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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAN WEBER, AIDEN FLANAGAN, and
TORSTEN SCHEUERMANN

Appeal 2015-001908
Application 13/216,371
Technology Center 3700

Before JOHN C. KERINS, STEFAN STAICOVICI, and LEE L. STEPINA,
Administrative Patent Judges.

KERINS, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Jan Weber et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–16 and 18–20. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

THE INVENTION

Appellants' invention relates to an endoprosthesis that includes a bioerodible magnesium alloy.

Claims 1, 9, and 16 are independent. Claim 1 is illustrative of the claimed invention and reads as follows:

1. A bioerodible endoprosthesis comprising:

a bioerodible magnesium alloy comprising magnesium, between 7 and 8 weight percent aluminum, between 0.4 and 0.8 weight percent zinc, between 0.05 and 0.8 weight percent manganese, and at least a first rare earth metal with the proviso that the bioerodible magnesium alloy includes no more than 0.8 weight percent of any rare earth metal.

THE REJECTIONS

The Examiner has rejected:

(i) claims 1–7 and 14 under 35 U.S.C. § 102(e) as being anticipated by Hort (US 2011/0172724 A1, published July 14, 2011);

(ii) claims 8–11, 13, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Hort in view of Boismier (US 2008/0082162 A1, published Apr. 3, 2008);

(iii) claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Hort in view of Boismier and Castro (US 6,716,444 B1, issued Apr. 6, 2004);

(iv) claims 16, 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Boismier in view of Hort; and

(v) claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Boismier in view of Hort and Castro.

The Examiner's rejection of claims 1–8, 11–16, and 18–20 under 35 U.S.C. § 112, second paragraph, as being indefinite is withdrawn by the Examiner. Ans. 8.

The Examiner notes that “the rejections of the Non-Final Office Action (based on Sillekens (WO 2010/093244 A2, published August 19, 2010)) are not currently being applied.” Ans. 10. In view of this, and because the Examiner does not list these rejections under the heading “NEW GROUNDS OF REJECTION,” we understand that no rejection using Sillekens as a reference is before the Board.

ANALYSIS

Claims 1–7 and 14--35 U.S.C. § 102(e), anticipation--Hort

Appellants argue claims 1–7 and 14 as a group. Appeal Br. 3–4. We take claim 1 as representative of the group with claims 2–7 and 14 standing or falling with claim 1.

Claim 1 recites, in part:

a bioerodible magnesium alloy comprising magnesium, between 7 and 8 weight percent aluminum, between 0.4 and 0.8 weight percent zinc, between 0.05 and 0.8 weight percent manganese, and at least a first rare earth metal with the proviso that the bioerodible magnesium alloy includes no more than 0.8 weight percent of any rare earth metal.

Appellants assert that “Hort does not disclose a particular alloy having each and every claimed element in the claimed range,” and rather, Hort discloses a broad list of possibly alloying constituents that broadly encompass the narrowly claimed ranges.” Appeal Br. 3. Appellants argue that “Hort’s broad disclosure of very broad ranges for each of aluminum, zinc, manganese, and rare earth metals does not disclose or suggest the very narrow and specifically claimed ranges with sufficient specificity for Hort to

anticipate claim 1.” *Id.* (citing MPEP § 2131.03(II) and *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999 (Fed. Cir. 2006)).

The Examiner responds that although “MPEP § 2131.03(II) does state claimed subject matter must be disclosed in a reference with ‘sufficient specificity’; it also goes on to suggests that (a) smaller range claimed within the larger range of a reference should be ‘critical.’” Ans. 9 (citing *ClearValue Inc. v. Pearl River Polymers Inc.*, 668 F.3d 1340 (Fed. Cir. 2012)). The Examiner notes that “in the current application, neither the claims nor the originally filed specification sets forth criticality for the specific weight percent range of elements in the magnesium alloy, as claimed.” *Id.* at 10. The Examiner specifically notes that for “rare earth metals, the specification gives multiple possible weight percent ranges used to make the magnesium alloy.” *Id.* (citing Spec. 6, ll. 7–22).

Appellants reply that “the Examiner’s demand of a showing of criticality for each of the claimed ranges is not supported by the case law surrounding anticipation.” Reply Br. 1. Appellants reiterate that “the claimed amounts of zinc and manganese fall outside of Hort’s preferred ranges and do not overlap any of Hort’s listed range end points.” *Id.* at 2. Appellants assert that “the specification is clear that alloys having amounts of aluminum, zinc, manganese, and rare earth metals produce improved corrosion rates (*see* Fig. 3) and improved mechanical properties (*see* Figs. 2A and 2B) as compared to other magnesium alloys having different percentages of aluminum, zinc, manganese, and rare earth metals.” *Id.* at 3. Appellants argue that “it is clear from the original claims that the Applicants considered the claimed amounts of aluminum, zinc, and manganese to be

critical for obtaining the improved corrosion resistance and improved mechanical properties.”¹ *Id.*

We disagree with Appellants’ assertion that the case law directed to anticipation of ranges does not require a showing of criticality. The case upon which Appellants rely, *Atofina*, was decided in 2006. The Federal Circuit subsequently decided *ClearValue* in 2012 and discussed *Atofina* therein stating that, in *Atofina*, “the evidence showed that one of ordinary skill would have expected the synthesis process to operate differently outside the claimed temperature range, which the patentee described as ‘critical’ to enable the process to operate effectively.” *ClearValue*, 668 F.3d at 1345. The *ClearValue* decision also stated that because of “this ‘considerable difference’ between the prior art’s broad disclosure and the ‘critical’ temperature range claimed in the patent, we held that ‘no reasonable fact finder could conclude that the prior art describes the claimed range with sufficient specificity to anticipate this limitation of the claim.’” *Id.* (citing *Atofina*, 441 F.3d at 999). Subsequent to deciding *ClearValue*, in 2015, the Federal Circuit decided *Ineos USA LLC v. Berry Plastics Corp.*, 783 F.3d 865 (2015). In *Ineos*, the court discussed both *Atofina* and *ClearValue*, and with respect to *Atofina*, stated that “[k]ey to this conclusion

¹ We note that certain of the information in the Specification upon which Appellants rely for these arguments (Tables I and III, and Figure 2A) is identical to information found in an article by Erinc et al. (*Modified AZ80 magnesium alloys for biomedical applications*, Magnesium Technology (2010)) that is of record in the case, and which was submitted by Appellants with an IDS on Nov. 23, 2011. We do not see in the record any indication that a determination was made as to whether or not this article is prior art to the present application.

[of no anticipation] was the fact that the evidence showed that a person of ordinary skill in the art would have expected the synthesis reaction to operate differently, or not all, outside of the temperature range claimed in the patent-in-suit.” *Ineos*, 783 F.3d at 869 (citing *Atofina*, 441 F.3d at 999; see also *ClearValue*, 668 F.3d at 1345). The *Ineos* decision characterized the *ClearValue* decision as “explain[ing] the importance of establishing the criticality of a claimed range to the claimed invention in order to avoid anticipation by a prior art reference disclosing a broader, overlapping range.” *Ineos*, 783 F.3d at 870. In *Ineos*, the court stated that “when the prior art discloses a range, rather than a point, the court must evaluate whether the patentee has established that the claimed range is critical to the operability of the claimed invention.” *Ineos*, 783 F.3d at 871.

Here, like in *ClearValue* and *Ineos*, the claimed ranges are entirely within the ranges disclosed by Hort. Specifically, claim 1 recites aluminum “between 7 and 8 weight percent” and Hort discloses “a quantity of 0 to 15 wt.-%, more preferably 1 to 10 wt.-%.” Appeal Br. 8 (Claims App.); Hort, para. 8. Claim 1 recites zinc “between 0.4 and 0.8 weight percent” and Hort discloses “a quantity of 0 to 7 wt.-%.” *Id.* Claim 1 recites manganese “between 0.05 and 0.8 weight percent” and Hort discloses “a quantity of 0 to 5 wt.-%.” *Id.* Claim 1 recites “at least a first rare earth metal earth metal” and “no more than 0.8 weight percent of any rare earth metal,” and Hort discloses “a quantity of 0 to 5 wt.-%, particularly preferably in a quantity of 0.1 to 3 wt.-%.” *Id.*

Appellants’ assertion that the Specification shows improved corrosion rates and improved mechanical properties in the claimed ranges is based on

a comparison of alloys within the claimed ranges to alloys that are quite different from ones falling within the scope of the claims and within the ranges set forth in Hort. In particular, the comparison examples in Table II of the Specification appear to be devoid of aluminum, and several (L1c, L1d, L1e) are devoid of rare earth metals. Any demonstrated differences in material properties set forth in the Specification thus are not probative of any criticality of the narrower claimed ranges within the broader ranges disclosed in Hort. The same is true for Appellants' argument that the presence of the same ranges in the original claims is evidence of criticality—any improvement in properties believed at the time of filing to distinguish alloys having the claimed ranges of elements is as compared to considerably different alloys.

Appellants have not persuasively established that any of the disclosed properties for alloys within the claimed ranges differ from properties of alloys having compositions within the broader ranges disclosed by Hort. *See Ineos*, 783 F.39 at 870. As such, Appellants have not adequately established the criticality of the recited ranges and thus, we agree with the Examiner that Hort anticipates claim 1. Accordingly, we sustain the rejection under 35 USC § 102(e) of claims 1–7 and 14 as being anticipated by Hort.

Claims 8–11, 13, and 15--Obviousness--Hort and Boismier

Claims 16, 18, and 19--Obviousness--Boismier and Hort

Independent claim 9 recites, in part, “a bioerodible magnesium alloy comprising magnesium, between 7 and 8 weight percent aluminum, between

0.4 and 0.8 weight percent zinc, between 0.05 and 0.8 weight percent manganese.” Independent claim 16 recites, in part,

a bioerodible magnesium alloy comprising magnesium, between 7 and 8 weight percent aluminum, between 0.4 and 0.8 weight percent zinc, between 0.05 and 0.8 weight percent manganese, and at least a first rare earth metal with the proviso that the bioerodible magnesium alloy includes no more than 0.8 weight percent of any rare earth metal.

Appellants argue that because “a skilled artisan would have had no reason to select the particularly claimed percentages for each of aluminum, zinc, and manganese in a magnesium alloy based on Hort’s very broad disclosure of broad ranges for each element, and because “Boismier is cited for disclosing a coating, not for providing a reason to select the claimed amounts of aluminum, zinc, and manganese in Hort’s magnesium alloy,” the combined teachings of Hort and Boismier also does not render obvious claims 8–11, 13, 15, 16, 18, and 19. Appeal Br. 4–5.

For the reasons discussed above, Appellants do not apprise us of Examiner error with respect to the Examiner’s finding that Hort anticipates the recited ranges in a bioerodible magnesium alloy. Nor do Appellants adequately explain why the combined teachings of Hort and Boismier do not disclose a coating as recited in the claims. Likewise, Appellants do not adequately explain why the Examiner’s rationale for combining the teachings of the references is in error. Accordingly, we are not apprised of Examiner error in the rejection of claims 8–11, 13, 15, 16, 18, and 19 as being unpatentable over Hort and Boismier. The rejection is sustained as to those claims.

Claim 12--Obviousness--Hort/Boismier/Castro

Claim 20--Obviousness--Boismier/Hort/Castro

Appellants present no additional arguments directed to the separate patentability of claims 12 and 20. Appeal Br. 15; *see also* Reply Br. 3. For the reasons set forth above in the analysis directed to the combination of Hort and Boismier, the rejection of claim 12 as being unpatentable over Hort in view of Boismier and Castro, and the rejection of claim 20 as being unpatentable over Boismier in view of Hort and Castro are sustained.

DECISION

The rejection of claims 1–7 and 14 under 35 U.S.C. § 102(e) as being anticipated by Hort is affirmed.

The rejection of claims 8–11, 13, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Hort in view of Boismier is affirmed.

The rejection of claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Hort in view of Boismier and Castro is affirmed.

The rejection of claims 16, 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Boismier in view of Hort is affirmed.

The rejection of claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Boismier in view of Hort and Castro is affirmed.

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