 U.S.C. s. 112 para. 6 and its proposed construction is "[t]he second score is near the second end of the primary score and near the hinge segment to provide a path for a fracture of the hinge segment along the second score." FN142

FN141. Id. at 12.

FN142. Id.

The court adopts Rexam's proposed construction.

Claim 1 of the 728 patent recites: "a second score groove adjacent to the second end of said primary score and adjacent said hinge segment *to direct fracture of metal of said hinge segment away from said second end of the score.*" FN143

FN143. '728 patent, claim 1, 8:12-15.

[19] [20] [21] The parties agree that this claim term contains a functional limitation, they dispute whether it should be construed as a means-plus-function limitation under 35 U.S.C. s. 112, para. 6. "A claim limitation that actually uses the word 'means' will invoke a rebuttable presumption that s. 112 para. 6 applies. By contrast, a claim term that does not use 'means' will trigger the rebuttable presumption that s. 112 para. 6 does not apply." FN144 Here, the claim limitation does not use the word "means," therefore, there is a presumption that s. 112, para. 6 does not apply. That presumption can be rebutted if it is demonstrated "that the claim term fails to 'recite sufficiently definite structure' or else recites a 'function without reciting sufficient structure for performing that function.'" FN145 The court determines that Crown has failed to rebut that presumption.

FN144. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed.Cir.2002) (citations omitted).

FN145. Id.(citation omitted).

Crown acknowledges that a claim does not have "to recite a precise physical structure to avoid the applicability of 35 U.S.C. s. 112, para. 6" but argues that "the mere recitation of a 'second score groove' does not provide sufficiently definite structure to perform the fracture-directing function." FN146

FN146. D.I. 241 at 42.

The court agrees with Rexam that the claim recites both a structure ("a second score groove") and the location of that structure ("adjacent to the second end of said primary score and adjacent to said hinge segment"). If there is a second score line in the central panel, it necessarily has some depth and is, therefore, not as thick as the non-scored metal of the hinge segment. FN147 The structural location of the second groove, between the hinge segment that may fracture and the second end of the primary score groove, functions to divert a fracture from the primary groove. The court agrees with Rexam that "a person of ordinary skill in the art would understand the recited structure to be sufficient to accomplish the directing away function," i.e., that "the fracturing metal will follow the path of least resistance" along the second score.FN148

FN147. '728 patent 6 :64-7 :3 ("The end 10 includes a score gro[o]ve 62 that passes through the hinge segment 26, preferably generally transverse to the straight line defining the hinge segment 26. Much like the operation and structure described above regarding the anti-fracture score 24, the second groove is a groove into the panel wall 12 *that has a groove depth and remaining residual.*" (emphasis added)).

FN148. D.I. 294 at 39. "Having a double score comprised of a frangible score 22 and an anti-fracture score 24 wherein there is a score residual differential is *common in the industry.*" 728 patent, 5:30-33 (emphasis added).

The court, therefore, determines that the disputed claim term is not subject to 35 U.S.C. s. 112, para. 6 and adopts Rexam's proposed construction: "the second score is near the second end of the primary score and near the hinge segment to provide a path for a fracture of the hinge segment along the second score."

B. '385 and '242 patents (the bottom reforming patents)

31. substantial radial alignment with said radial inward support ('385 patent, claim 17)

[22] Crown's proposed construction is "[t]he roller path having a height in the direction of the longitudinal axis, more than half of which overlaps with the height of the radial inward support." FN149 Rexam's proposed construction is "[a]t or almost absolute radial alignment with said radial inward support." FN150

FN149. D.I. 325 at 13.

FN150. Id.

The court adopts Rexam's proposed construction.

Claim 17 of the '385 patent recites "said reforming roller rotating along said longitudinal wall and about and arcuate path in *substantial radial alignment with said radial inward support*." FN151

FN151. '385 patent, claim 17, 15:32-35.

The parties agree that the '385 patent specification does not explicitly define the "substantial radial alignment" and that the plain meaning of "substantial" is appropriate. Each agree that the roller paths in the embodiments illustrated in the patent "are completely aligned in the radial direction with the corresponding jig or lower can support" and that claim 17 requires "substantial radial alignment, not complete radial alignment." FN152 In support of their respective positions each cites the fourth definition of "substantial" contained in Webster's Third International Dictionary: "4 a: being that specified to a large degree or in the main ... b: of or relating to the main part of something," FN153 with Crown emphasizing "in the main," i.e., more than half.FN154 The court finds these definitions less than helpful.

FN152. D.I. 241 at 43; D.I. 294 at 41.

FN153. D.I. 172 at 30.

FN154. D.I. 241 at 44; D.I. 280 at 35.

Rexam points out that the Federal Circuit has stated that "[t]he term 'substantial' is a meaningful modifier implying 'approximate,' rather than 'perfect.' " FN155 Because the parties agree that the specification provides no helpful guidance, that the figures illustrate complete (or absolute) alignment, and that the claim requires something less than absolute alignment-"substantial alignment"-the court determines that Rexam's proposed construction more closely defines the " 'approximate,' rather than 'perfect' " alignment to which the claim is limited.

FN155. D.I. 294 at 41 (quoting *Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 907 (Fed.Cir.2005)).

Consequently, the court adopts Rexam's proposed construction: "at or almost absolute radial alignment with said radial inward support."

32. *radially inward support* ('385 patent, **claim 17**; '242 patent, **claim 12**)

The parties agree that the proper construction of this term is "a device imparting a force directed against the outside of the container and radially inward toward the longitudinal axis." FN156

FN156. D.I. 325 at 13, 14.

The court adopts the parties' proposed construction.

33. *moving said reforming roller radially* ('385 patent, **claim 17**; '242 patent, **claim 11**)

The parties agree that the proper construction of this term is "moving the reforming roller from a radially inward position to a radially outward position with respect to the longitudinal axis." FN157

FN157. Id.

The court adopts the parties' proposed construction.

34. *reforming roller rotating along said longitudinal wall and about an arcuate path* ('385 patent, **claim 17**)

The parties agree that the proper construction of this term is "reforming roller revolving around its own axis and rolling along the longitudinal wall on a curved path adjacent to the wall." FN158

FN158. Id. at 13.

The court adopts the parties' proposed construction.

35. *reforming roller rotating along said longitudinal wall and circumferentially about an arcuate path* ('385 patent, **claim 11**)

The parties agree that the proper construction of this term is "reforming roller revolving around its own axis and rolling along the longitudinal wall on a circular path adjacent to the wall." FN159

FN159. Id. at 14.

The court adopts the parties' proposed construction.

36. *affects the angle* ('385 patent, **claim 17**; '242 patent, **claims 11 and 17**)

The parties agree that the proper construction of this term is "changes the inclination or shape." FN160

FN160. Id. at 13, 14, 15.

The court adopts the parties' proposed construction.

37. *negative angle* ('242 patent, **claim 17**)

The parties agree that the proper construction of this term is "slope that generally tends to move radially outwards as it moves axially upwards." FN161

FN161. Id. at 15.

The court adopts the parties' proposed construction.

C. '839 patent (the necking patent)

38. forcing said second taper downwardly until it is contiguous with said first taper and reforms only an upper portion of said first taper while producing an extension of said first taper ('839 patent, claim 1)

The parties agree that the proper construction of this term is "overlaps an upper portion of the first taper and extends the first taper, thereby forming a larger uninterrupted taper." FN162

FN162. Id.

The court adopts the parties' proposed construction.

39. enlarged smoothly-shaped neck profile ('839 patent, claim 1)

The parties agree that the proper construction of this term is "smooth shaped neck profile towards the top of the can."

The court adopts the parties' proposed construction.

40. reformed as a part of said second taper on said first taper ('839 patent, claim 2)

The parties agree that the proper construction of this term is "a second curved segment is changed as a result of the second taper being forced downwardly on the first taper." FN163

FN163. Id. at 16.

The court adopts the parties' proposed construction.

41. part formed by each die element partially integrates and blends with the portion formed by a preceding die element ('839 patent, claim 5)

The parties agree that the proper construction of this term is "the portion of the necked-in profile formed by each die partially overlaps and is continuous with the profile formed by the preceding die." FN164

FN164. Id.

The court adopts the parties' proposed construction.

42. through a smooth shaped portion ('839 patent, claim 11)

The parties agree that the proper construction of this term is "through a portion that does not have steps or ribs." FN165

FN165. Id. at 17.

The court adopts the parties' proposed construction.

43. *reforming only an upper part* ('839 patent, claim 11)

The parties agree that the proper construction of this term is "changing only a part of the necked-in portion that is adjacent the cylindrical portion." FN166

FN166. D.I. 325 at 17.

The court adopts the parties' proposed construction.

CONCLUSION

In light of this claim construction Order, each party shall advise by letter no later than 4:30 p.m., Wednesday, May 23, 2007, whether any of its respective summary judgment motions are withdrawn as moot because of a genuine issue of material fact. This Order is **not** an invitation for further argument on the summary judgment motions.

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