

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INDUSTRIAL REVOLUTION, INC.,

Petitioner

v.

HUMANGEAR, INC.,

Patent Owner

Inter Partes Review No. IPR2023-01174

U.S. Patent No. 10,555,629

**PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO.
10,555,629**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	COMPLIANCE WITH REQUIREMENTS FOR A PETITION FOR <i>INTER PARTES</i> REVIEW	1
A.	Grounds for Standing (37 C.F.R. § 42.104(a))	1
B.	Fee for <i>Inter Partes</i> Review (37 C.F.R. § 42.15(a))	1
C.	Mandatory Notices (37 C.F.R. § 42.8(b))	1
1.	Real Party in Interest.....	1
2.	Related Matters	2
3.	Lead and Backup Counsel	2
4.	Service Information.....	2
D.	Proof of Service Notice (37 C.F.R. §§ 42.6(e) and 42.105(a))	2
III.	RELEVANT INFORMATION CONCERNING THE CONTESTED PATENT.....	3
A.	Effective Filing Date of the '629 Patent	3
B.	Level of Ordinary Skill in the Art.....	3
C.	Technology Background	3
D.	The '629 Patent	5
1.	Overview	5
2.	Prosecution History.....	9
E.	Claim Construction	13
IV.	OVERVIEW OF THE PRIOR ART	13
A.	Chinese Utility Model No. CN 2062986U ("Feng") (Ex. 1004).....	13
1.	Public Availability	13
2.	Overview	13
B.	European Design No. 001805383-0001 to Kristiansson ("Kristiansson") (Ex. 1005).....	14

Petition for *Inter Partes* Review of U.S. Patent No. 10,555,629

1.	Public Availability	14
2.	Overview	14
C.	U.S. Patent Publication No. 2008/0201959 to Kent ("Kent") (Ex. 1006)	15
1.	Public Availability	15
2.	Overview	15
D.	U.S. Patent No. 6,119,351 issued to Vanderputt ("Vanderputt") (Ex. 1007)	16
1.	Public Availability	16
2.	Overview	16
E.	Chinese Publication No. 103504965 to Bo ("Bo") (Ex. 1008)	17
1.	Public Availability	17
2.	Overview	17
F.	U.S. Patent No. 2,318,129 issued to Torode ("Torode") (Ex. 1009)	18
1.	Public Availability	18
2.	Overview	18
G.	Printed Publication for the Charles-Francois Languedocq Fork ("CFL Fork") (Ex. 1010)	19
1.	Public Availability	19
2.	Overview	19
H.	U.S. Patent No. 4,535,538 issued to Nelson ("Nelson") (Ex. 1011)	19
2.	Public Availability	19
3.	Overview	20
V.	PRECISE RELIEF REQUESTED (CLAIMS CHALLENGED) (37 C.F.R. § 42.104(b))	20
VI.	DETAILED REASONS FOR RELIEF REQUESTED	22
A.	Ground 1: Claims 1-23 are rendered obvious by Feng	22

1.	Claim 1: Preamble:.....	22
2.	Claim 1(a):	22
3.	Claim 1(b):	23
4.	Claim 1(c):	26
5.	Claim 1(d):	28
6.	Claim 1(e):	28
7.	Claim 1(f):.....	28
8.	Claim 1(g):	28
9.	Claim 2:.....	31
10.	Claim 3:.....	32
11.	Claim 4:.....	33
12.	Claim 5:.....	34
13.	Claim 6:.....	35
14.	Claim 7:.....	35
15.	Claim 8:.....	35
16.	Claim 8(a):	36
17.	Claim 8(b):	36
18.	Claim 8(c):	37
19.	Claim 8(d):	38
20.	Claim 8(e):	39
21.	Claim 8(f):.....	39
22.	Claim 8(g):	39
23.	Claim 8(h):	40
24.	Claim 9:.....	41
25.	Claim 9(a):	41
26.	Claim 9(b):	41
27.	Claim 9(c):	42
28.	Claim 9(d):	42

29.	Claim 9(e):	43
30.	Claim 9(f):.....	43
31.	Claim 10:.....	43
32.	Claim 11:.....	44
33.	Claim 12:.....	44
34.	Claim 13:.....	45
35.	Claim 14:.....	45
36.	Claim 15:.....	46
37.	Claim 15(a):	46
38.	Claim 15(b):	46
39.	Claim 15(c):	47
40.	Claim 15(d):	47
41.	Claim 15(e):	47
42.	Claim 16(a):	48
43.	Claim 16(b):	49
44.	Claim 16(c):	49
45.	Claim 17:.....	49
46.	Claim 18:.....	50
47.	Claim 19:.....	50
48.	Claim 20:.....	51
49.	Claim 21:.....	52
50.	Claim 22:.....	52
51.	Claim 23:.....	52
B.	Ground 2: Claims 1-23 are rendered obvious by Feng in view of Kristiansson.....	53
1.	Claim 1:.....	53
2.	Claim 1(a):	53
3.	Claim 1(b):	53
4.	Claim 1(c):	57

5.	Claim 1(d):	57
6.	Claim 1(e):	57
7.	Claim 1(f):	57
8.	Claim 1(g):	57
9.	Claim 2:	58
10.	Claim 3:	59
11.	Claim 4:	60
12.	Claim 5:	60
13.	Claim 6:	61
14.	Claim 7:	62
15.	Claim 8:	62
16.	Claim 8(a):	62
17.	Claim 8(b):	63
18.	Claim 8(c):	63
19.	Claim 8(d):	64
20.	Claim 8(e):	64
21.	Claim 8(f):	64
22.	Claim 8(g):	64
23.	Claim 8(h):	64
24.	Claim 9:	64
25.	Claim 9(a):	65
26.	Claim 9(b):	65
27.	Claim 9(c):	65
28.	Claim 9(d):	66
29.	Claim 9(e):	66
30.	Claim 9(f):	66
31.	Claim 10:	66
32.	Claim 11:	66

33.	Claim 12:.....	66
34.	Claim 13:.....	67
35.	Claim 14:.....	67
36.	Claim 15:.....	67
37.	Claim 15(a):	67
38.	Claim 15(b):	68
39.	Claim 15(c):	68
40.	Claim 15(d):	68
41.	Claim 15(e):	68
42.	Claim 16(a):	68
43.	Claim 16(b):	68
44.	Claim 16(c):	69
45.	Claim 17:.....	69
46.	Claim 18:.....	70
47.	Claim 19:.....	70
48.	Claim 20:.....	71
49.	Claim 21:.....	71
50.	Claim 22:.....	71
51.	Claim 23:.....	71
C.	Ground 3: Claims 1-3, 7-13, 15, 16, 22, 23 are rendered obvious by Kent in view of Vanderputt and Bo.....	71
1.	Claim 1:.....	71
2.	Claim 1(a):	72
3.	Claim 1(b):	72
4.	Claim 1(c):	76
5.	Claim 1(d):	79
6.	Claim 1(e):	81
7.	Claim 1(f):.....	81
8.	Claim 1(g):	81

9.	Claim 2:.....	83
10.	Claim 3:.....	85
11.	Claim 7:.....	86
12.	Claim 8:.....	87
13.	Claim 8(a):	87
14.	Claim 8(b):	87
15.	Claim 8(c):	88
16.	Claim 8(d):	89
17.	Claim 8(e):	89
18.	Claim 8(f):.....	89
19.	Claim 8(g):	90
20.	Claim 8(h):	90
21.	Claim 9:.....	91
22.	Claim 9(a):	92
23.	Claim 9(b):	92
24.	Claim 9(c):	92
25.	Claim 9(d):	93
26.	Claim 9(e):	93
27.	Claim 9(f):.....	93
28.	Claim 10:.....	93
29.	Claim 11:.....	94
30.	Claim 12:.....	95
31.	Claim 13:.....	95
32.	Claim 15:.....	96
33.	Claim 15(a):	96
34.	Claim 15(b):	96
35.	Claim 15(c):	96
36.	Claim 15(d):	97

37.	Claim 15(e):	97
38.	Claim 16(a):	97
39.	Claim 16(b):	98
40.	Claim 16(c):	99
41.	Claim 22:.....	99
42.	Claim 23:.....	101
D.	Ground 4: Claims 1-23 are rendered obvious by Torode in view of CFL Fork and Nelson.....	102
1.	Claim 1:.....	102
2.	Claim 1(a):	102
3.	Claim 1(b):	103
4.	Claim 1(c):	106
5.	Claim 1(d):	107
6.	Claim 1(e):	108
7.	Claim 1(f):.....	108
8.	Claim 1(g):	108
9.	Claim 2:.....	109
10.	Claim 3:.....	110
11.	Claim 4:.....	111
12.	Claim 5:.....	112
13.	Claim 6:.....	113
14.	Claim 7:.....	114
15.	Claim 8:.....	114
16.	Claim 8(a):	114
17.	Claim 8(b):	115
18.	Claim 8(c):	116
19.	Claim 8(d):	117
20.	Claim 8(e):	117
21.	Claim 8(f):.....	117

22.	Claim 8(g):	117
23.	Claim 8(h):	117
24.	Claim 9:.....	118
25.	Claim 9(a):	118
26.	Claim 9(b):	119
27.	Claim 9(c):	119
28.	Claim 9(d):	119
29.	Claim 9(e):	119
30.	Claim 9(f):.....	120
31.	Claim 10:.....	120
32.	Claim 11:.....	120
33.	Claim 12:.....	121
34.	Claim 13:.....	121
35.	Claim 14:.....	121
36.	Claim 15:.....	122
37.	Claim 15(a):	122
38.	Claim 15(b):	122
39.	Claim 15(c):	122
40.	Claim 15(d):	123
41.	Claim 15(e):	123
42.	Claim 16(a):	123
43.	Claim 16(b):	123
44.	Claim 16(c):	123
45.	Claim 17:.....	124
46.	Claim 18:.....	125
47.	Claim 19:.....	125
48.	Claim 20:.....	126
49.	Claim 21:.....	126

Petition for *Inter Partes* Review of U.S. Patent No. 10,555,629

50.	Claim 22:.....	127
51.	Claim 23:.....	127
VII.	CONCLUSION.....	128

TABLE OF ATTACHMENTS

Attachment A: Proof of Service of the Petition

Attachment B: List of Evidence and Exhibits Relied Upon in Petition

I. INTRODUCTION

Petitioner Industrial Revolution, Inc. (“Petitioner” or “Industrial Revolution”) respectfully requests the Board institute *inter partes* review ("IPR") of claims 1-23 of U.S. Patent No. 10,555,629 (the “‘629 Patent”) (Ex. 1001).

II. COMPLIANCE WITH REQUIREMENTS FOR A PETITION FOR *INTER PARTES* REVIEW

A. Grounds for Standing (37 C.F.R. § 42.104(a))

Petitioner certifies that the ‘629 Patent is available for IPR and that the Petitioner is not barred or estopped from requesting IPR challenging the claims of the ‘629 Patent.

B. Fee for *Inter Partes* Review (37 C.F.R. § 42.15(a))

The director is authorized to charge the fee specified by 37 C.F.R. § 42.15(a) to Deposit Account No. 191090.

C. Mandatory Notices (37 C.F.R. § 42.8(b))

1. Real Party in Interest

The real party-in-interest of this petition pursuant to Section 42.8(b)(1) is Industrial Revolution, Inc.

2. Related Matters

The '629 Patent is involved in the following proceeding:

Humangear, Inc. v. Industrial Revolution, Inc., Civil Action No. 2:23-cv-00102-LK (W.D.Wash.) (service waived on January 26, 2023, alleging patent and trademark infringement).

3. Lead and Backup Counsel

Petitioner appoints as lead counsel Kevin S. Costanza (Reg. No. 37,801), and Bradley J. Zentz (Reg. No. 76,666) as backup counsel, both at Seed Intellectual Property Law Group, 701 Fifth Avenue, Suite 5400, Seattle, WA, 98104, phone 206-622-4900, and facsimile 206-682-6031.

4. Service Information

Petitioner consents to electronic service by email at: KevinC@seedip.com, BradZ@seedip.com, and LitStaff@seedip.com.

D. Proof of Service Notice (37 C.F.R. §§ 42.6(e) and 42.105(a))

Proof of service is provided in **Attachment A**.

III. RELEVANT INFORMATION CONCERNING THE CONTESTED PATENT

A. Effective Filing Date of the '629 Patent

The '629 Patent was filed on December 7, 2018, and issued on February 11, 2020. (Ex. 1001, cover page.) The '629 Patent claims priority under 35 U.S.C. § 121 to U.S. Patent Application No. 15/268,175 filed on September 16, 2016, now abandoned, and U.S. Patent Application No. 14/204,497 filed on March 11, 2014, now U.S. Patent No. 9,468,321. (*Id.*) Thus, the effective filing date of the '629 Patent is March 11, 2014.

B. Level of Ordinary Skill in the Art

A person of ordinary skill in the art (“POSITA”) before the effective filing date of the '629 Patent would have been would have been a person with a bachelor’s degree in Mechanical Engineering, Physics, or a related field or equivalent experience in designing and manufacturing of consumer products including, but not limited to, camping gear, utensils, cutlery, and related devices. (Ex. 1002 at ¶ 44.)

C. Technology Background

The technology at issue relates to eating utensils. Sporks, to be exact. The usefulness of a knife, fork, and spoon for eating purposes is well recognized.

(Torode at 1:1-3,¹ Ex. 1009.) There are countless known advantages to a utensil where these three elements, namely a knife, fork, and spoon are combined in a single structure. (*Id.* at 1:4-10.) For example, a single piece utensil may be advantageous for those with a disability, as well as those who are able-bodied. (*Id.* at 1:11-18.) Single piece utensils are also beneficial for students, hospitals, and the like because single piece utensils save time in serving meals and cleaning after a meal. (*Id.* at 1:18-24.) It is further known that single piece utensils are invaluable for camping and would have an important value for use by the armed forces. (*Id.* at 1:25-28.) In sum, single piece utensils that combine a knife, fork, and spoon are “very simple” inventions that are, and have been, well known in the art. (*Id.* at 1:30; Ex. 1001, pp. 1-3, “references cited”; Ex. 1002 at ¶¶50-73, Fig. 9.)

Of particular importance here is the combination of a knife and a fork at one end of the single piece utensil. It is well-known that a variety of structures are suitable for defining a cutting edge on a fork of a combination utensil that functions similarly to a knife. (Vanderputt at 1:10-35, Ex. 1007.) For example, a sharp edge can be provided on both outer tines of the fork or on a single outer tine of the fork. (*Id.*) Alternatively or additionally, a serrated edge can be provided on

¹ Text in the document is referenced by column and line number, separated by a colon. If the document contains paragraphs instead of columns, then text is referenced by paragraph number.

one or more tines of the fork. (*Id.*) It is also known that serrated edges have the disadvantage of potentially causing injury to the mouth during use. (Nelson at 1:19-21, Ex. 1011.) Yet a further option is a blunted knife edge. (Kent at ¶10, Ex. 1006.) Still further, “it is old and well known in the art of fork tines with a cutting feature to incorporate a chamfered outer edge.” (‘629 Prosecution History at p. 165, Ex. 1003.)

It is further known that using a curved cutting edge on an outer tine allows a user to easily cut through many softer foods. (Ex. 1007 at 3:1-6.) The outer tines that include the cutting edge are preferably rigid to improve the cutting functionality. (*Id.*)

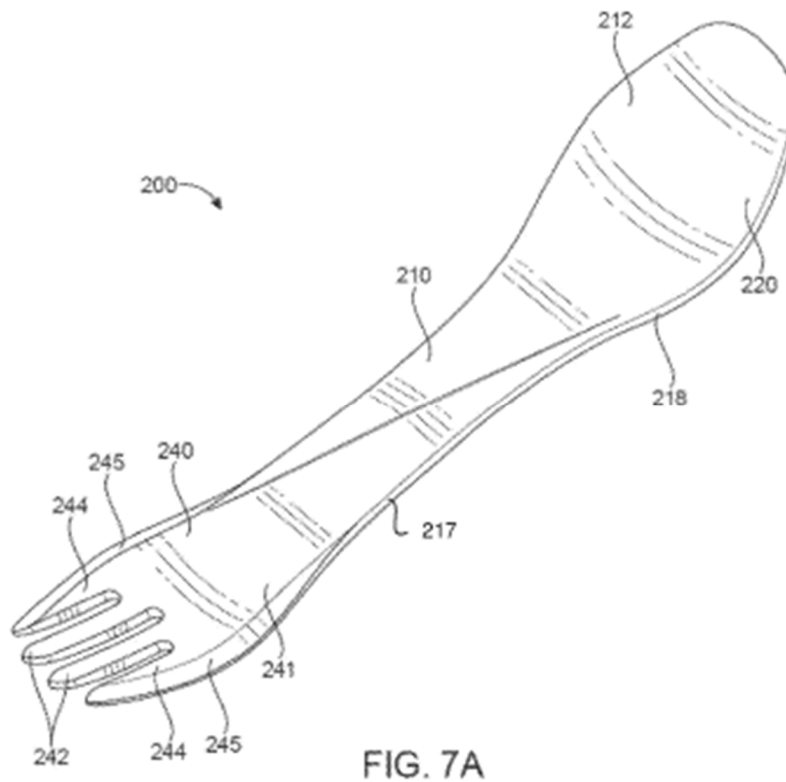
D. The ‘629 Patent

1. Overview

The ‘629 Patent is directed to an eating utensil system that includes a combination spoon and fork. (Ex. 1001 at Abstract, Fig. 7A.) According to the ‘629 Patent, a combination fork and spoon utensil 200 can be provided as a single integral unit that includes a handle 210 positioned laterally between a spoon 220 on one end and a fork 240 on the other end. (*Id.* at 9:34-42.) The fork 240 has a head portion 241, which includes the tines, that is connected to the handle 210. (*Id.* at 9:43-56.) The fork 240 has two substantially straight center tines 242 and two

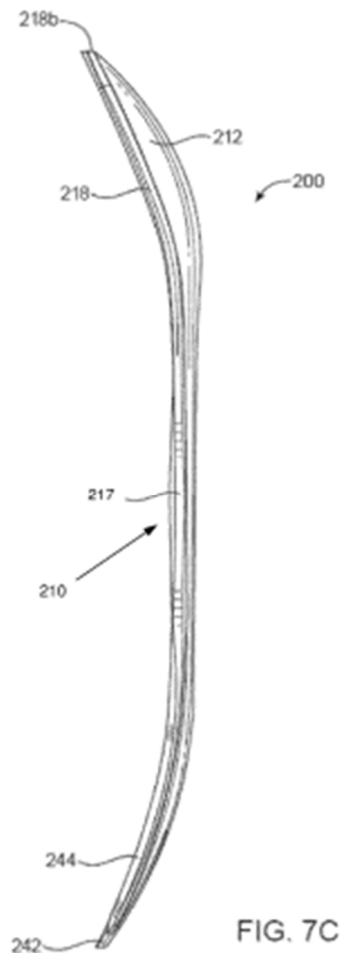
outer tines 244 that each have a substantially straight inner edge and a curved outer edge 245. (*Id.*) Each tine 242, 244 has a pointed tip, which aids in spearing or piercing pieces of food so that the food can be picked up by the fork. (*Id.*)

In addition to being curved, the outer edges 245 of the two outer tines 244 are also tapered or chamfered such that the fork 240 can be used to cut through or separate foods that do not require a knife. (*Id.* at 9:57-10:19.) As illustrated in Figure 7A of the '629 Patent reproduced below, the top surface of each of the outer edges 245 is tapered or chamfered. (*Id.*) Each chamfered edge 245 has one end at the pointed tip of the outer tine 244 and extends along the outer curved edge of the outer tine 244 to the position where the fork head 241 meets the handle 210. (*Id.*) In a particular embodiment, the '629 Patent describes that the outer edges 245 are chamfered at an angle of about 20-25 degrees, and preferably about 23 degrees. (*Id.*) The outer edges 245 of both outer tines 244 are chamfered so that both outer edges 245 can easily be used to cut or separate food regardless of whether the user is right-handed or left-handed. (*Id.*)



The ‘629 Patent further describes that the spoon 220 has a head portion or bowl 202 on its distal end. (*Id.* at 10:20-38.) The bowl 212 of the spoon 220 has a substantially flat side edge 218 and end edge 218b, which allows for “scraping” food from a container (e.g., a yogurt container) or a bowl. (*Id.*) As shown in the side view of Figure 7C reproduced below, the bowl 212 is angled upward to form a deeper bowl, which is claimed to be more efficient when scooping liquids, such as soups. (*Id.*) According to the ‘629 Patent, the bowl 212 may have a substantially elongated pentagonal shape with rounded corners. (*Id.*)

The substantially flat side edge 218 of the bowl 212 forms a portion of a side surface 217 or edge of the utensil 200. (*Id.*) The side surface 217 of the utensil 200 extends continuously along the entire length of the utensil 200, from the distal tip of an outer tine 244 to the distal tip or end of the spoon bowl 212. (*Id.*) The '629 Patent further describes that the chamfered outer edge 245 is chamfered at an angle from the side surface 217 with reference to Figure 7A of the '629 Patent above. (*Id.*)



The ‘629 Patent further describes that the spoon 210 and fork 240 are oriented in the same direction (*e.g.*, with both heads 241, 212 facing up or both heads facing down) to provide a U-shaped configuration that is comfortable for a user to hold and manipulate. (*Id.* at 10:44-58.) According to the ‘629 Patent, with the spoon head 212 and the fork head 241 oriented the same way, the fork head 241 does not get in the way of the user's hand when the integral combination utensil is being used as a spoon. (*Id.*) When the integral combination utensil is being used as a fork, the spoon head 212 does not get in the way of the user's hand. (*Id.*)

2. Prosecution History

The application that became the ‘629 Patent was filed on December 7, 2018 with a Track One request for prioritized examination, which was subsequently granted on January 10, 2019. (Ex. 1003 at pp. 289, 237.) A combined restriction and species election requirement issued January 30, 2019. (*Id.* at pp. 222-229.) In a response filed February 11, 2019, the Group I claims, namely claims 1-10 and 20, as well as Species B directed to Figures 7A-7C were elected. (*Id.* at pp. 216-221.) The February 11, 2019 response also included claim amendments, which among other things, clarified that the “cutting feature” in independent claims 1 and 20 is a “curved cutting feature” and further defined the chamfer limitation of

independent claim 20. (*Id.* at pp. 218-221.) On April 8, 2019, a supplemental amendment was filed adding new claims 21-35 reciting similar features. (*Id.* at pp. 198-205.)

A non-final office action issued on April 19, 2019 rejecting all of pending claims 1-10 and 19-35 as being obvious under 35 U.S.C. § 103 over various combinations of Miller (U.S. Patent Publication No. 2003/0110644, “Miller”), Bristow (U.S. Design Patent No. D535,857, “Bristow”), Cox (U.S. Patent No. 88,370), “Light My Fire Spork” (non-patent literature available for purchase at least as early as December 2, 2009, “LMFS”), Geckler (U.S. Patent No. 3,014,277); Whitcomb (U.S. Design Patent No. D30,129); Eklind (U.S. Patent No. 6,151,999), and Hougland (U.S. Patent Publication No. 2005/0066531). (*Id.* at pp. 158-179.) Among other things, the Examiner stated that: (i) the blade edge 36 of Miller teaches a first one of the outer tines has a curved cutting feature along at least a portion of the first one of the outer tine’s curved outer edge, (ii) “Bristow teaches it is old and well known in the art of eating utensils to incorporate a spoon head”; and (iii) “LMFS teaches it is old and well known in the art of fork tines with a cutting feature to incorporate a chamfered outer edge.” (*Id.* at pp. 163-165.)

A video interview was held on May 22, 2019 between Examiner Jason Prone and inventor Chris Miksovsky and Applicant’s Representatives, Steve Beyer and Tina Chen. (*Id.* at pp. 149, 65.) The “inventor discussed how difficult it is to

improve a simple device, such as an eating utensil” and “the Examiner suggested an amendment that would overcome the current Section 103 rejections.” (*Id.*)

Accordingly, a response was filed July 18, 2019 with claim amendments based on the interview. (*Id.* at pp. 140-151.) Specifically, and among other amendments, independent claims 1, 20, 21, and 26 were amended to recite, in some variation, “a side surface of the eating utensil extends continuously along an entire length of the eating utensil, wherein the chamfer is chamfered at an angle from the side surface.” (*Id.* at pp. 140-146.) Further, the “chamfer” limitation of independent claims 1 and 20 was recited as forming a “curved splitting feature” along at least a portion of a curved outer edge of the outer tine or outer tines. (*Id.*)

Arguments submitted with the response stated that “the cited references, either alone or in combination, do not disclose or suggest an eating utensil that has a fork head having a chamfer on the front surface of the fork head that forms a **curved** (sic) splitting feature along at least a portion of the curved outer edge of the one of the outer tines and wherein a side surface of the eating utensil extends continuously along an entire length of the eating utensil...wherein the chamfer is chamfered at an angle from the side surface.” (*Id.* at p. 150.)

In response, the Examiner issued a Final Office Action dated October 9, 2019 in which all of pending claims 1, 2, 4-10, and 20-35 were rejected under 35 U.S.C. § 112(b), but would be allowable if rewritten or amended to overcome the §

112(b) rejections. (*Id.* at pp. 67-78.) The Examiner also drafted and provided an independent claim that they “considered to distinguish patentably over the art of record.” (*Id.* at pp. 74-75.) In the reasons for allowance, the Examiner stated that “with regards to the proposed claim below (sic), the prior art of record fails to disclose a fork head with front and back surfaces defining the tines and bowl portion and an outer one of the tines and the bowl portions being further defined by a chamfer and a curved side surface which together define a splitting feature in combination with the remaining limitations.” (*Id.*)

Humangear filed a response on November 11, 2019 amending independent claim 1 according to the claim drafted and provided by the Examiner, cancelling previous independent claims 20, 21, and 26, and adding new independent claims 36-38 based on the claim drafted and provided by the Examiner. (*Id.* at 51-60.) A Notice of Allowance was subsequently issued on December 16, 2019 that included an Examiner’s amendment whereby the Examiner drafted replacement claims for claims 2, 5-7, 9, 22-24, 28-34, and 36-38 and cancelled claims 4, 8, and 27 without a further elaboration on the reasons for allowance. (*Id.* at pp. 15-28.) The Issue Fee was subsequently paid on December 23, 2019 and the ‘629 patent issued on February 11, 2020. (*Id.* at pp. 9-11.)

E. Claim Construction

Petitioner contends that for purposes of this proceeding, the claim terms do not require construction and should be afforded their plain and ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). Petitioner is not waiving any arguments concerning indefiniteness or claim scope that may be raised in any other proceeding.

IV. OVERVIEW OF THE PRIOR ART

A. Chinese Utility Model No. CN 2062986U ("Feng") (Ex. 1004²)

1. Public Availability

Feng was filed on April 4, 1990, and published on October 3, 1990 (*see* Ex. 1004, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

Feng teaches a silverware that combines a knife, a fork, and a spoon into a single piece utensil. (*Id.* at Abstract). More specifically, a handle 1, a spoon head 3, and a fork head 3 may be made of stainless steel integrally through stamping, and the blade 4 is formed by sharpening one side of the fork head on one or two

² A certified English translation and the original Chinese publication are provided herewith as Ex. 1004. Unless otherwise noted, references to text in Feng refer to the certified English translation.

sides of the fork head. (*Id.* at 3:30-35³.) Alternatively, the silverware of Feng may be integrally formed through one-time hot casting using a plastic material. (*Id.*)

Feng further contemplates that such a one-piece utensil is suitable for use in situations such as traveling, picnics, and the like, and can also be used for group dining of children in kindergartens. (*Id.* at 3:4-9.) The advantages of the silverware of Feng are described as achieving multi-purposes, convenient carrying and use, small volume, low manufacturing cost, and saving raw materials, and is suitable for use at home and in travel. (*Id.* at 3:26-28.)

**B. European Design No. 001805383-0001 to Kristiansson
("Kristiansson") (Ex. 1005)**

1. Public Availability

Kristiansson was filed on January 14, 2011 and published on January 18, 2011 (*see* Ex. 1005, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1)

2. Overview

Kristiansson teaches a spork that is a single piece utensil with a fork, a spoon, and a knife integrally formed with a handle. (*Id.* at p. 5.) The fork, spoon, and knife are arranged at one end of the handle. (*Id.*) The outer tines have a

³ Where a prior art document does not include column and line numbers or paragraph numbers, the document is referenced by page number and line number, separated by a colon.

curved outer surface with one of the outer tines including a chamfer or bevel that serves as a knife. (*Id.*)

C. U.S. Patent Publication No. 2008/0201959 to Kent (“Kent”) (Ex. 1006)

1. Public Availability

Kent was filed on February 28, 2007 and published on August 28, 2008 (*see* Ex. 1007, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

Kent teaches a one-piece eating utensil that will perform the tasks of a knife, fork, and spoon. (*Id.* at ¶9). The invention of Kent is constructed in one piece with a wide upper section that consists of two blunted knife edges that end at the top of the utensil in a three-pronged fork. (*Id.* at ¶10). The center of the upper portion has a hollowed out center section that is the spoon area. (*Id.*). The utensil can be made from various materials, such as plastic, polypropylene, or poly vinyl acrylic and is designed to be ambidextrous. (*Id.* at ¶¶11-12).

D. U.S. Patent No. 6,119,351 issued to Vanderputt ("Vanderputt") (Ex. 1007)

1. Public Availability

Vanderputt was filed on August 6, 1998, and issued on September 19, 2000 (*see* Ex. 1007, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

Vanderputt is directed to a beveled edge fork that satisfies the need for an improved combined knife and fork having a more rigid cutting edge, reinforced tines, and superior food handling abilities resulting from a fork head having an upper concave surface which also tends to result in a convenient cutting edge relative to the known prior art. (*Id.* at 1:29-42).

Vanderputt teaches a beveled edge fork 10 with a handle 20 and a head portion 40. (*Id.* at 2:41-43.) The head portion 40 includes four tines extending from a base and a concave upper surface 54, enclosed by a U-shaped upper convex perimeter surface 55 that mates with a lower beveled edge on a lower convex surface, thereby forming left and right cutting edges. (*Id.* at 1:46-50). The upper concave surface 54 defines a somewhat spoon-like region within a middle portion of the head 40 of the fork. (*Id.* at 2:63-67.) The upper convex perimeter surface 55 includes left and right upper beveled edges 56 which are adjacent to lower

beveled edge 60. (*Id.* at 3:1-6.) The line separating the upper beveled edges 6 and lower beveled edges 60 defines left and right curved cutting edges 57. (*Id.*)

E. Chinese Publication No. 103504965 to Bo (“Bo”) (Ex. 1008⁴)

1. Public Availability

Bo was filed on June 26, 2012 and published on January 15, 2014 (*see* Ex. 1008, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

Bo teaches a multifunctional spoon that is convenient to use and reduces space. (*Id.* at ¶5). The multifunctional spoon comprises a spoon handle 1 which is provided with a spoon head 2 at one end and a fork 3 at the other end. (*Id.* at ¶16.) The spoon head 2 and fork 3 are integrally formed with the spoon handle 1. (*Id.*) One side of the fork 3 is further provided with a serrated knife 4 that can be used to cut through food. (*Id.* at ¶17.) The multifunctional spoon can be integrally molded with a mold. (*Id.* at ¶18.)

⁴ A certified English translation and the original Chinese publication are provided herewith as Ex. 1008. Unless otherwise noted, references to text in Bo refer to the certified English translation.

F. U.S. Patent No. 2,318,129 issued to Torode ("Torode") (Ex. 1009)

1. Public Availability

Torode was filed on June 2, 1941, and issued on May 4, 1943 (*see* Ex. 1009, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

Torode teaches that the usefulness of the knife, fork, and spoon for eating purposes is well known and the purpose of the invention is to provide a utensil whereby these three important elements are combined in a single structure, thus eliminating the necessity of the presence of three different utensils for this purpose. (*Id.* at 1:1-8.) Torode teaches a combination knife, fork, and spoon with a handle portion 1, a fork body 3 with tines 5 at one end of the handle portion 1, and a spoon 5 at the other opposite end of the handle portion 1. (*Id.* at 2:1-9). The complete structure is made of a single piece of suitable metal. (*Id.* at 2:11-13.) A knife blade portion 7 is a part of fork body 3 and adequate pressure for use of the knife portion 7 may be exerted upon arm 6. (*Id.* at 2:14-19.)

G. Printed Publication for the Charles-Francois Languedocq Fork ("CFL Fork") (Ex. 1010)

1. Public Availability

The CFL Fork is shown on page 84 of a book by David Allan published December 13, 2007 and titled “French Silver Cutlery of the XIXth Century” (*See* Ex. 1010, pp. 2, 6.⁵) The CFL Fork is a printed publication that is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

2. Overview

The CFL Fork is an oyster fork from the period of 1845-1854 that includes upwardly curved tines with the left tine being wider and sharpened. (*Id.* at pp. 4-5.)

H. U.S. Patent No. 4,535,538 issued to Nelson ("Nelson") (Ex. 1011)

2. Public Availability

Nelson was filed on April 10, 1984, and issued on August 20, 1985 (*see* Ex. 1011, cover page), and is prior art at least under 35 U.S.C. § 102(a)(1) and no exceptions apply under 35 U.S.C. § 102(b)(1).

⁵ Ex. 1010 also includes on pp. 6-8 webpage screenshots where the referenced book is available for purchase as well as the URL and date of access.

3. Overview

Nelson teaches a combination non-disposable table utensil 10 with an elongated handle 2 having a concavo-convex scoop 13 at one end. (*Id.* at 2:22-31.) The scoop 13 has a curved surface forming a basin bowl 14 with the scoop 13 functioning as a spoon. (*Id.*) At one end of the scoop 13 are a plurality of tines 16 that generally function in the manner of a fork. (*Id.*) The scoop 13 also has a first edge 22 and a second edge 24. (*Id.* at 2:32-42.) The edges 22, 24 terminate in tines 16. (*Id.*) The first edge 22 has a bevel edge 23 along its entire length that can sever food materials upon rocking pressure on the handle 12, and therefore function as a knife. (*Id.*) The bevel edge 23 may be sharpened, but is nonserrated to prevent injury to the mouth of a user. (*Id.*)

V. PRECISE RELIEF REQUESTED (CLAIMS CHALLENGED) (37 C.F.R. § 42.104(b))

Petitioner respectfully requests that Trial be instituted on all of the grounds and arguments advanced, finding claims 1-23 of the '629 Patent unpatentable as follows:

Ground	Claims	Basis under 35 U.S.C. § 103
1	1-23	Feng

Ground	Claims	Basis under 35 U.S.C. § 103
2	1-23	Feng in view of Kristiansson
3	1-3, 7-13, 15, 16, 22, 23	Kent in view of Vanderputt and Bo
4	1-23	Torode in view of CFL fork and Nelson

The references relied upon for this Petition as prior art are shown below:

Reference	35 U.S.C. §	Qualifying Date
Feng (Ex. 1004)	102(a)(1)	10/03/1990 (published)
Kristiansson (Ex. 1005)	102(a)(1)	01/18/2011 (published)
Kent (Ex. 1006)	102(a)(1)	08/28/2008 (published)
Vanderputt (Ex. 1007)	102(a)(1)	09/19/2000 (issued)
Bo (Ex. 1008)	102(a)(1)	01/15/2014 (published)
Torode (Ex. 1009)	102(a)(1)	05/04/1943 (issued)
CFL Fork (Ex. 1010)	102(a)(1)	12/13/2007 (published)
Nelson (Ex. 1011)	102(a)(1)	08/20/1985 (issued)

Feng, Kristiansson, Kent, Vanderputt, Bo, CFL Fork, and Nelson were not submitted nor considered during prosecution of the ‘629 Patent. (*See* Ex. 1001, pp. 1-3, “references cited.”) Torode was cited in an information disclosure statement filed on December 7, 2018 with the application along with 149 other references,

and was considered April 15, 2019, but was not relied upon by the Examiner during prosecution of the '629 Patent. (Ex. 1003 at pp. 158-189.)

VI. DETAILED REASONS FOR RELIEF REQUESTED

A. Ground 1: Claims 1-23 are rendered obvious by Feng

1. Claim 1: Preamble:

"An eating utensil"

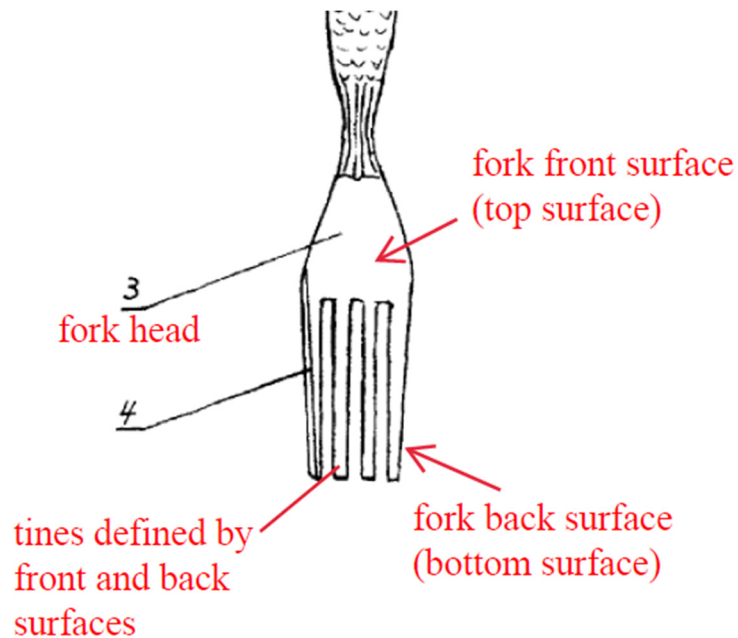
Feng teaches "a silverware that combines a knife, a fork, and a spoon." (Ex. 1004, Abstract.) Thus, Feng teaches this element.

2. Claim 1(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines"

Feng teaches a utensil with a handle 1 with a spoon head 2 at one end and a fork head 3 at the other end. (Ex. 1004 at 3:21-24, 30-35.⁶) As shown in the annotated image of Feng below, the fork head 3 includes four tines (*i.e.*, a plurality of tines) defined by the front and back surfaces of the fork. (*Id.* at p.4.) Although Feng does not illustrate the back surface, the utensil of Feng is a three-dimensional object and thus has a back surface opposite to the front surface. Thus, Feng teaches this element.

⁶ See FN3.



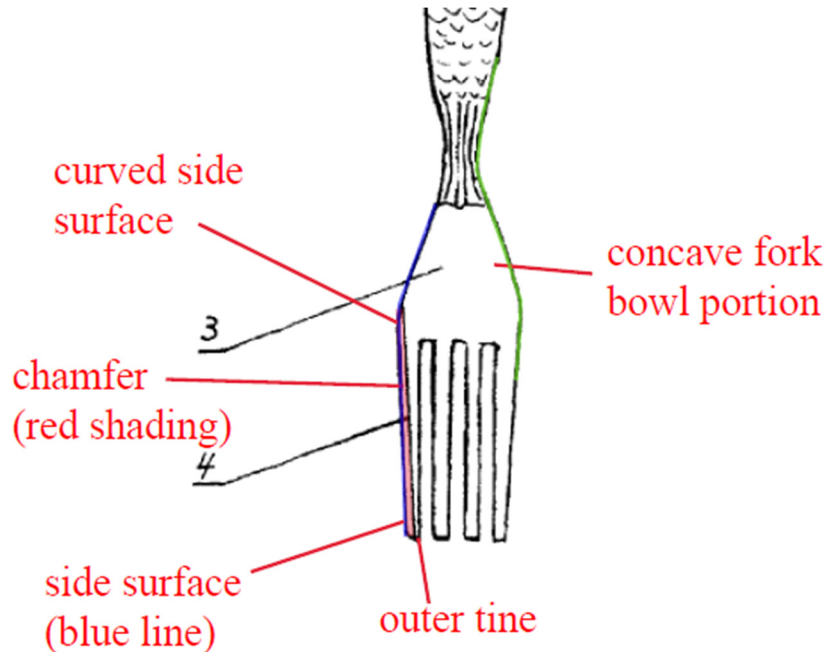
3. Claim 1(b):

"a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature⁷"

Feng is not explicit regarding the curvature of the fork head 3, but teaches curvature at the connection between the handle 1 and the fork head 3, along with curvature of the outer side surface of the fork head 3 itself, that is consistent with the fork head 3 being a concave fork bowl, as shown by the green line in the

⁷ See Certificate of Correction, Ex. 1003 at p. 1.

annotated image below. Alternatively, a fork bowl was well known in the art and it would be obvious to modify Feng to include a fork bowl. (Ex. 1002 at ¶¶155-158, Fig. 24.) Thus, Feng teaches the concave fork bowl portion or it would be obvious to modify Feng to include a concave fork bowl portion.



Feng further teaches a blade 4 (shaded in red above) that extends along an outer tine and a portion of a curved side surface of the fork head 3. (Ex. 1004 at 3:30-35, p. 4.) The blade 4 of Feng is illustrated as a chamfer that connects the fork top surface and the fork side surface (shown with a blue line in the image above) of the fork head 3. The chamfer of Feng couples the fork front surface (*see* image in claim mapping in section VI.A.2) and the curved side surface (blue line above). Although Feng does not illustrate the back surface of the utensil, the side

surface shown in the image above appears to be connected to the fork back surface (see image in claim mapping in section VI.A.2). The blade 4 of Feng 4 is a “splitting feature” in the sense that the blade 4 is capable of “splitting” food. (Ex. 1004, Abstract.) The blade 4 is presented on the curved side surface of the fork head 3 of Feng, as shown above, and thus is a curved splitting feature. As a result, Feng teaches an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, and the coupling between the chamfer and the curved side surface defines a curved splitting feature.

While Feng is not explicit regarding the angle of the blade 4 relative to the curved side surface of the fork head 3, the blade 4 is illustrated as a chamfer. According to the plain and ordinary meaning of “chamfer,” the blade 4 of Feng is oblique in relation to the curved side surface of the fork head 3. Thus, Feng teaches the chamfer being oblique to the curved side surface.

To the extent that Feng does not disclose a concave fork bowl portion, an outer tine with a curved side surface, or the chamfer being oblique to the curved side surface, it would be obvious to modify Feng with such features as a matter of design choice. (Ex. 1002 at ¶¶155-166, Figs. 24-26). Both concave fork bowl portions and curved side surfaces of outer tines were well-known features in the

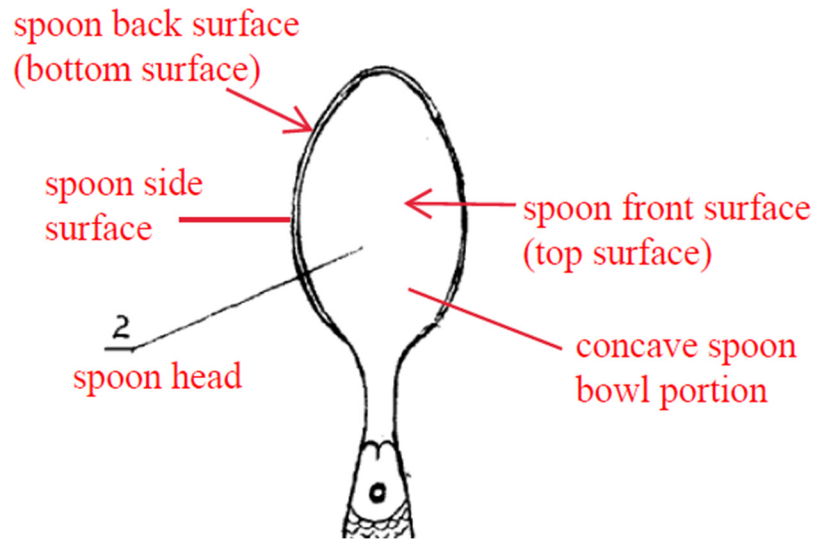
prior art and could be incorporated into Feng with a reasonable expectation of success and to provide the known advantages associated with such features. (*Id.*) In addition, the chamfer being oblique relative to the curved side surface is not stated as having any benefit in the '629 Patent other than to define a "curved splitting feature." Thus, the angle is likewise a mere design choice that would be well within the knowledge of a POSITA and would be obvious absent some unexpected benefit. Thus, in the alternative, it would be obvious to a POSITA to modify Feng to arrive at this element of claim 1.

4. Claim 1(c):

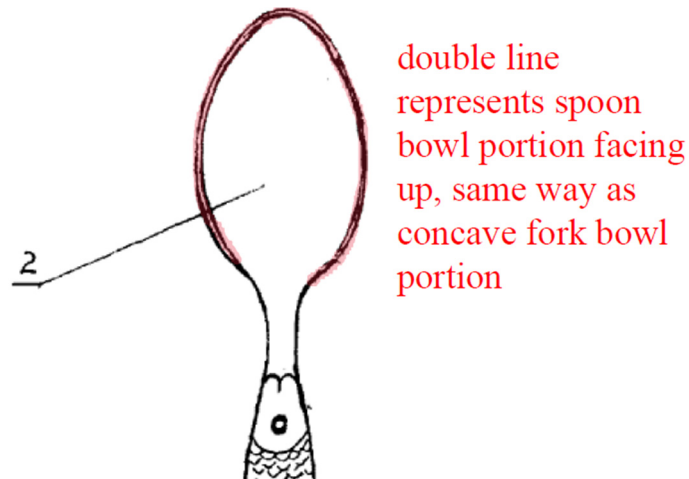
"a spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, the spoon front surface, the spoon back surface, and the spoon side surface partially defining a concave spoon bowl portion, the spoon bowl portion facing a same way as the concave fork bowl portion"

Feng teaches a spoon head 2 that includes a spoon front surface, a spoon back surface, and a side surface coupling the front surface with the back surface, as shown in the annotated image below. (Ex. 1004 at 3:30-35.) Although the spoon back surface is not illustrated, the spoon is a three-dimensional object that has a back surface. Feng is not explicit regarding the curvature of the spoon head 2, but the use of the term "spoon" to describe this feature of Feng implies that the spoon

head 2 has a spoon concave bowl portion based on the plain and ordinary meaning of “spoon.” (Ex. 1002 at ¶¶168-173, Figs. 29, 30.)



Feng further teaches, with reference to the annotated image below, that the spoon bowl portion faces a same way as the concave fork bowl portion. In particular, the drawing of Feng illustrates a double line corresponding to a surface on the top of the spoon head 2 that corresponds to the blunted or chamfered top edge of a spoon that is consistent with traditional designs of spoons. (*Id.* at ¶¶167, Fig. 28.) If the spoon head 2 of Feng were facing the opposite direction, the outer boundary of Feng would only be a single line, as spoons typically do not include a chamfered or blunted edge on the bottom. (*Id.*) Thus, Feng teaches this element.



5. Claim 1(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

6. Claim 1(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

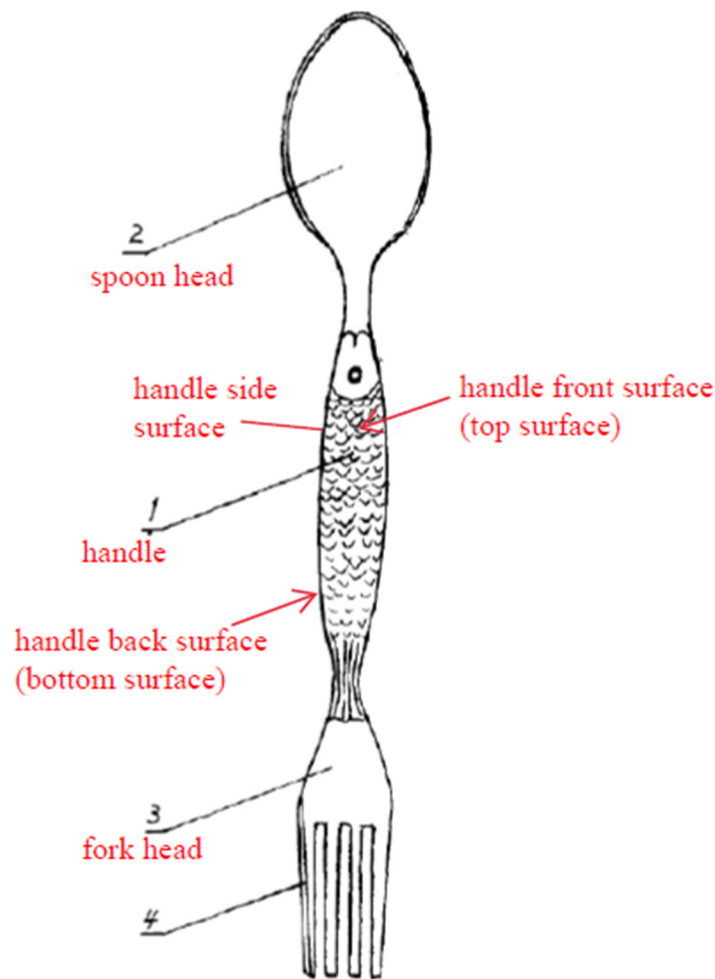
7. Claim 1(f):

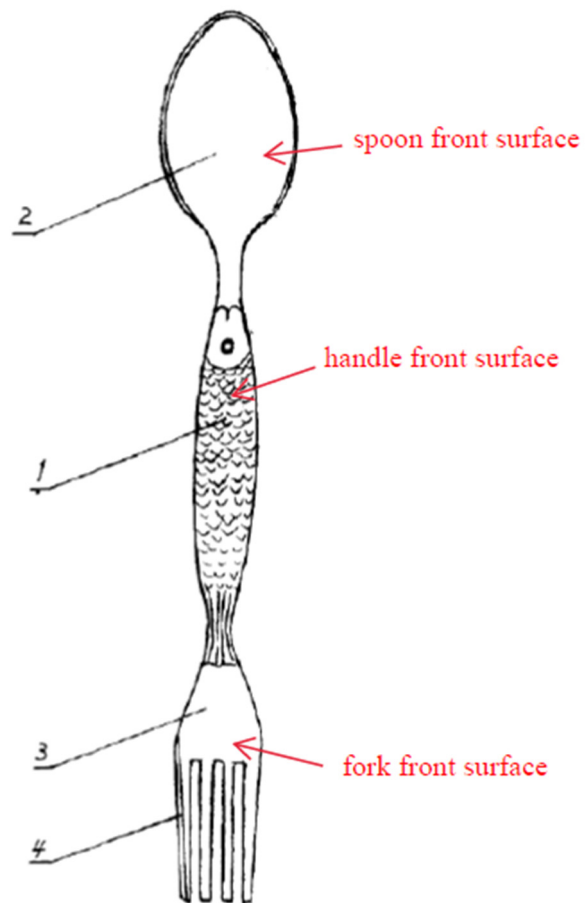
"the fork back surface, the spoon surface, and the handle back surface collectively defining a single back surface of the utensil"

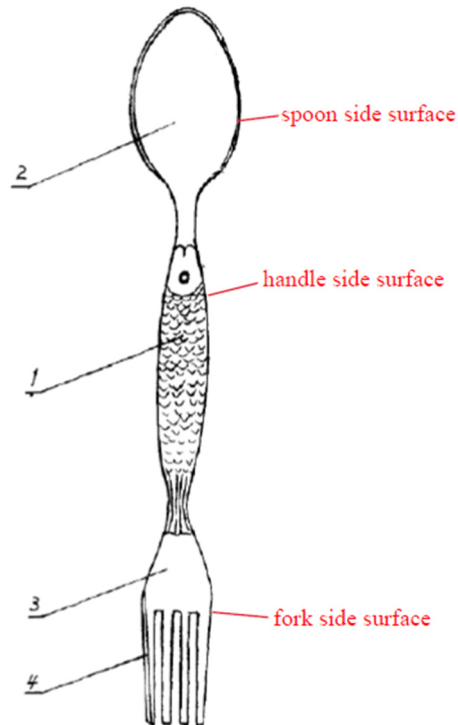
8. Claim 1(g):

"the fork side surface, the spoon side surface, and the handle side surface collectively defining a single side surface of the utensil"

Feng teaches an integral utensil with a handle 1, a spoon head 2 and a fork head 3. (Ex. 1004 at 3:21-24, 30-35.) As shown in the annotated images below, such integral utensil teaches the various surfaces recited in these elements, including a common back surface opposite to the illustrated front surface. Thus, Feng teaches these elements.



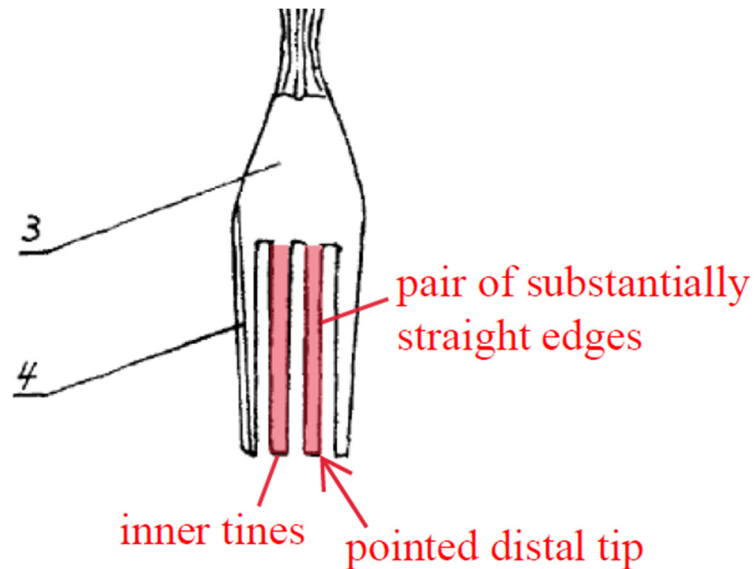




9. Claim 2:

"An eating utensil as recited in claim 1, wherein inner ones of the plurality of tines each has a pair of substantially straight side edges and a pointed distal tip"

Feng teaches, with reference to the annotated image below, a fork head 3 with two inner tines that each include a pair of substantially straight edges. The inner tines terminate in a distal tip having points on both opposite sides for spearing food. Thus, Feng teaches this element.



To the extent that Feng does not clearly disclose an inner tine with a sharply pointed distal tip, such a feature was well-known in the prior art and a POSITA would be motivated to modify Feng to include a more sharply pointed distal tip to improve the ability of the fork to spear food, among other reasons. (Ex. 1002 at ¶¶180-181, Fig. 31.) Thus, in the alternative, this element would be obvious in view of Feng.

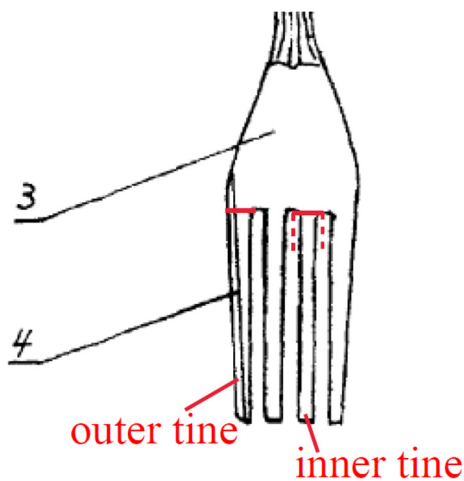
10. Claim 3:

"An eating utensil as recited in claim 2, wherein the outer one of the tines has a wider base end than the inner ones of the tines"

Feng teaches that the outer tine with the blade 4 has a base that is wider than the inner ones of the tines, as shown in the below annotated image. In the below image, the solid red lines are the same width. The dashed lines are provided to

emphasize that the outer tine is wider than the inner tines. Thus, Feng teaches this element.

In the alternative, this element would be obvious over Feng as a mere design choice given that wider outer tines were well-known in the art. (Ex. 1002 at ¶¶182, 183, Figs. 32, 33.)



11. Claim 4:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil."

Feng appears to disclose this element (see Ex. 1002 at ¶¶185-196, Figs. 34-36.) It would also be obvious to modify Feng to include a concave spoon bowl with substantially flat side edges connected by rounded corners as a matter of design choice. (*Id.*) While the '629 patent mentions that the substantially flat side

edges improve scraping against a yogurt container or bowl (*see* Ex. 1001 at 10:21-24), that would only be true if the container had a similar shape to the substantially flat side edges and there would be no expected benefit for other, more typical shapes of containers. (Ex. 1002 at ¶¶191-193.) Thus, this element appears to be a matter of design choice that would be well within the knowledge of a POSITA without some unexpected benefit and is therefore obvious. (*Id.*)

Alternatively, this element would be obvious to try from a number of finite alternatives. A POSITA would be aware of different spoon designs and would be able to select curved or straight edges from a number of finite possibilities with the reasonable expectation of success in creating a spoon. (*Id.*)

12. Claim 5:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is tilted at a first angle relative to the handle front surface and the concave fork bowl portion is tilted at a second angle relative to the handle front surface such that at least a portion of each of the bowl portions extend forward from the handle front surface"

It is generally known that spoons and forks can be titled at an angle with respect to a handle such that at least a portion of the spoon, fork, or both extend forward from a front surface of a handle. (Ex. 1002 at ¶¶198-203.) While Feng is not explicit regarding the angle of the spoon head 2 and fork head 3 relative to the handle 1, it would be obvious to a POSITA to tilt the spoon head 2 and fork head 3

of Feng as a matter of design choice. (*Id.*) Thus, this element would be obvious in view of Feng.

13. Claim 6:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by a plurality of substantially flat side edges, wherein one of the substantially flat side edges further defines the single side surface of the utensil"

Feng appears to disclose this element or it would be obvious to modify Feng to include this element. (See claim mapping in section VI.A.11; Ex. 1002 at ¶¶185-196, 205-210, Figs. 34-36.)

14. Claim 7:

"An eating utensil as recited in claim 1, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Feng teaches that the utensil may be integrally formed through one-time hot casting using a plastic material. (Ex. 1004 at 3:21-24, 30-35.) It would be obvious to use a glass reinforced thermoplastic material for the utensil. (Ex. 1002 at ¶212.) Thus, this claim would be obvious over Feng.

15. Claim 8:

Preamble: "An eating utensil formed from a glass filled nylon thermoplastic material, the eating utensil comprising"

Feng renders this element obvious. See claim mapping in section VI.A.14.

16. Claim 8(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, a first outer one of the tines and the concave fork bowl portion being further defined by a first chamfer and a first curved side surface coupled to the first chamfer, the first chamfer coupling the fork front surface with the first curved side surface, the first curved side surface coupling the first chamfer with the fork back surface, the first chamfer is oblique in relation to the first curved side surface and the coupling between the first chamfer and the first curved side surface defines a first curved splitting feature"

As explained above regarding claim 1(a) and claim 1(b), which are substantively the same as claim 8(a) except that claim 8(a) recites “a first outer one of the tines” instead of “an outer one of the tines” as in claim 1(b), Feng teaches this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.2 and section VI.A.3.

17. Claim 8(b):

"a second outer one of the tines and the concave fork bowl portion being further defined by a second chamfer and a second curved side surface coupled to the second chamfer, the second chamfer coupling the fork front surface with the second curved side surface, the second curved side surface coupling the second chamfer with the fork back surface, the second chamfer is oblique in relation to the second curved side surface and the coupling between the second chamfer and the second curved side surface defines a second curved splitting feature"

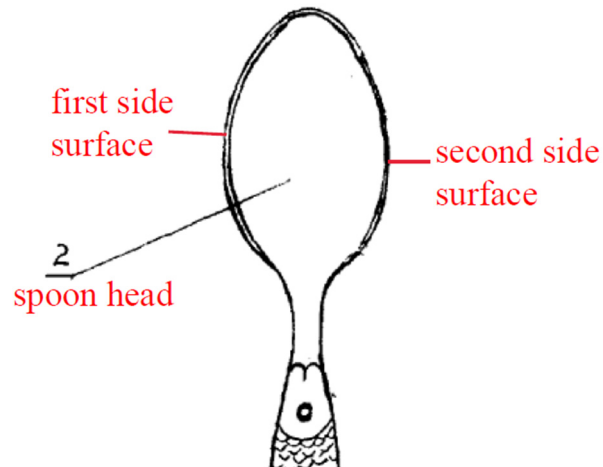
This element of claim 8 is directed to a second chamfer and second curved splitting feature on a second outer tine of the fork head and is otherwise substantively the same as claim 1(a) and claim 1(b). Feng further teaches that “one or two sides of the fork head 3 are formed with a blade 4.” (Ex. 1004 at 3:21-24.) Feng therefore teaches that the features of one outer tine, such as those discussed above in section VI.A.2 and section VI.A.3, can also be on both outer tines. Thus, Feng teaches this element or it would be obvious to modify Feng to include this element. *See* claim mapping in section VI.A.2 and section VI.A.3.

18. Claim 8(c):

"a spoon head having a spoon front surface, a spoon back surface, and first and second spoon side surfaces coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the first and second spoon side surfaces defining a concave spoon bowl portion, the spoon bowl portion faces the same way as the concave fork bowl portion"

As explained above regarding claim 1(c), which is substantively the same as claim 8(c) except that claim 8(c) recites the spoon head including “first and second spoon side surfaces” instead of “a spoon side surface” as in claim 1(c), Feng teaches this element or it would be obvious to modify Feng to include this element. *See* claim mapping in section VI.A.4. Feng further teaches a spoon head 2 with

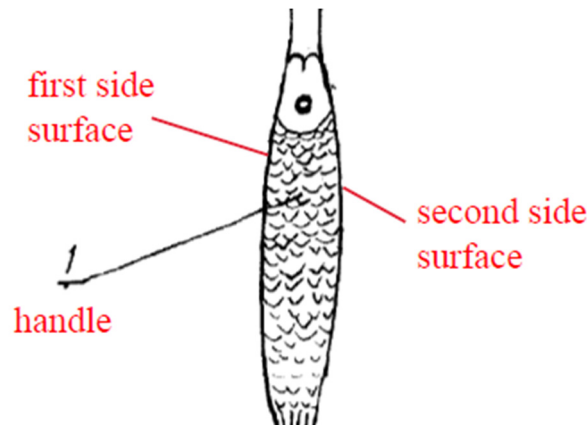
two side surfaces, as shown in the annotated image below. Thus, Feng teaches this element.



19. Claim 8(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a first and second handle side surface coupling the handle front surface to the handle back surface"

As explained above regarding claim 1(d), which is substantively the same as claim 8(d) except that claim 8(d) recites the handle as including "first and second handle side surfaces" instead of "a handle side surface" as in claim 1(d), Feng teaches this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.5. Feng further teaches a handle 1 with a first and second side surface. Thus, Feng teaches this element.



20. Claim 8(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

21. Claim 8(f):

"the fork back surface, the spoon back surface, and the handle back surface collectively defining a single back surface of the utensil"

As explained above regarding claim 1(e) and 1(f), which are identical to claim 8(e) and 8(f), Feng teaches these elements. See claim mapping in section VI.A.6 and section VI.A.7.

22. Claim 8(g):

"the first fork side surface, the first spoon side surface, and the first handle side surface collectively defining a single first side surface of the utensil"

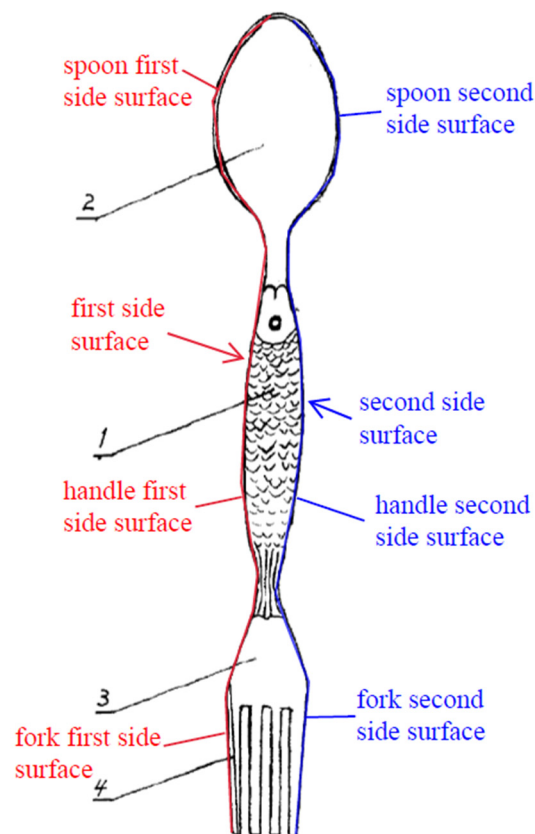
As explained above regarding claim 1(g), which is substantively the same as claim 8(g) except that claim 8(g) recites "first" side surfaces instead of side

surfaces as in claim 1(g), Feng teaches this element. See claim mapping in section VI.A.8.

23. Claim 8(h):

"the second fork side surface, the second spoon side surface, and the second handle side surface collectively defining a single second side surface of the utensil"

As Feng is an integral utensil, Feng teaches a fork, handle, and spoon with first and second side surfaces that collectively define first and second single second side surfaces of the utensil, as shown below. (Ex. 1004 at 3:30-35.) Thus, this element is disclosed by Feng.



24. Claim 9:

Preamble: "An eating utensil comprising"

Feng teaches this element. See claim mapping in section VI.A.1.

25. Claim 9(a):

"a first head having a first front surface and a first back surface both partially defining a plurality of tines and a first concave bowl portion, an outer one of the tines and the first concave bowl portion being further defined by a chamfer and a first curved side surface coupled to the chamfer, the chamfer coupling the first front surface with the first curved side surface, the first curved side surface coupling the chamfer with the first back surface, and the chamfer is oblique in relation to the first curved side surface"

As explained above regarding claim 1(a) and claim 1(b), which are substantively the same as claim 9(a) except that claim 9(a) recites "a first head" instead of a "fork head" as in claim 1 and claim 9(a) does not include "the coupling between the chamfer and the curved side surface defines a curved splitting feature" of claim 1(b), Feng teaches this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.2 and section VI.A.3.

26. Claim 9(b):

"a second head having a second front surface, a second back surface, and a second side surface coupling the second front surface with the second back surface, the second front surface, the second back surface, the second side surface partially defining a second concave bowl portion, the second concave bowl portion faces the same way as the first concave bowl portion"

As explained above regarding claim 1(c), which is substantively the same as claim 9(b) except that claim 9(b) recites “a second head” instead of “a spoon head” as in claim 1(c), Feng teaches this element or it would be obvious to modify Feng to include this element. *See* claim mapping in section VI.A.4.

27. Claim 9(c):

"a handle that couples the second head to the first head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"⁸

As explained above regarding claim 1(d), which is substantively the same as claim 9(c) except that claim 9(c) recites “a first head” and “a second head” instead of “a fork head” and “a spoon head,” respectively, as in claim 1(d), Feng teaches this element or it would be obvious to modify Feng to include this element. *See* claim mapping in section VI.A.5.

28. Claim 9(d):

"the first front surface, the second front surface, and the handle front surface collectively defining a single front surface of the utensil"

As explained above regarding claim 1(e), which is substantively the same as claim 9(d) except that claim 9(d) recites “first” instead of “fork” and “second”

⁸ *See* Certificate of Correction, Ex. 1003 at p. 1.

instead of “spoon” as in claim 1(e), Feng teaches this element. *See* claim mapping in section VI.A.6.

29. Claim 9(e):

"the first back surface, the second back surface, and the handle back surface collectively defining a single back surface of the utensil"

As explained above regarding claim 1(f), which is substantively the same as claim 9(e) except that claim 9(e) recites “first” instead of “fork” and “second” instead of “spoon” as in claim 1(f), Feng teaches this element. *See* claim mapping in section VI.A.7.

30. Claim 9(f):

"the first side surface, the second side surface, and the handle side surface collectively defining a single side surface of the utensil"

As explained above regarding claim 1(g), which is substantively the same as claim 9(f) except that claim 9(f) recites “first” instead of “fork” and “second” instead of “spoon” as in claim 1(g), Feng teaches this element. *See* claim mapping in section VI.A.8.

31. Claim 10:

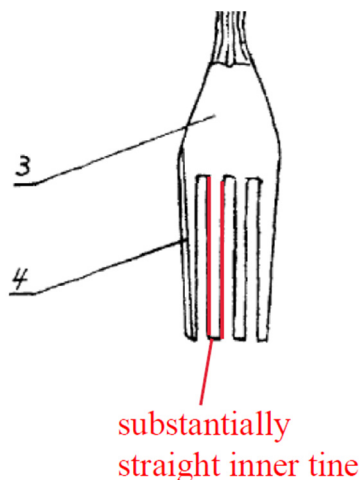
"The eating utensil as recited in claim 9, wherein the handle, the first head, and the second head are integrally formed"

Feng teaches a handle 1, a spoon head 2, and a fork head 3 may be formed integrally by stamping or hot casting. (Ex. 1004 at 3:30-35.) Thus, Feng teaches this element.

32. Claim 11:

"The eating utensil as recited in claim 9, wherein an inner one of the tines is substantially straight"

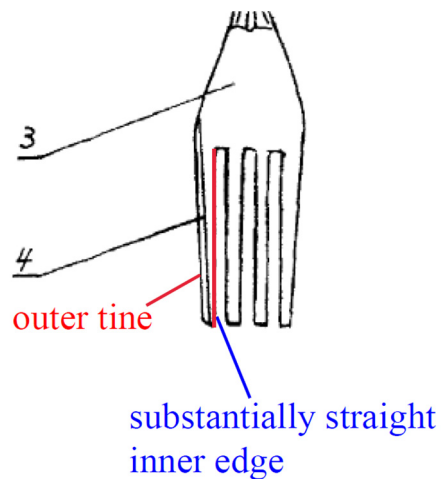
Feng teaches an inner one of the tines is substantially straight, as shown below. (*Id.* at p.4.) Thus, Feng teaches this element.



33. Claim 12:

"The eating utensil as recited in claim 9, wherein the outer one of the tines is further defined by a substantially straight inner edge"

Feng teaches that the outer one of the tines has a substantially straight inner edge, as shown below. (*Id.*) Thus, Feng teaches this element.



34. Claim 13:

"The eating utensil as recited in claim 9, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

It would be obvious to modify Feng to include this element. See claim mapping in section VI.A.14.

35. Claim 14:

"The eating utensil as recited in claim 9, wherein the second concave bowl portion is further defined by a plurality of substantially flat side edges, wherein one of the substantially flat side edges further defines the single side surface of the utensil"

As explained above regarding claim 4 and claim 6, which are substantively the same as claim 14 except claim 14 recites "second" instead of "spoon" as in claim 4 and claim 6, Feng teaches this element or it would be obvious to modify

Feng to include this element. See claim mapping in section VI.A.11 and section VI.A.13.

36. Claim 15:

Preamble: "An eating utensil comprising"

Feng teaches this element. See claim mapping in section VI.A.1.

37. Claim 15(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature"

As explained above regarding claim 1(a) and claim 1(b), which are identical to claim 15(a), Feng teaches this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.2 and section VI.A.3.

38. Claim 15(b):

"a handle coupled to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

As explained above regarding claim 1(d), which is identical to claim 15(b), Feng teaches this element. *See* claim mapping in section VI.A.5.

39. Claim 15(c):

"the fork front surface and the handle front surface defining a single front surface of the utensil"

As explained above regarding claim 1(e), which is substantively the same as claim 15(c) except claim 15(c) does not recite “the spoon front surface” and the word “collectively” from claim 1(e), Feng teaches this element. *See* claim mapping in section VI.A.6.

40. Claim 15(d):

"the fork back surface and the handle back surface defining a single back surface of the utensil"

As explained above regarding claim 1(f), which is substantively the same as claim 15(d) except claim 15(d) does not recite “the spoon front surface” and the word “collectively” from claim 1(f), Feng teaches this element. *See* claim mapping in section VI.A.7.

41. Claim 15(e):

"the fork side surface and the handle side surface defining a single side surface of the utensil"

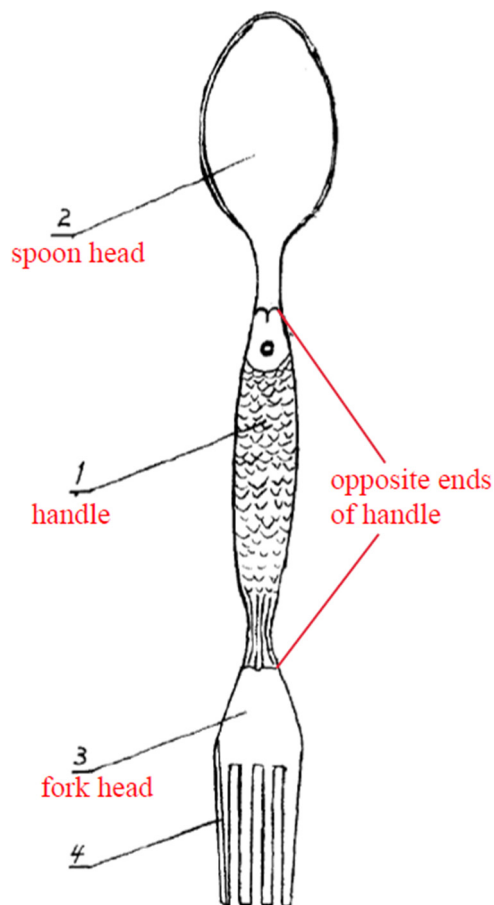
As explained above regarding claim 1(g), which is substantively the same as claim 15(e) except claim 15(e) does not recite “the spoon front surface” and the

word “collectively” from claim 1(g), Feng teaches this element. See claim mapping in section VI.A.8.

42. Claim 16(a):

"The eating utensil as recited in claim 15, further comprising a spoon head coupled to the handle on an opposite side from where the fork head is coupled to the handle"

Feng teaches a handle 1 with a spoon head 2 and fork head 3 on opposite sides, as shown below. (Ex. 1004, 3:21-24, 30-35.) Thus, Feng teaches this element.



43. Claim 16(b):

"the spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the spoon side surface defining a concave spoon bowl portion"

As explained above regarding claim 1(c), parts of which are identical to claim 16(b), Feng teaches this element. See claim mapping in section VI.A.4.

44. Claim 16(c):

"the spoon front surface further defining the single front surface of the utensil; the spoon back surface further defining the single back surface of the utensil; and the spoon side surface further defining the single side surface of the utensil"

As explained above regarding claims 1(e), 1(f), and 1(g), parts of which are identical to claim 16(c), Feng teaches this element. See claim mapping in sections VI.A.6-8.

45. Claim 17:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is tilted in relation to the handle front surface at an angle of about 20-25 degrees"

It is generally known that spoons can be titled at an angle with respect to a handle. (Ex. 1002 at ¶¶276-279.) While Feng is not explicit regarding the angle of the spoon head 2 relative to the handle 1, it would be obvious to a POSITA to tilt the spoon head 2 of Feng at an angle of about 20-25 degrees relative to the front

surface of the handle as a matter of design choice. (*Id.*) Thus, this element would be obvious in view of Feng.

46. Claim 18:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat side edge, wherein the substantially flat side edge further defines the single side surface of the utensil⁹"

As explained above regarding claim 4 and claim 6, which are substantively the same as claim 18 except claim 18 recites a single substantially flat side edge of the spoon instead of at least three or a plurality of substantially flat side edges, respectively, Feng appears to disclose this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.11 and section VI.A.13.

47. Claim 19:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat end edge"

Feng appears to disclose this element. (Ex. 1002 at ¶¶185-196, 205-210, 281, Figs. 34-36.) It would also be obvious to modify Feng to include a concave spoon bowl with a substantially flat end as a matter of design choice. (*Id.*) While the '629 patent mentions that the substantially flat side edges improve scraping

⁹ See Certificate of Correction, Ex. 1003 at p. 1.

against a yogurt container or bowl (*see* Ex. 1001 at 10:21-24), that would only be true if the container had a similar shape to the substantially flat side edges and there would be no expected benefit for other, more typical shapes of containers. (Ex. 1002 at ¶¶185-196, 205-210, 282-286, Figs. 34-36.) Thus, this element appears to be a matter of design choice that would be well within the knowledge of a POSITA and is therefore obvious in view of Feng. (*Id.*)

Alternatively, this element would be obvious to try from a number of finite alternatives. A POSITA would be aware of different spoon designs and would be able to select curved or straight edges from a number of finite possibilities with the reasonable expectation of success in creating a spoon that is suitable for scraping. (*Id.*)

48. Claim 20:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion has a substantially pentagonal shape"

While Feng is not necessarily explicit regarding this element, the shape of the concave spoon bowl portion is a design choice that is well within the skill of a POSITA. (*Id.* at ¶¶287-290, Fig. 39.) Thus, to the extent Feng does not disclose this element, this element would be obvious over Feng.

49. Claim 21:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil"

As explained above regarding claim 4, which is identical to claim 21, Feng appears to disclose this element or it would be obvious to modify Feng to include this element. See claim mapping in section VI.A.11.

50. Claim 22:

"The eating utensil as recited in claim 15, wherein the handle front surface has a diagonal ridge"

Feng appears to illustrate shading and other surface textures on the front surface of the handle 1 that arguably explicitly teach the diagonal ridge. (Ex. 1004, p.4; Ex. 1002 at ¶293, Fig. 40.) Nonetheless, the '629 patent is silent with respect to any perceived benefit from including a handle front surface with a diagonal ridge. Thus, this element appears to be a simple matter of design choice and is therefore obvious. (Ex. 1002 at ¶¶292-295.) Thus, Feng teaches this element or it would be obvious to modify Feng to include this element.

51. Claim 23:

"The eating utensil as recited in claim 15, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

As explained above regarding claim 7, which is identical to claim 23, it would be obvious to modify Feng to include this element. *See* claim mapping in section VI.A.14.

B. Ground 2: Claims 1-23 are rendered obvious by Feng in view of Kristiansson

1. Claim 1:

Preamble: "An eating utensil"

Feng teaches this element. *See* claim mapping in section VI.A.1.

2. Claim 1(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines"

Feng teaches this element. *See* claim mapping in section VI.A.2.

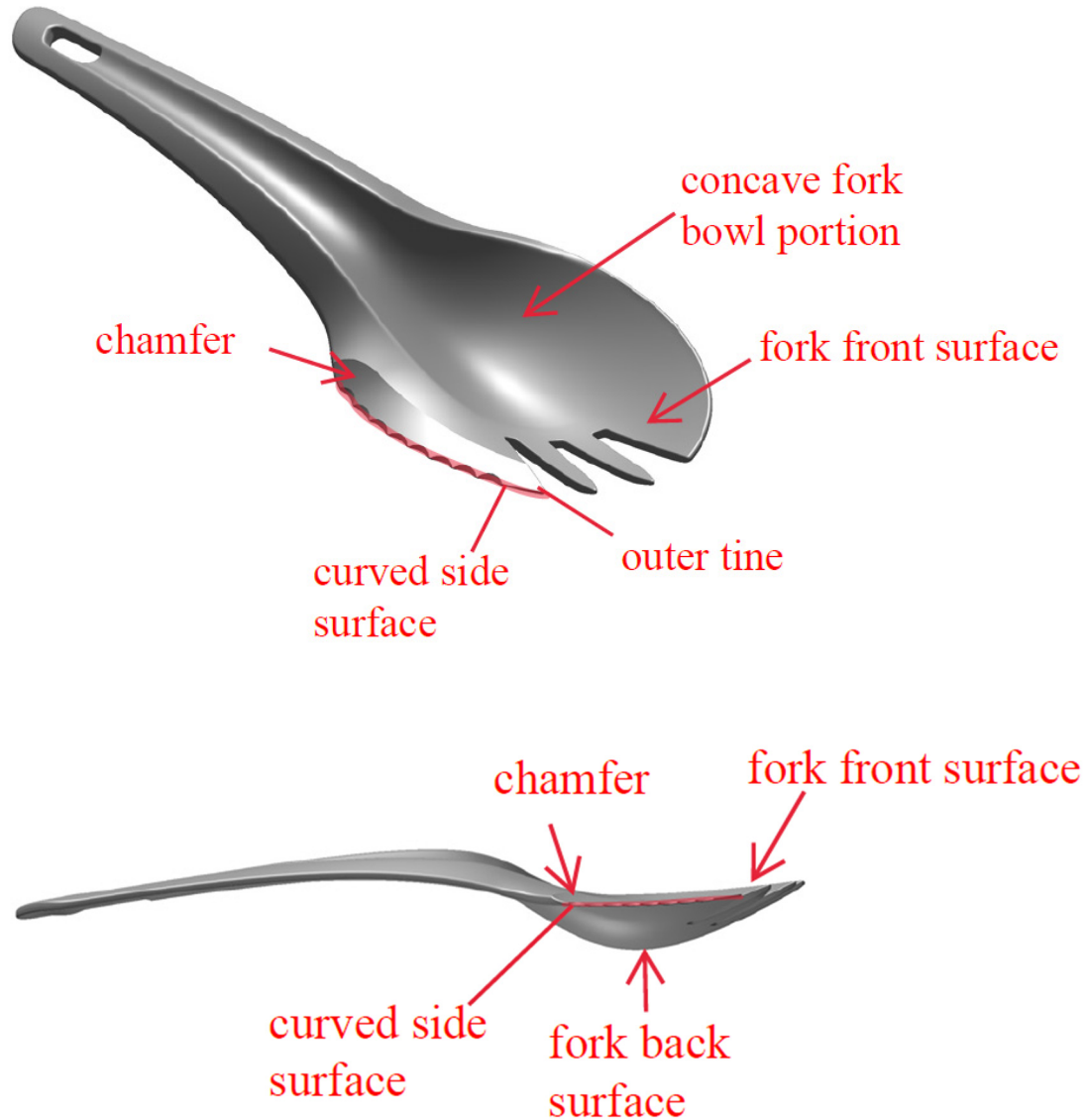
3. Claim 1(b):

"a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature¹⁰"

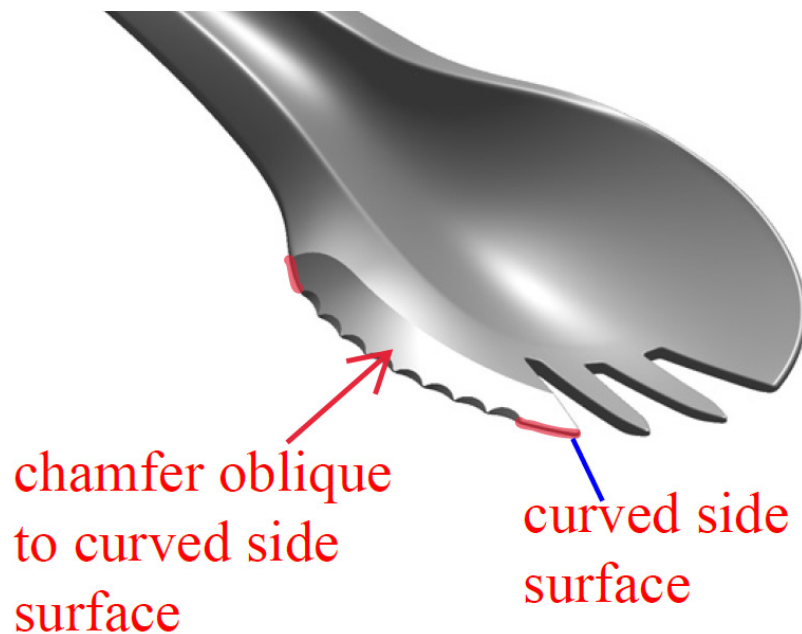
Feng teaches or renders this element obvious. *See* claim mapping in section VI.A.3.

¹⁰ *See* Certificate of Correction, Ex. 1003 at p. 1.

To the extent that Feng does not disclose nor render obvious this element, Kristiansson further teaches a combination fork, knife, and spoon (Ex. 1005, cover page) that includes, with reference to the below annotated images, a concave fork bowl portion with a plurality of tines. The fork bowl portion has a front surface and a back surface and a curved side surface between the front surface and the back surface. An outer one of the tines and the concave fork bowl portion are further defined by a chamfer with the chamfer coupling the front surface with the curved side surface. The curved side surface couples the chamfer with the fork back surface. Further, the coupling between the chamfer and the curved side surface defines a curved splitting feature in the sense that the combination of the chamfer and the curved side surface is capable of splitting food.



The chamfer of Kristiansson is oblique with respect to at least portions of the curved side surface of Kristiansson, as shown below. Thus, Kristiansson teaches this element.



It would be obvious to modify Feng with the fork bowl and curved side surface of Kristiansson because of the known advantages of a fork that functions similarly to a spoon and because curved side surfaces are known to improve cutting. (Ex. 1002 at ¶¶140-142, 299-304, Figs. 41, 42.) While Feng teaches the chamfer (*see* claim mapping in section VI.A.3), Kristiansson also teaches a chamfer that is oblique in relation to the curved side surface is known in the art and would be available to a POSITA as a matter of design choice in designing a fork with a curved splitting feature for a combination utensil. (*Id.*) A POSITA would be motivated not to include the serrations of Kristiansson into the modified device of Feng in view of Kristiansson because serrations have sharp edges that are not suitable for children and would therefore be contrary to the express teaching of Feng that the utensil is suitable for use in kindergartens. (*Id.*; Ex. 1004 at 3:4-9.)

In view of the above, this element would be obvious over Feng in view of Kristiansson.

4. Claim 1(c):

"a spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, the spoon front surface, the spoon back surface, and the spoon side surface partially defining a concave spoon bowl portion, the spoon bowl portion facing a same way as the concave fork bowl portion"

Feng teaches this element. See claim mapping in section VI.A.4.

5. Claim 1(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

6. Claim 1(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

7. Claim 1(f):

"the fork back surface, the spoon surface, and the handle back surface collectively defining a single back surface of the utensil"

8. Claim 1(g):

"the fork side surface, the spoon side surface, and the handle side surface collectively defining a single side surface of the utensil"

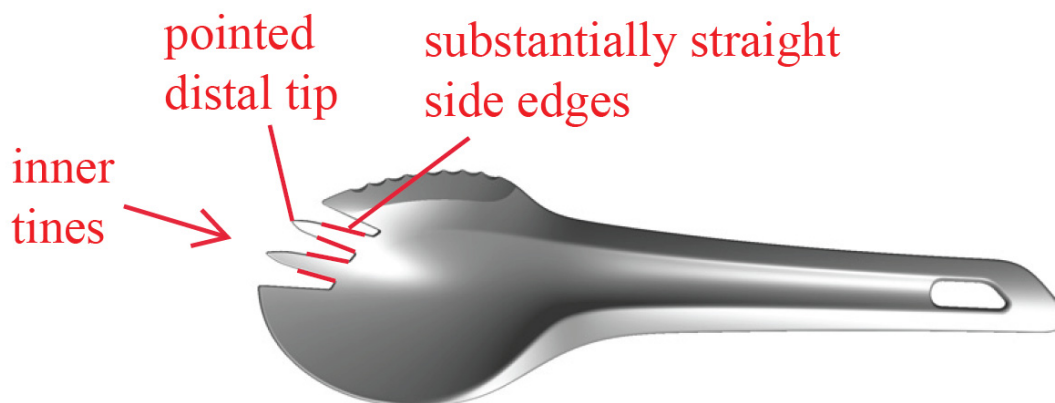
Feng teaches these elements. See claim mapping in sections VI.A.5-8.

9. Claim 2:

"An eating utensil as recited in claim 1, wherein inner ones of the plurality of tines each has a pair of substantially straight side edges and a pointed distal tip"

Feng teaches or renders this element obvious. See claim mapping in section VI.A.9.

To the extent that Feng does not disclose nor render obvious this element, Kristiansson teaches inner tines with a pair of substantially straight side edges and a pointed distal tip, as shown in the annotated image below.



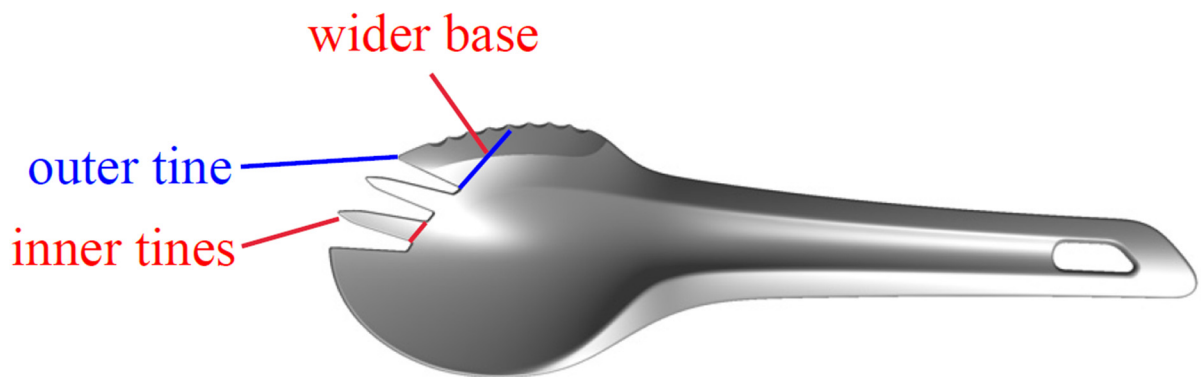
It would be obvious to modify Feng with the straight side edges and the pointed distal tip of Kristiansson to improve spearing of food. (Ex. 1002 at ¶¶301, 319-322, Fig. 41.) Thus, this element would be obvious over Feng in view of Kristiansson.

10. Claim 3:

"An eating utensil as recited in claim 2, wherein the outer one of the tines has a wider base end than the inner ones of the tines"

Feng teaches or renders this element obvious. See claim mapping in section VI.A.10.

To the extent that Feng does not disclose nor render obvious this element, Kristiansson further teaches that the outer one of the tines that includes the chamfer has a substantially wider base than the inner ones of the tines, as shown below.



It would be obvious to modify Feng with the wider base of the outer tines of Kristiansson to increase the rigidity of the outer tines to avoid breakage during cutting. (Ex. 1002 at ¶¶301, 319-322, Fig. 41.) In addition, wider outer tines are well known in the art and are one of a finite number of possibilities available to a POSITA that could be incorporated into a utensil with a reasonable expectation of success. (*Id.*) Thus, this element is obvious over Feng in view of Kristiansson.

11. Claim 4:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil."

Feng teaches or renders this element obvious. See claim mapping in section

VI.A.11.

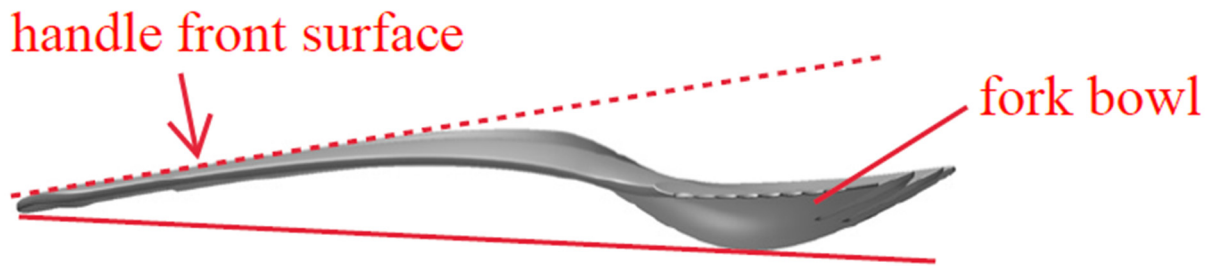
12. Claim 5:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is tilted at a first angle relative to the handle front surface and the concave fork bowl portion is tilted at a second angle relative to the handle front surface such that at least a portion of each of the bowl portions extend forward from the handle front surface"

Feng teaches or renders this element obvious. See claim mapping in section

VI.A.12.

To the extent that Feng does not disclose nor render obvious this element, Kristiansson further teaches a handle with a front surface and the fork bowl being tilted at an angle to the handle front surface, as shown below. The below image demonstrates that it was known in the art to arrange the fork bowl portion at an angle to the handle front surface.



While Kristiansson appears to be silent with respect to the angle of the fork bowl relative to the handle front surface being such that the fork bowl extends “forward” from the handle front surface, a POSITA would recognize that the fork bowl could be tilted further forward, or at any a selected angle, as a matter of design choice from a number of known possibilities disclosed in the prior art. (Ex. 1002 ¶¶334-339.) Further, changing the angle of the fork bowl relative to the handle front surface may also change how the user manipulates the device and the ability of the fork bowl to hold liquids (i.e., to form a deeper bowl) and is therefore advantageous. (*Id.*) The same technique could be applied to the spoon of Feng for similar reasons and would be a mere repetition of parts that is *prima facie* obvious. Thus, in the alternative, this claim would be obvious over Feng in view of Kristiansson.

13. Claim 6:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by a plurality of substantially flat side edges, wherein one of

the substantially flat side edges further defines the single side surface of the utensil"

Feng teaches or renders this element obvious. See claim mapping in section VI.A.11 and section VI.A.13.

14. Claim 7:

"An eating utensil as recited in claim 1, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

This element is obvious over Feng. See claim mapping in section VI.A.14.

15. Claim 8:

Preamble: "An eating utensil formed from a glass filled nylon thermoplastic material, the eating utensil comprising"

This element is obvious over Feng. See claim mapping in section VI.A.14.

16. Claim 8(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, a first outer one of the tines and the concave fork bowl portion being further defined by a first chamfer and a first curved side surface coupled to the first chamfer, the first chamfer coupling the fork front surface with the first curved side surface, the first curved side surface coupling the first chamfer with the fork back surface, the first chamfer is oblique in relation to the first curved side surface and the coupling between the first chamfer and the first curved side surface defines a first curved splitting feature"

Feng teaches or renders this element obvious. *See* claim mapping in section VI.A.2 and section VI.A.3. Additionally or alternatively, this element would be obvious over Feng in view of Kristiansson. *See* claim mapping in section VI.B.3.

17. Claim 8(b):

"a second outer one of the tines and the concave fork bowl portion being further defined by a second chamfer and a second curved side surface coupled to the second chamfer, the second chamfer coupling the fork front surface with the second curved side surface, the second curved side surface coupling the second chamfer with the fork back surface, the second chamfer is oblique in relation to the second curved side surface and the coupling between the second chamfer and the second curved side surface defines a second curved splitting feature"

Feng teaches or renders this element obvious. *See* claim mapping in section VI.A.17. In addition or alternatively, this element would be obvious over Feng in view of Kristiansson because Kristiansson teaches this element and Feng teaches that one or both outer tines can include the blade 4, such that it would be obvious to duplicate this feature of Kristiansson to the other outer tine in view of the express teaching to do so in Feng. *See* claim mapping in section VI.B.3.

18. Claim 8(c):

"a spoon head having a spoon front surface, a spoon back surface, and first and second spoon side surfaces coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the first and second spoon side surfaces

defining a concave spoon bowl portion, the spoon bowl portion faces the same way as the concave fork bowl portion"

19. Claim 8(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a first and second handle side surface coupling the handle front surface to the handle back surface"

20. Claim 8(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

21. Claim 8(f):

"the fork back surface, the spoon back surface, and the handle back surface collectively defining a single back surface of the utensil"

22. Claim 8(g):

"the first fork side surface, the first spoon side surface, and the first handle side surface collectively defining a single first side surface of the utensil"

23. Claim 8(h):

"the second fork side surface, the second spoon side surface, and the second handle side surface collectively defining a single second side surface of the utensil"

Feng teaches these elements. See claim mapping in sections VI.A.4-8.

24. Claim 9:

Preamble: "An eating utensil comprising"

Feng teaches this element. See claim mapping in section VI.A.1.

25. Claim 9(a):

"a first head having a first front surface and a first back surface both partially defining a plurality of tines and a first concave bowl portion, an outer one of the tines and the first concave bowl portion being further defined by a chamfer and a first curved side surface coupled to the chamfer, the chamfer coupling the first front surface with the first curved side surface, the first curved side surface coupling the chamfer with the first back surface, and the chamfer is oblique in relation to the first curved side surface"

Feng teaches or renders this element obvious. See claim mapping in sections VI.A.2, 3, and 25. Additionally or alternatively, this element would be obvious over Feng in view of Kristiansson. See claim mapping in section VI.B.3.

26. Claim 9(b):

"a second head having a second front surface, a second back surface, and a second side surface coupling the second front surface with the second back surface, the second front surface, the second back surface, the second side surface partially defining a second concave bowl portion, the second concave bowl portion faces the same way as the first concave bowl portion"

27. Claim 9(c):

"a handle that couples the second head to the first head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"¹¹

¹¹ See Certificate of Correction, Ex. 1003 at p. 1.

28. Claim 9(d):

"the first front surface, the second front surface, and the handle front surface collectively defining a single front surface of the utensil"

29. Claim 9(e):

"the first back surface, the second back surface, and the handle back surface collectively defining a single back surface of the utensil"

30. Claim 9(f):

"the first side surface, the second side surface, and the handle side surface collectively defining a single side surface of the utensil"

Feng teaches these elements. See claim mapping in section VI.A.4-8.

31. Claim 10:

"The eating utensil as recited in claim 9, wherein the handle, the first head, and the second head are integrally formed"

Feng teaches this element. See claim mapping in section VI.A.31.

32. Claim 11:

"The eating utensil as recited in claim 9, wherein an inner one of the tines is substantially straight"

Feng teaches this element. See claim mapping in section VI.A.32.

33. Claim 12:

"The eating utensil as recited in claim 9, wherein the outer one of the tines is further defined by a substantially straight inner edge"

Feng teaches this element. See claim mapping in section VI.A.33.

34. Claim 13:

"The eating utensil as recited in claim 9, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

This element is obvious over Feng. See claim mapping in section VI.A.14.

35. Claim 14:

"The eating utensil as recited in claim 9, wherein the second concave bowl portion is further defined by a plurality of substantially flat side edges, wherein one of the substantially flat side edges further defines the single side surface of the utensil"

Feng teaches or renders this element obvious. See claim mapping in section VI.A.11 and section VI.A.13.

36. Claim 15:

Preamble: "An eating utensil comprising"

Feng teaches this element. See claim mapping in section VI.A.1.

37. Claim 15(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature"

Feng and/or Feng in view of Kristiansson teaches or renders this element obvious. See claim mapping in sections VI.A.2, 3, and VI.B.3.

38. Claim 15(b):

"a handle coupled to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

39. Claim 15(c):

"the fork front surface and the handle front surface defining a single front surface of the utensil"

40. Claim 15(d):

"the fork back surface and the handle back surface defining a single back surface of the utensil"

41. Claim 15(e):

"the fork side surface and the handle side surface defining a single side surface of the utensil"

Feng teaches these elements. See claim mapping in sections VI.A.5-8.

42. Claim 16(a):

"The eating utensil as recited in claim 15, further comprising a spoon head coupled to the handle on an opposite side from where the fork head is coupled to the handle"

43. Claim 16(b):

"the spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the

spoon side surface defining a concave spoon bowl portion"

44. Claim 16(c):

"the spoon front surface further defining the single front surface of the utensil; the spoon back surface further defining the single back surface of the utensil; and the spoon side surface further defining the single side surface of the utensil"

As explained above, Feng teaches these elements. See claim mapping in sections VI.A.4, 6-8, and 42-44.

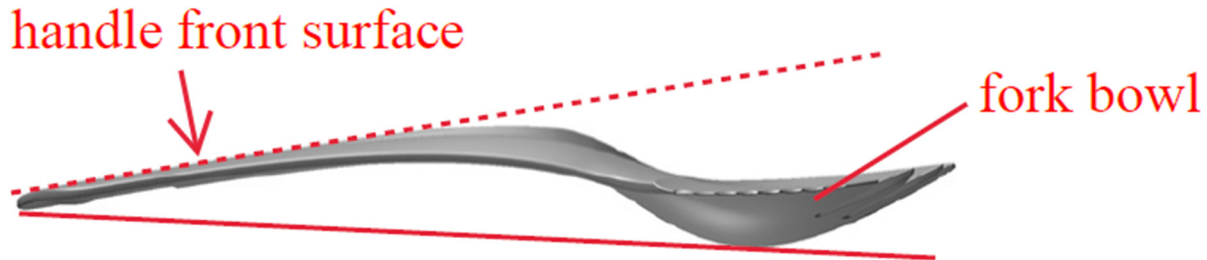
45. Claim 17:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is tilted in relation to the handle front surface at an angle of about 20-25 degrees"

Feng teaches or renders this element obvious. See claim mapping in section VI.A.45.

To the extent that Feng does not disclose nor render obvious this element, Kristiansson appears to disclose that the fork bowl portion may be tilted at an angle to the handle front surface that is about 20-25 degrees, as shown below. It would be obvious to apply the angle of the fork bowl portion of Kristiansson to the spoon bowl portion of Feng as a mere duplication of parts, or to provide known advantages, such as forming a deeper spoon that is beneficial for eating liquid

foods. (Ex. 1002 at ¶¶413-416.) Thus, in the alternative, this element would be obvious over Feng in view of Kristiansson.



46. Claim 18:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat side edge, wherein the substantially flat side edge further defines the single side surface of the utensil¹²"

Feng appears to disclose this element or it would be obvious to modify Feng to include this element. (See claim mapping in section VI.A.11 and section VI.A.13; Ex. 1002 at ¶¶185-196, 205-210, 281, Figs. 34-36.)

47. Claim 19:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat end edge"

¹² See Certificate of Correction, Ex. 1003 at p. 1.

48. Claim 20:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion has a substantially pentagonal shape"

49. Claim 21:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil"

50. Claim 22:

"The eating utensil as recited in claim 15, wherein the handle front surface has a diagonal ridge"

51. Claim 23:

"The eating utensil as recited in claim 15, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Feng appears to disclose these elements or it would be obvious to modify Feng to include these elements. See claim mapping in sections VI.A.11, 13, 14, 47, 48, and 50.

C. Ground 3: Claims 1-3, 7-13, 15, 16, 22, 23 are rendered obvious by Kent in view of Vanderputt and Bo.

1. Claim 1:

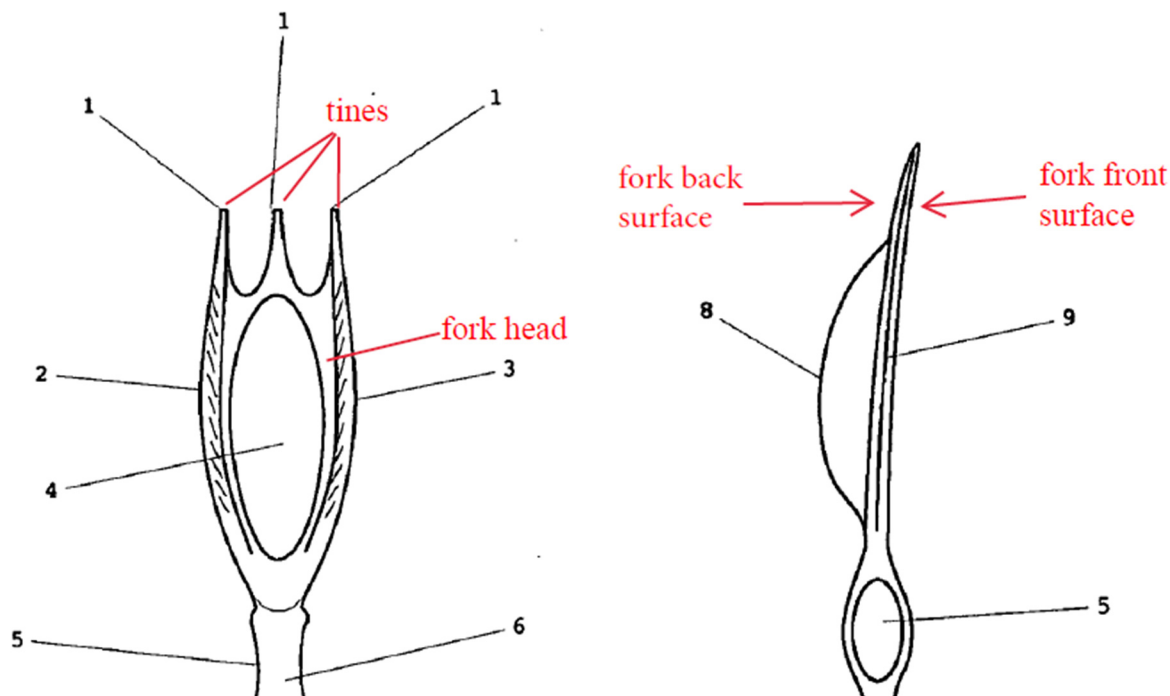
Preamble: "An eating utensil"

Kent teaches an "eating utensil." (Ex. 1006, Abstract.) Thus, Kent teaches this element.

2. Claim 1(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines"

Kent teaches a fork head with a fork front surface and a fork back surface both partially defining a plurality of tines, as shown in the below annotated images from Kent. (*Id.* at Figure 1, Figure 2.) Thus, Kent teaches this element.

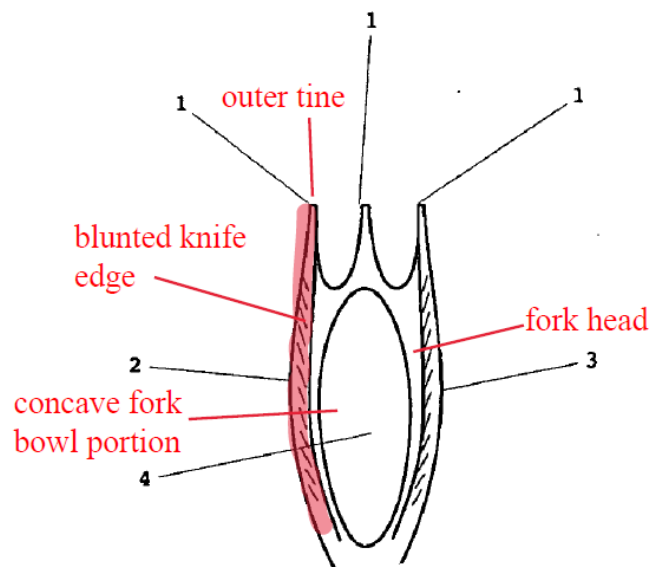


3. Claim 1(b):

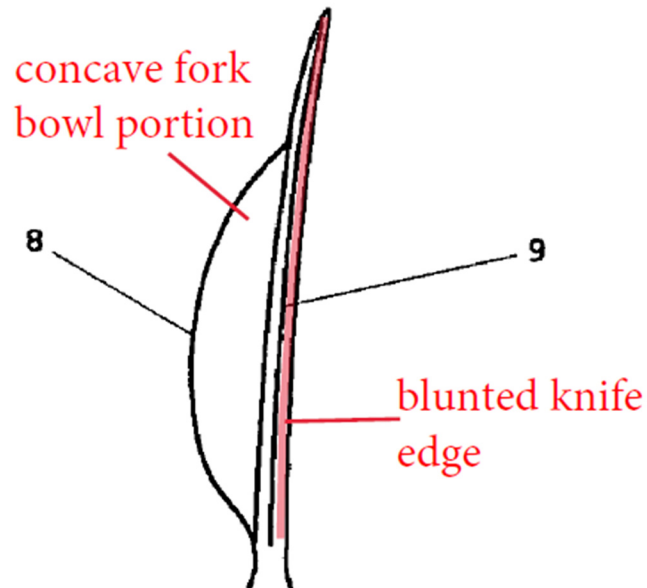
"a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the

coupling between the chamfer and the curved side surface defines a curved splitting feature¹³"

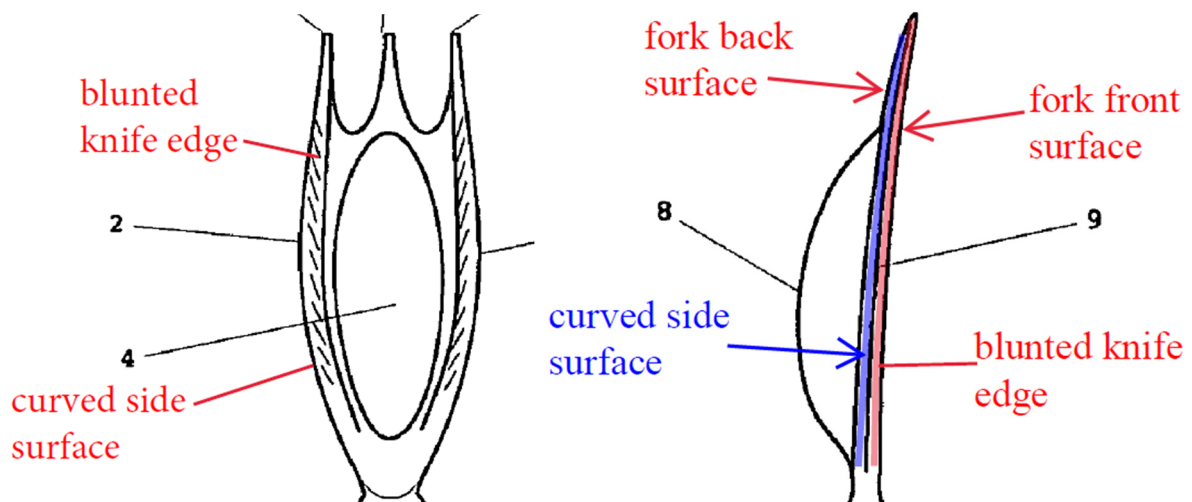
Kent teaches that the fork head includes a concave fork bowl portion and that an outer one of the tines and the concave fork bowl portion include a blunted knife edge 2, as shown in the below annotated images. (*Id.* at claim 4.) A POSITA would consider a “blunted knife edge 2” to be consistent with a chamfer and can be created by a chamfer. (Ex. 1002 at ¶¶436-439, Fig. 27.) While Kent is not specific about the blunted knife edge 2, Kent illustrates that the fork front surface is chamfered to define, at least in part, the blunted knife edge 2, as shown below.



¹³ See Certificate of Correction, Ex. 1003 at p. 1.

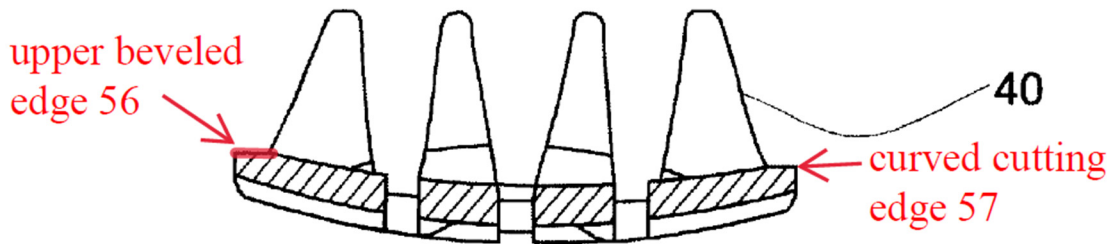


Further, the blunted knife edge 2 of Kent is coupled to a curved side surface with the blunted knife edge 2 coupling the fork front surface with the curved side surface. The curved side surface couples the blunted knife edge 2 with the fork back surface, as shown below.



While Kent is not specific with respect to the angle of the chamfered fork front surface that assists, in part, in defining the blunt knife edge 2, a POSITA would understand that a “blunt” knife edge refers to a knife edge that is not sharpened, but instead is a chamfered or otherwise tapered front surface of the fork head of Kent that is oblique to the curved side surface. (*Id.* at ¶438.) Kent further describes that the disclosed one-piece utensil performs the tasks of a knife, fork and spoon and that the means for cutting food with the utensil are the blunted knife edges 2. (Ex. 1006 at [0010], claim 3, claim 4.) As a result, Kent teaches that the coupling between the chamfer and the curved side surface defines a “curved splitting feature” in the sense that the coupling defines blunted knife edges that are capable of splitting food. Thus, Kent teaches this element.

To the extent that Kent does not disclose the chamfer is oblique in relation to the curved side surface, Vanderputt teaches a beveled edge fork with an upper beveled edge 56 that defines a curved cutting edge 57. (Ex. 1007 at 3:1-6.) The upper beveled edge 56 is illustrated as a chamfer that is oblique in relation to the curved cutting edge 57 because the upper beveled edge 56 is at a non-90 degree angle to the curved cutting edge 57, as shown below.



It would be obvious to modify Kent with the oblique beveled edge of Vanderputt because Vanderputt suggests that such a structure “allows the user to easily cut through many softer foods” and is therefore advantageous. (*Id.*) Thus, additionally or alternatively, the oblique orientation of the chamfer relative to the curved side surface would be obvious over Kent in view of Vanderputt.

4. Claim 1(c):

"a spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, the spoon front surface, the spoon back surface, and the spoon side surface partially defining a concave spoon bowl portion, the spoon bowl portion facing a same way as the concave fork bowl portion"

Kent appears to be silent with respect to this element. Bo teaches a multifunctional spoon that includes a spoon handle 1 with one end of the spoon handle being provided with a spoon head 2, the other end of the spoon handle being provided with a fork 3. (Ex. 1008 at [0016].) The spoon head 2 and the fork 3 are both integrally formed with the spoon handle 1. (*Id.*) The spoon head 2 of Bo includes a spoon front surface and a spoon side surface, as shown below.

While Bo does not illustrate the spoon back surface, the spoon head 2 is a three-dimensional object and would have a spoon back surface opposite to the spoon front surface. The front, back, and side surfaces of the spoon head 2 of Bo define a concave spoon bowl portion, as shown below.

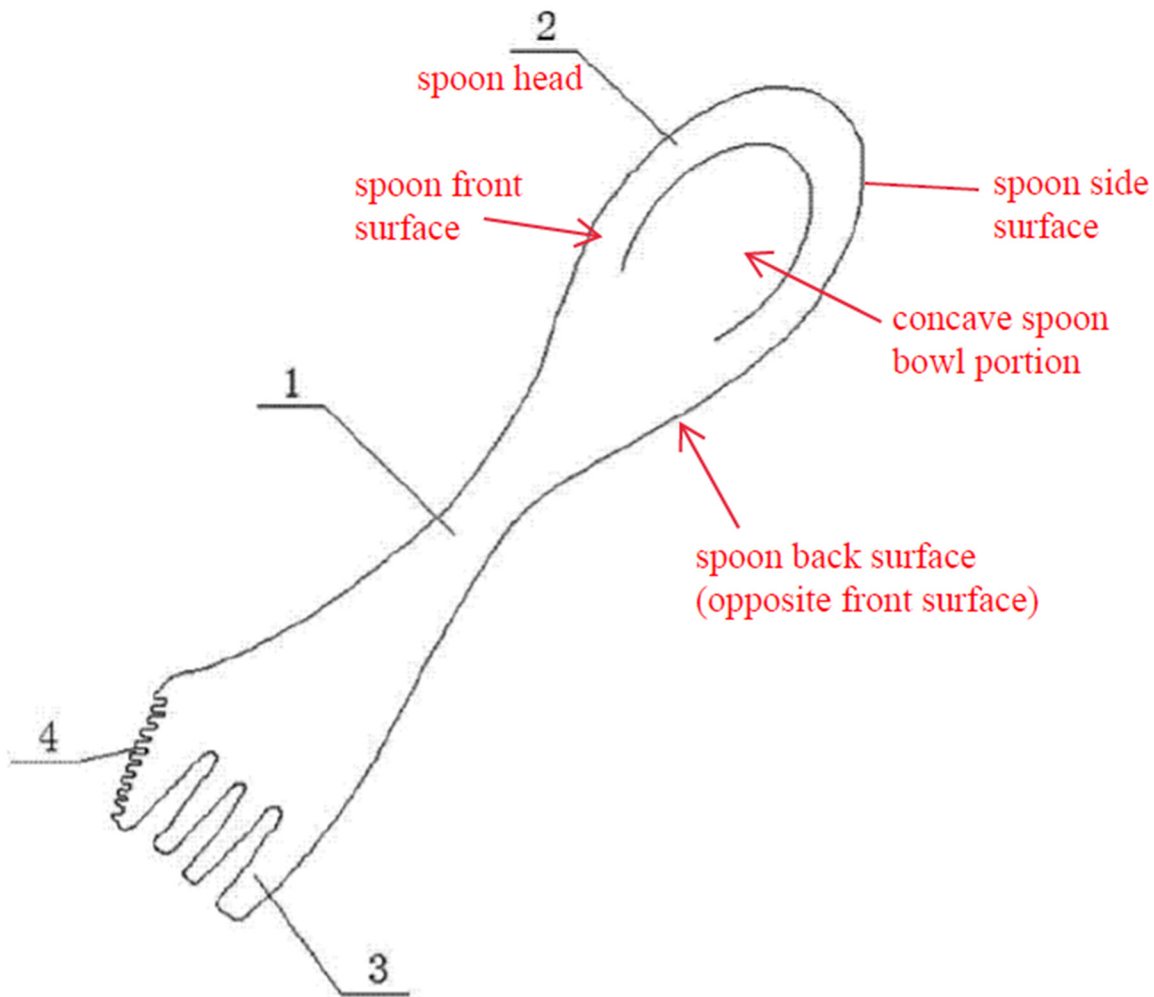
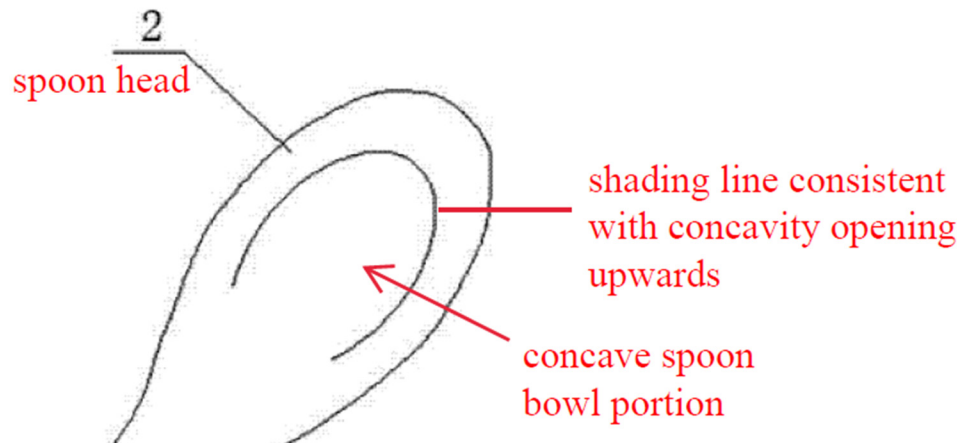


FIG. 1

Bo is not necessarily explicit regarding the spoon bowl portion facing the same way as the concave fork bowl portion, but Bo provides a shading line on the

spoon that suggests the spoon bowl portion is facing upwards (*i.e.*, the illustration is looking down into a concave bowl), as shown below. Thus, Bo teaches this aspect. Additionally or alternatively, it would be obvious to modify Bo to include the concave spoon bowl portion facing the same way as the fork head because such an arrangement was well known in the art and would be one of a finite number of possibilities that could be selected with a reasonable chance of success. (Ex. 1002 at ¶¶440-444, Fig. 46.)

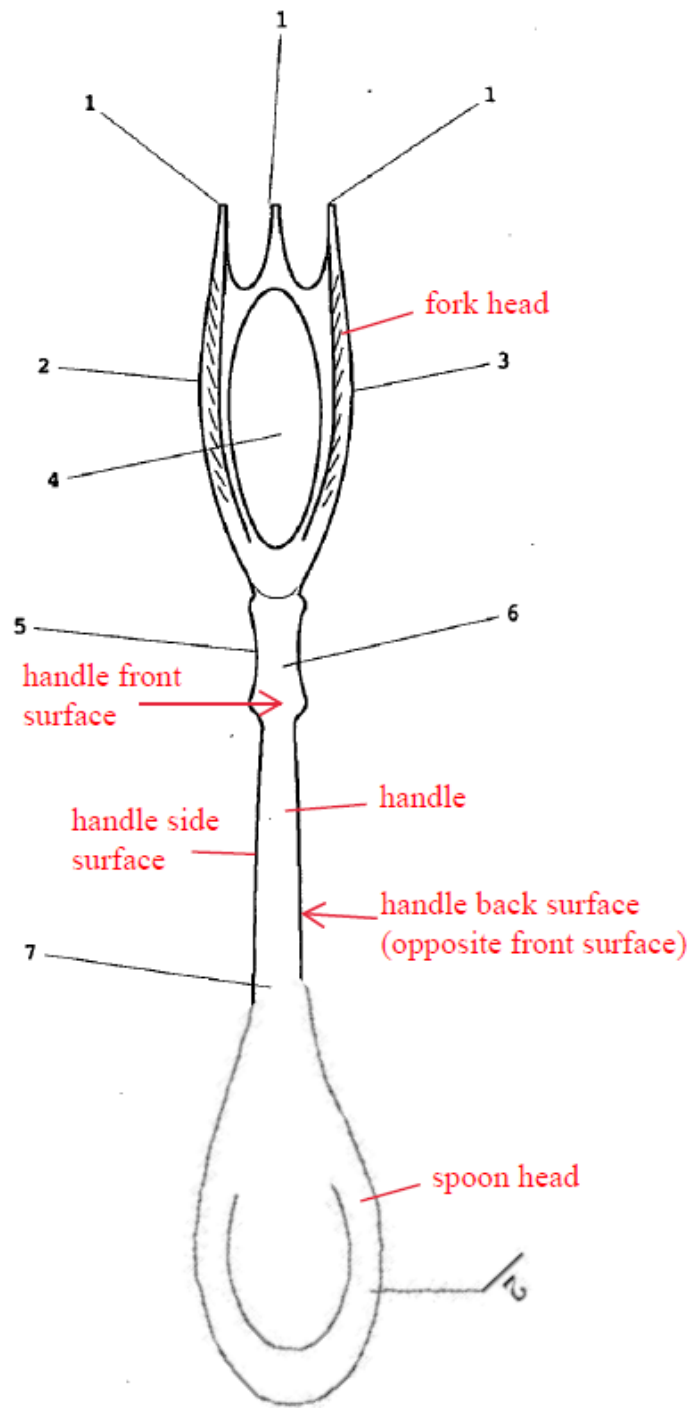


It would be obvious to modify Kent to include a spoon at the opposite end of the handle from the fork to reduce the space occupied by the combination utensil and to provide a single utensil that is more convenient to use for various eating activities, as taught by Bo. (Ex. 1008 at [0005].) Thus, this element is obvious over Kent in view of Bo.

5. Claim 1(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

The modified Kent device with the spoon of Bo teaches a handle that couples the spoon head to the fork head with the handle having front and back surfaces and a side surface therebetween, as shown below. Thus, this element would be obvious over Kent in view of Bo.



6. Claim 1(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

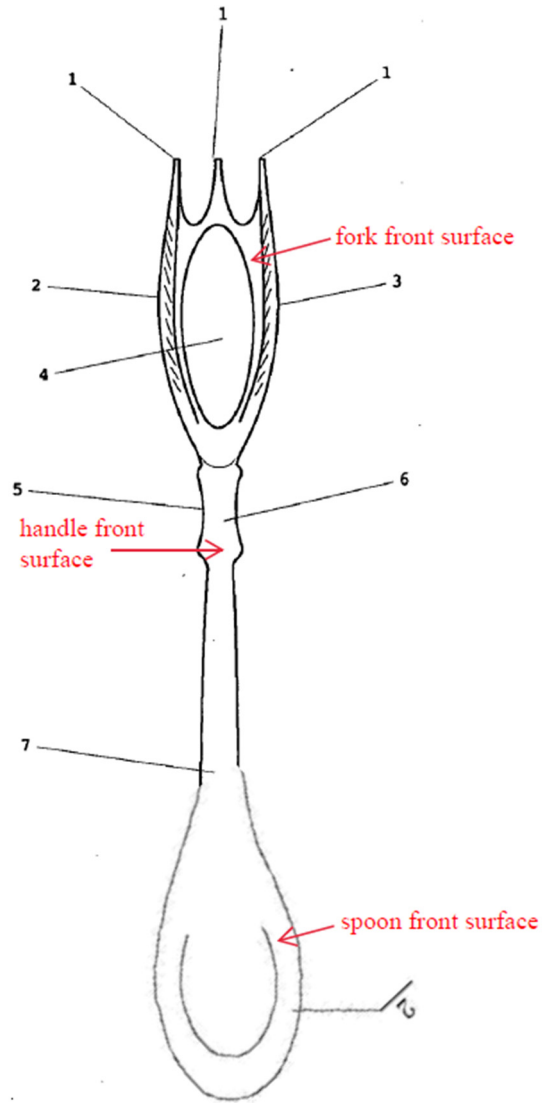
7. Claim 1(f):

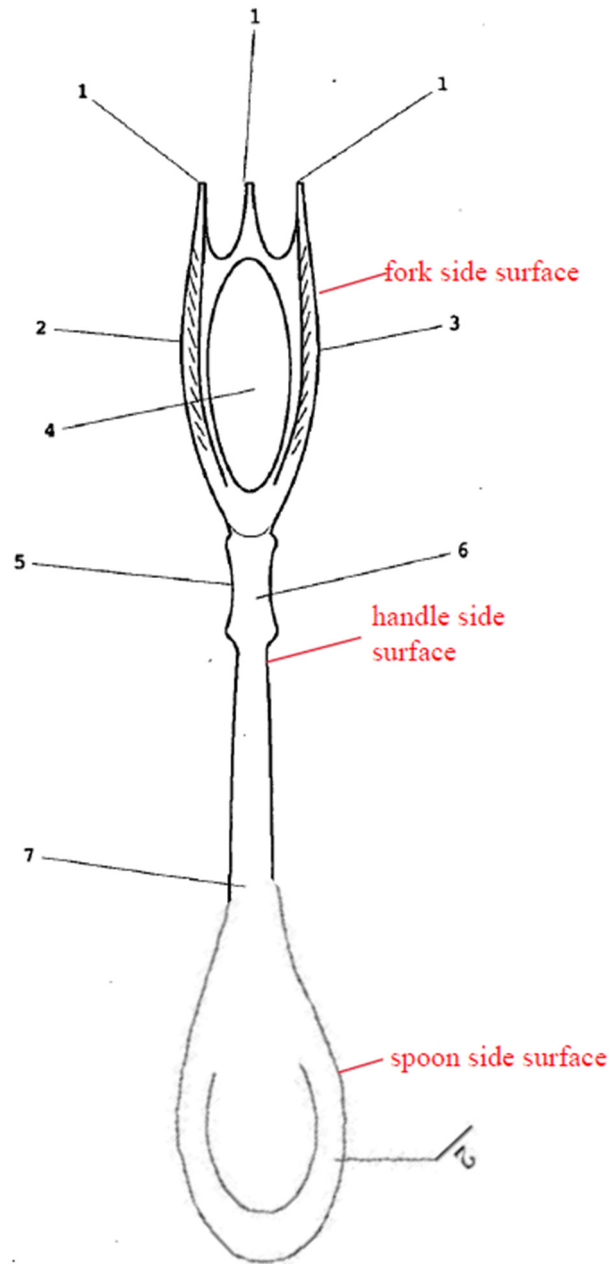
"the fork back surface, the spoon surface, and the handle back surface collectively defining a single back surface of the utensil"

8. Claim 1(g):

"the fork side surface, the spoon side surface, and the handle side surface collectively defining a single side surface of the utensil"

Kent in view of Bo teaches an integral utensil with front, back, and rear surfaces of a fork, a handle, and a spoon that define single front, back (opposite to illustrated front surface), and side surfaces of the utensil, as shown below. Thus, these elements would be obvious over Kent in view of Bo.

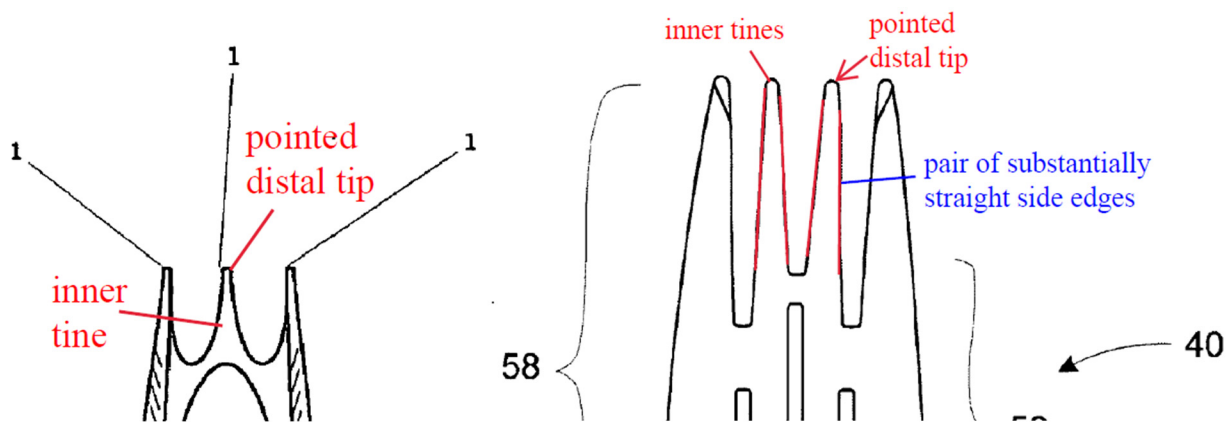




9. Claim 2:

"An eating utensil as recited in claim 1, wherein inner ones of the plurality of tines each has a pair of substantially straight side edges and a pointed distal tip"

Kent teaches an eating utensil where inner tines have a pointed distal tip, as shown below at left, but appears to be silent with respect to the inner ones of the tines having a pair of substantially straight side edges. Vanderputt teaches inner tines with a pair of substantially straight side edges and a pointed distal tip, as shown below at right.



It would be obvious to modify Kent to include the pair of substantially straight side edges of the inner tines from Vanderputt to improve spearing of food and because substantially straight side edges on the inner tines are well known in the art and would be one of a finite number of possibilities that could be selected for an eating utensil with a reasonable expectation of success. (Ex. 1002 at ¶¶451-461, Figs. 47, 48.) Further, to the extent Kent does not disclose inner tines with a sharp pointed distal tip, it would be obvious to include a more sharply pointed

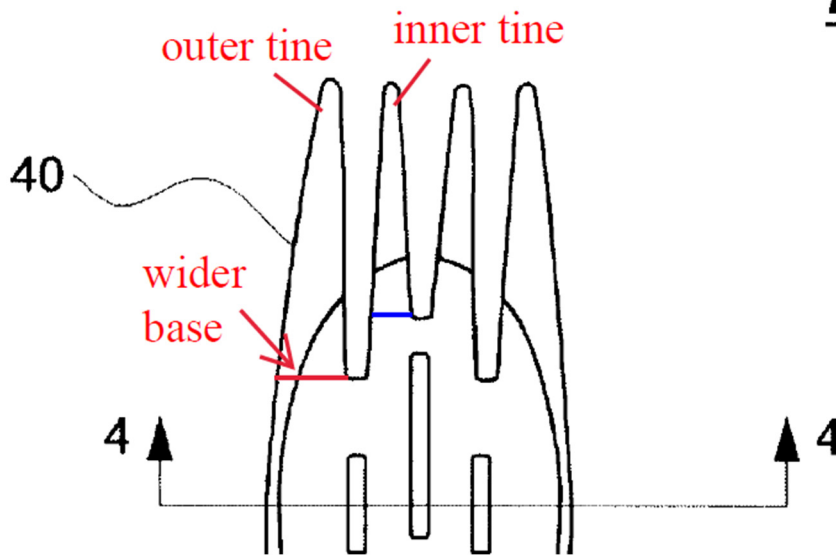
distal tip from Vanderputt for similar reasons. Thus, this element would be obvious over Kent in view of Vanderputt.

10. Claim 3:

"An eating utensil as recited in claim 2, wherein the outer one of the tines has a wider base end than the inner ones of the tines"

Kent teaches that the base of the outer tines is wider than upper portions of the inner tines (*see* claim mapping in section VI.C.9). To the extent that Kent does not disclose the base of the outer tines being wider than the base of the inner tines, Vanderputt teaches that a primary advantage is a beveled edge fork having reinforcements between adjacent inner and outer tines, thereby providing a more rigid support for the cutting edges defined at the intersection of the upper and lower beveled edges on the outer tines. (Ex. 1007 at 2:9-14.) As shown below, Vanderputt shows outer tines with a cutting edge that are wider than the inner tines.

Fig. 4



It would be obvious to modify Kent to include wider outer tines to provide support and rigidity for the blunted knife edges 2 of Kent, as taught by Vanderputt.

(*Id.*) Thus, this element is obvious over Kent in view of Vanderputt.

11. Claim 7:

"An eating utensil as recited in claim 1, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Kent teaches a utensil that can be made from various materials, such as precious metal, metal, wood, compressed wood, plastic, polypropylene, or poly vinyl acrylic. (Ex. 1006 at [0011].) It would be obvious to select a glass reinforced thermoplastic material based on the teaching in Kent to use “various materials” and glass reinforced thermoplastic materials generally being known. (Ex. 1002 at ¶¶466-468.) Thus, this element would be obvious over Kent.

12. Claim 8:

Preamble: "An eating utensil formed from a glass filled nylon thermoplastic material, the eating utensil comprising"

This element would be obvious over Kent. See claim mapping in section

VI.C.11.

13. Claim 8(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, a first outer one of the tines and the concave fork bowl portion being further defined by a first chamfer and a first curved side surface coupled to the first chamfer, the first chamfer coupling the fork front surface with the first curved side surface, the first curved side surface coupling the first chamfer with the fork back surface, the first chamfer is oblique in relation to the first curved side surface and the coupling between the first chamfer and the first curved side surface defines a first curved splitting feature"

Kent teaches this element or it would be obvious over Kent in view of

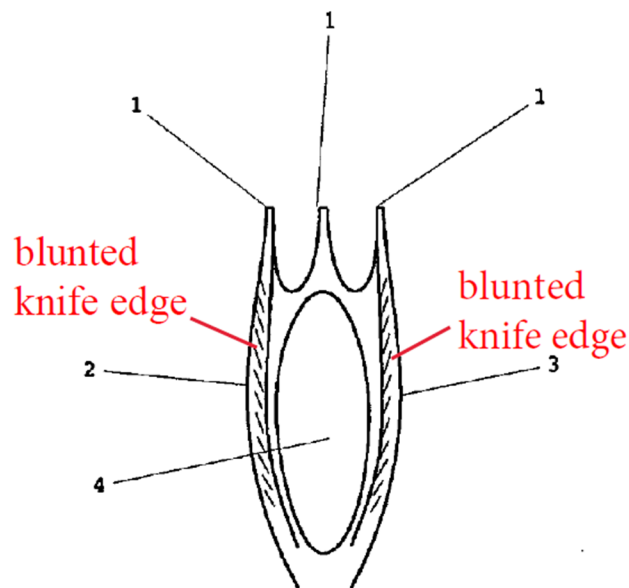
Vanderputt. See claim mapping in sections VI.C.2 and VI.C.3.

14. Claim 8(b):

" a second outer one of the tines and the concave fork bowl portion being further defined by a second chamfer and a second curved side surface coupled to the second chamfer, the second chamfer coupling the fork front surface with the second curved side surface, the second curved side surface coupling the second chamfer with the fork back surface, the second chamfer is oblique in relation to the second curved side surface and the coupling between the second chamfer and the second

curved side surface defines a second curved splitting feature"

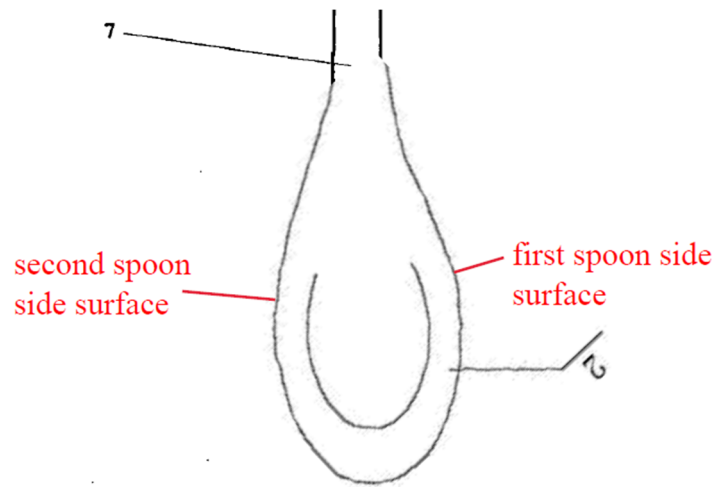
Kent teaches blunt knife edges on both outer tines of the fork head that have similar features, as shown below. (Ex. 1006 at [0010].) Thus, in view of the discussion regarding claim 1(a) and claim 1(b), this element is disclosed by Kent or rendered obvious over Kent in view of Vanderputt. *See* claim mapping in sections VI.C.2 and VI.C.3.



15. Claim 8(c):

"a spoon head having a spoon front surface, a spoon back surface, and first and second spoon side surfaces coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the first and second spoon side surfaces defining a concave spoon bowl portion, the spoon bowl portion faces the same way as the concave fork bowl portion"

This element is obvious over Kent in view of Bo. See claim mapping in section VI.C.4. The modified device of Kent in view of Bo further teaches a spoon head with two side surfaces, as shown in the annotated image below.



16. Claim 8(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a first and second handle side surface coupling the handle front surface to the handle back surface"

17. Claim 8(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

18. Claim 8(f):

"the fork back surface, the spoon back surface, and the handle back surface collectively defining a single back surface of the utensil"

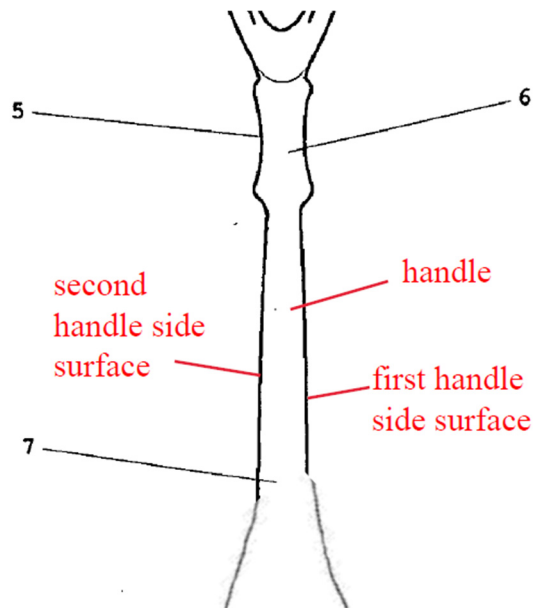
19. Claim 8(g):

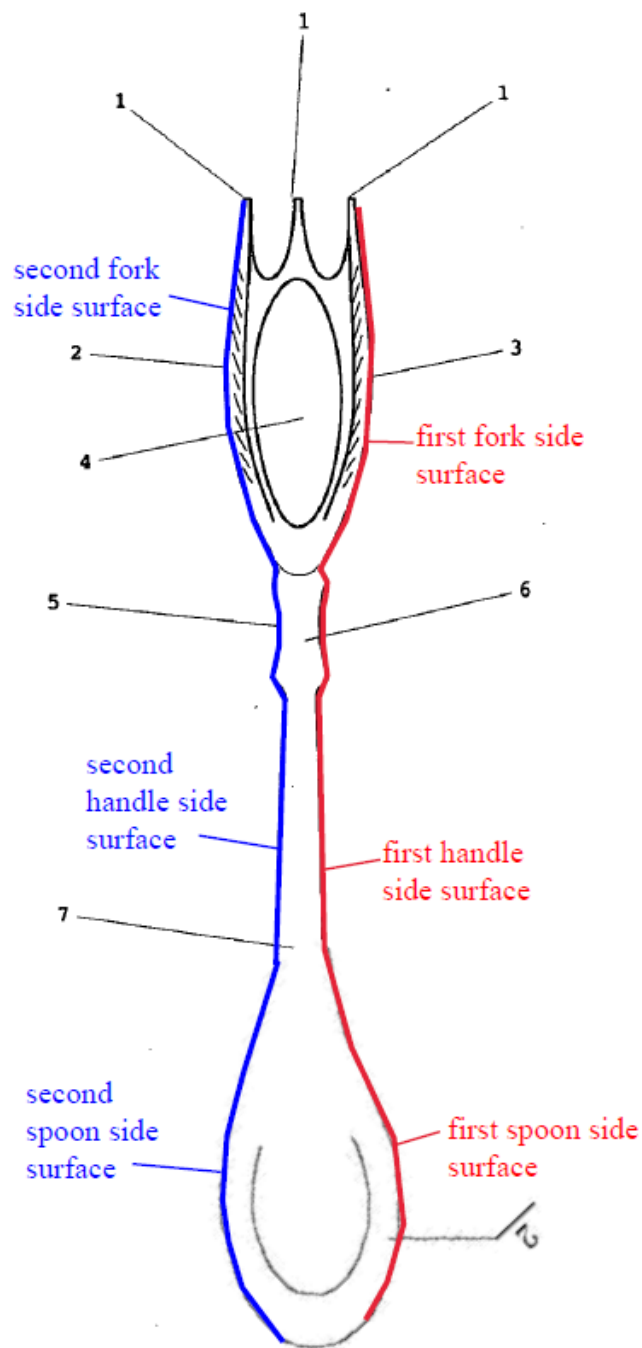
"the first fork side surface, the first spoon side surface, and the first handle side surface collectively defining a single first side surface of the utensil"

20. Claim 8(h):

"the second fork side surface, the second spoon side surface, and the second handle side surface collectively defining a single second side surface of the utensil"

These elements would be obvious over Kent in view of Bo, as shown in part by the images below. *See also* claim mapping in sections VI.C.5-8.





21. Claim 9:

Preamble: "An eating utensil comprising"

Kent teaches this element. See claim mapping in section VI.C.1.

22. Claim 9(a):

"a first head having a first front surface and a first back surface both partially defining a plurality of tines and a first concave bowl portion, an outer one of the tines and the first concave bowl portion being further defined by a chamfer and a first curved side surface coupled to the chamfer, the chamfer coupling the first front surface with the first curved side surface, the first curved side surface coupling the chamfer with the first back surface, and the chamfer is oblique in relation to the first curved side surface"

As explained above, Kent teaches this element, and/or this element would be obvious over Kent in view of Vanderputt. See claim mapping in sections VI.C.2 and VI.C.3.

23. Claim 9(b):

a second head having a second front surface, a second back surface, and a second side surface coupling the second front surface with the second back surface, the second front surface, the second back surface, the second side surface partially defining a second concave bowl portion, the second concave bowl portion faces the same way as the first concave bowl portion"

This element is obvious over Kent in view of Bo. See claim mapping in section VI.C.4.

24. Claim 9(c):

"a handle that couples the second head to the first head, the handle having a handle front surface, a handle back

surface, and a handle side surface coupling the handle front surface to the handle back surface¹⁴"

25. Claim 9(d):

"the first front surface, the second front surface, and the handle front surface collectively defining a single front surface of the utensil"

26. Claim 9(e):

"the first back surface, the second back surface, and the handle back surface collectively defining a single back surface of the utensil"

27. Claim 9(f):

"the first side surface, the second side surface, and the handle side surface collectively defining a single side surface of the utensil"

These elements would be obvious over Kent in view of Bo. See claim mapping in sections VI.C.5-8.

28. Claim 10:

"The eating utensil as recited in claim 9, wherein the handle, the first head, and the second head are integrally formed"

Kent teaches a one-piece knife, fork, and spoon. (Ex. 1006 at [0002].)

Thus, Kent teaches this element.

To the extent Kent does not disclose this element, Bo teaches a “spoon head and [a] fork being both integrally formed with the spoon handle.” (Ex. 1008 at

¹⁴ See Certificate of Correction, Ex. 1003 at p. 1.

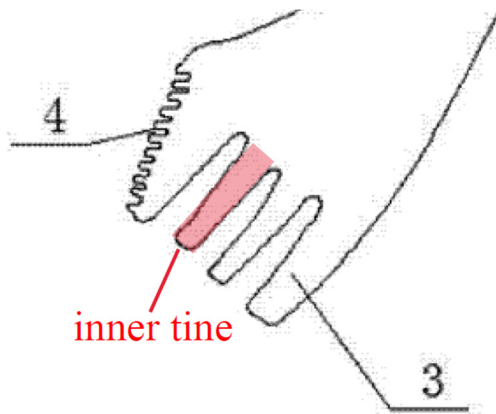
Abstract.) Thus, Bo teaches this element. It would be obvious to include a spoon head in the utensil of Kent as an integral structure for the reasons provided above.

See claim mapping in section VI.C.4.

29. Claim 11:

"The eating utensil as recited in claim 9, wherein an inner one of the tines is substantially straight"

Kent appears to be silent with respect to this element. Bo teaches an inner one of the tines is substantially straight, as shown below.

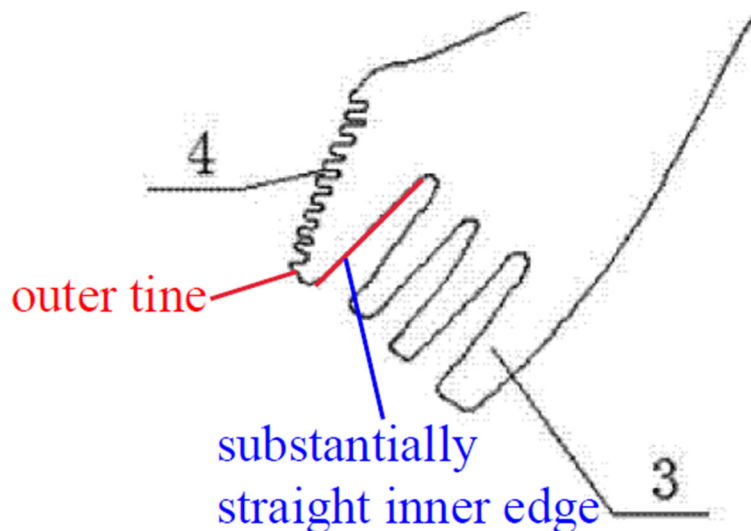


It would be obvious to modify Kent with the substantially straight inner tine of Bo as a matter of design choice, or because substantially straight inner tines were well-known in the art and could be selected for inclusion in a combination utensil with a reasonable expectation of success. (Ex. 1002 at ¶¶451-461, 499-501, Figs. 47, 48.)

30. Claim 12:

"The eating utensil as recited in claim 9, wherein the outer one of the tines is further defined by a substantially straight inner edge"

Kent appears to be silent with respect to this element. Bo teaches an outer tine with a substantially straight inner edge, as shown below.



It would be obvious to modify Kent with the substantially straight inner edge of Bo for the reasons provided above with respect to claim 11. See claim mapping in section VI.C.29.

31. Claim 13:

"The eating utensil as recited in claim 9, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Kent renders this element obvious. See claim mapping in section VI.C.11.

32. Claim 15:

Preamble: "An eating utensil comprising"

Kent teaches this element. See claim mapping in section VI.C.1.

33. Claim 15(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature"

Kent teaches this element, and/or this element would be obvious over Kent in view of Vanderputt. See claim mapping in section VI.C.2 and section VI.C.3.

34. Claim 15(b):

"a handle coupled to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

This element is obvious over Kent in view of Bo. See claim mapping in section VI.C.5.

35. Claim 15(c):

"the fork front surface and the handle front surface defining a single front surface of the utensil"

36. Claim 15(d):

"the fork back surface and the handle back surface defining a single back surface of the utensil"

37. Claim 15(e):

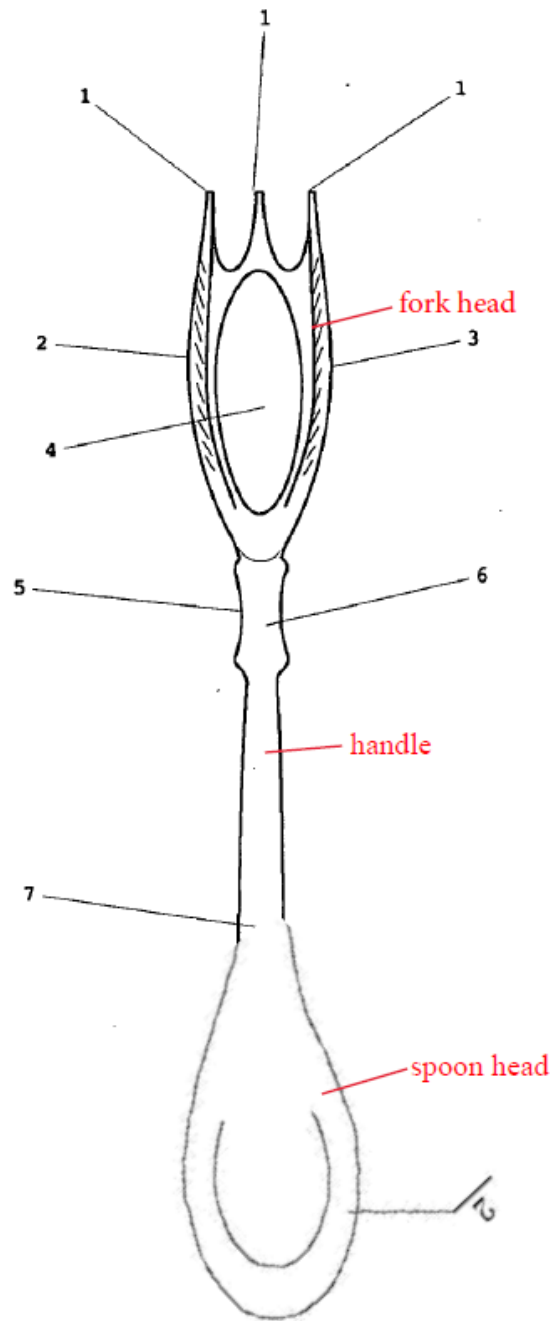
"the fork side surface and the handle side surface defining a single side surface of the utensil"

These elements would be obvious over Kent in view of Bo. See claim mapping in sections VI.C.6-8.

38. Claim 16(a):

"The eating utensil as recited in claim 15, further comprising a spoon head coupled to the handle on an opposite side from where the fork head is coupled to the handle"

Kent appears to be silent with respect to this element. The modified Kent utensil in view of Bo teaches a spoon handle and fork head at opposite ends of a handle, as shown below. Thus, this element would be obvious over Kent in view of Bo. See claim mapping in section VI.C.4.



39. Claim 16(b):

"the spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the

spoon side surface defining a concave spoon bowl portion"

40. Claim 16(c):

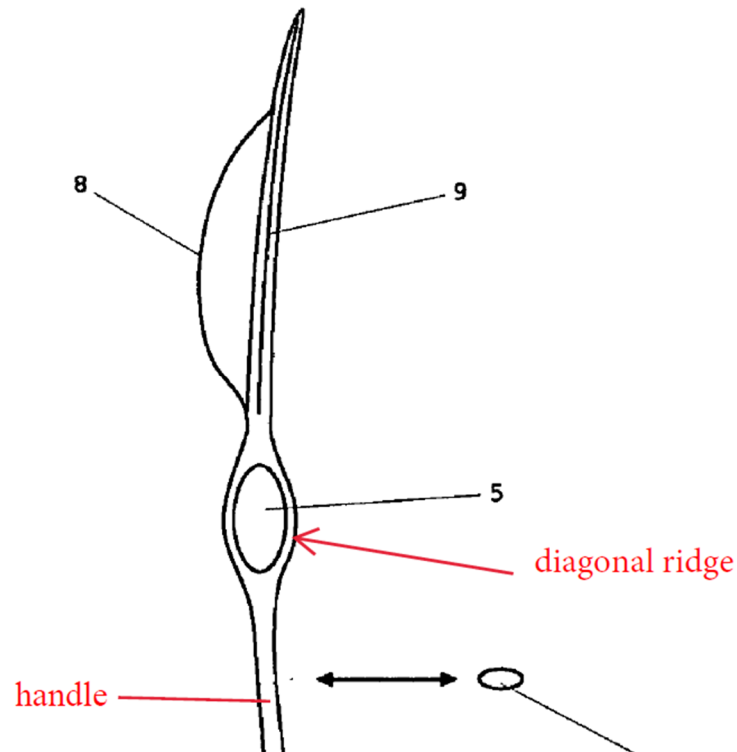
"the spoon front surface further defining the single front surface of the utensil; the spoon back surface further defining the single back surface of the utensil; and the spoon side surface further defining the single side surface of the utensil"

These elements would be obvious over Kent in view of Bo. See claim mapping in sections VI.C.4, 6-8.

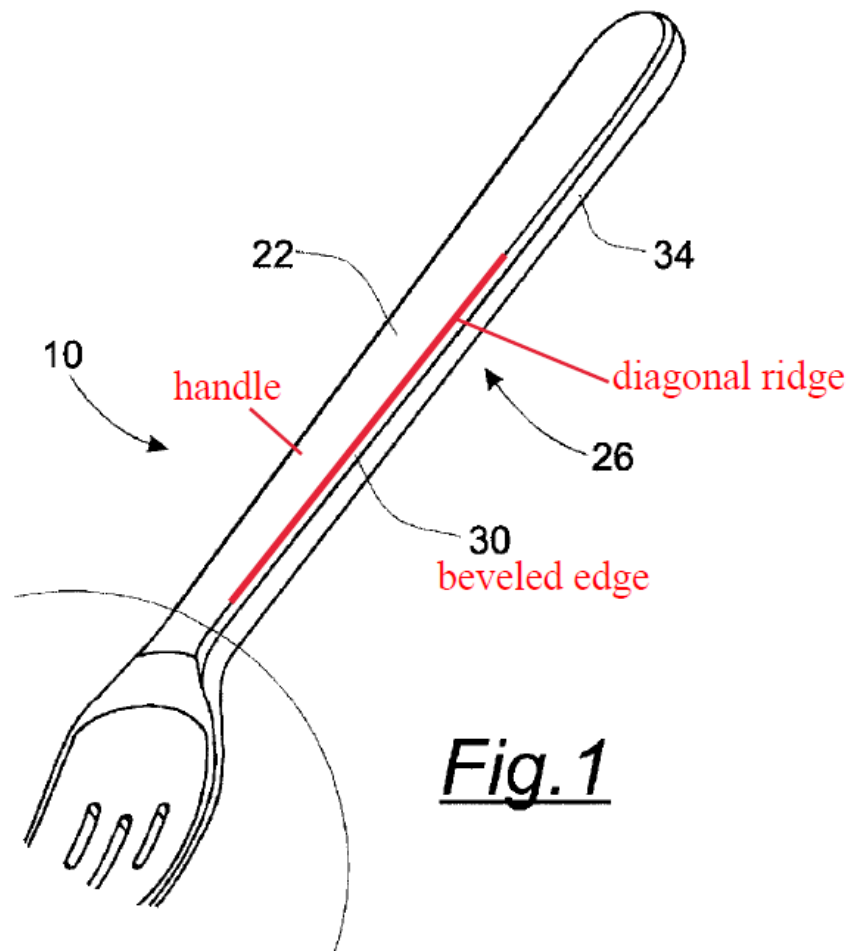
41. Claim 22:

"The eating utensil as recited in claim 15, wherein the handle front surface has a diagonal ridge"

Kent teaches a handle with flattened areas that may be interpreted as a “diagonal ridge,” as shown below. (Ex. 1006 at Abstract.) Thus, Kent teaches this element.



To the extent that Kent does not disclose a diagonal ridge, Vanderputt teaches a beveled upper edge 30 along the handle 20 that appears to provide a diagonal ridge, as shown below. (Ex. 1007 at 3:60-4:25.) It would be obvious to modify Kent with the beveled upper edge 30 of Vanderputt to improve how a user holds the handle or because this structure was well-known in the art and would be one of a finite number of possibilities that could be selected with a reasonable chance of success. (Ex. 1002 at ¶¶294, 295, 524-528.)



Additionally or alternatively, a diagonal ridge on the handle would be a matter of simple design choice that was well within the knowledge of a POSITA and is therefore obvious. Knurling and other features incorporating diagonal ridges are well known for helping a user grip a hand tool. (*Id.* at ¶¶463-465, 529.)

42. Claim 23:

"The eating utensil as recited in claim 15, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Kent renders this element obvious. *See* claim mapping in section VI.C.11.

D. Ground 4: Claims 1-23 are rendered obvious by Torode in view of CFL Fork and Nelson.

1. Claim 1:

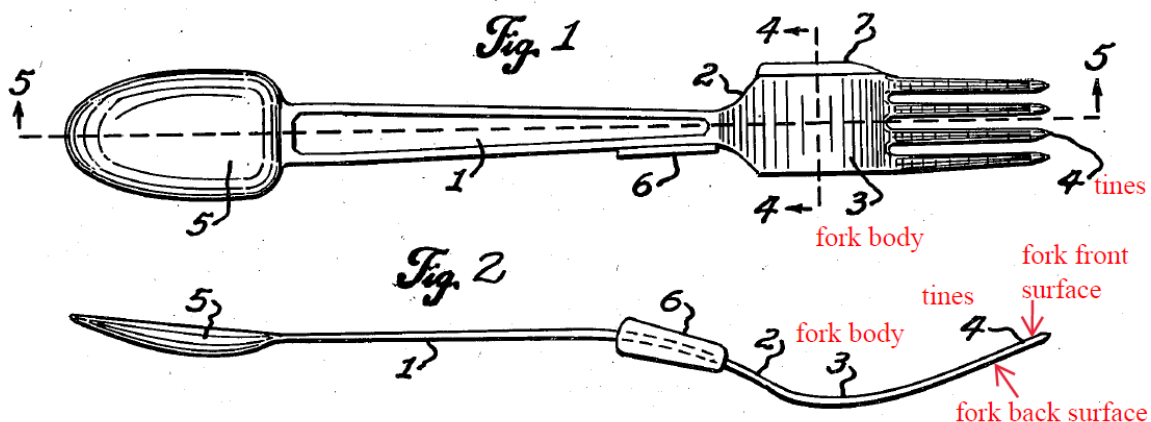
Preamble: "An eating utensil"

Torode is directed to a "combination knife, fork, and spoon" and teaches that the purpose of the invention is to "provide a utensil." (Ex.1009 at cover page; 1:4-6.) Thus, Torode teaches this element.

2. Claim 1(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines"

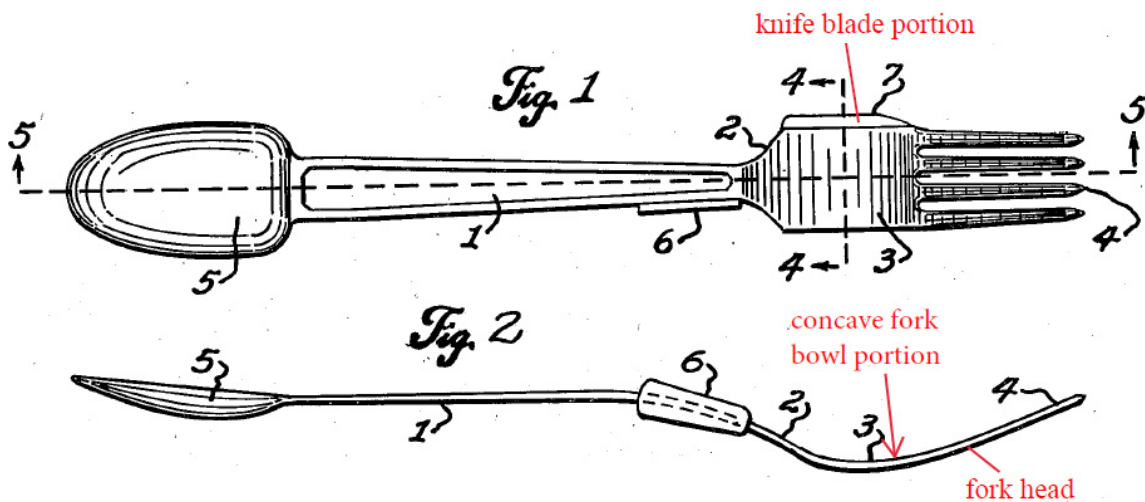
Torode teaches a fork body 3 with a fork front surface and fork back surface that define a plurality of tines 4, as shown below. (*Id.* at 2:1-7.) Thus, Torode teaches this element.



3. Claim 1(b):

"a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature¹⁵"

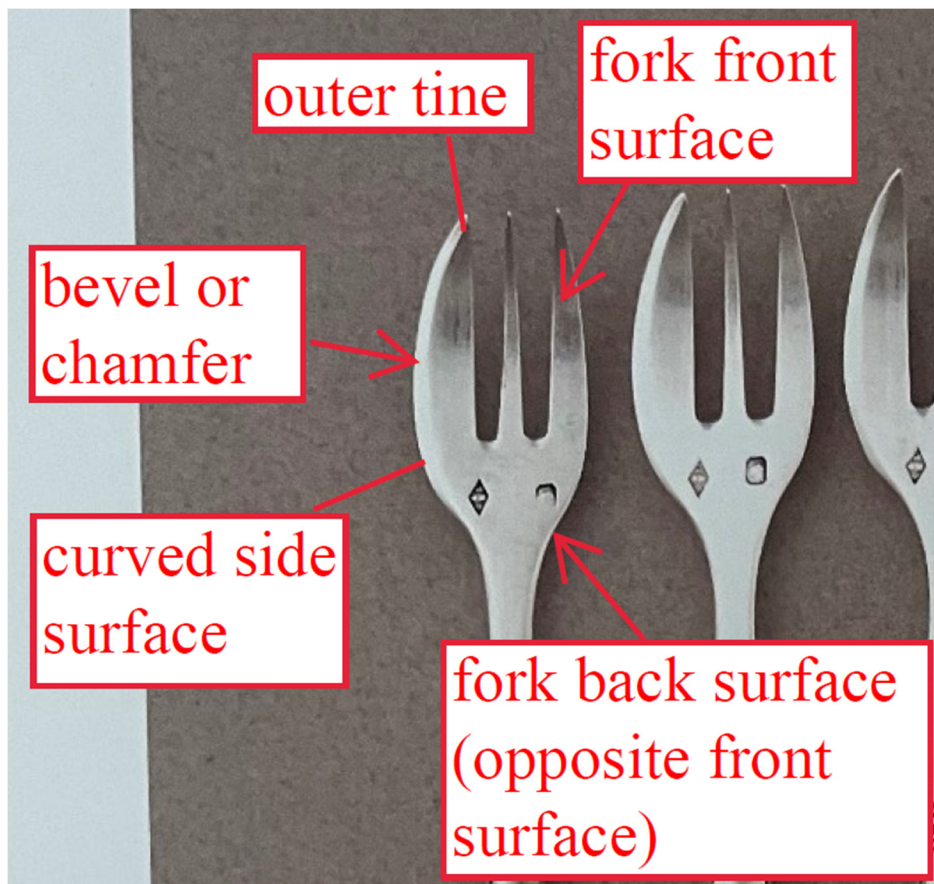
Torode teaches that the fork body 3 has a concave fork bowl portion that is further defined by a knife blade portion 7 that is part of the fork body 3, as shown below. (*Id.* at 2:14.)



Torode is silent regarding an outer one of the tines being further defined by a chamfer. The CFL Fork teaches a fork with “upwardly curved triple-tines, the left tine is slightly wider and sharpened,” as shown below. (Ex. 1010 at p. 3.) The

¹⁵ See Certificate of Correction, Ex. 1003 at p. 1.

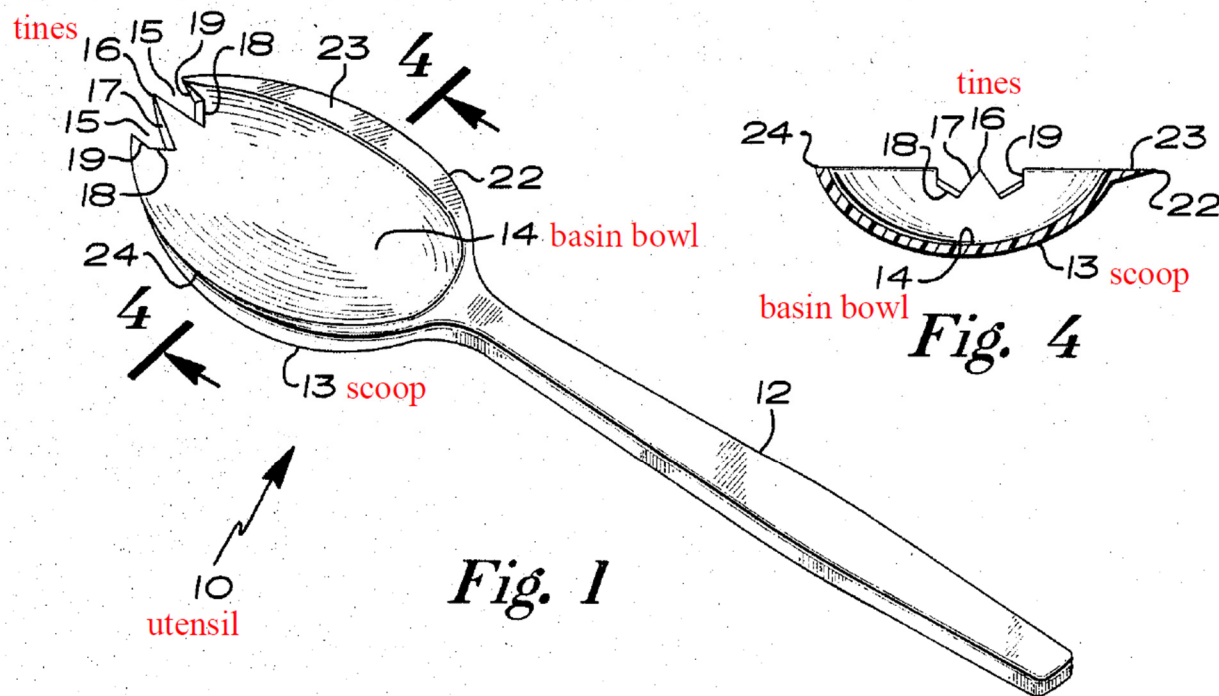
sharpened edge of the CFL Fork is illustrated as a bevel or chamfer provided on a curved side surface that extends along the fork head and the outer tine, as shown below. The sharpened surface of the CFL Fork couples the fork front surface with the curved side surface. Although not illustrated, a POSITA would understand the curved side surface connects the sharpened edge to the fork back surface (i.e., opposite the front surface). (Ex. 1002 at ¶¶538, 542-544, Fig. 51.) The coupling between the beveled or chamfered edge of the CFL Fork and the curved side surface defines a sharpened edge capable of splitting food and is therefore a “curved splitting feature.” (*Id.*)



The CFL Fork is not explicit regarding the chamfer being oblique in relation to the curved side surface, although such an arrangement is well-known in the art and would be within the knowledge of a POSITA as a mere design choice from among the available alternatives, such as to provide a fork with a blunted edge that reduces or eliminates the risk of cutting a user's mouth. (Ex. 1002 at ¶546.)

It would be obvious to modify Torode with the above features of the CFL Fork given the known benefits associated with a sharpened edge provided on an outer fork tine, such as to improve eating of different foods. (*Id.* at ¶¶538-544, Figs. 51, 52.) In addition, the sharpened edge being on an outer tine increases the distance between the sharpened edge and the handle, thereby increasing leverage for cutting relative to the location of the knife edge portion 7 of Torode. (*Id.*) Thus, this element would be obvious over Torode and the CFL Fork.

To the extent that Torode in view of the CFL Fork does not disclose a “concave fork bowl” portion, Nelson further teaches a utensil 10 with a concavo-convex scoop 13 with a curved surface forming a basin bowl 14 for retention of foods that functions as a spoon, as shown below. (Ex. 1011 at 2:22-31.) At one end of the scoop 13 are a plurality of tines 16 that generally function as a fork. (*Id.*)



It would be obvious to modify the device of Torode in view of the CFL Fork with a scoop 13 according to Nelson for retention of foods and so that the fork functions as a spoon, as taught by Nelson. (*Id.*; Ex. 1002 at ¶¶536, 537.) Thus, this element would be obvious over Torode in view of the CFL Fork and Nelson.

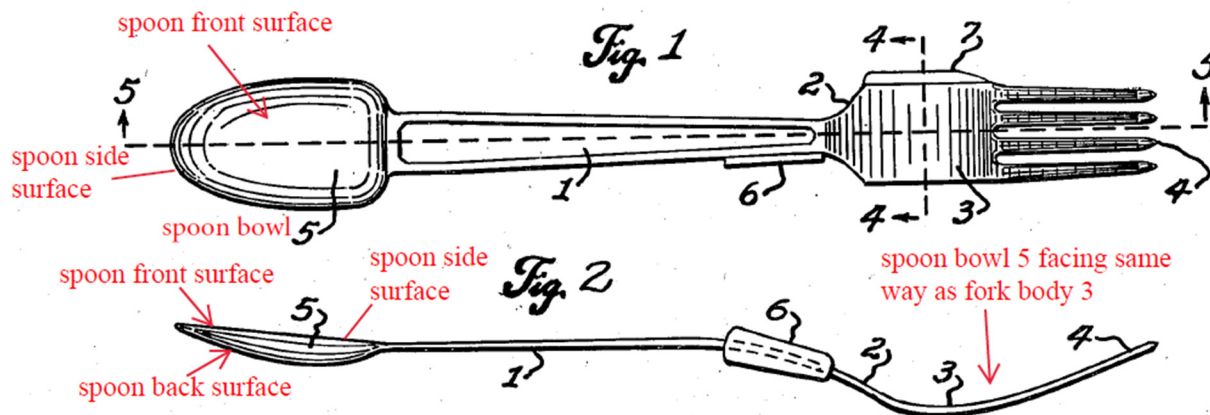
4. Claim 1(c):

"a spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, the spoon front surface, the spoon back surface, and the spoon side surface partially defining a concave spoon bowl portion, the spoon bowl portion facing a same way as the concave fork bowl portion"

Torode teaches a spoon bowl 5 with a front surface, a back surface, and a side surface coupling the front surface with the back surface. (Ex. 1008 at 2:8-10;

2:17-18.) The front, back, and side surfaces define the spoon bowl 5. The spoon bowl 5 is arranged a same way as the concave fork bowl portion, as shown below.

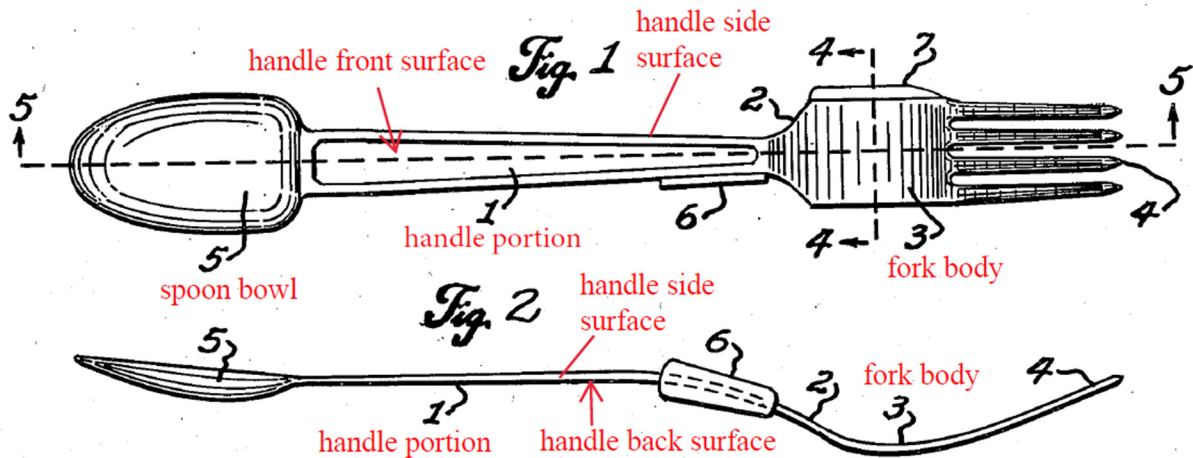
Thus, Torode teaches this element.



5. Claim 1(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

Torode teaches a handle portion 1 that has one end terminating in neck 2 that extends and forms fork body 3 and an opposite end terminates to spoon bowl 5, as shown below. (Ex. 1009 at 2:1-9.) The handle portion 1 of Torode has a front surface, a back surface, and a side surface coupling the front surface to the back surface, as shown below. Thus, Torode teaches this element.



6. Claim 1(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

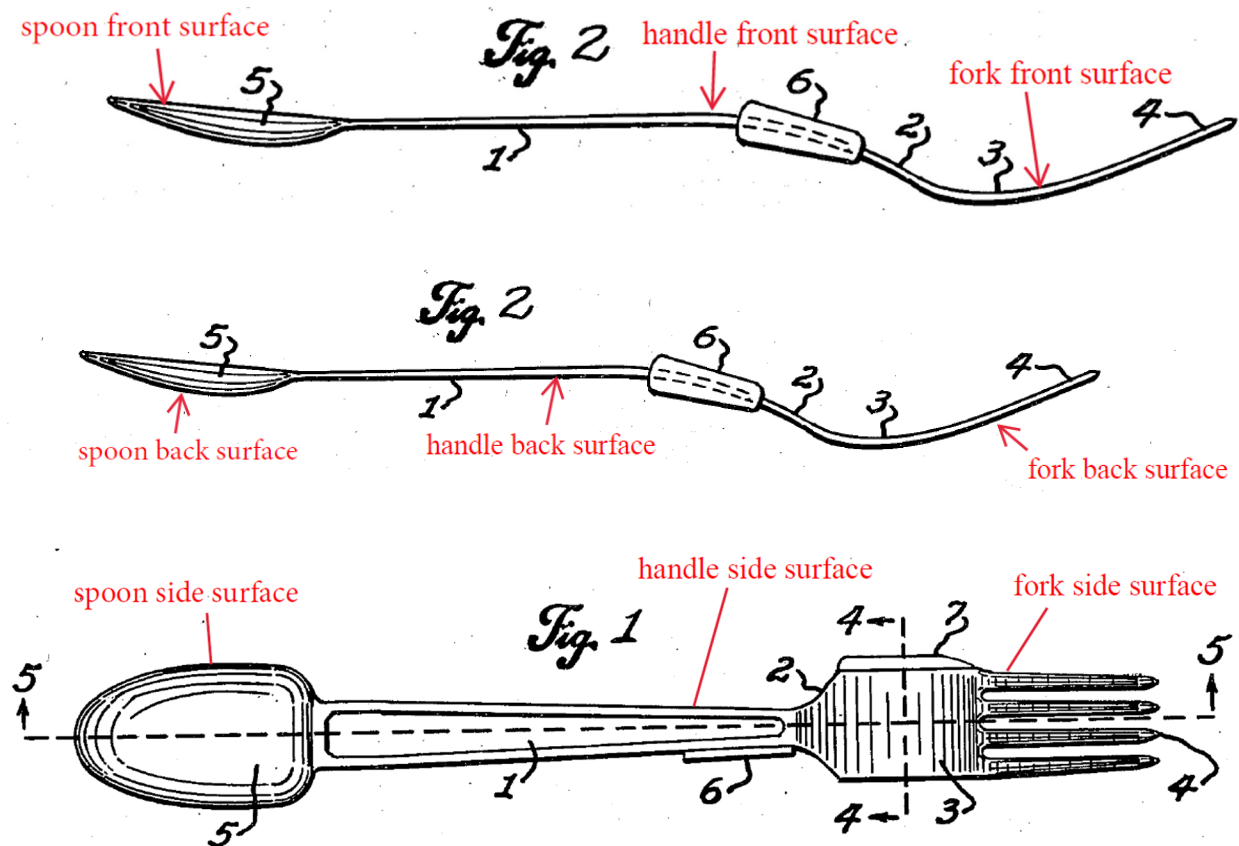
7. Claim 1(f):

"the fork back surface, the spoon surface, and the handle back surface collectively defining a single back surface of the utensil"

8. Claim 1(g):

"the fork side surface, the spoon side surface, and the handle side surface collectively defining a single side surface of the utensil"

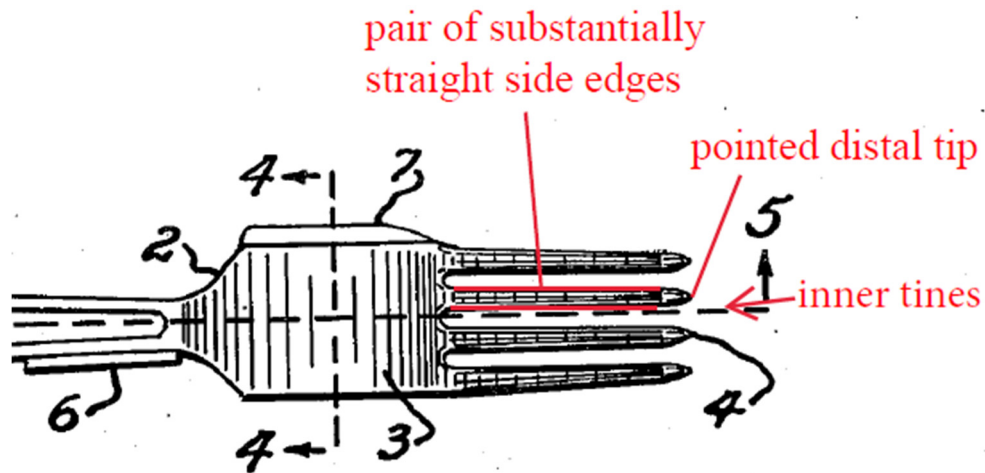
Torode teaches a combination knife, fork, and spoon where "the complete structure is made of a single piece of suitable metal." (Ex. 1009 at 2:10-13.) As a result, Torode teaches a fork, handle, and spoon with respective front, back, and side surfaces that collectively define common front, back, and side surfaces of the integral utensil, as shown below. Thus, Torode teaches these elements.



9. Claim 2:

"An eating utensil as recited in claim 1, wherein inner ones of the plurality of tines each has a pair of substantially straight side edges and a pointed distal tip"

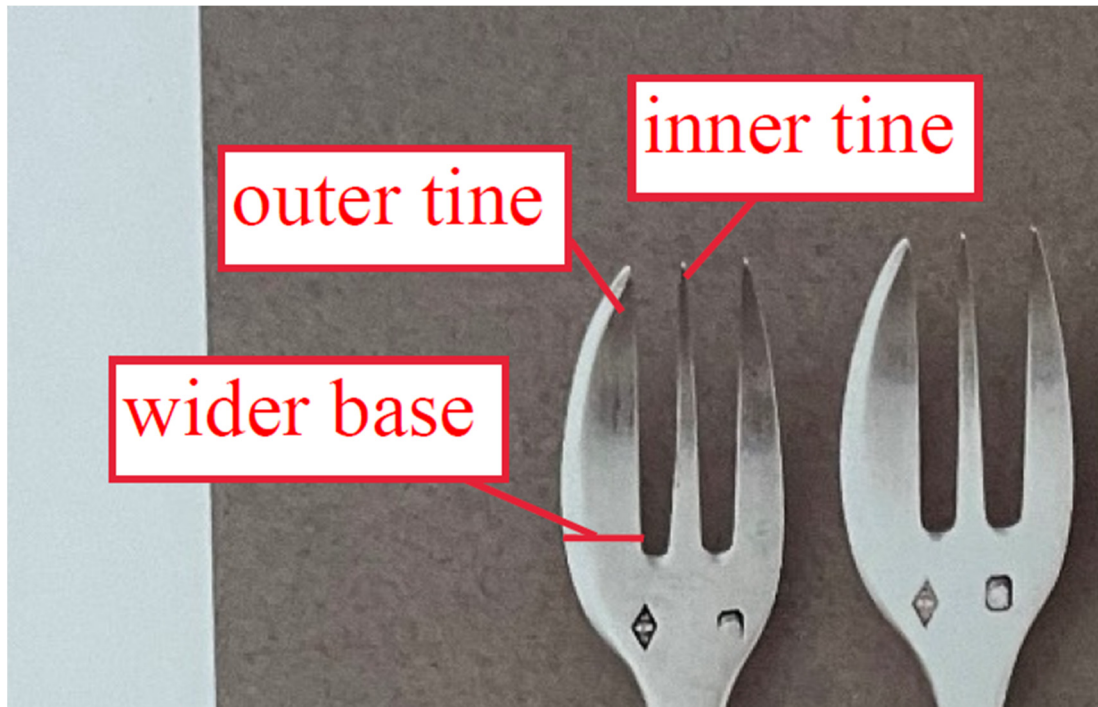
Torode teaches inner tines with a pair of substantially straight side edges and a pointed distal tip, as shown below. Thus, Torode teaches this element.



10. Claim 3:

"An eating utensil as recited in claim 2, wherein the outer one of the tines has a wider base end than the inner ones of the tines"

Torode is silent regarding this element. The CFL Fork teaches "the left tine is slightly wider," as shown below (Ex. 1010 at p.3.) Thus, the CFL Fork teaches this element.



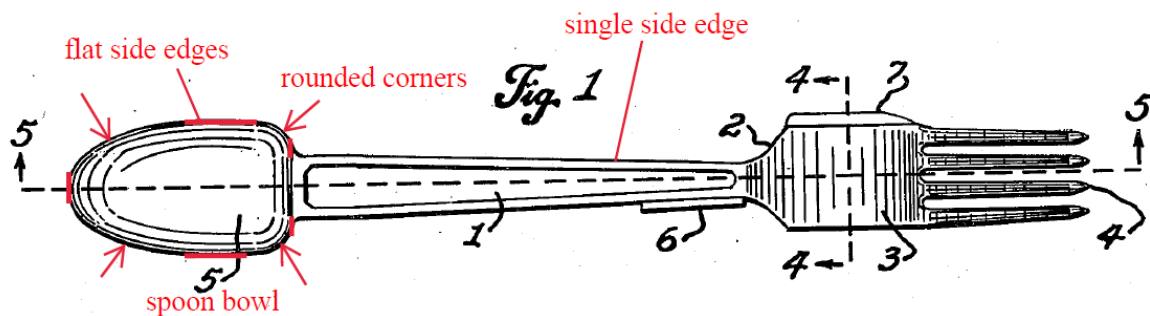
It would be obvious to modify Torode with the wider outer tine of the CFL Fork in order to increase the rigidity and mechanical strength of the outer tine for cutting. (Ex. 1002 at ¶543, 557-559, Fig. 51.) Thus, this element is obvious over Torode in view of the CFL Fork.

11. Claim 4:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil."

Torode teaches the spoon bowl 5 includes at least three substantially flat side edges (indicated with straight red lines) with rounded corners (indicated with red

arrows) connecting the flat side edges, as shown below. The flat side edges of Torode further define the single side edge of the utensil. Thus, Torode teaches this element.

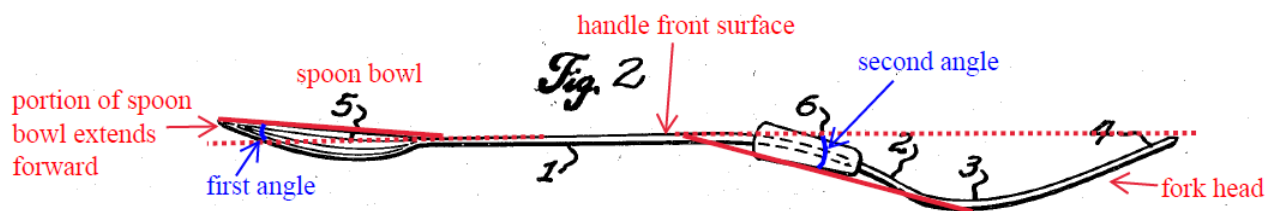


12. Claim 5:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is tilted at a first angle relative to the handle front surface and the concave fork bowl portion is tilted at a second angle relative to the handle front surface such that at least a portion of each of the bowl portions extend forward from the handle front surface"

Torode teaches that the spoon bowl 5 is tilted at a first angle relative to the handle front surface such that at least a portion of the spoon bowl 5 extends forward from the handle front surface, as shown below where the handle front surface is represented by a dashed red line and the angle of the spoon bowl 5 is a solid red line. Torode further teaches the fork head 3 arranged at an angle to the handle front surface that approaches alignment with the handle front surface.

Although the fork head 3 does not necessarily extend forward from the handle front surface, it would be obvious to a POSITA to arrange the fork head 3 with a similar orientation relative to the handle front surface as the spoon bowl 5 as a mere repetition of parts. Alternatively, the arrangement of the fork head 3 relative to the handle front surface is old and well known in the art and would be a matter of design choice for a POSITA, such as, for example, to rotate the fork head slightly forward. (Ex. 1002 at ¶¶568-573, Fig. 53.) Thus, this element would be obvious over Torode.



13. Claim 6:

"An eating utensil as recited in claim 1, wherein the concave spoon bowl portion is further defined by a plurality of substantially flat side edges, wherein one of the substantially flat side edges further defines the single side surface of the utensil"

As explained above regarding claim 4, which is substantively the same as claim 6 except claim 6 recites “a plurality of substantially flat side edges” instead of “at least three substantially flat side edges” as in claim 4, Torode teaches this element. See claim mapping in section VI.D.11.

14. Claim 7:

"An eating utensil as recited in claim 1, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

Torode appears to be silent regarding this element. Nelson teaches that it is desirable to provide a combination utensil which is non-disposable, is injection molded of lightweight plastic, such as polystyrene, or another inert plastic material, and has sufficient rigidity to withstand repeated manual pressure. (Ex. 1011 at 1:35-40; claim 1, preamble.) It would be obvious to select glass reinforced thermoplastic material based on the criteria set forth in Nelson and such materials generally being known as having desirable properties. (Ex. 1011 at 1:35-43; Ex. 1002 at ¶¶582-584.) Thus, this element would be obvious over Torode in view of Nelson.

15. Claim 8:

Preamble: "An eating utensil formed from a glass filled nylon thermoplastic material, the eating utensil comprising"

Glass filled nylon thermoplastics were also well-known and would be would be obvious over Torode in view of Nelson. (*Id.* at ¶¶585, 586; see claim mapping in section VI.D.14.)

16. Claim 8(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a

concave fork bowl portion, a first outer one of the tines and the concave fork bowl portion being further defined by a first chamfer and a first curved side surface coupled to the first chamfer, the first chamfer coupling the fork front surface with the first curved side surface, the first curved side surface coupling the first chamfer with the fork back surface, the first chamfer is oblique in relation to the first curved side surface and the coupling between the first chamfer and the first curved side surface defines a first curved splitting feature"

This element would be obvious over Torode in view of the CFL Fork and Nelson. See claim mapping in section VI.D.2 and section VI.D.3.

17. Claim 8(b):

"a second outer one of the tines and the concave fork bowl portion being further defined by a second chamfer and a second curved side surface coupled to the second chamfer, the second chamfer coupling the fork front surface with the second curved side surface, the second curved side surface coupling the second chamfer with the fork back surface, the second chamfer is oblique in relation to the second curved side surface and the coupling between the second chamfer and the second curved side surface defines a second curved splitting feature"

This element would be obvious over Torode in view of the CFL Fork and Nelson. See claim mapping in section VI.D.2 and section VI.D.3.

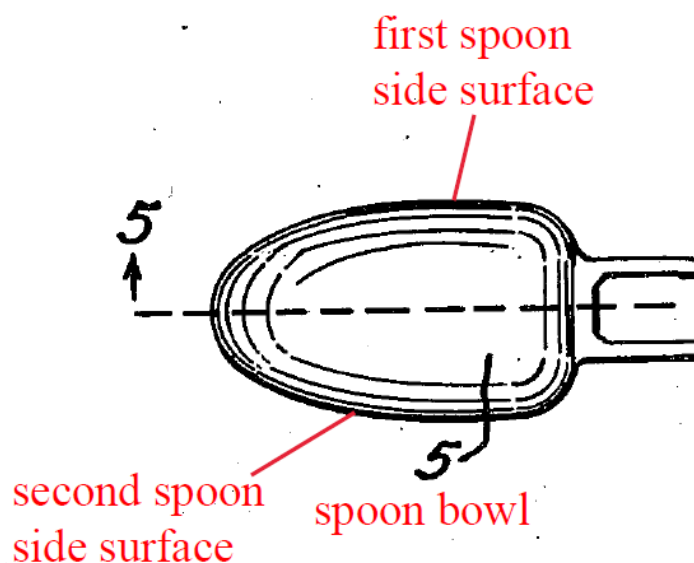
While Torode, CFL Fork, and Nelson are not explicit regarding a chamfer on two outer tines, such a modification would be obvious to a POSITA in order to provide a single ambidextrous utensil. (Ex. 1002 at ¶¶593-595, Fig. 54.) It is also

noted that such a modification would be a mere duplication of parts that is *prima facie* obvious. Thus, this element is obvious over Torode in view of the CFL Fork and Nelson.

18. Claim 8(c):

"a spoon head having a spoon front surface, a spoon back surface, and first and second spoon side surfaces coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the first and second spoon side surfaces defining a concave spoon bowl portion, the spoon bowl portion faces the same way as the concave fork bowl portion"

Torode teaches this element. See claim mapping in section VI.D.4. Torode further teaches a spoon bowl 3 with two side surfaces, as shown in the annotated image below. Thus, Torode teaches this element.



19. Claim 8(d):

"a handle that couples the spoon head to the fork head, the handle having a handle front surface, a handle back surface, and a first and second handle side surface coupling the handle front surface to the handle back surface"

20. Claim 8(e):

"the fork front surface, the spoon front surface, and the handle front surface collectively defining a single front surface of the utensil"

21. Claim 8(f):

"the fork back surface, the spoon back surface, and the handle back surface collectively defining a single back surface of the utensil"

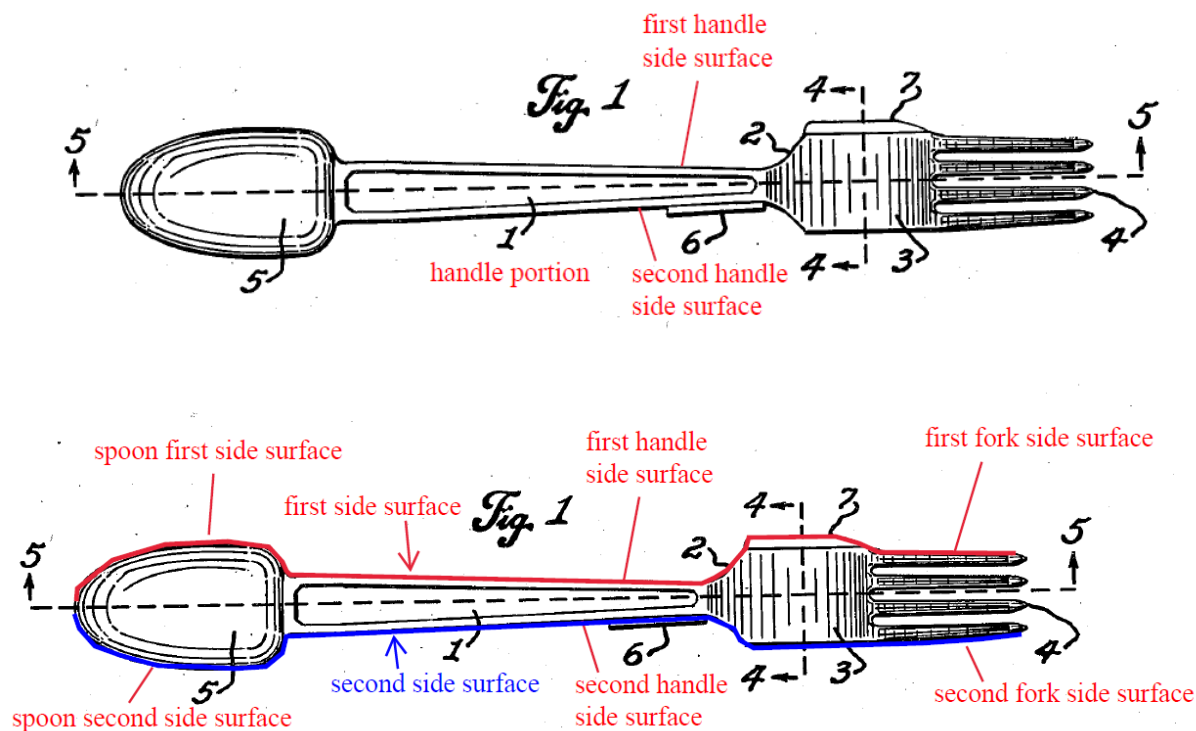
22. Claim 8(g):

"the first fork side surface, the first spoon side surface, and the first handle side surface collectively defining a single first side surface of the utensil"

23. Claim 8(h):

"the second fork side surface, the second spoon side surface, and the second handle side surface collectively defining a single second side surface of the utensil"

The combination utensil of Torode includes a fork, handle, and spoon with respective first and second side surfaces, and front and back surfaces that define first and second single front, back, and side surfaces of the utensil, as described above and shown in part below. *See* claim mapping in sections VI.D.5-8. Thus, Torode teaches these elements.



24. Claim 9:

Preamble: "An eating utensil comprising"

Torode teaches this element. See claim mapping in section VI.D.1.

25. Claim 9(a):

"a first head having a first front surface and a first back surface both partially defining a plurality of tines and a first concave bowl portion, an outer one of the tines and the first concave bowl portion being further defined by a chamfer and a first curved side surface coupled to the chamfer, the chamfer coupling the first front surface with the first curved side surface, the first curved side surface coupling the chamfer with the first back surface, and the chamfer is oblique in relation to the first curved side surface"

This element would be obvious over Torode in view of the CFL Fork and Nelson. See claim mapping in section VI.D.2 and section VI.D.3.

26. Claim 9(b):

"a second head having a second front surface, a second back surface, and a second side surface coupling the second front surface with the second back surface, the second front surface, the second back surface, the second side surface partially defining a second concave bowl portion, the second concave bowl portion faces the same way as the first concave bowl portion"

Torode teaches this element. See claim mapping in section VI.D.4.

27. Claim 9(c):

"a handle that couples the second head to the first head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface¹⁶"

28. Claim 9(d):

"the first front surface, the second front surface, and the handle front surface collectively defining a single front surface of the utensil"

29. Claim 9(e):

"the first back surface, the second back surface, and the handle back surface collectively defining a single back surface of the utensil"

¹⁶ See Certificate of Correction, Ex. 1003 at p. 1.

30. Claim 9(f):

"the first side surface, the second side surface, and the handle side surface collectively defining a single side surface of the utensil"

Torode teaches these elements. See claim mapping in section VI.D.5-8.

31. Claim 10:

"The eating utensil as recited in claim 9, wherein the handle, the first head, and the second head are integrally formed"

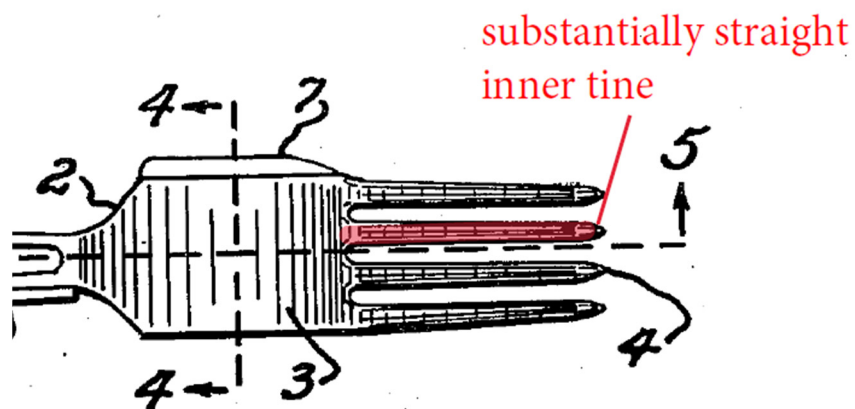
Torode teaches that the complete combination utensil structure is made from a single piece of suitable metal, preferably of stainless steel. (Ex. 1009 at 2:11-13.)

Thus, Torode teaches this element.

32. Claim 11:

"The eating utensil as recited in claim 9, wherein an inner one of the tines is substantially straight"

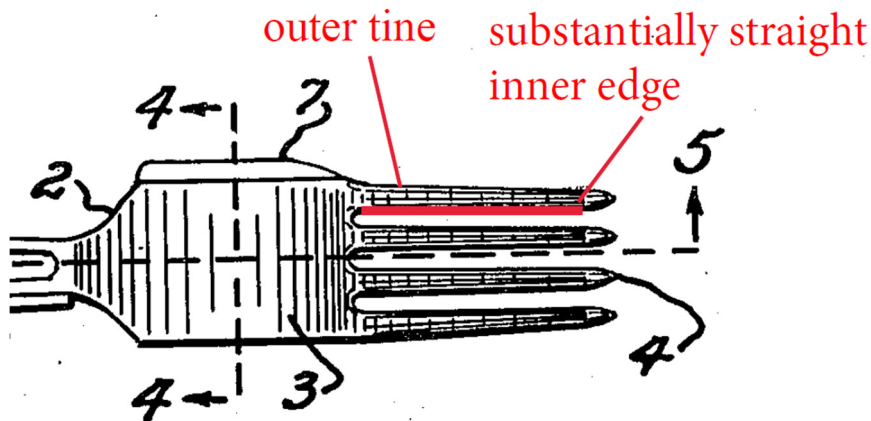
Torode teaches an inner one of the tines is substantially straight, as shown below. Thus, Torode teaches this element.



33. Claim 12:

"The eating utensil as recited in claim 9, wherein the outer one of the tines is further defined by a substantially straight inner edge"

Torode teaches that the outer one of the tines has a substantially straight inner edge, as shown below. Thus, Torode teaches this element.



34. Claim 13:

"The eating utensil as recited in claim 9, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

This element would be obvious over Torode in view of Nelson. See claim mapping in section VI.D.14.

35. Claim 14:

"The eating utensil as recited in claim 9, wherein the second concave bowl portion is further defined by a plurality of substantially flat side edges, wherein one of the substantially flat side edges further defines the single side surface of the utensil"

Torode teaches this element. See claim mapping in section VI.D.11 and section VI.D.13.

36. Claim 15:

Preamble: "An eating utensil comprising"

Torode teaches this element. See claim mapping in section VI.D.1.

37. Claim 15(a):

"a fork head having a fork front surface and a fork back surface both partially defining a plurality of tines and a concave fork bowl portion, an outer one of the tines and the concave fork bowl portion being further defined by a chamfer and a curved side surface coupled to the chamfer, the chamfer coupling the fork front surface with the curved side surface, the curved side surface coupling the chamfer with the fork back surface, the chamfer is oblique in relation to the curved side surface and the coupling between the chamfer and the curved side surface defines a curved splitting feature"

This element would be obvious over Torode in view of the CFL Fork and Nelson. See claim mapping in section VI.D.2 and section VI.D.3.

38. Claim 15(b):

"a handle coupled to the fork head, the handle having a handle front surface, a handle back surface, and a handle side surface coupling the handle front surface to the handle back surface"

39. Claim 15(c):

"the fork front surface and the handle front surface defining a single front surface of the utensil"

40. Claim 15(d):

"the fork back surface and the handle back surface defining a single back surface of the utensil"

41. Claim 15(e):

"the fork side surface and the handle side surface defining a single side surface of the utensil"

Torode teaches these elements. See claim mapping in section VI.D.5-8.

42. Claim 16(a):

"The eating utensil as recited in claim 15, further comprising a spoon head coupled to the handle on an opposite side from where the fork head is coupled to the handle"

Torode teaches a handle portion 1 that has one end terminating in neck 2 that extends and forms fork body 3 and an opposite end terminates to spoon bowl 5. (See claim mapping in section VI.D.5; Ex. 1009 at 2:1-9.) Thus, Torode teaches this element.

43. Claim 16(b):

"the spoon head having a spoon front surface, a spoon back surface, and a spoon side surface coupling the spoon front surface with the spoon back surface, wherein the spoon front surface, the spoon back surface, and the spoon side surface defining a concave spoon bowl portion"

44. Claim 16(c):

"the spoon front surface further defining the single front surface of the utensil; the spoon back surface further defining the single back surface of the utensil; and the

spoon side surface further defining the single side surface of the utensil"

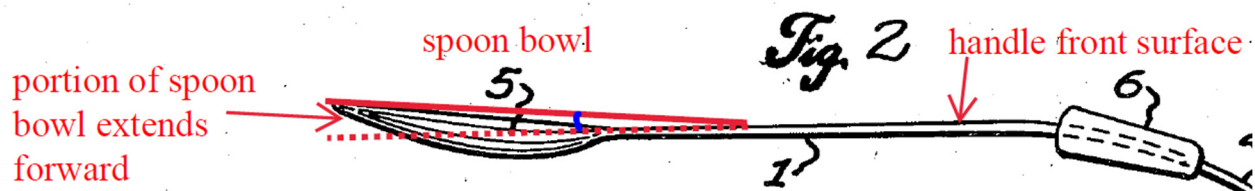
Torode teaches these elements. See claim mapping in sections VI.D.4, 6-8.

45. Claim 17:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is tilted in relation to the handle front surface at an angle of about 20-25 degrees"

As discussed above regarding claim 5, Torode teaches the spoon bowl 5 at an angle to the handle front surface such that a portion of the spoon bowl extends forward. See claim mapping in section VI.D.12.

While Torode is not specific regarding the angle indicated in blue in the below image, the angle may be about 20-25 degrees depending on the location of measurement. In any event, it would be obvious to modify Torode to include an angle of about 20-25 degrees as a simple matter of design choice and routine experimentation based on the disclosed angle in Torode. Thus, this element would be obvious over Torode. (Ex. 1002 at ¶¶648-651.)



46. Claim 18:

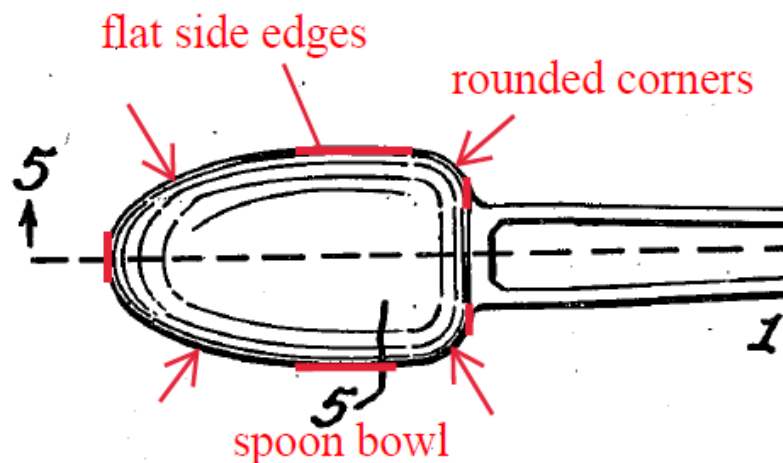
"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat side edge, wherein the substantially flat side edge further defines the single side surface of the utensil¹⁷"

Torode teaches this element. See claim mapping in section VI.D.11 and section VI.D.13.

47. Claim 19:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by a substantially flat end edge"

Torode teaches this element, as shown below. See claim mapping in section VI.D.11.

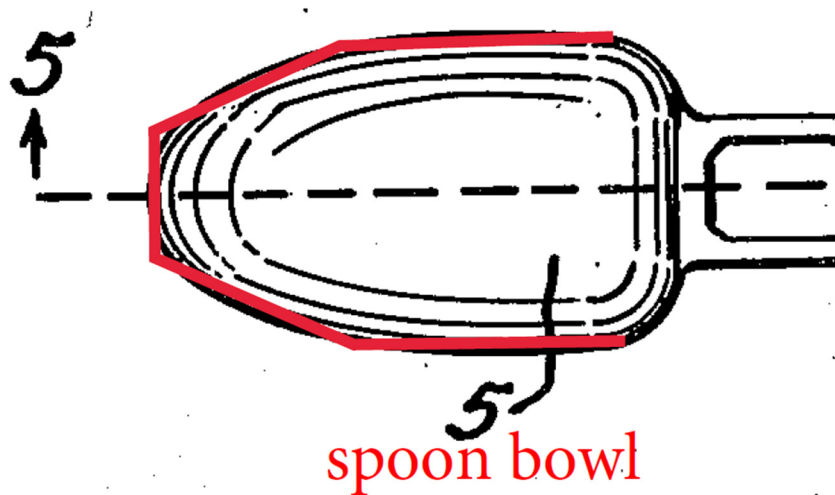


¹⁷ See Certificate of Correction, Ex. 1003 at p. 1.

48. Claim 20:

"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion has a substantially pentagonal shape"

Torode teaches that the spoon bowl 5 has a substantially pentagonal shape, as shown below. Thus, Torode teaches this element.



To the extent Torode does not disclose this element, the shape of the concave spoon bowl portion is a design choice that is well within the skill of a POSITA. (Ex. 1002 at ¶¶661-663, Fig. 56.) Thus, additionally or alternatively, this element would be obvious over Torode.

49. Claim 21:

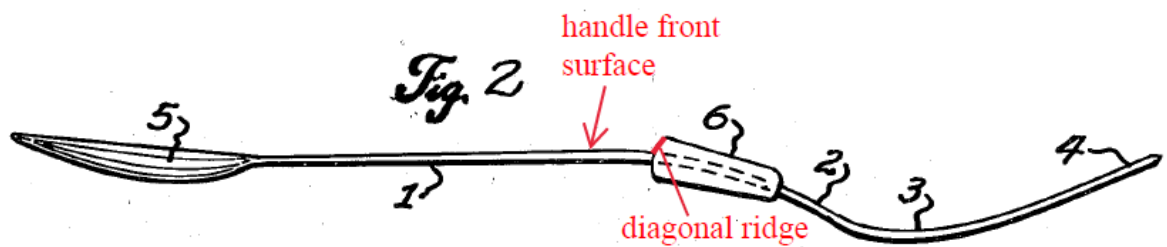
"The eating utensil as recited in claim 16, wherein the concave spoon bowl portion is further defined by at least three substantially flat side edges with rounded corners connecting the flat side edges, wherein one of the flat side edges further defines the single side surface of the utensil"

Torode teaches this element. See claim mapping in section VI.D.11.

50. Claim 22:

"The eating utensil as recited in claim 15, wherein the handle front surface has a diagonal ridge"

Torode appears to illustrate an arm 6 that is a diagonal ridge relative to the handle front surface. (Ex. 1009 at 2:15-17.) Thus, Torode teaches this element.



The '629 patent is silent with respect to any perceived benefit from including a handle front surface with a diagonal ridge. As a result, this element appears to be a simple matter of design choice that is well within the knowledge of a POSITA. (Ex. 1002 at ¶¶665-668.) Thus, additionally or alternatively, this element would be obvious over Torode.

51. Claim 23:

"The eating utensil as recited in claim 15, wherein the eating utensil is formed of a glass reinforced thermoplastic material"

This element would be obvious over Torode in view of Nelson. See claim mapping in section VI.D.13.

VII. CONCLUSION

Because the information presented in this petition shows a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, Petitioner respectfully requests that Trial be instituted and that claims 1-23 of U.S. Patent No. 10,555,629 be canceled as unpatentable.

DATED this 10th day of July, 2023.

Respectfully submitted,

/Kevin S. Costanza/

Kevin S. Costanza

Bradley J. Zentz

SEED IP LAW GROUP LLP

CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the type-volume limitations of 37 C.F.R. § 42.24, because it contains 13,117 words (as determined by the Microsoft Word word-processing system used to prepare the brief), excluding the parts of the brief exempted by 37 C.F.R. § 42.24.

DATED this 10th day of July, 2023.

Respectfully submitted,

/Kevin S. Costanza/

Kevin S. Costanza (Reg. No. 37,801)

Bradley J. Zentz (Reg. No. 76,666)

SEED IP LAW GROUP LLP

701 Fifth Avenue, Suite 5400

Seattle, WA 98104

Telephone: (206) 622-4900

Facsimile: (206) 682-6031

KevinCo@seedip.com

BradZ@seedip.com

Attachment A:

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. §§ 42.6 and 42.105, that a complete copy of the attached PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,555,629, including all Exhibits (1001-1011) and related documents, was served on July 10, 2023 via U.S. Priority Mail Express upon the Patent Owner by serving the correspondence address on record with the USPTO as follows:

BEYER LAW GROUP LLP

P. O. Box 51887
Palo Alto, CA 94303-1887

A courtesy copy is also being served via Email on July 10, 2023 upon counsel of record for the Patent Owner in the litigation pending before the U.S. District Court Civil Case No. 2:23-cv-00102-LK, *Humangear, Inc. v. Industrial Revolution, Inc.*, as follows:

Jacob P. Freeman
SAVITT BRUCE & WILLEY LLP
1425 Fourth Avenue, Suite 800
Seattle, Washington 98101-2272
jfreeman@sbwllp.com

Robert W. Payne
PAYNE IP LAW
111 N. Market Street, Suite 300
San Jose, California 95113
payne@bobpayne.com

/Kevin S. Costanza/
Kevin S. Costanza (Reg. No. 37,801)
SEED IP LAW GROUP LLP

Attachment B:
List of Evidence and Exhibits Relied Upon in Petition

Exhibit #	Reference Name
1001	U.S. Patent No. 10,555,629 to Miksovsky et al.
1002	Declaration of Dr. Andrew W. Smith
1003	Prosecution File History of U.S. Patent Application No. 16/213,466
1004	Chinese Utility Model No. CN 2062986U to Feng
1005	European Design No. 001805383-0001 to Kristiansson
1006	U.S. Patent Publication No. 2008/0201959 to Kent
1007	U.S. Patent No. 6,119,351 issued to Vanderputt
1008	Chinese Publication No. 103504965 to Bo
1009	U.S. Patent No. 2,318,129 to Torode
1010	Printed Publication for the Charles-Francois Languedocq Fork, “CFL Fork”
1011	U.S. Patent No. 4,535,538 to Nelson