

**United States Court of Appeals
for the Federal Circuit**

THE C.W. ZUMBIEL COMPANY, INC.,
Appellant,

v.

**DAVID J. KAPPOS, DIRECTOR,
UNITED STATES PATENT AND TRADEMARK
OFFICE,**
Appellee,

AND

GRAPHIC PACKAGING INTERNATIONAL, INC.,
Cross-Appellant.

2011-1332, -1333

(Reexamination No. 95/000,077)

Appeal from the United States Patent and Trademark
Office, Board of Patent Appeals and Interferences.

Decided: December 27, 2012

GREGORY F. AHRENS, Wood, Herron & Evans, L.L.P. of
Cincinnati, Ohio, argued for appellant. With him on the
brief was KEITH R. HAUPT.

JOSEPH G. PICCOLO, Associate Solicitor, Office of the Solicitor, United States Patent and Trademark Office, of Alexandria, Virginia, argued for the appellee. With him on the brief were RAYMOND T. CHEN, Solicitor, and MARY L. KELLY, Associate Solicitor.

JAMES F. VAUGHAN, Womble Carlyle Sandridge & Rice, LLP, of Atlanta, Georgia, argued for cross appellant. With him on the brief was IAN A. CALVERT.

Before PROST, MOORE, and WALLACH, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge WALLACH*.

Opinion dissenting-in-part filed by *Circuit Judge PROST*.

WALLACH, *Circuit Judge*.

This appeal arises out of the United States Patent and Trademark Office's ("PTO") inter partes reexamination of United States Patent No. 6,715,639 ("the '639 patent"), assigned to Graphic Packaging International, Inc. ("Graphic"), and challenged by third-party requester C.W. Zumbiel Co., Inc. ("Zumbiel"). Because the Board of Patent Appeals and Interferences's ("Board")¹ obviousness and nonobviousness determinations were correct, they are affirmed.

BACKGROUND

A. Claimed Invention

The '639 patent is directed to a carton or box which holds containers such as cans and bottles. '639 patent col.

¹ Pursuant to the Leahy-Smith America Invents Act amendments to Title 35, the Board officially changed its name from the Board of Patent Appeals and Interferences to the Patent Trial and Appeal Board on September 16, 2012. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

3 ll. 6-26. The following are illustrative of the invention at issue:

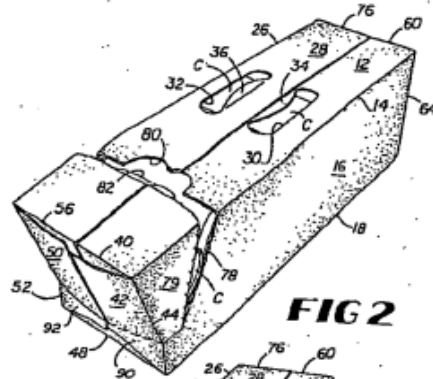


FIG 2

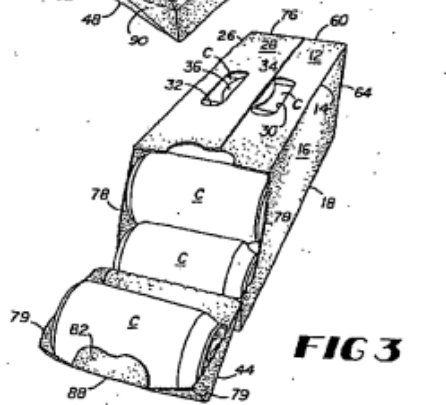


FIG 3

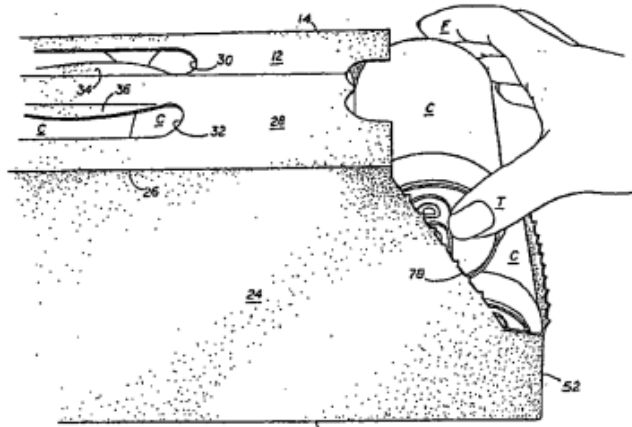


FIG 4

The claimed carton has a dispenser-piece 79 which has a finger-flap on top for pulling the dispenser-piece either into an open position or fully off of the carton. *Id.* col. 4 ll. 14-31; *see also* figure 3 (dispenser-piece connected to the carton); figure 4 (dispenser-piece disconnected from the carton). In one embodiment, the finger-flap is located between the first and second containers in the top row of the carton. *Id.* col. 5 ll. 42-45.

Claims 1, 2, and 13 are representative. Claim 1 reads:

1. An enclosed carton for carrying a plurality of containers in two rows, with a top row and a bottom row, said containers each having a diameter, the carton comprising:
 - a. a top panel, side panels, a bottom panel, and closed ends, at least one of which is an exiting end;
 - b. a dispenser which is detachable from the carton to form an opening at an exiting end through which the containers may be removed;
 - c. the dispenser being a unitary structure comprising a portion of the top panel, portions of the side panels, and a portion of the exiting end, said portions being defined by *a tear line extending across the top panel, side panels, and exiting end*;
 - d. means for preventing the end container in the bottom row from accidentally rolling out of the carton after the dispenser has been opened, the height of the means above the bot-

tom panel being less than the diameter of said end container; and

e. *a finger flap* located along the portion of the tear line extending across the top panel *for pulling the dispenser open along the tear line,*

f. whereby when the dispenser is opened it may optionally remain attached to the carton at the exiting end to form a basket at the exiting end of the carton.

Id. col. 5 l. 56-col. 6 l. 13 (emphasis added).

Representative dependent claim 2 reads:

2. *The carton of claim 1, in which the finger flap is located between the first and second containers in the top row.*

Id. col. 6 ll. 14-15 (emphasis added).

Representative claim 13 reads:

13. A blank for forming an enclosed carton for carrying a plurality of containers arranged in rows, with a top row and a bottom row, the blank comprising:

a. a sheet of foldable material having first, second, third and fourth parallel fold lines therein, defining areas of the sheet corresponding to a top, two sides and a bottom of the carton;

b. at one end of the parallel fold lines, a fold line transverse to the parallel fold lines, and a side end flap connected by the transverse fold line to each of the areas corresponding to the two sides;

c. a tear line extending across the areas corresponding to the top and two sides to the transverse fold line, and then from the transverse fold line across each of the side end flaps to their free ends;

d. a finger flap in the area corresponding to the top, adjacent the portion of the tear line extending across said area; and

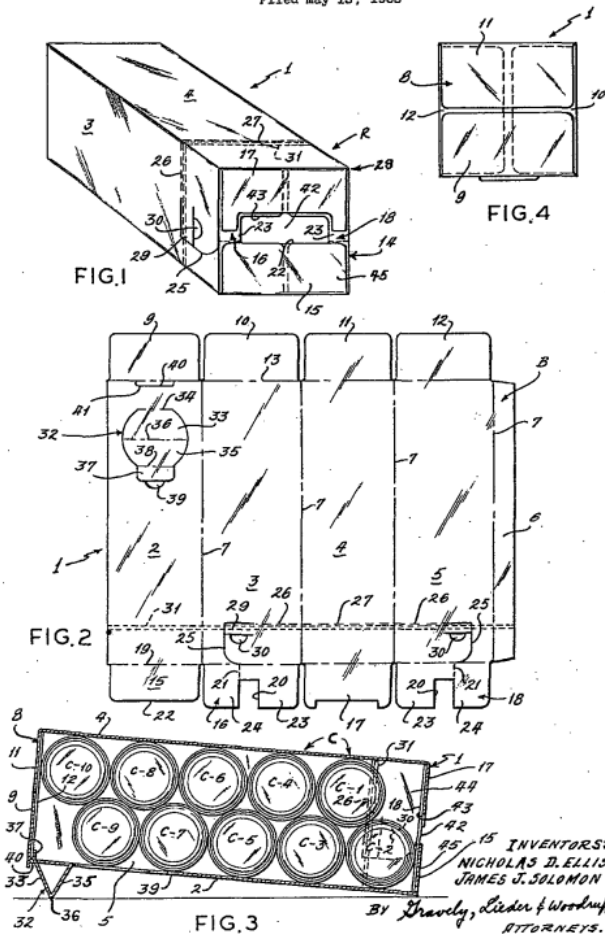
e. the tear line defining a unitary container dispenser when the enclosed carton is formed from the blank, with the portions of the tear line adjacent the free ends of the side end flaps being so located that *a single tear line will be formed across the side end flaps, top and two sides of the carton.*

Id. col. 6 l. 65-col. 7 l. 22 (emphasis added).

B. Prior Art: Ellis

United States Patent No. 3,178,242 (“Ellis”) discloses a carton for holding cans with a detachable dispenser piece which is detached from the carton along the tear line. The following are illustrative of Ellis:

April 13, 1965 N. D. ELLIS ET AL 3,178,242
 ONE-PIECE DISPENSING CARTON FOR CYLINDRICAL OBJECTS
 Filed May 13, 1963

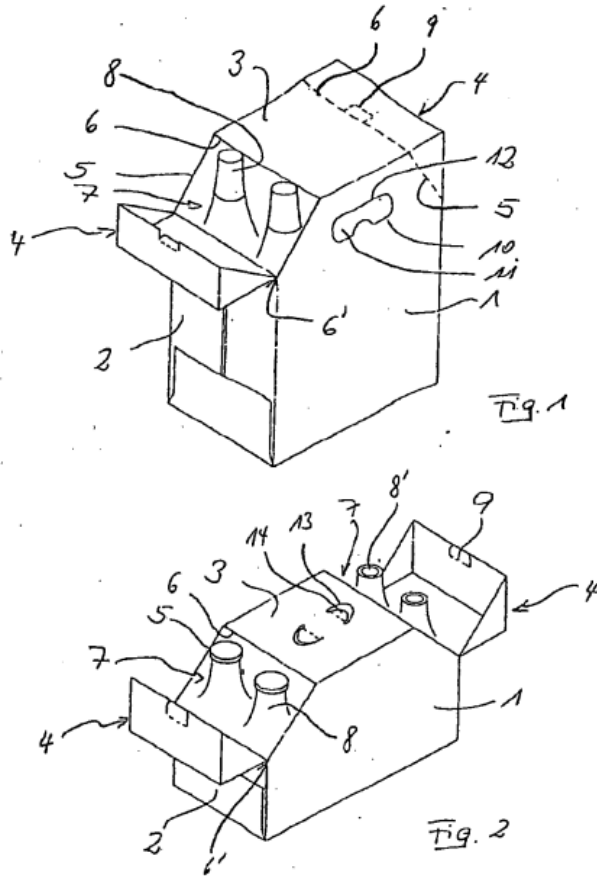


Ellis describes carton 1, bottom wall 2, left side wall 3, top wall 4, right side wall 5 and cans C. Ellis col. 1 ll. 62-69. Items 21, 25, 26 and 27 form the tear-line around the part of the carton R which are opened to dispense cans. *Id.* col. 2 ll. 30-49. A user opens the carton by inserting a finger into hole 30, pulling up on tab 29 and tearing items 21,

26, and 27. *Id.* col. 3 ll. 26-31. According to Ellis, from the front portion, the tear-line is “a distance more than one-half diameter and less than one diameter of one can, preferably about three-fourths of a diameter.” *Id.* col. 2 ll. 31-33.

C. Prior Art: German '718

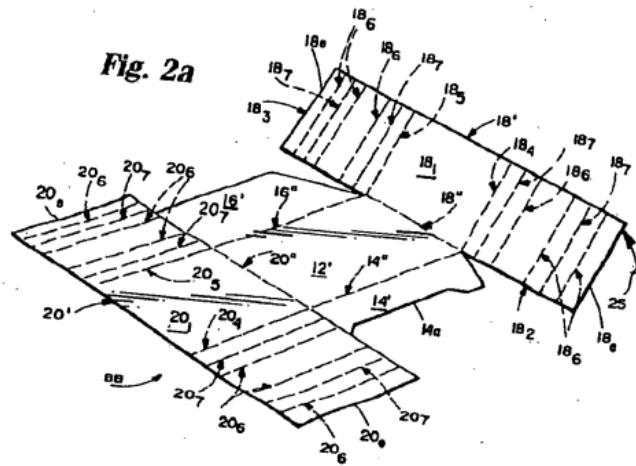
German Gebrauchsmuster No. G85 14718.4 (“German '718”) discloses a carton for containers with a dispenser piece opened by a finger flap. The following are illustrative of German '718:



German '718 describes a carton having side walls 1, end walls 2, top side 3, cover parts 4, tear-lines 5 and 6, and finger hole 9 on top used to tear open cover part 4.

D. Prior Art: Edgerton

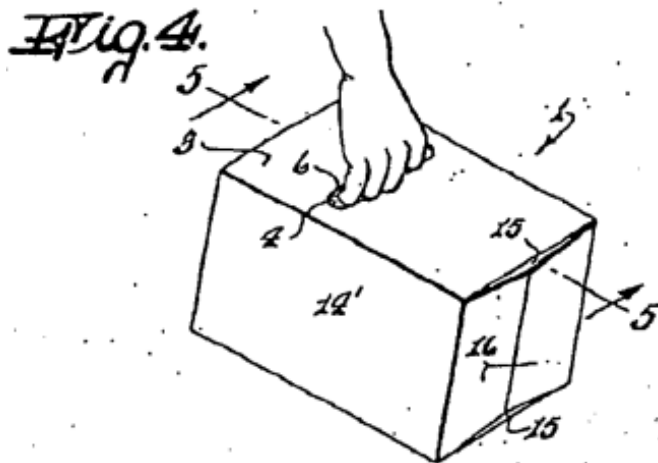
United States Patent No. 5,372,299 (“Edgerton”) describes a box made from flat cardboard having perforated lines. The following is illustrative of Edgerton:



Edgerton discloses a panel having fold lines 14", 16", 18" and 20". Edgerton col. 3 ll. 5-17. The specification discloses that the "fold lines . . . could, if desired be perforated or scored." *Id.* col. 4 ll. 19-24.

E. Prior Art: Palmer

United States Patent No. 2,718,301 ("Palmer") discloses a package for canned goods which may be carried using one hand. The following is illustrative of Palmer:



Palmer describes carton 1 with a finger grip for carrying the carton. Palmer col. 2 ll. 10-12.

F. Board Decision

In 2004, the '639 patent issued to Graphic. Zumbiel requested inter partes reexamination of the '639 patent. During reexamination, the Examiner rejected claims 1, 3-8, 10-14, 19-21, and 32-41 as unpatentable for obviousness and confirmed the patentability of claims 2, 9, 15-18, 22-31. Graphic appealed the Examiner's rejections to the Board, and Zumbiel appealed the Examiner's confirmation of patentability. The Board held that claims 1, 3-8, 10-13, and 19-21 were obvious and unpatentable over Ellis in view of German '718.² The Board also held that

² The Board noted that because the patent owner did not provide separate arguments for claims 3-7, 10-12, and 19-21, those claims fall with their corresponding independent claims. The Board also found claims 40 and 41 obvious. Graphic argues claims 1 and 8 together and then makes the same arguments as to claims 40 and 41. Graphic's Br. 35 ("In assessing the question of obvious-

claims 1, 3-8, and 10-12 were unpatentable over Ellis in view of German '718 and Edgerton. The Board held, however, that claims 2, 9, 14, and 32-39 were not obvious and therefore patentable.

Zumbiel timely appealed to this court, and Graphic cross-appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the pertinent art. 35 U.S.C. § 103(a). The ultimate determination of whether an invention would have been obvious is a legal conclusion based on underlying findings of fact. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). Accordingly, we review the Board's ultimate determination of obviousness *de novo* and the Board's underlying factual findings for substantial evidence. *Id.*

Obviousness is a question of law, *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), based on four factual inquiries: the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the field of the invention, and any relevant objective considerations. *Id.* at 406 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

ness of [claim 40 and 41], essentially the same issues are involved as with regard to claims 1 and 8”). Therefore, Graphic's case rises or falls based on representative independent claims 1 and 13.

I. Graphic's Cross Appeal

We begin with Graphic's cross appeal which concerns representative independent claims 1 and 13. Graphic argues that these claims are patentable and that the Board erred in affirming the Examiner's rejection of these claims as unpatentable over Ellis in view of German '718. Graphic's Br. 18, 27.

A. "Finger-Flap" Limitation

Representative claim 1 of the '639 patent recites "a finger flap located along the portion of the tear line extending across the top panel for pulling the dispenser open along the tear line," and that "when the dispenser is opened it may optionally remain attached to the carton at the exiting end to form a basket." '639 patent col. 6 ll. 8-13. The Examiner concluded, and the Board affirmed, that "it would have been obvious in view of German '718 to provide a finger flap on the top panel of the Ellis carton . . . 'in order to provide a manner of pulling the dispenser of Ellis open.'" J.A.20. The dispute lies in whether Ellis in view of German '718 teaches the location of the finger flap on the top panel of a carton.

Graphic argues that German '718 does not teach that a finger flap should be provided in the top wall of the Ellis carton, because the Ellis carton and the German '718 carton are "opened in different ways," where Ellis is laid on its side in order to open and to have "access to the back stand," and German '718 "is opened from the top." Graphic's Br. 19, 21.

The Board found that Graphic's "assertion that Ellis describes an opening operation in which the carton is initially laid on its side to allow access to the bottom . . . is largely speculative." J.A.21. Substantial evidence supports this finding. Ellis does not provide an opening

operation in which the carton is necessarily initially laid on its side or teach that it is necessary to simultaneously open the carton and have access to the back stand. Indeed, Ellis states that, although the carton is “transported resting on a side wall 3 or 5 with the cans in a vertical position, and it is also stored in this position,” the “user can carry the carton by the handle 43,” which is located at the end of the container—nothing in Ellis indicates that the container must then be laid down in a certain position to then “open the carton” by inserting “a finger partially into the hole 30 and pull[ing] up on the side tab 29.” Ellis col. 3 ll. 21-27. The Board found, and we agree, that “providing the finger opening on the top wall of the carton would be a predictable variation that enhances user convenience, as evidenced by German ’718, and is within the skill of a person of ordinary skill in the art.” J.A.22.

B. “Fold-Line” Limitation

Graphic also argues that it would not have been obvious to one of ordinary skill to use the German ’718 fold line to form the dispenser in Ellis. Graphic’s Br. 22-24. Graphic avers German ’718 is directed to a carrying package that has an opening that allows simultaneous removal of containers and replacement of empty bottles, an opening formed by either a perforated line or a fold line. *Id.* at 22. According to Graphic, because the Ellis carton’s purpose is “to insure that full cans are removed in a predetermined order,” German ’718’s teachings in this regard are inapplicable because the fold line in German ’718 is used to leave the cover attached to the carton “so that empty bottles can be transported in the carton without falling out.” *Id.* at 22-23.

Substantial evidence supports the Board’s finding that Graphic’s suggested interpretation of the prior art is

too narrow. Regardless of German '718's disclosure pertaining to the opening allowing for simultaneous removal and replacement of containers, the Board found: "the broader teaching of German '718 [is] that a fold line can be used so that the cover part can be folded back up again for any desired reason," J.A.26, noting that Graphic incorrectly "presupposes that all of the teachings of German '718 . . . must be incorporated into Ellis," J.A.25. Graphic's own patent claims "tear lines" for tearing or folding. '639 patent col. 6 ll. 1-2, 11-12. Similarly, German '718 teaches that a tear-line may be replaced by a fold-line. J.A.596. Thus, there is substantial evidence indicating Ellis in view of German '718 teaches a perforated line for both tearing and folding. We conclude that the invention disclosed in claim 1 would have been obvious to one of skill in the art in light of the prior art references.³

³ Graphic further argues that claim 1 is not met in that the dispenser-piece of Ellis does not function as a basket, even though Graphic appears to concede a basket may be physically formed. Graphic's Br. 25-26 ("Ellis' removable section R does not form a basket because it is not intended to hold anything." *Id.* at 26). The Board found that the Examiner correctly determined that "the recited basket results when the carton of Ellis is modified so that section R is attached by a fold line so as to remain attached to define a reclosable closure." J.A.27. The removable section on Ellis and the cover part on German '718 show that the structure is in the prior art to meet claim 1's functional language concerning basket. *See In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997) (acknowledging how prior art may perform and thereby meet claimed functional language). Accordingly, because the feature of can catching is met when the tear-line of Ellis is partially opened, *e.g.* along three sides, and folded like claim 1's tear-line, Ellis meets the functional language of claim 1.

C. “Free-Ends” and “Single Tear-Line” Limitations

Graphic argues, with regard to representative claim 13, that the Board erred in affirming the Examiner’s rejection of this claim as unpatentable.⁴ Claim 13 recites “a tear line extending . . . from the transverse fold line across each of the side end flaps to their *free ends*” and “a *single tear line* [to] be formed across the side end flaps, top and two sides of the carton.” ’639 patent col. 7 ll. 9-12, 19-21 (emphases added).

Graphic first argues that this court, upon *de novo* review of the Board’s claim construction of “free ends,” should find that the Board’s construction was not reasonably consistent with the written description of the ’639 patent in that Ellis provides “tear line 21 [that] only extends part way across the side end flaps 16, 18 and then is interrupted by cut-out portion 20,” unlike the ’639 patent. Graphic’s Br. 29-30. Graphic argues that “one of ordinary skill would construe the term ‘free ends’ . . . as meaning the distal ends of the side end flaps, rather than a point spaced from the distal ends.” *Id.* at 30. Graphic concludes that claim 13 “does not read on the combination of Ellis and German ’718, and the Board’s affirmation of the rejection based thereon should be reversed.” *Id.* Similarly, Graphic argues that with regard to the “single tear-line” limitation of claim 13, this limitation is not met

⁴ Additionally, Graphic presents the same arguments with regard to claim 13 as it did with regard to claim 1, asserting that it would not have been obvious to provide a finger flap in the area corresponding to the top of the carton. Graphic’s Br. 27. We have already addressed these arguments. *See supra* 14-15. Because we affirm the Board with regard to the determinations challenged above, the same reasoning applies to the Examiner’s rejection of similar claims.

because Ellis discloses a tear line around the container that is interrupted by the cut-out portion that forms the hand hold. Graphic's Reply Br. 7-8.

"Although the PTO gives claims the broadest reasonable interpretation consistent with the written description . . . claim construction by the PTO is a question of law that we review *de novo* . . . just as we review claim construction by a district court." *In re Baker Hughes, Inc.*, 215 F.3d 1297, 1301 (Fed. Cir. 2000) (internal citations omitted). In this case, the Board's construction of "free ends" is legally correct and was met by the prior art, as was the "single tear-line" limitation.

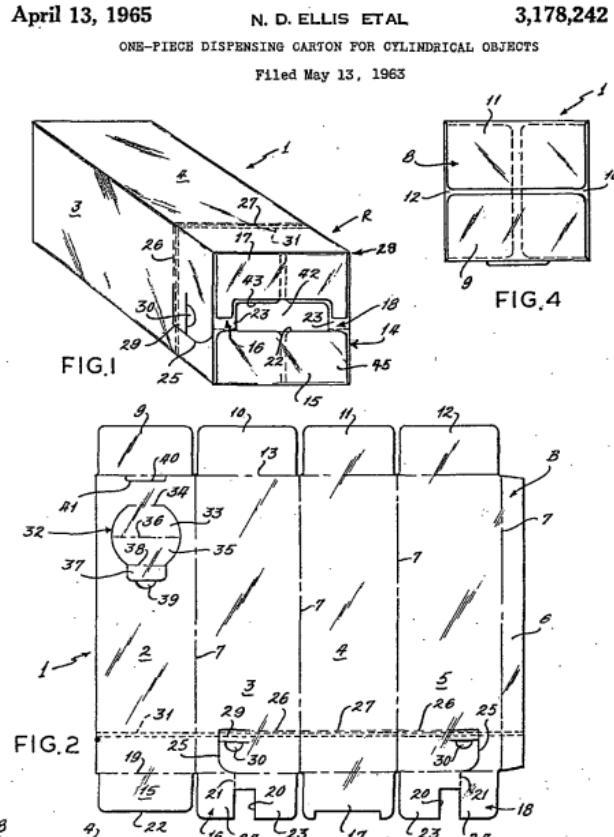
As the PTO noted "[t]he 'end' of a flap is defined by the edge thereof, which includes the edge that defines the cut-out portion 20. We observe that this edge is 'free' in that it is not attached to any other structure." J.A.54. Graphic's argument that "free ends" are the "distal ends of the side end flaps" is unsupported by the plain meaning of the term; the specification does not define "free ends" much less define it in the specific way described by Graphic. Additionally, the "free-end" limitation is met by Ellis; in Ellis, tear line 21 does extend to the free ends of the flaps 16 and 18 irrespective of whether cut-out portion 20 is provided to help define the free end of those side end flaps.

Additionally, Ellis's figures 1 and 2 show items 21, 25, 26, and 27, which form a single tear-line through the part of the carton R that is opened for dispensing cans. Ellis col. 2 ll. 22-49. Ellis expressly recites:

To open the carton, a person simply inserts a finger partially into the hole 30 and pulls up on the side tab 29 and rips the scores 26, 27, and 26 in the side and top walls 3, 4, 5. The scores 21 in the

side front flaps 16 and 18 are then severed to remove the entire removable section R as a unit.

Id. col. 3 ll. 26-31.



Because removable section R is severed and then removed “as a unit,” Ellis’s tear-line goes around the carton, and was therefore a single tear-line. As the Board noted, “the recited single tear line [in claim 13] is formed by a compilation of various tear line segments that are formed across various panels of the carton (i.e., side end flaps, top and sides).” J.A.28-29.

II. Zumbiel's Appeal

We turn to Zumbiel's appeal which concerns representative dependent claim 2. Zumbiel argues that this claim is obvious and that the Board erred in affirming the Examiner's finding of patentability. Zumbiel also argues the Board erred in considering preamble claim language.

A. "Finger-Flap" Limitation

Zumbiel disputes the Board's determination that representative claim 2 is nonobvious based on Ellis in view of German '718 and further in view of Palmer. Dependent claim 2 is representative of the three dependent claims at issue.⁵ In particular, it recites the carton disclosed in claim 1 "in which the finger flap is located between the first and second containers in the top row." '639 patent col. 6 ll. 14-15. The dispute lies in whether the location of the finger flap between the first and second cans is obvious in light of the prior art.

Zumbiel argues that the Examiner and Board, by finding independent claims 1, 8, and 13 obvious but not dependent claims 2, 9, and 14, "def[y] both logic and common sense." Zumbiel's Br. 26. Specifically, Zumbiel contends that Ellis in combination with German '718 render the carton and associated dispenser and finger flap of claims 1, 8, and 13 obvious but "[t]hat obvious combination would be rendered inoperable if the finger flap was located so that its use as a finger flap is precluded due to interference from a can inside the carton." *Id.*

Zumbiel's contention hinges particularly on the Examiner's determination (affirmed by the Board) that "the

⁵ Zumbiel notes that "[t]he sole feature of dependent claims 2, 9, and 14, the subject of the present appeal, is the particular location of the finger flap recited in [independent] claims 1, 8, and 13." Zumbiel's Br. 6.

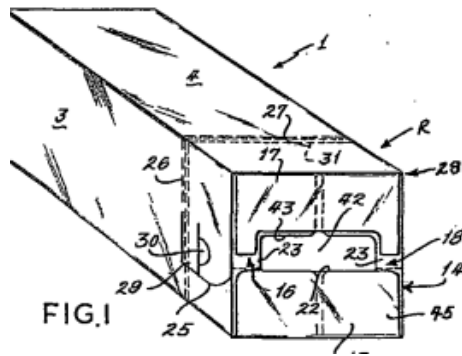
Palmer reference only suggests where to provide a handle on a carton, not where to initiate a container opening.” J.A.318. Zumbiel asserts that both Palmer and the ’639 patent provide a way for the user to insert their fingers into the carton and whether this occurs “for the purpose of carrying the carton or for opening the carton” is “of no moment.” Zumbiel’s Br. 18. Zumbiel argues that “[o]ne of ordinary skill in the art would recognize the advantage” of locating the finger flap of either the ’639 patent or Palmer “between adjacent cans in the carton . . . so that the user may have access for inserting his or her fingers into the carton without interference from the cans.” *Id.* at 20 (emphasis removed).

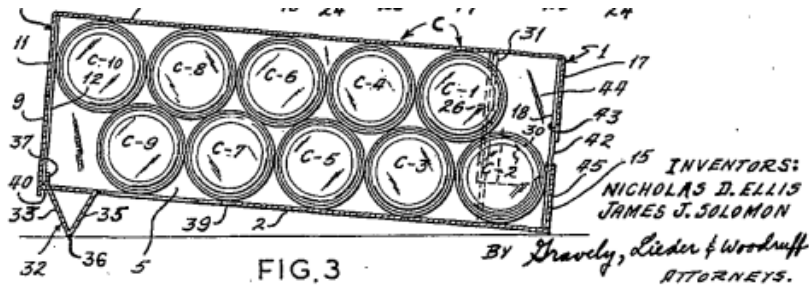
The Board found that “the record is insufficient to support the conclusion that Palmer provides the teaching for *moving the tear line* of Ellis with a finger flap to be between [the] first and second container as specifically recited in claims 2 and 9.” J.A.43 (emphasis in original). The Board stated that the “finger flap of Palmer on which [Zumbiel] relies for this limitation pertains to providing a grip for transporting a carton, and does not pertain to any dispensing feature of the carton of Palmer.” J.A.42-43. Indeed, Palmer has no dispenser. Substantial evidence supports the Board’s finding that Palmer provides little information on where to place the finger flaps recited in claim 2. Palmer concerns a carton with a finger flap, the purpose of which is to provide a grip for transporting the carton, a separate feature found in the ’639 patent unrelated to the finger-flap located between the first and second containers used to initiate tearing.

Substantial evidence also supports the Board’s finding that the location of Ellis’s tear line would not place the finger flap near the location between the first and second containers on the top row as recited in claim 2. In fact, Ellis teaches away from having the tear line between the

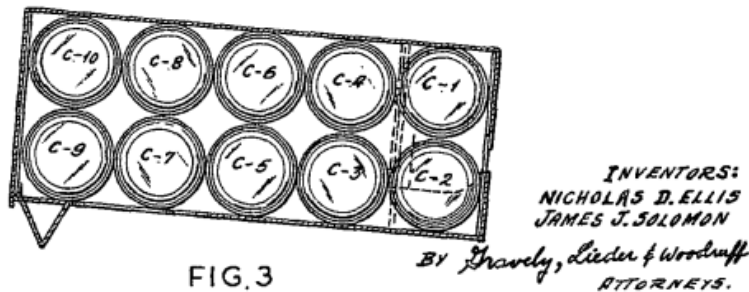
first and second containers. Ellis specifically states that the tear line is “a distance more than one-half diameter and less than one diameter of one can, preferably about three-fourths of a diameter.” Ellis col. 2 ll. 31-33. Ellis’s expressly recited range for the placement of the tear-line (*i.e.*, for the bottom row, going leftward one-half a can to one can) lies outside the scope of claim 2.

Zumbiel argues that placing a finger flap over the score line 27 of Ellis would place it in an “inoperable position,” since its use as a finger flap would be “precluded due to interference from a can inside the carton.” Zumbiel’s Br. 24. However, as pointed out by Graphic, there was little incentive to relocate Ellis’s finger flap to a position between cans in order to provide space for the fingers. This is because the finger flap in Ellis provides a similar amount of finger space as a finger flap placed across the top panel and over score line 27, as pictured.





In its response and reply brief, Zumbiel also makes the following multistep argument. First, Zumbiel argues that Ellis explicitly discloses a tear line that “may be positioned over a range of locations resulting in placement between the first two cans.” Zumbiel’s Res. Br. 9. Zumbiel then argues at length that a modified version of Ellis where the cans are stacked instead of staggered is admittedly obvious, citing to admissions made by Graphic in another proceeding to the District Court of the Northern District of Georgia. Zumbiel then combines the two arguments, the modified version of Ellis with stacked cans with the range of locations where the tear line can be found, to result in the following modified prior art:



ANNOTATED #2

Id. at 14. Zumbiel then argues that the modified Ellis in conjunction with Palmer, which Zumbiel argues discloses “positioning a finger flap between cans for easy access

into the carton,” *id.* at 16, or German ’718, which Zumbiel argues discloses “a finger flap 9 located both in the top panel and along a dispenser tear line,” illustrates that placement of the finger-flap between first and second cans is obvious, *id.* at 20.

Because substantial evidence supports the Board’s determinations that Palmer does not provide the necessary teaching for moving the tear line of Ellis and that Ellis in fact teaches away from locating the finger flap between the first and second containers, we are not persuaded by Zumbiel’s arguments as to the multiple steps necessary to find claim 2 obvious. We conclude that representative claim 2 is nonobvious over Ellis in view of German ’718 and Palmer.

B. Preamble Claim Language

Second, according to Zumbiel, the preamble of claims 1, 8, and 13 (and therefore their corresponding dependent claims 2, 9, and 14) “inherently, should not be considered when determining the patentability of those claims relative to the prior art,” and the Board erred in so doing. Zumbiel’s Br. 37. Zumbiel asserts that because “containers” (*i.e.*, the cans within the carton) are recited in the preamble but not in the body of the claim, “containers” cannot be a claimed limitation of the invention. *Id.* at 38-39.

Claim construction is a matter of law we review *de novo*. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455-56 (Fed. Cir. 1998) (en banc). “A claim’s preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim.” *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1284 (Fed. Cir. 2011). We construe the preamble as limiting when it is “necessary to give life, meaning and vitality” to the claim based on the facts of the case at hand and in

view of the claim as a whole. *Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002) (quoting *Krop v. Robie*, 187 F.2d 150, 152 (C.C.P.A. 1951)).

The preamble of representative claim 1 reads: “An enclosed carton for carrying a plurality of containers in two rows, with a top row and a bottom row, said containers each having a diameter, the carton comprising” ’639 patent col. 5 ll. 56-58. These containers and rows are then referred to in the bodies of the claims as follows:

- (1) “. . . an opening . . . through which *the containers* may be removed;” (claims 1 and 8);
- (2) “means for preventing *the end container* in the *bottom row* from accidentally rolling out of the carton after the dispenser has been opened, the height of the means above the bottom panel being less than the diameter of *said end container*;” (claim 1);
- (3) “the height above the bottom panel of the portion of the tear line extending across the exiting end being less than the diameter of *the end container* in the *bottom row*, but sufficient to prevent *said container* from accidentally rolling out of the carton after the dispenser has been opened;” (claim 8);
- (4) “. . . the finger flap is located between the first and second *containers* in the *top row*.” (claims 2 and 9).

Id. col. 5 ll. 63-64, col. 6 ll. 3-7, 14-15, 42-47, 54-55 (emphasis added).

In *Catalina Marketing International, Inc. v. Coolsavings.com, Inc.*, we stated that the preamble constitutes a limitation when the claim(s) depend on it for antecedent basis, or when it “is essential to understand limitations or

terms in the claim body.” 289 F.3d 801, 808 (Fed. Cir. 2002). Here, “containers” as recited in the claim body depend on “a plurality of containers” in the preamble as an antecedent basis. Therefore, these terms recited in the preamble are limitations as the Board concluded.

CONCLUSION

The Board’s factual determinations are supported by substantial evidence, and as a result, we hold, independent representative claims 1, 8, and 13 invalid as obvious and dependent representative claims 2, 9, and 14 not obvious. We affirm.

AFFIRMED.

No costs.

**United States Court of Appeals
for the Federal Circuit**

THE C.W. ZUMBIEL COMPANY, INC.,
Appellant,

v.

**DAVID J. KAPPOS, DIRECTOR,
UNITED STATES PATENT AND TRADEMARK
OFFICE,**
Appellee,

AND

GRAPHIC PACKAGING INTERNATIONAL, INC.,
Cross Appellant.

2011-1332, -1333

(Reexamination No. 95/000,077)

Appeal from the United States Patent and Trademark
Office, Board of Patent Appeals and Interferences.

PROST, *Circuit Judge*, dissenting-in-part.

Failing to apply *KSR* to the facts of this case, the Board has concluded that the invention recited in claim 2 is non-obvious. Because I believe that a common sense application of the obviousness doctrine should filter out low quality patents such as this one, I cannot join the

majority in endorsing the Board's incorrect approach on this question. Thus, with respect, I dissent.

This case is about a paper carton. Claim 2 recites a carton for storing beverage cans, much like the twelve-pack container found all over the country. The patentee nonetheless claims that something about the way his box opens is special, in that it allows consumers to get to the cans quickly without ripping the box open and making a mess. Here is how it works: There is a finger flap (a removable area the size of a finger tip) on the top surface of the box. The finger-flap is centered on a tear-line, which marks the edge of the removable corner of the box. When the consumer wants to open the box, she inserts her finger through the flap and uses it as a grip to tear off the removable corner.

So far, so good. Except that somebody else beat the patentee to his idea by almost fifty years. United States Patent No. 3,178,242 (filed May 13, 1963) ("Ellis") discloses a beverage carton with a removable corner and a finger opening:

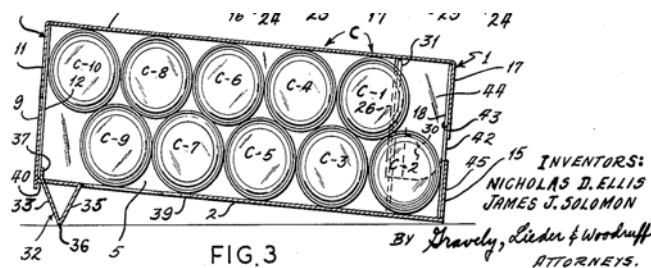


FIG. 3, reproduced from Ellis

The only difference between Ellis and claim 2 lies—not in the opening mechanism—but in the can arrangement. The cans are staggered in Ellis, but stacked in

claim 2.¹ Note, however, that the patentee did not invent the stacked arrangement; that is old too. Nor did he lack motivation to combine: There is no dispute that box-makers were familiar with advantages of cartons with a stacked can arrangement, including durability and efficient use of space, compared to those with a staggered arrangement.

So let's be clear what claim 2 is about. The claimed invention takes the opening from Ellis, takes the stacked can configuration from another box, and puts them together. The result is—as one would expect—a box that has the known benefits of Ellis's opening and the known benefits of a stacked can configuration.

Why is this assembly non-obvious? Because, the Board explains, the patentee has solved a difficult implementation problem, the solution to which was supposedly not obvious to box makers who lacked extraordinary skill. The secret lies in the proper positioning of the tear line. That is, according to the Board, ordinary box makers would not have put the tear line between the first two cans in the top row.

Where else could have they put it? There are just four other options: (1) above the first can, (2) above the second can, (3) in front of the first can, (4) behind the second can. The first two alternatives are just offensive to common sense: With the cans right below, there would be no room to push the flap through (the flap is positioned at the center of the tear line). The third and fourth options are not quite as illogical, but even without expertise in box making, one may intuit that they make awkward designs

¹ The finger hole in Ellis is on the side of the box, not on top. The Board has already determined, however, that placing the finger flap on the top surface would have been obvious in view of another piece of prior art (German '718). J.A.20.

(the third opens too little, the fourth too much).

More importantly, however, whether some of the alternatives would work just as well or not, the patentee's choice of tear-line-placement involves no more than the exercise of common sense in selecting one out of a finite—indeed very small—number of options. And there are no unexpected results: The opening works the same way that it did in *Ellis*, and the stacked can arrangement is the same as it was before. The patentee put the tear-line behind the first can; the opening exposed the first can. Had he put it behind the second can, two cans would have been exposed. That's just obvious. See *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). Given twelve cans, some cardboard, a pair of scissors, and some time for trial and error, one of ordinary skill in box-making should be able to rearrange the cans in *Ellis*.

But it is not that simple, objects the Board, because *Ellis* teaches away from putting the tear-line between the first two cans in the top row. *Ellis* recommends putting the tear-line at some specific distance behind the first can in the bottom row. Because that recommendation is not necessarily suitable for a stacked can configuration, the Board concludes that claim 2 is non-obvious.

Of course *Ellis* teaches away from placing the tear-line between the two cans at some level; after all, *Ellis* is a patent for a carton with staggered cans. But one of ordinary skill in the art will not take *Ellis*'s recommendation (for placing the tear-line at a specific distance) literally, especially where that recommendation also hints: “The placement of the tear-line matters”; “Place the tear-line so that it helps expose a can”; and “Make sure there is room for a finger to pass through.” At any rate, even if

one of ordinary skill takes Ellis's recommendation literally at the outset, as I already explained, it should not take long to fix the problem.

The point here is not that the Board got the facts wrong. The point is that contrary to the Supreme Court's instructions, an "overemphasis on the importance of [teachings of prior art]" has insulated the Board's analysis from pragmatic and common sense considerations that are so essential to the obviousness inquiry. *KSR*, 550 U.S. at 419. The Board's approach relegates one of ordinary skill to an automaton. Should this approach become commonplace, it would lower the obviousness bar and hence hinder competition and innovation. That is why, unlike the majority, I do not see any room for deference to the Board's determination in this case.

I respectfully dissent.