

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INDUSTRIAL REVOLUTION, INC.,
Petitioner,

v.

HUMANGEAR, INC.,
Patent Owner.

Case IPR2023-01174
U.S. Patent No. 10,555,629

**PETITIONER'S REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

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Petitioner submits this Reply to Patent Owner's Preliminary Response (Paper 8, "Prelim. Resp.") pursuant to the Board's Order (Paper 10).

The prior art and arguments advanced in the Petition (Paper 2, "Pet.") are not the same nor substantially the same as those considered by the Examiner under the framework of *Advanced Bionics*¹ in view of the *Becton, Dickinson*² factors. But even if the first prong of the *Advanced Bionics* framework were satisfied (which it is not), the Examiner made multiple material errors in issuing the challenged '629 Patent. Indeed, Patent Owner's arguments in its Preliminary Response combined with the Examiner's statements demonstrate that such material errors were made. Thus, in either case, denial of institution under 35 U.S.C. § 325(d) is improper.

I. The Proffered References and Arguments Are Materially Different from Those Evaluated During Examination of the Challenged Patent

Feng (Ex. 1004), Kristiansson (Ex. 1005), Kent (Ex. 1006), Vanderputt (Ex. 1007), Bo (Ex. 1008), CFL Fork (Ex. 1010), and Nelson (Ex. 1011) proffered in the Petition were not submitted nor considered during prosecution of the '629 Patent. Pet. 21; *see also* Ex. 1001, code (56). Thus, none of these references nor

¹ *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential); Prelim. Resp. 19.

² *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (Dec. 15, 2017) (precedential as to § III.C.5, first paragraph). The non-exclusive *Becton, Dickinson* factors are omitted for brevity.

the arguments involving these references are the “same” as the prior art and arguments presented during examination. Torode was presented, but not relied upon by the Examiner, during prosecution of the ’629 Patent. Prelim. Resp. 11 (citing Ex. 1003, at 184); Ex. 1003, at 158-79. As explained below, combinations involving Torode were not previously considered and are therefore not the same as the combinations presented during examination. Pet. 20-22.

Denial of institution under § 325(d) may only be warranted if the teachings of the asserted references are substantially the same as the prior art relied upon during prosecution³ under the first prong of *Advanced Bionics* as that analysis is informed by the *Becton, Dickinson* factors. Patent Owner urges the Board to decline institution under § 325(d) because the references relied upon in the Petition are highly cumulative of prior art considered during prosecution of the subject ’629 Patent. Prelim. Resp. 4. Patent Owner is incorrect.

A. Patent Owner’s Unsupported and Concerning Claim Constructions

As an initial matter, Petitioner addresses Section 4 of the Preliminary Response as it pertains to the following discussion of the prior art under § 325(d). *Id.* at 5-10. This entire section is unsupported by references to the specification of the ’629 Patent or external sources. Indeed, there is not a single citation to written

³ The references relied upon by the Examiner during prosecution and their citations can be found in the Petition. Paper 2 at 10.

evidence or expert testimony (there is no expert testimony accompanying the Preliminary Response generally). The only citations are to Figures 7A-7C of the '629 Patent, which provide no support for Patent Owner's interpretation of the features of a fork and the claim terms of the '629 Patent. Thus, absent evidence to the contrary, Section 4 is entirely attorney argument that cannot take the place of evidence in the record.⁴

To the extent this section is construed as a claim construction argument, Patent Owner's constructions do not advance its case. Even with Patent Owner's constructions, Petitioner's prior art references are material. For example, Patent Owner argues, without support, that the claimed "concave fork bowl portion" requires that the base of the fork head has curvature in two dimensions to define a recessed region or "bowl" portion, but then argues in the Preliminary Response that Petitioner's prior art (Kristiansson, Kent, and Nelson), as well as previously considered Albanese (Ex. 2012) and Wilson (Ex. 2014), disclose only utensils with a *spoon* bowl and central tines. Prelim. Resp. 6, 15-18, 22-25, 32, 33. But there is no material difference between a "spoon bowl with central tines" and a "concave fork bowl portion," and Patent Owner fails to offer anything to conclude otherwise. Each of Kristiansson, Kent, Nelson, Albanese, and Wilson disclose concave fork

⁴ *In re Schulze*, 346 F.2d 600, 602 (C.C.P.A. 1965); *In re Geisler*, 116 F.3d 1465, (Fed. Cir. 1997).

bowl portions of the type shown and described in the '629 Patent, although, as described below, Kristiansson, Kent, and Nelson are material and not cumulative of the previously considered references relative to the claims at issue.

B. Petitioner's Prior Art and Arguments Are Material and Not Cumulative

Patent Owner's argument that Petitioner's prior art is cumulative has at least two fundamental flaws.

First, Patent Owner fails to consider the prior art in view of the relevant claim elements, as required⁵. There is no discussion in the Preliminary Response regarding why the previously considered references are at least as relevant to the actual claim language of the '629 Patent as the prior art asserted in the Petition. Accordingly, Patent Owner's argument is without merit for at least this reason.

Second, when the prior art at issue is properly considered relative to the claims, Petitioner's prior art and the arguments regarding the same are material and are not substantially the same as those previously considered.

⁵ 37 C.F.R. § 1.56; *Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc.*, 326 F.3d 1226, 1234 (Fed. Cir. 2003) ("Materiality is not limited to prior art but embraces any information that a reasonable examiner would be substantially likely to consider important in deciding whether to allow an application to issue as a patent.")

1. Ground 1 – Feng is Material and Not Cumulative in View of Torode

With respect to Ground 1, Feng includes a blade 4 that is illustrated as a chamfer that extends along an outer tine *and* a portion of a curved side surface of the fork head 3 of Feng. Ex. 1004 at 3 ll. 30-35, 4. Torode includes a knife blade portion 7 provided *only* on a straight side surface of a body of the fork below the tines and *not* on the tines themselves. Ex. 1009, 2:14, Fig. 1. This difference is immediately clear when comparing the provided images of Feng and Torode in the Preliminary Response. Prelim. Resp. 12. In the context of the claims, Feng teaches the key feature for patentability or it would be obvious to modify Feng to arrive at this feature⁶. Torode, by itself, does not teach this feature because Torode's knife blade portion 7 is not located on the tines. Thus, Feng is material and not cumulative.

2. Ground 2 – Kristiansson Is Material and Not Cumulative over Albanese, Miller, or the Wildo Spork

Kristiansson is not highly cumulative of Albanese. Kristiansson teaches a bowl terminating in pronounced fork tines (i.e., a concave fork bowl) including

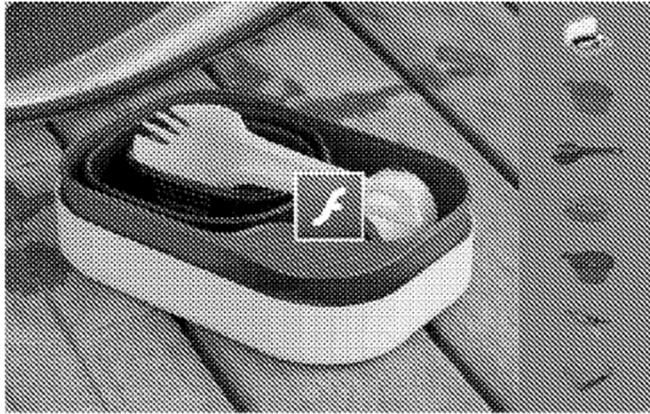
⁶ In the Final Office Action dated October 9, 2019, the Examiner indicated in the reasons for allowance that “the prior art fails to disclose a fork head with front and back surfaces defining the tines and bowl portion and an outer one of the tines and the bowl portions [sic] being further defined by a chamfer and a curved side surface which together define a splitting feature in combination with the remaining limitations.” Ex. 1003, at 74.

outer tines, whereas, according to Patent Owner, Albanese is a spoon with only a single central tine. Pet. 54, 55; Ex. 1005, cover page; Ex. 2012, 3:9-15, 3:31-33, Fig. 1. More importantly, Kristiansson teaches a curved side surface and a chamfer that extends along the curved side surface of one of the outer tines *and* the concave fork bowl portion that allegedly is the key feature for patentability. Pet. 54-56; Ex. 1003, at 74; Ex. 1005, cover page. Albanese discloses “a longitudinal cutting means 11” that is “positioned on a lateral side of the implement portion” and illustrates said cutting means 11 as a recessed surface (i.e., not clearly a chamfer) along only the spoon bowl portion. Ex. 2012, 3:9-15, 3:31-33, Fig. 1. There is a question as to whether Albanese can be said to teach an outer tine at all, but in any event, Albanese fails to clearly teach a chamfer that assists with defining a curved splitting feature as is allegedly patentable in the instant case. Thus, Kristiansson is material and not cumulative in view of Albanese.

Patent Owner’s argument that Kristiansson is cumulative of Miller is also without merit. There is no doubt that Miller discloses a “blade edge 36,” but the claims of the ’629 Patent do not simply recite a blade edge. Ex. 2013 ¶ 41, Fig. 6. The claims specifically require a chamfer that is not shown and described in Miller. The image of Figures 5-7 from Miller in the Preliminary Response confirms this point. Prelim. Resp. 21. None of the illustrated variations of the fork in Miller provide a chamfered outer edge of the type that is clearly disclosed in

Kristiansson and material to the allegedly patentable feature in the instant case. Accordingly, Kristiansson is material and not cumulative relative to Miller.

With respect to the Wildo Spork (“Wildo”), Petitioner notes that Wildo was considered by the Examiner on October 13, 2022 in the child application—more than 2 years *after* issuance of the challenged ’629 Patent—and that neither Wildo nor Kristiansson is of record in the challenged ’629 Patent. While Petitioner recognizes the designs are similar, Wildo was a non-patent literature reference that included only grayscale, low quality, zoomed out images that are unclear as to the actual teachings of Wildo. Below are images of Wildo considered by the Examiner in the child application and the new Kristiansson reference for comparison. Ex. 2009, at 138; Ex. 1005, cover page. As can be immediately seen from the below, Kristiansson is a much higher resolution and clear reference that allows for proper consideration of the teachings of the reference relative to Wildo. In particular, the concave fork bowl and outer tines with a curved outer surface and chamfer that is highly material to the allegedly patentable feature of the claims is arguably not visible in Wildo, but is readily apparent in Kristiansson. Thus, Kristiansson is material and not cumulative to Wildo.



Wildo Spork



Kristiansson

For the above reasons, Kristiansson is material and not cumulative to the art and arguments considered during examination of the '629 Patent.

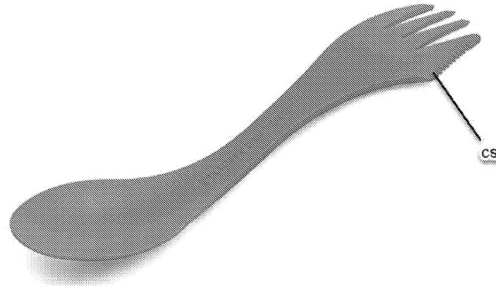
3. Ground 3 – Kent, Vanderputt, and Nelson Are Material and Not Cumulative in View of Albanese, Wilson, Miller, and Light-My-Fire Spork

The provided image in the Preliminary Response comparing Kent with Wilson and Albanese clearly shows that Kent is material to the allegedly patentable features of the claims. Prelim. Resp. 25. Kent includes a blunted knife edge along a curved outer surface of a fork tine and fork bowl. Ex. 1006, claim 4. A POSITA would consider the blunted knife edge of Kent to be consistent with a chamfer and can be created by a chamfer. Pet. 73; Ex. 1002 ¶¶ 436-39, Fig. 27. Albanese has the deficiencies described above with respect to the chamfer. Wilson does not disclose a chamfer. Figures 4-6 of Wilson provided in the Preliminary Response are cross-sectional views at lines 4-4, 5-5, and 6-6 of Figure 1 of Wilson, respectively. Prelim. Resp. 25. Notably, the outer edges of the utensil in Wilson

in Figures 4-6 do not have a chamfer, but rather, a pointed edge or rounded edge depending on the location, neither of which are clearly created by a chamfer. Accordingly, Kent teaches the allegedly patentable feature, while Wilson does not. Kent is therefore material and not cumulative over Albanese and Wilson.

Vanderputt is cited in the Petition for the teachings contained therein, as well as for the motivation to modify Kent with the oblique edge of Vanderputt. In particular, Vanderputt states that its structure “allows the user to easily cut through many softer foods” and is therefore advantageous. Pet. 75, 76; Ex. 1007, 3:1-6. On the other hand, Miller simply references that “greater cutting abilities may be realized if the outer edge is sharpened to give it a blade edge 36.” Ex. 2013 ¶ 41. Thus, Vanderputt has a more specific motivation for the combination than Miller that is not addressed in the Preliminary Response and Vanderputt is not cumulative for at least this reason.

Bo appears to illustrate via shading that the fork and spoon face the same direction as required in the claims. Pet. 77, 78; Ex. 1008, Fig. 1. In LMFS, the spoon clearly faces an opposite direction from the curvature of the fork head, as shown in the below image of the LMFS spork from the prosecution history. Ex. 1003, at 166.



Thus, LMFS does not teach the relevant claim limitation for which Bo is asserted, at least in part, and Bo is material and not cumulative over LMFS for at least this reason.

4. Ground 4 – The CFL Fork and Nelson Are Material and Not Cumulative over Miller and Albanese

Patent Owner's argument regarding the CFL Oyster Fork misses the key point, namely, that the outer edge of the curved outer tine and curved fork body of the CFL Oyster Fork is sharpened and illustrated as a clear chamfer. Miller does not disclose or teach a chamfer, as discussed above. Thus, the CFL Oyster Fork teaches aspects of the allegedly patentable features of the '629 Patent claims that are not found in Miller and the CFL Oyster Fork is therefore material and not cumulative.

Nelson is provided not only for teaching a concave fork bowl portion, but also for the motivation to modify Torode in view of the CFL Fork with Nelson, namely, for the retention of foods and so the fork functions as a spoon. Ex. 1011, 2:22-31. Albanese does not have a similar suggestion for the combination, but rather, discusses the advantages of a recessed tab 6 that enables pressure to be

applied during cutting or using the fork tines. Ex. 2012, 2:22-26, 2:66-3:4. Accordingly, Nelson is not cumulative in view of Albanese.

5. The Preliminary Response Fails to Consider Whether the Combinations of References Are Cumulative

Finally, the Preliminary Response makes no mention or argument of whether Petitioner's alleged combinations of references are cumulative over what was previously considered by the Examiner. For example, Torode was previously considered, but the combination of Torode, CFL Fork, and Nelson is not the same nor substantially the same as art and arguments previously considered by the Examiner. Petitioner submits that the new references are used in new combinations not previously contemplated by the Examiner such that in any event, the relied-upon combinations of references are not cumulative⁷. Denial of institution under § 325(d) is improper for at least this additional reason.

In view of the above, the proffered prior art and arguments are not the same nor substantially the same as what was previously considered by the Examiner. As the first prong of *Advanced Bionics* is not satisfied, denial of institution under § 325(d) is improper.

⁷ *Samsung Elecs. Co. v. Dodots Licensing Sols. LLC*, IPR2023-00756, Paper 9 at 21-22 (PTAB Oct. 11, 2023) (finding that factors (a), (b), and (d) of *Becton, Dickinson* suggest the prior art and arguments are not the same nor substantially the same where previously presented reference was relied upon in Petition in combination with new references).

II. The Examiner Materially Erred by Writing a “Patentable” Claim for Patent Owner That Disregards Teachings of the Relied-Upon References and by Overlooking Material Combinations of References During Examination

The Petition itself lays out in detail the material errors made by the Examiner, namely, that all claims of the challenged ’629 Patent would be obvious over new prior art and combinations of prior art that were not the same nor substantially the same as those previously before the Examiner.

Petitioner does not address the material error by the Examiner in greater detail in the Petition because it is not required under the two-part framework from *Advanced Bionics*. Specifically, when the prior art or arguments are not the same or substantially the same as those considered during examination, as here, the inquiry ends and the second part of the framework from *Advanced Bionics* regarding material error is not considered⁸. If, however, the Board finds that the proffered prior art and arguments are the same or substantially similar to those considered during examination (they are not), the Examiner made several material errors that are confirmed, at least in part, by Patent Owner’s own arguments in the Preliminary Response.

⁸ *Samsung*, at 20 (citing *Advanced Bionics*, at 9-11 (“[o]nly if the same or substantially the same art or arguments were previously presented to the Office do we then consider whether the petitioner has demonstrated a material error by the Office”)).

The first material error by the Examiner was writing a “patentable” claim for Patent Owner that included only elements which the Examiner previously rejected over the prior art. In the Non-Final Office Action dated April 19, 2019, the Examiner found that Miller discloses: (a) a fork head with a concave fork bowl portion (Figure 2) and inner and outer tines (30, 30’, 32, 32’); (b) a first one of the outer tines has a curved cutting feature (blade 36); and (c) outer edge portions of the fork head are curved longitudinally including outer edges of the outer tines (35, 35’). Ex. 1003, at 163. The Examiner also stated that in view of LMFS, “it is old and well-known in the art of fork tines with a cutting feature to incorporate a chamfered outer edge.” *Id.* at 165.

In the Final Office Action, the Examiner then stated in the reasons for allowance that the prior art fails to disclose a fork head with front and back surfaces defining the tines and bowl portion (feature (a) taught by Miller) and an outer one of the tines and bowl portion (feature (a) taught by Miller) being further defined by a chamfer (taught by LMFS) and a curved side surface (feature (c) taught by Miller) which together define a splitting feature (feature (b) taught by Miller). *Id.* at 74. The primary difference between the subject matter previously rejected by the Examiner and the allegedly allowable subject matter appears to be that the chamfer and the curved side surface, the combination of which is known in the prior art and was previously rejected by the Examiner, combine to define a

splitting feature. This “splitting feature” is no different from the “curved cutting feature” that the Examiner rejected over Miller. It was clearly a material error for the Examiner to provide allowable subject matter based on features that the Examiner previously rejected over the prior art.

In addition, the Patent Owner’s arguments in the Preliminary Response confirm that the Examiner committed a material error by overlooking material combinations of references that would have led to a rejection of all claims. In stating that “the Examiner was aware of (and had in front of him) art showing each of the various claim features in isolation,” Patent Owner admits that all aspects of the challenged claims are taught by the prior art. Prelim. Resp. 35. During examination, the Examiner concluded that it would be obvious to combine elements where “all [of the] claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective function and the combination would have yielded predictable results.” *Id.* at 165. Thus, combining Patent Owner’s admission that all aspects of the claims are known and the Examiner’s rationale in rejecting the claims demonstrates that the Examiner made a material error, namely, that the Examiner overlooked material combinations of the references that would have rendered all claims obvious based on the stated rationale. The challenged

'629 Patent therefore would not have issued but for this additional or alternative material error by the Examiner.

In view of the above, Petitioner submits that the Examiner committed multiple material errors in issuing the challenged '629 Patent such that denial of institution under § 325(d) is improper.

III. Conclusion

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 27th day of October 2023.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing PETITIONER'S
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