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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEVEN J. LESLIE and YVONNE E. YOUNG

Appeal 2019-005500
Application 13/639,885
Technology Center 3600

Before STEFAN STAICOVICI, LEE L. STEPINA, and
ERIC C. JESCHKE, *Administrative Patent Judges*.

JESCHKE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ seeks review, under 35 U.S.C. § 134(a), of the Examiner's decision, as set forth in the Non-Final Office Action dated June 5, 2018, rejecting claims 1 and 3–20. Claim 2 has been canceled. The Examiner objects to claims 11 and 12, but indicates that they would be allowable if rewritten in independent form. Non-Final Office Action dated June 5, 2018

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies “Marine Farmers Steven J Leslie and Yvonne E Young, the inventors” as the real party in interest. Appeal Brief dated September 3, 2018 (“Appeal Br.”), at 3. Appellant did not file a Reply Brief in this proceeding.

(“Non-Final Act.”), at 9. A remote oral hearing was held on September 1, 2020. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm in part.

BACKGROUND

The disclosed subject matter “relates to assemblies and methods for culturing aquatic species especially for human consumption.” Spec. 1:3–4.² Claim 1, the sole independent claim on appeal, is reproduced below, with emphasis added:

1. An aquaculture assembly comprising:
 - at least one structure adapted for culturing an aquacultural species;
 - at least one floatation means; and
 - at least one anchoring means connecting said at least one floatation means and said at least one structure to, and at a set distance from the sea bed;wherein said at least one structure is connected to or comprises said at least one floatation means or said at least one floatation means comprises said at least one structure; and
 - wherein said at least one floatation means is adapted to support said at least one structure substantially above the water surface at low-tide, and at least substantially below the water surface at high-tide, thereby maintaining said aquaculture species under artificial inter-tidal conditions, due to tides.*

REJECTIONS

1. Claims 5–14 and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter regarded as the invention.

² Citations to the Specification refer to the 13-page version filed on October 8, 2012.

2. Claims 1, 3–10, and 13–16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Tuxhorn (US 2,283,472, issued May 19, 1942) and Hillird (US 2005/0036839 A1, published Feb. 17, 2005).

3. Claims 17–20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Tuxhorn, Hillird, and Cortiñas (US 7,650,856 B2, issued Jan. 26, 2010).

DISCUSSION

Rejection 1 – The rejection of claims 5–14 and 16 under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 5–14 and 16, finding those claims indefinite for failing to particularly point out and distinctly claim the subject matter the applicant regards as the invention. *See* Non-Final Office Action dated June 5, 2018 (“Non-Final Act.”), at 4–5. A claim fails to comply with 35 U.S.C. § 112, second paragraph, “when it contains words or phrases whose meaning is unclear.” *In re Packard*, 751 F.3d 1307, 1310, 1314 (Fed. Cir. 2014) (per curiam) (approving, for pre-issuance claims, the standard from MPEP § 2173.05(e)); *see also Ex parte McAward*, Appeal No. 2015-006416, 2017 WL 3669566, at *5 (PTAB Aug. 25, 2017) (precedential) (adopting the approach for assessing indefiniteness approved by the Federal Circuit in *Packard*). We address each claim below.

A. Claim 5

Claim 5 recites: “The assembly of Claim 1 which comprises a plurality of structures adapted for culturing an aquacultural species.” Appeal Br., App. 1. The Examiner stated that “it is unclear if the ‘plurality of structures’ of claim 5 is referring to the ‘at least one structure[’] of claim 1.” Non-Final Act. 4.

We disagree with the Examiner’s position. As argued by Appellant, the “plurality of structures” in claim 5 would be understood as referring back to the “structure” in claim 1—i.e., the recited “at least one structure adapted for culturing an aquacultural species.” *See* Appeal Br. 8 ¶ 8. Claim 5 narrows the scope of claim 1 by requiring a “plurality” of those structures, whereas claim 1 more broadly requires “at least one”—i.e., one or more. *See id.* at 7 (discussing how, “where the phrase ‘at least one’ is used, the meaning is the assembly comprises of at least one but could comprise . . . more than one and be comprised of a plurality”); *see also* 35 U.S.C. § 112, fourth paragraph (“[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.”). Thus, we do not sustain the rejection of claim 5 based on 35 U.S.C. § 112, second paragraph.

B. Claim 6

Claim 6 recites: “The assembly of Claim 1 which also supports one or more structures for culturing aquacultural species fully below the water surface at all times.” Appeal Br., App. 1. The Examiner stated that “it is unclear what is supporting the one or more structures.” Non-Final Act. 4.

We disagree with the Examiner’s position. As argued by Appellant, claim 6, read in light of claim 1 (from which claim 6 depends), would be understood as adding a requirement for “one or more structures for culturing aquacultural species fully below the water surface at all times” that, like the “at least one structure” in claim 1, would be supported by the “at least one floatation means.” Appeal Br. 8 ¶ 9. Thus, we do not sustain the rejection of claim 6 based on 35 U.S.C. § 112, second paragraph.

C. Claim 7

Claim 7 recites: “The assembly of Claim 1 which comprises a plurality of floatation means.” Appeal Br., App. 1. The Examiner stated that “it is unclear if the ‘plurality of floatation means’ of claim 7 is referring to the ‘at least one floatation means [’] of claim 1.” Non-Final Act. 4.

We disagree with the Examiner’s position. As argued by Appellant, the “plurality of floatation means” in claim 7 would be understood as referring back to the “floatation means” in claim 1—i.e., the recited “at least one floatation means.” *See* Appeal Br. 8 ¶ 10. Claim 7 narrows the scope of claim 1 by requiring a “plurality” of “floatation means” whereas claim 1 more broadly requires “at least one”—i.e., one or more. *See id.* at 7 (discussing how the phrase “at least one” is used in the claims). Thus, we do not sustain the rejection of claim 7 based on 35 U.S.C. § 112, second paragraph.

D. Claim 8

Claim 8 recites: “The assembly of Claim 7 wherein said plurality of floatation means are spaced apart, having at least one structure supported between, or above, said plurality of floatation means.” Appeal Br., App. 1. The Examiner stated that “it is unclear if the ‘at least one structure’ of claim 8 is referring to the [‘]at least one structure[’] of claim 1.” Non-Final Act. 4.

In response, Appellant references two figures showing an embodiment with six oyster baskets between a pair of floats. *See* Appeal Br. 8 ¶ 11 (discussing Spec., p. 3, ll. 11–14, Figs. 6–7). The Examiner does not address this Rejection in the Answer. As to the alleged lack of clarity identified by the Examiner, we determine that the “at least one structure” in claim 8 would be understood as referring back to the “structure” in claim 1—i.e., the recited “at least one structure adapted for culturing an

aquacultural species.” Further, in light of the parts of the Specification identified by Appellant, we further understand claim 8 to require “at least one structure supported between, or above” *each* spaced-apart grouping of the “plurality of floatation means.” For these reasons, we do not sustain the rejection of claim 8 based on 35 U.S.C. § 112, second paragraph.

E. Claim 9

Claim 9 recites: “The assembly of Claim 1 which comprises a plurality of anchoring means.” Appeal Br., App. 1. The Examiner stated that “it is unclear if the ‘a plurality of anchoring means’ of claim 9 is referring to the [‘]at least one anchoring means[’] of claim 1.” Non-Final Act. 4.

We disagree with the Examiner’s position. As argued by Appellant, the “plurality of anchoring means” in claim 9 would be understood as referring back to the “anchoring means” in claim 1—i.e., the recited “at least one anchoring means connecting said at least one floatation means and said at least one structure to, and at a set distance from the sea bed.” *See* Appeal Br. 8 ¶ 12. Claim 9 narrows the scope of claim 1 by requiring a “plurality” of “anchoring means” whereas claim 1 more broadly requires only “at least one”—i.e., one or more. *See id.* at 7 (discussing how the phrase “at least one” is used in the claims). Thus, we do not sustain the rejection of claim 9 based on 35 U.S.C. § 112, second paragraph.

F. Claim 10

Claim 10 recites: “The assembly of Claim 1 which comprises a plurality of spaced floatation means connected to each other by linking means, wherein said plurality of floatation means is connected to at least one anchoring means and supports said at least one structure.” Appeal Br., App. 1. The Examiner stated that “it is unclear if the ‘plurality of spaced

floatation means’ and the ‘at least one anchoring means’ of claim 10 are the same as the ‘at least one floatation means[’] and the [‘]at least one anchoring means[’] of claim 1.” Non-Final Act. 4–5.

As to the “plurality of spaced floatation means,” Appellant states that, in claim 10, “the plurality of the ‘at least one floatation means’ is connected by linking means” Appeal Br. 8 ¶ 13. The Examiner does not address this Rejection in the Answer. Similar to the situation in the context of claim 7, here, we understand the “plurality of spaced floatation means” in claim 10 as referring back to the “floatation means” in claim 1—i.e., the recited “at least one floatation means.” See Appeal Br. 8 ¶ 13. This aspect of claim 10 narrows the scope of claim 1 by requiring a “plurality” of “floatation means” whereas claim 1 more broadly requires “at least one”—i.e., one or more. See *id.* at 7 (discussing how the phrase “at least one” is used in the claims). As to the term “spaced” in claim 10, we understand this to limit the “plurality” of “floatation means” in claim 10 in a matter similar to the phrase “wherein said plurality of floatation means *are spaced apart*” as recited in claim 8 (emphasis added).

As to the “at least one anchoring means,” Appellant responds by referencing two figures depicting embodiments with only *one* anchoring means each. See Appeal Br. 8 ¶ 13 (discussing Spec., p. 11, ll. 6–19, Figs. 5A, 5B). We agree with the Examiner that claim 10, as currently drafted, is unclear. Under section 112, fourth paragraph of Title 35 of the United States Code, “[a] claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” Thus, dependent claim 10 is understood to include all the limitations in independent claim 1. With that in mind, it is unclear whether the “at least one anchoring means” in claim 10 is *in addition to* the “at least one anchoring means” in claim 1 or

the same “anchoring means.” Stated differently, it is unclear whether claim 10 requires *two or more* “anchoring means” or, instead, requires *one or more* “anchoring means.”³ For these reasons, we sustain the rejection of claim 10, as currently drafted, based on 35 U.S.C. § 112, second paragraph.

G. Claims 11–14 and 16

Claims 11–14 and 16 all depend, either directly or indirectly, from claim 10. Appeal Br., App. 1. Thus, we sustain the rejection of claims 11–14 and 16 based on 35 U.S.C. § 112, second paragraph, but only based on the sustained rejection of claim 10 on the same basis.⁴

Rejection 2 – The rejection of claims 1, 3–10, and 13–16 under 35 U.S.C. § 103(a)

For claim 1, the Examiner relied on Tuxhorn for the majority of the claim language, but stated that Tuxhorn “is silent on wherein said at least one floatation means is adapted to support the structure above the water surface at low-tide and below the water surface at high-tide” as recited at the beginning of the last clause of the claim (and shown with emphasis above). Non-Final Act. 5–6. The Examiner found, however, that “Hillird teaches floatation means are adapted to support a structure above the water surface at low-tide and below the water surface at high-tide.” *Id.* at 6 (citing Hillird

³ If claim 10 requires *one or more* “anchoring means”—as potentially indicated by Appellant’s citation to Figure 5A and 5B—Appellant may consider adding the term “said” prior to “at least one anchoring means” in claim 10 (similar to the uses of “said” elsewhere in claim 10) during further prosecution.

⁴ To the extent Appellant overcomes the rejection of claim 10 based on 35 U.S.C. § 112, second paragraph, the rejection of claims 11–14 and 16 on the same basis will likely be overcome.

¶ 39). According to the Examiner, “it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable length of Tuxhorn with the length of the tether lines 24 of Hillird to prevent excessive drifting during times of flooding.” *Id.*

Appellant argues that the modified device of Tuxhorn and Hillird would not satisfy the requirement that the “at least one floatation means is adapted to support said at least one structure substantially above the water surface at low-tide” as recited in claim 1.⁵ *See* Appeal Br. 13–16. In both the Office Action and the Answer, the Examiner cites paragraph 39 of Hillird for the “low-tide” limitation, but does not specifically identify the “structure” in Hillird that is allegedly supported “substantially above the water surface at low-tide.” Non-Final Act. 6; Examiner’s Answer dated December 31, 2018 (“Ans.”), at 4.

As an initial matter, we address the Examiner’s apparent position that the phrase “adapted to” indicates that the “low-tide” limitation is not entitled to patentable weight. The Examiner stated:

Regarding “adapted to,” it has been held that the recitation that an element is “adapted” to perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

Non-Final Act. 6. The Examiner does not identify support for this position, and binding Federal Circuit precedent stands in conflict. *See In re Giannelli*, 739 F.3d 1375, 1379–80 (Fed. Cir. 2014). Here, similar to the situation in *In re Giannelli*, the Specification makes clear that “adapted to” in the “low-tide” limitation requires that the recited “aquaculture assembly” is *designed or constructed* such that the “floatation means” supports the “structure

⁵ We refer to this claim language as the “low-tide” limitation.

substantially above the water surface at low-tide,” not that the assembly is merely *capable* of such use. See *Giannelli*, 739 F.3d at 1379–80; Spec. p. 2, ll. 1–6 (discussing certain needs in the market), p. 5, ll. 6–9 (“Aquaculture structure 20 may be supported at a height above the sea bed 8 such that it is partially or fully above water surface 12 during low tide, as illustrated in Figure 2A and partially or fully below water surface 5 during high tide, as illustrated in Figure 2B, thereby exposing structure 20 and its contents to artificial inter-tidal conditions.”), p. 8, ll. 32–35 (“Aquaculture structures such as oyster baskets or containers held above water at low-tide are submerged at high-tide (as shown in, for example, Figures 2A, 2B and 6 to 12). Depth adjustment of the system allows aquaculturalists to determine the amount of time the structures and their contents are out of water, allowing different amounts of inter-tidal exposure.”).

We now turn back to the Examiner’s reliance on Hillird as to the “low-tide” limitation. Having considered paragraph 39 and Figure 2 of Hillird (discussed in paragraph 39), we agree with Appellant that Hillird “does not disclose the capacity to lift a structure above the water surface at low-tide or at any time.” Appeal Br. 14.

We reproduce Figure 2 of Hillird below:

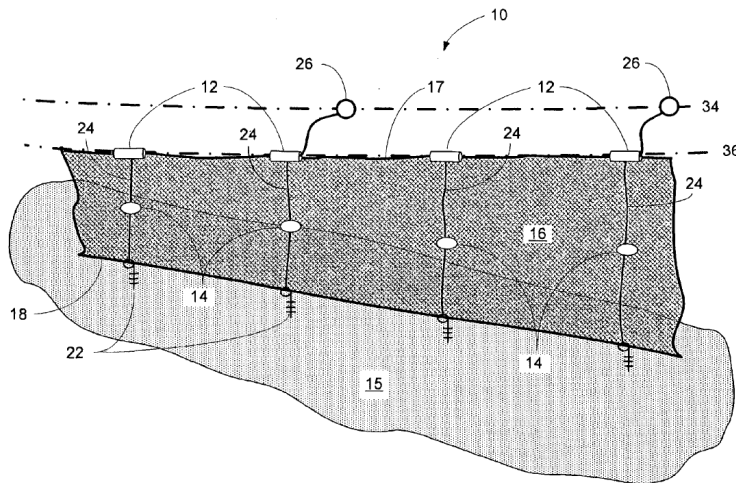


Fig. 2

Figure 2 depicts “a section of the porous groin [apparatus] having flo[at]ation supports, intermediate floatation supports, tether lines, seabed-anchors, marker floats, and showing the high [34] and low tide level [36] of the shoreline.” Hillird ¶¶ 25, 39. Assuming that the Examiner identified floatation supports 12 in Hillird as the recited “floatation means,” there is no “structure” that elements 12 support “substantially above the water surface.” Instead, as argued by Appellant, Hillird “teaches hanging structure *below* the floatation means.” Appeal Br. 13 (emphasis added), 14 (“The Examiner is misinterpreting the subject matter disclosed by Hillird. Hillird’s invention is a mesh net pinned to the sea bed and held in a vertical position *always to remain hanging under the water surface.*” (emphasis added) (citing Hillird Fig. 2, ¶ 15); *see also* Hillird ¶ 36 (discussing how floatation supports 12, and, optionally, intermediate floatation supports 14, support mesh net 16). Moreover, to the extent relied upon, marker floats 26 in Hillird support *themselves*; floats 26 are not supported by floatation supports 12. *See* Hillird ¶ 39 (disclosing that “[m]arker floats 26 are . . . tethered to the upper portion

of the mesh net 16”). For these reasons, the record does not support the Examiner’s reliance on Hillird for the “low-tide” limitation.

In the Answer, the Examiner appears to rely on Tuxhorn, in the alternative, for the “low-tide” limitation, stating: “In response to appellant’s argument that Tuxhorn cannot support the structure above the water surface[,] Tuxhorn teaches on page 1, column 2, and lines 1-5 that the apparatus (raft-like structure) is adapted to float with the rise and fall of the water.” Ans. 4. Figure 4 of Tuxhorn is reproduced below:

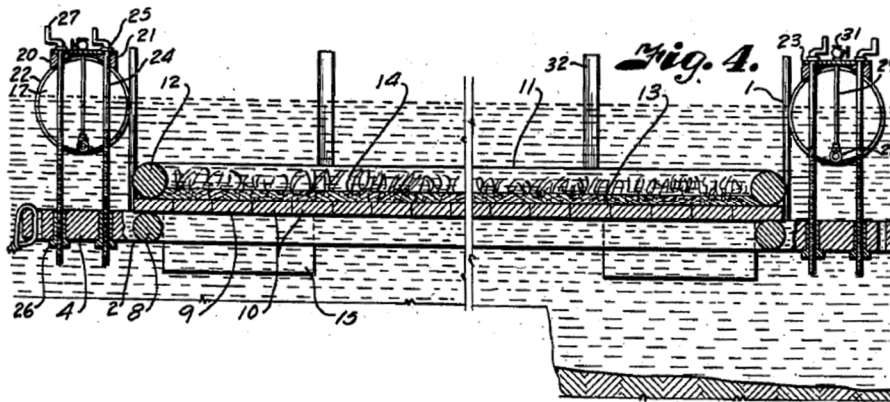


Figure 2 is an end elevational view of a “a submerged raft for containing soil, rocks and gravel necessary to the growth of aquatic plants and providing the necessary habitat for large fish during the spawning season and the propagation of the small fish.” Tuxhorn, p. 1, col. 2, ll. 21–26. As shown in Figure 4, certain portions of the identified “at least one structure” in Tuxhorn—raft 1 (*see* Non-Final Act. 5; Ans. 3)—appear to be located “substantially above” the water surface. *See also* Spec. p. 4, ll. 3–6 (defining “substantially above”). Even in the context of the Examiner’s alternative reliance on Tuxhorn for the “low-tide” limitation, however, we agree with Appellant that the modified device does not satisfy the requirement at the end of the final clause of claim 1, which recites “thereby

maintaining said aquaculture species under artificial inter-tidal conditions, due to tides.”⁶

We first address whether the “inter-tidal” limitation—which begins with the word “thereby”—is entitled to patentable weight. As stated by the United States Court of Appeals for the Federal Circuit, “[t]he normal rule is that a ‘whereby’ or ‘thereby’ clause that ‘merely states the result of the limitations’ in a claim does not limit the scope of the claim.” *McClarín Plastics, Inc. v. LRV Acquisition Corp.*, No. 98-1454, 1999 WL 507188, at *2 (Fed. Cir. July 12, 1999) (unpublished) (citing *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993)). A “thereby” clause may limit a claim, however, if it does more than merely state the result of other structural limitations, and instead specifies properties of recited structures. *Id.*

The Examiner appears to have determined that the “inter-tidal” limitation is not entitled to patentable weight. *See, e.g.*, Non-Final Act. 5–6 (not addressing the “inter-tidal” limitation). We determine that the “inter-tidal” limitation does limit claim 1 because it clarifies the relative position of the recited “aquaculture species” with respect to the “structure”—i.e., requiring that when the “structure” is supported “substantially above the water surface at low-tide, and at least substantially below the water surface at high-tide,” the “aquaculture species” are thereby maintained “under artificial inter-tidal conditions, due to tides.” *See, e.g.*, Spec. p. 5, ll. 6–9 (“Aquaculture structure 20 may be supported at a height above the sea bed 8 such that it is partially or fully above water surface 12 during low tide, as illustrated in Figure 2A and partially or fully below water surface 5 during

⁶ We refer to this claim language as the “inter-tidal” limitation.

high tide, as illustrated in Figure 2B, thereby exposing structure 20 *and its contents* to artificial inter-tidal conditions.” (emphasis added)).

Even assuming that aquatic plants 14 in Tuxhorn *are* an “aquaculture species”—an issue we understand Appellant contests (*see, e.g.*, Appeal Br. 13 (§ 17.1))—we agree with Appellant that aquatic plants 14 would not be maintained under “artificial inter-tidal conditions” in the alternative modified device (in which the Examiner relies on Tuxhorn for the “low-tide” limitation).⁷ *See* Appeal Br. 8 (arguing that “Tuxhorn and Hillird could not achieve the artificial intertidal conditions of the Present Invention viewed alone or in combination”). Instead, as argued by Appellant, in the context of the alternative modified device, aquatic plants 14 would be *constantly submerged* under the water surface, similar to the situation shown in Figure 4 of Tuxhorn (reproduced above). *See* Appeal Br. 11 (discussing how, in Tuxhorn, “air tanks 16–19 are designed to float on the surface of the water . . . to support the structure with aquatic plants in a constant submerged position as the water depth changes with the rise and fall of the water level”), 13 (discussing how the “floatation means of Tuxhorn are designed to hang the raft platform at a desired submerged level below the water surface” (citing Tuxhorn p. 1, col. 2, ll. 30–40)). For the reasons

⁷ With amendments filed January 12, 2015, the Specification expressly defines “artificial inter-tidal conditions” as “conditions produced outside the inter-tidal zone, which result from the periodic rise and fall of the sea level under the gravitational pull of the moon, imitating the naturally occurring conditions in the inter-tidal zone.” Request for Continued Examination and Amendments dated January 12, 2015, at 3; *see also* Spec. p. 5, ll. 6–9; p. 8, ll. 25–38 (discussing “artificial inter-tidal conditions” as relating to varying the level of submergence of the aquaculture species with the tides).

above, we do not sustain the rejection of claim 1, or the rejection of claims 3–10 and 13–16, which depend from claim 1.

*Rejection 3 – The rejection of claims 17–20
under 35 U.S.C. § 103(a)*

Claims 17–20 depend from claim 1. Appeal Br., App. 1. The Examiner’s added reliance on Cortiñas does not remedy the deficiencies in the rejection based on Tuxhorn and Hillird, discussed above, regarding claim 1 (*see supra* Rejection 2). Thus, for the same reasons discussed above, we do not sustain the rejection of claims 17–20.

CONCLUSION

We affirm in part the Examiner’s rejection of claims 1 and 3–20.

More specifically, we (1) *reverse* the decision to reject claims 5–9 under 35 U.S.C. § 112, second paragraph, (2) *affirm* the decision to reject claims 10–14, and 16 under 35 U.S.C. § 112, second paragraph, and (3) *reverse* the decision to reject claims 1, 3–10, and 13–20 under 35 U.S.C. § 103(a).

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
5–14, 16	112 ¶ 2	Indefiniteness	10–14, 16	5–9
1, 3–10, 13–16	103(a)	Tuxhorn, Hillird		1, 3–10, 13–16
17–20	103(a)	Tuxhorn, Hillird, Cortiñas		17–20
Overall Outcome			10–14, 16	1, 3–9, 15, 17–20

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TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART