IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

KRAFT FOODS GROUP BRANDS LLC, Plaintiff, v. TC HEARTLAND, LLC d/b/a HEARTLAND FOOD PRODUCTS GROUP and HEARTLAND PACKAGING CORPORATION, Defendants.	)	C.A. No. 14-028 (LPS)(CJB)

HEARTLAND'S OPENING BRIEF REGARDING CLAIM CONSTRUCTION

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NATURE AND STAGE OF THE PROCEEDINGS

On January 14, 2014, plaintiff Kraft Foods Group Brands LLC ("Kraft" or "Plaintiff") filed suit against defendants TC Heartland, LLC d/b/a Heartland Food Products Group and Heartland Packaging Corporation (collectively "Heartland" or "Defendants"), asserting infringement of U.S. Patent Nos. 8,293,299, 8,603,557, and 8,511,472. On June 23, Heartland filed a motion to dismiss or transfer this action to the Southern District of Indiana. (D.I. 7.) On January 22, 2015, the parties submitted a proposed scheduling order (D.I. 37) pursuant to court order (D.I. 32), adopted on February 9. (D.I. 38.) On April 29, Heartland petitioned the United States Patent and Trademark Office ("PTO") for *inter partes* review of all claims of the asserted patents.

On August 13, 2015, Judge Burke issued a report and recommendation denying Heartland's motion to dismiss or transfer. (D.I. 59.) On September 24, 2015, the Court adopted Judge Burke's report and recommendation. (D.I. 80.) On October 23, 2015, Heartland filed a petition for writ of mandamus (D.I. 101) seeking an order transferring this action to the Southern District of Indiana pursuant to 28 U.S.C. § 1400(b) and controlling Supreme Court precedent.

On October 19, 2015, the parties filed a joint claim construction chart. (D.I. 93.) On November 4, the PTO instituted *inter partes* review proceedings with respect to all claims of all three asserted patents. This is Heartland's opening brief regarding claim construction.

THE PATENTS

U.S. Patent No. 8,293,299 ("the '299 Patent," Ex. 1, A002–39) issued October 23, 2012, on an application filed December 30, 2011. Portions of the file history are in Ex. C to D.I. 93.

U.S. Patent No. 8,603,557 ("the '557 Patent," Ex. 2, A041–81) issued December 10, 2013, on an application filed October 29, 2012, as a "continuation" of the application which led

to issuance of the ’299 Patent. The ’299 and ’557 Patents have nearly identical specifications. Portions of the file history are in Ex. E to D.I. 93.

U.S. Patent No. 8,511,472 (“the ’472 Patent,” Ex. 3, A083–96) issued on August 20, 2013. Portions of the file history are in Ex. G to D.I. 93.

SUMMARY OF THE ARGUMENT

The claims of the ’299 Patent recite a flavored beverage concentrate “having a pH of *about* 1.9 to *about* 2.4” and a “ratio” of the “acid” and certain “buffer” constituents that is “selected to provide the concentrate with at least about 5 times more acid than *an otherwise identical non-buffered concentrate* having the same pH.” This claim phrase is invalid for indefiniteness. By reason of prosecution history estoppel, the claim phrase “pH of about 1.9 to about 2.4” should be construed as limited to a pH of 1.9 to 2.4 when rounded to two significant figures..

The claims of the ’557 Patent, which is a “continuation” of the ’299 Patent, recite “a packaged flavored liquid beverage concentrate” comprising both a container and a beverage concentrate. Insofar as they characterize elements of a liquid beverage concentrate, words and phrases in the ’557 Patent claims should be construed the same as corresponding words and phrases in the ’299 Patent claims. Insofar as they recite a container, in view of the state of the art, the ’557 Patent claims should be construed as limited to approximate copies of the purportedly novel container that the ’557 Patent specification discloses.

The claims of the ’472 Patent recite a “container containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate.” The ’472 Patent claims should be construed as limited to approximate copies of the two purportedly novel containers that the ’472 Patent specification discloses.

ARGUMENT

I. "to provide the concentrate with at least 5 times more acid than an otherwise identical non-buffered concentrate having the same pH" – '299 Patent, claims 1–17, 21; '557 Patent, claim 10

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	This language fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.

Claims 1–17 of the '299 Patent and claim 10 of the '557 patent recite a flavored beverage concentrate comprising (i) "about 15.0 to about 30.0 percent acid by weight;" (ii) "up to about 10.0 percent buffer by weight;" (iii) "about 1.0 to about 30.0 percent flavoring by weight;" and (iv) "the ratio of the acid and buffer selected to provide the concentrate with at least about 5 times more acid than *an otherwise identical non-buffered concentrate* having the same pH." These claims define the purported invention by comparison to a reference concentrate, namely, "an otherwise identical non-buffered concentrate having the same pH." The recital, "an otherwise identical non-buffered concentrate having the same pH," is self-contradictory, ambiguous, and fails to inform those skilled in the art about the scope of the alleged invention with reasonable certainty. *See Nautilus, Inc. v. Biosig Instruments,* 134 S. Ct. 2120, 2124, 2129–30 (2014).

As noted above, the claimed concentrate comprises "up to about 10.0 percent buffer by weight." The hypothetical reference concentrate is "non-buffered." Removal of all buffer constituents from a claimed concentrate would yield a "non-buffered" concentrate but such a "non-buffered" concentrate would not be "otherwise identical" to the claimed concentrate. For example, if a claimed concentrate comprised 10.0% buffer by weight, removal of the buffer constituents would result in a composition whose proportions of acid, water and flavoring would be different from those of the claimed concentrate. How does one make such a composition "otherwise identical" to a claimed concentrate? The '299 and '557 Patents provide no clue.

During prosecution, Kraft overcame an indefiniteness rejection as to certain dependent

claims with the bare assertion, "one of ordinary skill in the art can readily calculate the ratio of acid and buffer within the claimed ranges to provide the concentrate with at least about 5 times more acid than an otherwise identical non-buffered concentrate having the same pH." (D.I. 93 Ex. C, HFPG 330356.) In fact, the phrase "otherwise identical non-buffered concentrate" has no established meaning in the beverage concentrate art. The '299 and '557 Patents do not describe how to prepare such a reference concentrate and do not provide any examples of such a reference concentrate. (O'Keefe Decl., Ex. 10, A240.)

The permissible ranges of acid and buffer in the claims and common specification of the '299 and '557 Patents are expressed as ***weight percentage***, that is, each component is specified as a percentage of the ***total*** weight of the concentrate. Claim 1 of the '299 patent, for example, specifies "about 15.0 to about 30.0 percent acid by weight" and "up to about 10.0 percent buffer by weight." Under claim 1, up to about 40 percent of the concentrate can be acid and buffer. If all of the buffer and four-fifths (or more) of the acid is removed[1] from a claimed concentrate in order to create a "non-buffered concentrate," the result is a composition that has at least 34% less weight than the claimed concentrate, not a composition that is "otherwise identical" to it.

None of the claims, specifications, or prosecution histories provide guidance to a person skilled in the art with respect to how to make a reference concentrate that is "otherwise identical" to a claimed concentrate. One might speculate that an "otherwise identical" reference composition is one whose non-buffer constituents have the same *absolute* weights as corresponding constituents in a claimed concentrate though their weight percentages of the total composition might differ significantly. Alternatively, one might speculate that an "otherwise identical" reference composition is one whose non-buffer constituent weight percentages are held constant by the ad-

[1] To obtain "the same pH" as a buffered concentrate, a non-buffered concentrate must have less acid.

dition of a further constituent, such as water, to replace the weight or removed buffer constituents of a claimed composition.[2] Yet further alternatively, one might speculate that an "otherwise identical" reference composition must meet the limitations of the non-buffer elements of a corresponding claimed concentrate. These three different ways of making a reference concentrate yield different literal claim scope. (O'Keefe Decl., Ex. 10, A240–44.)

Kraft's infringement contentions (Ex. 4, A107–08) fail to explain what Kraft contends constitutes an "otherwise identical non-buffered concentrate having the same pH," despite Heartland's seeking a definition from Kraft in discovery (D.I. 72) and Kraft's stipulation to entry of an Order requiring Kraft to provide detailed contentions as to ten selected concentrates. (D.I. 74.) Where, as here, there is no "reasonable certainty" that a claim phrase means a particular thing, it is indefinite. *See, e.g., Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1344–45 (Fed. Cir. 2015) (claim reciting "average molecular weight" was indefinite because no "reasonable certainty" as to its meaning); *Butamax Advanced Biofuels LLC v. Gevo, Inc.*, __ F. Supp. 3d __, 2015 WL 4611285, at *5 (D. Del. Aug. 3, 2015) (same); *Andrulis Pharm. Corp. v. Celgene Corp.*, No. 13-1644, 2015 WL 3978578, at *5 (D. Del. June 26, 2015) (same).

II. "selected" (in "selected to provide") – '299 Patent, claims 1, 5, 6, 21; '557 Patent, claims 15, 23

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	"calculated at the time of formulation"

The prosecution history and the claim language "selected," as used in the phrase "selected to provide" in Claims 1, 5, 6, and 21 of the '299 Patent, and claims 15 and 23 of the '557 Pa-

[2] In its recent successful petitions for *inter partes* review, Heartland speculated that adding water to replace buffer was a permissible way to make an "otherwise identical" reference composition under the "broadest reasonable construction" standard that currently prevails for *inter partes* review in the PTO. *See In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268 (Fed. Cir. 2015), *petition for cert. filed*, 84 U.S.L.W. 3218 (U.S. Oct. 6, 2015) (No. 15-446).

tent, means "calculated at the time of formulation."

The claims Kraft filed at the beginning of prosecution of the '299 Patent on December 30, 2011 required only that the composition be "effective" to provide at least five times more acid than an otherwise identical non-buffered concentrate having the same pH. (*See* D.I. 93 Ex. C, HFPG 329685–92.) In the first office action, the Examiner rejected several of these claims as indefinite because "it is unknown what amounts of acid and buffer would be required to constitute an 'effective ratio' to maintain the acidity level at the claimed values." (*Id.*, HFPG 330303.) In response, on June 7, 2012 Kraft amended the independent claims of the application for the '299 Patent by changing "effective to" to "selected to" (*see id.*, HFPG 330347) and by clarifying that a person of ordinary skill in the art must ***calculate*** what amount of acid must be included, and what the pH must be, in the non-buffered concentrate. Kraft stated:

> Accordingly, Applicants respectfully submit that one of ordinary skill in the art ***can readily calculate*** the ratio of acid and buffer within the claimed ranges to provide the concentrate with at least about 5 times more acid than an otherwise identical non-buffered concentrate having the same pH. Nonetheless, Applicants have amended claims 127, 132, and 133 to recite "the ratio of the acid and buffer ***selected*** to provide…"

(*Id.*, HFPG 330356 (emphases added).) The amended claims were allowed, and the '299 Patent issued. (*See id.*, HFPG 330900.) The same claim language was repeated in the continuation '557 Patent, which also issued after Kraft filed a terminal disclaimer against the '299 Patent.

Kraft seeks a "plain and ordinary meaning" construction of "selected" that essentially would read that term as "effective." But that is precisely the claim language that Kraft discarded in prosecution. No matter what "selected" means, it cannot mean "effective." Instead, consistent with the dictionary definition of the verb "select" as "to choose or pick out in preference to another or others" (*see* Ex. 5, A192–95) and as confirmed by the prosecution history above, the claimed concentrate must be ***picked out*** or ***chosen*** to have the same pH and at least five times

more acid than the non-buffered concentrate. Heartland's construction should be adopted.

III. "a pH of about 1.9 to about 2.4" - '299 Patent claims 1, 18; '557 Patent, claim 1

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	"a pH of 1.9 to 2.4 when rounded to two significant figures"

The claim language "a pH of about 1.9 to about 2.4," in independent Claims 1 and 18 of the '299 Patent and Claim 1 of the continuation '557 Patent, was the subject of a narrowing amendment during prosecution that disclaimed a broader pH range. That amendment was made to secure the patentability of these claims in view of prior art. Under well-established Supreme Court precedent, those amendments should estop Kraft from any attempt to enlarge the scope of those claims via a "plain and ordinary meaning" interpretation or otherwise.

pH is defined as the negative logarithm of the hydrogen ion activity (which is proportional to the concentration of hydrogen ions) in a water solution. (*See* Ex. 6, A200–02.) Although some hydrogen ions H^+ are naturally present in water (which has a pH value of 7.0), dissolving an acid HA in water creates additional hydrogen ions H^+ through the dissociation reaction $HA \leftrightarrow H^+ + A^-$ which lowers the pH. (*See* Ex. 6, A200, A204–08.) The pH scale is logarithmic. Each decrease of 0.1 pH units corresponds to an increase of more than 25% in the concentration of hydrogen ions in the water solution. Accordingly, although the specification of the '299 and '557 Patents occasionally discloses measurements of pH values to three significant figures (*see* '299 Patent, 29:1–42), it consistently uses only two significant figures (*e.g.*, "3.5," "3.0," "2.3," "1.4") to describe upper and lower bounds of pH ranges or targets. (*See id.*, 4:7–16, 4:43–50, 21:35–42, 22:46–49, 23:10–15, 23:34–40, Table 14, Table 20.)

As initially filed on December 30, 2011, independent claim 127 of the application for the '299 Patent recited "a pH of about 1.4 to about 3.0." (*See* D.I. 93 Ex. C, HFPG 329685–86.) On April 23, 2012, the Examiner of this application rejected the pending claims under 35 U.S.C.

§ 103(a) as being unpatentable over U.S. Patent No. 4,830,862 to Braun et al. ("Braun") in view of other prior art. (*See id.*, HFPG 330303–07; *see also* Ex. 7, A210–20.) The Examiner stated:

> 14. Regarding claims 145, 146 Braun discloses a method of preparing a flavored beverage concentrate ***having a pH of about 2.5*** (col. 10, paragraph 3) . . . .
>
> 16. Claims 127, 130 – 133, 138, and 155 are rejected over Braun as further evidenced by Hing-Cheung and Pearce for the same reasons given above in the rejection of claim 145.

(D.I. 93 Ex. C, HFPG 330304–05 (emphasis added).) In response, on June 7, 2012 Kraft amended independent claim 127 to narrow the range of pH values recited in the claim:

> 127. (Currently amended) A flavored beverage concentrate having a pH of about ~~1.4~~ 1.9 to about ~~3.0,~~ 2.4, the flavored beverage concentrate comprising . . . .

(*Id.*, HFPG 330347.) Kraft also introduced new application claim 157 having the same language. (*See id.*, HFPG 330350.) In support of these amendments, Kraft's inventor, Dr. Karl Ragnarsson, submitted a declaration that emphasized the alleged benefits of a concentrate having a pH of only "about 1.9 to about 2.4" and affirmatively disclaimed pH values outside of that range. (*See id.*, HFPG 330359–61.) The Examiner accepted the amendments. The amended application claims 127 and 157 subsequently issued as Claims 1 and 18 of the '299 Patent, respectively. (*See id.*, HFPG 330900.)

Kraft's infringement contentions (*e.g.*, Ex. 4, A103–04) and its "plain and ordinary meaning" definition seek a broader range of pH values than what was claimed. "Where the original application once embraced the purported equivalent but the patentee narrowed his claims to obtain the patent or to protect its validity, the patentee cannot assert that he lacked the words to describe the subject matter in question." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 734–35 (2002). Here, the "prior application describing the precise element at issue" specifically identified a broader pH range in the claims and in the specification (*see* '299 Patent, 4:7–16, 4:43–50, 23:10–15, 23:34–40), undercutting any premise that Kraft "lacked the

words to describe the subject matter in question." *See* 535 U.S. at 734–35. The June 7, 2012 claim amendments and Dr. Ragnarsson's declaration specifically calling out both the lower and upper pH limits of 1.9 and 2.4 establish that Kraft and its named inventors "turned [their] attention to the subject matter in question, knew the words for both the broader and narrower claim, and affirmatively chose the latter" (*id.*) for a reason substantially related to patentability: the avoidance of prior art such as Braun that fell within the broader range, and any obviousness combinations. The estoppel also applies to the continuation '557 Patent, which repeats the same language in issued Claim 1. Indeed, the Examiner's only rejection of the application that led to the '557 Patent was for double-patenting over the '299 Patent. (*See* D.I. 93 Ex. E, HFPG 327249–51.) Kraft overcame that rejection by filing a terminal disclaimer. (*See* D.I. 93 Ex. E, HFPG 327249–51, HFPG 327702, HFPG 327735–38.)

Heartland's definition makes sense in light of the logarithmic pH scale, where a decrease of just 0.1 pH units corresponds to an increase of more than 25% in the concentration of hydrogen ions, and in view of uncertainties inherent in pH measurements (*see* Exs. 12-14, A290-340). Heartland's definition is also consistent with the specification's consistent usage of two significant figures to specify pH targets or ranges. (*See* '299 Patent, 4:7–16, 4:43–50, 21:35–42, 22:46–49, 23:10–15, 23:34–40, Table 14, Table 20.) It is also consistent with the prosecution history. When rounded to two significant figures, a composition having a pH of 2.5, for example, cannot be encompassed by "about 2.4." Accordingly, Heartland's definition should be adopted.

IV. "a pH of less than about 2.4" – '557 Patent, claims 15, 23

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	"a pH that is less than 2.4 when rounded to two significant figures"

Like the claim language "a pH of about 1.9 to about 2.4" discussed in the previous section, the claim language "a pH of less than about 2.4" present in independent claims 15 and 23 of

the ’557 Patent was the subject of a narrowing amendment during prosecution. This narrowing amendment should estop Kraft from now asserting a broader claim against Heartland under the guise of a “plain and ordinary meaning.”

As explained in the previous section, claim 127 of the application for the parent ’299 Patent recited “a pH of about 1.4 to about 3.0” when it was first filed. On April 23, 2012, the Examiner rejected that claim as unpatentable over prior art including the Braun reference that disclosed a pH value of 2.5. (*See* D.I. 93 Ex. C, HFPG 330303-07; *see also* Ex. 7, A210–20.) On June 7, 2012, Kraft amended claim 127 in response to the Examiner’s rejection and modified the recited pH values to have an upper bound of 2.4. (*See* D.I. 93 Ex. E, HFPG 330347.) The amendments were accepted, and the claims went on to issue in first the ’299 Patent and later the ’557 Patent. (*See id.*, HFPG 330900; *see also* D.I. 93 Ex. E, HFPG 327249–51.) Accordingly, prosecution history estoppel should prevent Kraft from attempting to recapture purported equivalents, such as a pH value of 2.5, that Kraft had once explicitly claimed but intentionally abandoned. *See Festo*, 535 U.S. at 734–35. Heartland’s definition is in line with the prosecution history, consistent with the claim language’s description of pH values to two significant figures (*e.g.*, “2.4”), and consistent with the ’299 and ’557 Patents’ disclosures of pH values to three or more significant figures, which can be rounded up or down to two significant figures.

V. “about 65 percent water by weight” - ’299 Patent, claims 1, 18; ’557 Patent, claims 1, 15, 23

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	“65 percent water by weight when rounded to two significant figures”

The claim language “about 65 percent water by weight” was the subject of a narrowing amendment during prosecution of the ’299 Patent family. A broader range also was explicitly disclosed in the specification, and was disclaimed. Kraft should not now be permitted to enlarge the scope of its claims by asserting that this language has its “plain and ordinary meaning.”

As initially filed on or about December 30, 2011, claim 127 of the application for the '299 Patent recited "about 30 to about 80 percent water." (*See* D.I. 93 Ex. C, HFPG 329686.) On April 23, 2012, the Examiner rejected these claims pursuant to 35 U.S.C. § 103(a) as being unpatentable over prior art, including U.S. Patent No. 4,830,862 to Braun et al. ("Braun"). (*See id.*, HFPG 330303–07; s*ee also* Ex. 7, A210–20.) In response, on June 7, 2012 the applicants amended claim 127 to *reduce* the claimed water content while *simultaneously increasing* the minimum acid content:

> 127. (Currently amended) A flavored beverage concentrate having a pH of about ~~1.4~~ 1.9 to about ~~3.0,~~ 2.4, the flavored beverage concentrate comprising:
> about 30 to about ~~80~~ 65 percent water;
> about ~~5.0~~ 15.0 to about 30.0 percent acid; . . . .

(*Id.*, HFPG 330347.) The applicants also introduced new application claim 157 having the same language. (*See id.*, HFPG 330350.)

The change in the claimed percentage of water was directly related to patentability. The originally filed claims of the '299 application were inoperable insofar as concentrates comprising up to "30.0 percent acid," and "80 percent water," are impossible. The exemplary concentrates disclosed in the '299 and '557 Patents consistently have acid content in these ranges. *See, e.g.*, '299 Patent, Table 12 (24.5% citric acid), Table 15 (20.00 percent weight citric acid), Table 16 (16.00 percent citric acid, 5.00 percent malic acid), Table 24 (preferred range 15.0–25.0 percent acid, 50.0–65.0 percent water). Accordingly, it was necessary for Kraft to reduce the maximum water content to 65 percent (while narrowing the minimum claimed acid to about 15 percent) in order to permit the claims of the '299 Patent to issue over the art of record before the Examiner. *See Festo*, 535 U.S. at 734–35.

Moreover, the '299 and '557 Patent specifications explicitly disclose a range of up to 80 percent water. (*See* '299 Patent, 5:4–9, Table 24 ("Range %").) A person of ordinary skill in the

art, reading the specification and prosecution history, would conclude that the applicants' failure to claim these disclosed alternative embodiments having up to 80 percent water, and instead claiming only up to 65 percent water (*see* '299 Patent, Table 24 ("Preferred Range")), dedicated the broader range of concentrates to the public. *See, e.g., Johnson & Johnston Assocs. Inc. v. RE Service Co.*, 285 F.3d 1046, 1054–55 (Fed. Cir. 2002); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1108 (Fed. Cir. 1996). The applicants for the '557 Patent did not attempt to recapture the water range disclaimed during prosecution of the '299 Patent. Instead they filed terminal disclaimers against the parent '299 Patent. (*See* D.I. 93 Ex. E, HFPG 327249–51, HFPG 327702, HFPG 327735–38.) Because Heartland's definition is consistent with the claim language, specification, and prosecution history, Heartland's proposed definition should be adopted.

VI. "up to about [10.0/3.0/10] percent buffer by weight" - '299 Patent claims 1, 18; '557 Patent claims 1, 15, 23

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	"a quantity of buffer that is greater than zero and less than or equal to [10.0/3.0/10] percent when rounded to two significant figures"

Heartland's proposed construction should be adopted for at least two reasons. ***First,*** Kraft's "plain and ordinary meaning" interpretation could allow the jury to conclude, improperly, that concentrates having no buffer are encompassed by the claims. But that would vitiate this claim limitation. *See Brilliant Insts., Inc. v. Guidetech, LLC*, 707 F.3d 1342, 1347 (Fed. Cir. 2013) ("The vitiation concept has its clearest application where the accused device contains the antithesis of the claimed structure.") (quotation omitted). The specification and prosecution history emphasize the importance of a "buffer selected from the group consisting of a potassium salt of an acid, a sodium salt of an acid, and combination thereof" to the alleged inventions claimed by the '299 and '557 Patents. For example, named inventor Karl Ragnarsson's declaration disclaimed acid-only formulations, asserting that while "the amount of acid was important" to the

concentrates he sought to formulate, he "was concerned with . . . stability . . . at this low pH and high acid content." (D.I. 93 Ex. C, HFPG 330359.) Dr. Ragnarsson asserted that he "began adding buffer to increase the pH of the formulation while maintaining high levels of acid," (*id*.) and further asserted that both acid *and* buffer were important features of his alleged invention. (*See id.*, HFPG330360–61 ("I discovered that certain levels of acid and buffer were important . . . . The total amount of buffer was also important . . . .").)

Second, many claims require a comparison between the claimed concentrate and an "otherwise identical non-buffered concentrate having the same pH." Accordingly, the claimed concentrate must have at least some substantial amount of "buffer selected from the group consisting of a potassium salt of an acid, a sodium salt of an acid, and combination thereof." Kraft's interpretation ignores this fact, and would require claims such as Claim 1 of the '299 Patent to cover a non-buffered concentrate that has "at least five times more acid" than itself. That is impossible.

VII. The Packaging Limitations of the '472 and '557 Patent Claims Should Be Construed as Encompassing Only Approximate Copies of Embodiments Disclosed

"§ 271(a) of the new Patent Code, which defines 'infringement,' left intact the entire body of case law on direct infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 342 (1961). *Accord Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 26 (1997) ("In the context of infringement, we have already held that pre-1952 precedent survived the passage of the 1952 Act."). In *Winans v. Denmead*, 56 U.S. (15 How.) 330 (1854), the Supreme Court set forth the following legal standard for determining the identity of "the thing patented" as a predicate for patent infringement analysis:

> In this, as in most patent cases, founded on alleged improvements in machines, in order to determine what is ***the thing patented***, it is necessary to inquire
>
> 1. What is the structure or device, described by the patentee, as embodying his invention?
>
> 2. What mode of operation is introduced and employed by this structure or device?
>
> 3. What result is attained by means of this mode of operation?

> 4. Does the specification of claim cover the described mode of operation by which the result is attained?

Id. at 338 (emphasis added).

Under Supreme Court patent precedent, ascertaining the meaning of claim words is but one part of the analytical process prescribed by the Supreme Court for determining what constitutes a "patented invention" under 35 U.S.C. § 271(a). Patent claim words "'define the scope of a patent *grant*,'" *Markman v. Westview Instruments, Inc*., 517 U.S. 370, 373 (1996) (quoting 3 E. Lipscomb, Walker on Patents § 11:1, at 280 (3d ed. 1985) (emphasis added)),[3] but they do not necessarily provide an accurate description of a person's actual *invention*. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l,* 134 S. Ct. 2347, 2360 (2014) (claims formally reciting machinery held invalid as being "directed to" an unpatentable legal relationship).

With equal clarity, the Supreme Court has instructed that patent claim words cannot expand a patentee's rights beyond equivalents of corresponding structure, material, or acts described in a patent's specification. *See, e.g., Festo,* 535 U.S. at 736 ("What is claimed by the patent application must be the same as what is disclosed in the specification; otherwise the patent should not issue."); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co*., 336 U.S. 271, 277 (1949) (patent claims "fail equally to perform their function as a measure of the grant when they overclaim the invention").

Patent claims are not analogous to statutes, but point to an *external thing*, *i.e.*, structure, material, or acts that constitute the "invention" that is "patented":

> The specifications . . . profess to describe mechanisms and complicated machinery, chemical compositions and other manufactured products, which have their existence *in pais,* outside of the documents themselves . . . . Indeed, the whole

[3] 35 U.S.C. § 154(a)(1) (2012) provides that "[e]very patent shall contain . . . *a grant* to the patentee, his heirs or assigns, of the right to exclude others from making using, offering for sale, or selling the *invention* throughout the United States, . . . *referring to the specification for the particulars thereof*." (Emphasis added.)

> subject-matter of a patent is an embodied conception outside of the patent itself . . . . This outward embodiment of the terms contained in the patent is the thing invented, and is to be properly sought, like the explanation of all latent ambiguities arising from the description of external things, by evidence *in pais* . . . . *It is not the construction of the instrument, but the character of the thing invented, which is sought in questions of identity and diversity of inventions.*

Markman, 517 U.S. at 385–86 (1996) (emphasis in original in *Markman*)).

In *Eibel Process Co. v. Minnesota & Ontario Paper Co*., 261 U.S. 45, 63 (1923), the Supreme Court provided a comprehensive restatement of how federal courts are to go about analyzing whether a patent is, or is not, infringed by use of an accused product or process:

> In administering the patent law the court first looks into the art to find what the real merit of the alleged discovery or invention is and whether it has advanced the art substantially. If it has done so, then the court is liberal in its construction of the patent to secure to the inventor the reward he deserves. If what he has done works only a slight step forward and that which he says is a discovery is on the border line between mere mechanical change and real invention, then his patent, if sustained, will be given a narrow scope and infringement will be found only in approximate copies of the new device.

See also Westinghouse Elec. & Mfg. Co. v. Formica Insulation Co., 266 U.S. 342, 350 (1924) ("As between the owner of a patent and the public, the scope of the right of exclusion granted is to be determined in the light of the state of the art at the time of the invention.").

The '472 Patent discloses only two embodiments of a flip top container. *See* '472 Patent, Figs. 1–12 (egg-shaped), Fig. 13 (handlebar-shaped). The '557 Patent discloses only a single embodiment of a flip top container in Fig. 1. The prosecution history of both these patents makes clear that these containers were at best minor improvements over prior tapered-top packaging art.

For example, the examiner of the '472 Patent rejected all claims as obvious in light of the tapered-top, egg-shaped container of U.S. Design Pat. No. 428,816 ("Shiokawa"). (D.I. 93 Ex. G, HFPG 326972–79; *see also* Ex. 8, A222–25.) Like the embodiments in the '472 and '557 Patents, Shiokawa (see figures at right) discloses a container

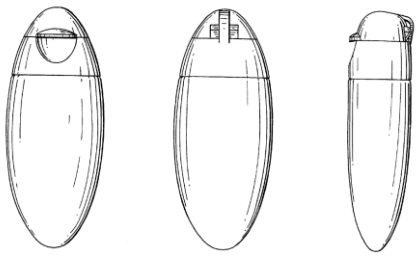
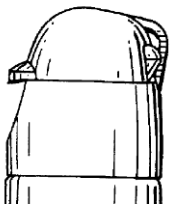


FIG. 1 FIG. 2 FIG. 3

with a tapered top and a flip top cap which, the Examiner noted, could be used with liquids and could be combined with shrink wrap prior art to obtain a tamper evident seal. (*See* D.I. 93 Ex. G, HFPG 326972–73.) Although Kraft tried to distinguish Shiokawa (*see id.*, HFPG 326985, HFPG 326988), the claims of the ’472 Patent were allowed over Shiokawa only after Kraft amended its claims to require that “the hinged part of the cap . . . is completely covered by the shrink wrap sleeve such that there are no gaps between the top edge of the shrink wrap sleeve and the hinged part of the cap above the hinge.” (*See id.*, HFPG 327022–23, HFPG 327027, HFPG 327035–41.) Kraft’s amendment appears to have been based on Kraft’s argument that the hinge of the Shiokawa package (shown at right) “protrudes rearwardly and toward the top to such an extent” that “significant gaps” will result. (*See id.*, HFPG 327000.) “Such gaps can disadvantageously act as a ‘crumb catcher,’ providing a path for crumbs and other debris to enter between the shell and the bottle.” (*Id.*)



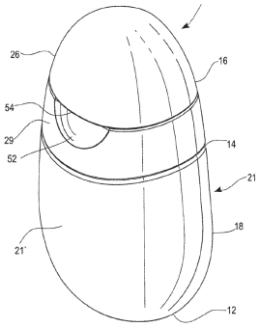
The prosecution history of the ’557 Patent likewise clarifies that the packaging limitations recited in the ’557 Patent cover wholly conventional packaging readily found in the prior art. In the first office action, the Examiner stated, “Regarding a particular container body, lid, and valve, it is obvious that in order to provide a flavored liquid beverage concentrate to the ultimate consumer said concentrate would necessarily have to have been provided in some form of closed container from which the concentrate would be dispensed in order to produce a finished beverage.” (D.I. 93 Ex. E, HFPG 327250.) “In any case,” the Examiner continued, U.S. Patent No. 6,089,411 to Baudin (Ex. 9, A227–35) “discloses that it would have been obvious to provide to provide a conventional container body capable of containing a liquid food product where said container would have” the limitations recited in the claims of the ’557 Patent. “With respect to the recitations of various surface shapes and/or contours and/or protuberances regarding the con-

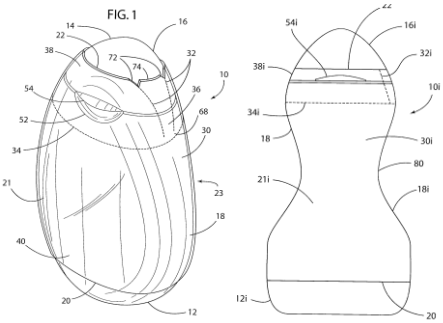
tainer recited in the claims it is not be seen that patentability would be predicated on the particular shape/contours/protuberances." (*Id.*, HFPG 327251.) Nevertheless, the Examiner allowed the '557 Patent to issue upon Kraft's filing of a terminal disclaimer over its parent, the '299 Patent, as the claims of both patents include limitations directed to beverage concentrates. (*See id.*, HFPG 327249–51, HFPG 327702, HFPG 327735–38.)

Under *Eibel*, packaging limitations of the '472 and '557 Patents should be "given a narrow scope" and construed as encompassing only "approximate copies" of the container described in the specifications of the patents. *See* 261 U.S. at 63. The flip top containers disclosed were—at most[4]—a "slight step forward" in view of similarly shaped flip top containers. *Cf. Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 663, 676 (Fed. Cir. 2008) (en banc) (for purposes of determining scope of design patent, prior art must be considered). Set forth below are images of a Heartland and the three Kraft patented containers:

Heartland Container **'557 Patent Container** **'472 Patent Containers**







However vague or abstract might be the words Kraft chose to characterize the containers disclosed in the '557 and '472 Patents, those words cannot rightly encompass more than Kraft's actual alleged invention. The Heartland container disclosed in U.S. Design Pat. No. D720,622 to Gelov, shown at left, has nothing in common with the containers disclosed in the '557 and '427

[4] The PTO has instituted *inter partes* review of the '472 Patent claims on multiple grounds of invalidity under 35 U.S.C. § 103.

patents except generic prior art elements.

VIII. "A container containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate" – '472 Patent, All claims

Kraft	Heartland
Limiting	The preamble is not a limitation.

The preamble of the only independent claim, "containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate," does not limit the scope of the claims. In general, a preamble is not limiting where the claim body defines a structurally complete invention and the preamble only states a purpose or intended use. *See Catalina Mktg. Int'l, Inc. v. Coolsavings.com*, 289 F.3d 801, 808 (Fed. Cir. 2002). That is true here. Deletion of the preamble would not affect the structure of the claimed invention and none of the claims rely on "containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate" for antecedent basis purposes. *See id*. at 808–09.

The applicants' citations of the preamble in remarks during prosecution do not qualify as "clear reliance" on the preamble "to distinguish the claimed invention from the prior art," *see id.*, because the Examiner never agreed to allow any of the claims in response to the applicants' arguments. Instead, the claims were allowed only after a separate limitation was imported from dependent claim 26 into independent claim 1. *See Symantec Corp. v. Computer Assocs. Int'l, Inc.*, 522 F.3d 1279, 1288–89 (Fed. Cir. 2008) (finding no clear reliance when preamble and limitation were amended concurrently to overcome prior art).

Specifically, in an office action dated December 17, 2012 (D.I. 93 Ex. G, HFPG 326970–81), the Examiner finally rejected all but two of the then-pending claims under 35 U.S.C. § 103(a) in view of (1) U.S. Patent No. 6,385,878 to Key ("Key") and (2) Shiokawa. Applicants' response dated March 18, 2013 traversed the Examiner's rejections and proposed seven new claims. While the response argued that Shiokawa did not disclose a container configured "for

squeezing to dispense a jet of the liquid concentrate," (*see id.* at HFPG 326993), it alternatively proposed a new dependent claim 26: "The container of claim 1, wherein the hinged part of the cap is moveable about a protruding hinge and the top edge of the shrink wrap sleeve terminates at a height such that the hinge is completely covered by the shrink wrap sleeve *such that there are no gaps between the top edge of the shrink wrap sleeve and the hinged part of the cap above the hinge*." (*See id.* at HFPG 326700 (emphasis added).) It was this second, alternative argument —and ***not*** the argument that Shiokawa did not disclose a container configured for squeezing to dispense a jet of the liquid concentrate—that ultimately prevailed. On April 30, 2013 the applicants amended then-pending claim 1 to incorporate the limitations of the newly proposed dependent claim 26. (*See id.*at HFPG 327022–23.) The supplemental amendment was accepted, and the claims of the '472 Patent were allowed to issue. (*See id.* at HFPG 327035–41.)

IX. "shrinkage rate" – '472 Patent, claim 10

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	This language fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.

Claim 10 of the '472 Patent recites: "The container of claim 1, wherein the shrink wrap sleeve has a shrinkage rate of about 75 percent to about 85 percent." But the term "shrinkage rate" is indefinite because it has no particular meaning to a person of ordinary skill in the art.

The specification does not set forth any express or implied definition for the term "shrinkage rate." Instead it merely states that the "[s]hrinkage of the shrink wrap sleeve 30 can be at a shrinkage rate of ***about 75 percent to about 85 percent*** (preferably about 76 percent)." *See* '472 Patent, 2:62–64, 5:17–20. The specification fails to provide any information about how the "shrinkage rate" is determined or the parameters used to calculate it. If anything, the specification creates confusion in that it discloses a "percent distortion" of the shrink wrap sleeve after printing, which can range from 135% to 120%. *See* '472 Patent, 5:55–64. There is nothing to in-

dicate that the shrink wrap's distortion percentage is linked to (or not linked to) the shrinkage rate. The claim language and prosecution history are similarly unavailing.

Documentary and expert evidence also demonstrates that "shrinkage rate" has no special meaning in packaging science or shrink sleeve labeling. *See* Kimmel Decl. (Ex. 11, A260). Whereas "rates" are usually expressed in terms of the relationship between two values (such as "miles per hour"), the term "shrinkage rate" is not. *See id.*. Even if Kraft were to attempt to redefine "shrinkage rate" as some other value, such as "percent shrinkage," the '472 Patent provides no information as to how and under what conditions that shrinkage is measured. (*Id.*, A260–61.)

X. "shrinkage ratio" – '472 Patent, claim 11

Kraft	Heartland
Plain and ordinary meaning as understood by one of ordinary skill in the art	This language fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.

The term "shrinkage ratio" is similarly indefinite. It has no particular meaning to a person of ordinary skill in the art. The specification does not set forth any express or implied definition for the term. The specification discloses that "[t]o accommodate containers shaped irregularities, a maximum to minimum shrinkage ratio should be at least 2:1." '472 Patent, 3:58–60. The specification further discloses that the shrink wrap should "have a shrink ratio selected to preferably withstand a shrinkage ratio of about 2:1." *Id.*, 5:19–20. Although "shrink ratio" does have a specific meaning in the field of shrink sleeve labels, the '472 Patent does not use it in that sense. *See* Kimmel Decl., A262. The specification fails to disclose (1) how the shrinkage ratio is calculated or (2) the parameters used to determine the ratio. *See id.*

CONCLUSION

For the foregoing reasons, Heartland asks that its proposed interpretations of the claims be adopted.

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