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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES MICELI, JASON DANIEL, and PAOLO FERABOLI

Appeal 2019-003349
Application 15/399,662
Technology Center 3700

Before DANIEL S. SONG, BENJAMIN D. M. WOOD, and BRETT C. MARTIN, *Administrative Patent Judges.*

SONG, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–15 and 21. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as EPOCH LACROSSE, LLC. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a lacrosse head with fiber reinforcement. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A lacrosse head comprising:
> a scoop;
> a throat;
> a pair of unbroken opposed sidewalls arranged to interconnect the scoop to the throat, each sidewall having an average thickness of about 0.020 inches to 0.20 inches, the pair of unbroken opposed sidewalls being continuous, and having an interior edge and an exterior edge; and
> a hub connected to the throat, the hub including a socket configured to receive a stick,
> wherein at least one of the scoop, throat, pair of opposed sidewalls, and hub comprise a matrix material embedded with a plurality of substantially randomly dispersed reinforcing fibers.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Guibaud	US 6,440,009 B1	Aug. 27, 2002
Filice	US 7,238,128 B1	July 3, 2007
Velasquez	US 2006/0154755 A1	July 13, 2006
Tucker	US 7,491,141 B1	Feb. 17, 2009
Hayden	US 2011/0136599 A1	June 9, 2011
Janisse	US 2014/0103566 A1	Apr. 17, 2014
Goldstein	US 2015/0018136 A1	Jan. 15, 2015
Boggs	US 2016/0310809 A1	Oct. 27, 2016

REJECTIONS

1. Claim 15 is rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. Final Act. 2.

2. Claim 14 is rejected under 35 U.S.C. § 112(b) as being indefinite. Final Act. 3.

3. Claims 1, 2, 4, and 6–13 are rejected under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs and Janisse. Final Act. 3.

4. Claims 3 and 5 are rejected under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, and Guibaud. Final Act 8.

5. Claim 14 is rejected under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, and Hayden. Final Act. 10.

6. Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, and Filice. Final Act. 11.

7. Claim 21 is rejected under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, Guibaud, and Tucker. Final Act. 12.

OPINION

Rejection 1: Written Description

The Examiner rejects claim 15 for failing to comply with the written description requirement. Final Act. 2. Claim 15 depends from claim 1 and recites "further including a plurality of bores within at least one of the scoop, throat, and pair of sidewalls, wherein the plurality of bores are filled with an elastomeric material." Appeal Br. 29, Claims App.

As to the recitation "elastomeric material," the Appellant argues, *inter alia*, that support is provided by the Specification, which discloses that "the hollow void space may be filled with an alternate matrix, such as a rubberized epoxy." Appeal Br. 8, citing Spec. ¶ 80; *see also* Reply Br. 5.

The Examiner concedes that paragraph 27 of the Specification discloses an "exemplary matrix" formed from various materials that are a thermoset or thermoplastic, and that "one of ordinary skill may recognize that 'an elastomeric material' is a thermoset or thermoplastic," but finds that "there is no factual evidence providing a nexus that the disclosed 'exemplary matrix' is the same thing as the claimed 'elastomeric material.'" Ans. 3.

However, the Examiner addresses the "exemplary matrix" disclosed in paragraphs 27 and 40 pertaining to the matrix for the lacrosse head, rather than the "alternate matrix" for the hollow void space. As pointed out by the Appellant, the Specification discloses an alternate matrix specifically for filling the hollow void space, namely "rubberized epoxy, with excellent flexural properties." Spec. ¶ 80. Accordingly, we agree with the Appellant that this disclosure provides adequate written descriptive support for the "elastomeric material" recited in claim 15.

As to the recitation "plurality of bores," the Appellant argues that the Specification disclose "precision drilling" to form the hollow void space, and "[o]ne of ordinary skill would have recognized that processes such as drilling result in bores." Appeal Br. 8–9, citing Spec. ¶ 78. In response, the Examiner points out that the Specification discloses "a hollow void space," which is singular, and not a plurality. Ans. 3. However, as the Appellant correctly points out, the Specification "states that the 'hollow void space' may be formed by 'removal of material at discretely controlled location**s**,' where [']locations[*'*] is plural." Reply Br. 5, citing, Spec. ¶ 78. Accordingly, we agree with the Appellant that this disclosure provides written descriptive support for the recited "plurality of bores."

Therefore, in view of the above, we reverse the written description rejection of claim 15.

Rejection 2: Indefiniteness

The Examiner rejects claim 14 as being indefinite. Final Act. 3. Claim 14 depends from claim 1 and recites "further including a pair of arms dimensioned to receive the stick such that the pair of arms facilitates flexural bending in a region corresponding to a junction between the pair of arms and the lacrosse stick." Appeal Br. 29, Claims App. The Examiner determines that "it is unclear how the pair of arms structurally facilitates flexural bending between the arms and the stick." Final Act. 3. We agree.

The Appellant argues that the Specification discloses that "'a natural flex location may be created by way of the discontinuity **and arms 83, 85**'. . . . Accordingly, 'the pair of arms facilitates flexural bending' by the placement of the arms with respect to the discontinuity." Appeal Br. 9, citing Spec. ¶ 84. However, we agree with the Examiner that "it appears, that the arms in claim 14 would be an alternate embodiment of the hub including a socket of claim 1, [but] claim 14, which is dependent on claim 1 would require both when the claim is read as whole, thereby making the metes and bounds of the claim indefinite." Ans. 4; *see* Spec. ¶ 84 ("Fig. 8C is a representation of an alternate lacrosse head.").

The Appellant explains that "Paragraph [0084] refers to 'the hub 11 and socket 13 of FIG. 3' being '**modified**' (emphasis added) but does not **remove** the hub and socket. Because claim 1 only requires 'a hub connected to the throat, the hub including a socket configured to receive a stick,' and because the embodiment of FIG. 8C still includes these features, the

Examiner's interpretation is improper." Reply Br. 6. However, Figure 8C does not illustrate a hub or a throat. Nor is it apparent how the recited arms would facilitate flexural bending between the arms and the stick when the arms are connected to the throat and hub as apparently alleged by the Appellant, and the stick is received in the socket (as required by claim 1), as well as the pair of arms (as required by claim 14).

Therefore, in view of the above ambiguities, we affirm the Examiner's indefiniteness rejection of claim 14.

Rejection 3: Goldstein in view of Boggs and Janisse

Claims 1, 2, 4, and 6–13 are rejected as being unpatentable over Goldstein in view of Boggs and Janisse. Final Act. 3. As to independent claim 1, the Examiner finds that Goldstein discloses the invention substantially as claimed, except for the recited "average thickness of about 0.020 inches to 0.20 inches" for each sidewall, and the reinforcing fiber being "substantially randomly dispersed." Final Act. 3–4. The Examiner relies on Boggs to conclude that it would have been obvious to a person of ordinary skill in the art to have modified the lacrosse head of Goldstein to use substantially randomly dispersed reinforcing in order "provide lightweight reinforcement and provide a faster swing speed." Final Act. 4, citing Boggs ¶¶ 41, 43. The Appellant does not dispute this aspect of the rejection.

The Examiner also concludes that it would have been obvious to a person of ordinary skill in the art to have further modified the lacrosse head of Goldstein in view of Janisse to provide sidewalls having an average thickness of about 0.02 to 0.2 inches to attain the desired flexibility and

strength characteristics as taught in Janisse. Final Act. 4, citing Janisse ¶ 99. The Examiner also explains that the thickness range is a matter of determining a workable or optimal range attainable by routine experimentation, which would not have produced unexpected results. Final Act. 4–5. The Appellant challenges this aspect of the rejection. We agree with the Examiner.

The Appellant argues that in Janisse, the sidewall support rails are separate from the sidewalls, and are disclosed as being "**along the sidewalls**" such that they cannot be a "pair of unbroken opposed sidewalls" as recited. Appeal Br. 12; *see also* Reply Br. 8 (the Examiner "conflates the support rail with a sidewall."). The Appellant argues that the portion of Janisse relied upon discloses thickness of support rails, but does not disclose thickness of the sidewalls themselves. Appeal Br. 12; *see also* Reply Br. 6–7. Thus, the Appellant argues that the rejection "applies the thickness of the support rails of *Janisse* to a distinct component of *Janisse*—the sidewalls themselves." Appeal Br. 12.

However, we agree with the Examiner that "the sidewall support rails are part of the sidewall structure and are one continuous molded piece and not broken into pieces." Ans. 4; *see also* Ans. 5 ("the sidewall support rails can be interpreted as part of the sidewall since the plain and ordinary meaning of sidewall is given to the term and since the support rail is part of the sidewall region, it is interpreted to be a part of the sidewall, since a sidewall is just a wall that serves as the side of a structure, in this case the lacrosse head and since the sidewall rail serves as the side of the structure, it

is therefore interpreted to be part of the sidewall.").[2] Indeed, Janisse itself alternatively refers to the support rails 14 and 16 as "sidewall **14** . . . sidewall **16**." Janisse ¶ 110. Accordingly, we agree with the Examiner that the support rails of Janisse is just a specific part of the sidewall.

In addition, the support rails of Janisse are joined to the lacrosse head to form the lacrosse head with a continuous, unbroken sidewall structure. Janisse ¶¶ 89 ("the [molded] pocket can include . . . support rail **14**, **16**"); 91 ("the pocket **10** is joined with the lacrosse head **20**"); *see also id.* at ¶ 90 (describing the pocket being "molded over by a lacrosse head to join to the lacrosse head" or "molding the molded pocket **10** to a lacrosse head or frame with a particular mold.").

The Appellant argues that "even if the Examiner [was] correct that the support rails are **part** of the sidewall, this does not result in the claimed . . . average thickness . . . because *Janisse* only discloses a thickness for the support rails, an alleged **part** of the sidewall." Appeal Br. 13. Accordingly, the Appellant argues that "there is no disclosure or suggestion of what the average thickness for the **whole** sidewall would be, because there is no disclosure or suggestion identifying the average thickness for the **other parts**." Appeal Br. 13. The Appellant further argues that the Examiner's conclusion as to the thickness of the sidewall is "conclusory" and "without any evidentiary support or citation to the references." Reply Br. 7.

We are not persuaded by this argument. The Appellant's arguments are essentially premised on requiring explicit disclosure stating that the entire sidewall has the recited thickness, and does not consider what would

[2] We note that Goldstein also supports this plain and ordinary interpretation in its identification of sidewall 115. *See* Goldstein, Fig. 1.

have been obvious to one of ordinary skill in the art. *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 418–19 (2007) ("the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim" and "obviousness analysis cannot be confined . . . by overemphasis on the importance of published articles and the explicit content of issued patents.").

As the Examiner concludes, it would have been obvious to a person of ordinary skill in the art to have used the thickness disclosed for the support rails, which is part of the sidewall, as the thickness for the entirety of the sidewall. Ans. 4. Indeed, it cannot be reasonably disputed that in implementing the lacrosse head of Goldstein, a person of ordinary skill would have to consider what the thickness of the sidewall should be, and in view of the thickness disclosed in Janisse with respect to a part of the sidewall, it would make sense for one of ordinary skill in the art to have made the thickness of the entirety of the sidewall accordingly as well.

Moreover, as the Examiner also explains, the thickness range is a matter of determining a workable or optimal range, which is attainable by routine experimentation. Final Act. 4–5. Indeed, as the Examiner points out, "motivation of applying a certain thickness is to acquire the desired flexibility and strength characteristics." Ans. 4, citing Janise ¶ 99; *see also* Ans. 5. This cited portion of Janisse discloses that the thickness can be predetermined "depending upon the desired flexibility and/or strength characteristics around the perimeter **15** of the molded pocket **10**," thereby establishing that it was well-known that thickness is a variable that impacts flexibility and strength, and that it was well-known to select the thickness based on the desired flexibility and/or strength. *See* Janisse ¶ 99. In that

regard, the discovery of an optimum value of a result effective variable is ordinarily within the skill of the art. *See In re Boesch*, 617 F.2d 272, 276 (CCPA 1980); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955); *see also In re Kumar*, 418 F.3d 1361, 1366 (Fed. Cir. 2005).

Therefore, in view of the above, we affirm the Examiner's rejection of independent claim 1. The Appellant relies on dependency on claim 1 for patentability of claims 2–15. Appeal Br. 14. Thus, the Examiner's rejection of claims 2, 4, and 6–13, which are subject to this rejection, is also affirmed.

Rejection 4: Goldstein in view of Boggs, Janisse, Velasquez, and Guibaud

Claims 3 and 5 are rejected as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, and Guibaud. Final Act 8. Claims 3 and 5 require at least one sacrificial weight embedded within the scoop, throat, and/or pair of sidewalls, "the sacrificial weight being integrally embedded with the matrix material such that the sacrificial weight orients a center of gravity of the lacrosse head relative to the central portion of the mesh webbing." Appeal Br. 27, Claims App.

The Examiner finds that Velasquez teaches that "it is known to have a weight positioned on a lacrosse head," and that although Velasquez does not explicitly disclose embedding the sacrificial weight, such embedding would have been a matter of making the weights integral instead of it being separate, which is a matter of obvious engineering choice. Final Act. 9. The Examiner also finds that although Velasquez does not teach the weight being embedded to orient the center of gravity, Guibaud nonetheless "teaches the sacrificial weight being integrally embedded with the matrix material such that the sacrificial weight orients a center of gravity (Col. 5 Lns. 51–55) of

the lacrosse head relative to the central portion of the mesh webbing." Final Act. 9. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to have further modified the lacrosse head of Goldstein in view of Velasquez and Guibaud "to properly orient the center of gravity using a weight." Final Act. 9, citing Guibaud, col. 5, ll. 51–55. The Examiner explains that "an embedded weight or a separable weight would provide the same function of weighting the lacrosse head in a desired manner, and therefore would be a matter of obvious engineering choice," and that embedding would have "simplif[ied] the construction of the device." Ans. 6.

The Appellant points out that "*Velasquez* is directed to a strength-training device that is temporarily attached to a lacrosse stick for training purposes—i.e., not 'integrally embedded,'" and that the rejection ignores Velasquez's teachings as a whole that disclose a removable weight, which allows the player to use their own stick, and use different weights for training purposes. Appeal Br. 15. The Appellant further argues that Guibaud does not suggest integrally embedding the weight within the lacrosse head as recited by these claims because the weights in Guibaud are not embedded in the golf club head, but are embedded in a housing that is removably mounted to the golf club head. Appeal Br. 18.

We find the Appellant's arguments persuasive. Velasquez discloses a training weight attachable to a lacrosse head using hook/loop fastening straps, and which is removable from the lacrosse head when not being used. *See* Velasquez, Abstract; Fig. 1; ¶ 2. It is not apparent why a person of ordinary skill in the art would have considered embedding such a training weight to a lacrosse head such that it is no longer removable. In addition, as

the Appellant argues, the weight in Guibaud is embedded in a housing 13 that is removably mounted to the golf club head 1, and not within the golf club head itself. Guibaud Abstract; Figs. 6, 11.

The Examiner responds that "the term embedded simply means that an object is within a surrounding mass, and does not limit to the object being non-removable." Ans. 6. Even if this definition is correct, Guibaud is clear that its weights are embedded in the removably mounted housing 13, and not in the golf club head 1. The Examiner also explains that "Guibaud is not necessarily physically combined," and that it "discloses the concept of using a weight to adjust a center of gravity of a sports device, and one of ordinary skill in the art would readily recognize that this concept can be applied to orienting a center of gravity of a lacrosse head." Ans. 6–7. However, such explanation is not sufficient to address the claim language, considering that the disclosure of Velasquez discloses a non-embedded weight and Guibaud discloses weights not embedded in the head of the golf club. In summary, the Examiner's reliance on Velasquez further in view of Guibaud, and the articulated reasoning is strained and appears to be based on impermissible hindsight.

Therefore, in view of the above considerations, we reverse the Examiner's rejection of claims 3 and 5. The remaining arguments of the Appellant, relative to Velasquez (that the rejection changes the principle of operation of Velasquez and renders it inoperable) and Guibaud (that it is not analogous art, and does not orient the center of gravity of a lacrosse head) are moot. Appeal Br. 16–18; Ans. 6–7; Reply Br. 9–10.

Rejection 5: Goldstein in view of Boggs, Janisse, and Hayden

Claim 14 depends from claim 1, and is rejected as being unpatentable over Goldstein in view of Boggs, Janisse, and Hayden. Final Act. 10. The Examiner relies on Hayden for disclosing a pair of arms to conclude that claim 14 would have been obvious. Final Act. 10–11. However, because claim 14 fails to satisfy the requirements of the second paragraph of 35 U.S.C. § 112, we are constrained to reverse, *pro forma*, this prior art rejection because it is necessarily based on speculative assumptions as to the scope of the claim. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (holding that the Board erred in affirming a rejection of indefinite claims because the rejection was based on speculative assumptions as to the meaning of the claims). The Appellant's arguments regarding the function of Hayden's arms and asserted lack of discontinuity are moot. Appeal Br. 21; Reply Br. 11–12.

Rejection 6: Goldstein in view of Boggs, Janisse, and Filice

Claim 15 depends from claim 1, and is rejected as being unpatentable over Goldstein in view of Boggs, Janisse, and Filice. Final Act. 11. The Examiner finds that Filice discloses the recited plurality of bores that are filled with an elastomeric material as recited by claim 15, and concludes that it would have been obvious to one of ordinary skill in the art to have modified the lacrosse head of Goldstein in view of Filice "to provide increased flexibility and resilience while retaining lateral stiffness." Final Act. 11, citing Filice, col. 7, l. 60–col. 8, l. 13. The Examiner explains that "Filice discloses tendons 346 preferably made of rubber or the like

stretchable and compressible elastomeric material (Col. 6 Lns. 35-30) and caps which fill in the void space are also made of elastomeric material (Col. 6 Lns. 52-55) and therefore, do suggest the void spaces are filled with elastomeric material as claimed." Ans. 7–8.

The Appellant argues that "even if recessed regions of a sidewall were 'bores,' . . . nothing in *Filice* discloses or suggests that [] recessed regions 'are filled with an elastomeric material,' as recited in claim 15." Appeal Br. 23. In particular, the Appellant argues that "[t]he caps of *Filice* do **not** fill 'recessed or depressed frame/sidewall regions 370 and 380' but instead are 'seated and snapped **over the top** of the respective recessed aft frame/sidewall regions 370 and 380.'" Reply Br. 13, quoting Filice, col. 6, ll. 20–21 and 65–67.

We are not persuaded by the Appellant's argument. The Examiner has explained that the elastomeric tendons and elastomeric caps together fill the void space. Accordingly, the Appellant's argument does not adequately address the actual rejection made. Therefore, we affirm this rejection of claim 15.

Rejection 7: Goldstein in view of Boggs, Janisse, Velasquez, Guibaud, and Tucker

Independent claim 21 is rejected as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, Guibaud, and Tucker. Final Act. 12. In addition to relying on these references as discussed above, the Examiner further relies on Tucker for its teaching of "the exterior edge being coated with a resilient material" to conclude that claim 21 would have been obvious. Final Act. 13–14, citing Tucker, col. 4, ll. 55–60.

The Appellant relies on the limitations regarding sidewall thickness, and at least one sacrificial weight recited in claim 21. Appeal Br. 24. The Examiner's application of Tucker in this rejection does not address the deficiency of the application of Velasquez and Guibaud as discussed above relative to Rejection 4. Therefore, we reverse this rejection of claim 21 for reasons discussed above relative to Rejection 4.

CONCLUSION

The Examiner's rejections are affirmed in part. More specifically,

1. The rejection of claim 15 under 35 U.S.C. § 112(a) is reversed.

2. The rejection of claim 14 under 35 U.S.C. § 112(b) is affirmed.

3. The rejection of claims 1, 2, 4, and 6–13 under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs and Janisse is affirmed.

4. The rejection of claims 3 and 5 under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, and Guibaud is reversed.

5. The rejection of claim 14 under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, and Hayden is reversed.

6. The rejection of claim 15 under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, and Filice is affirmed.

7. The rejection of claim 21 under 35 U.S.C. § 103 as being unpatentable over Goldstein in view of Boggs, Janisse, Velasquez, Guibaud, and Tucker is reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
15	112	Written Description		15
14	112	Indefiniteness	14	
1, 2, 4, 6–13	103	Goldstein, Boggs, Janisse	1, 2, 4, 6–13	
3, 5	103	Goldstein, Boggs, Janisse, Velasquez, Guibaud		3, 5
14	103	Goldstein, Boggs, Janisse, Hayden		14
15	103	Goldstein, Boggs, Janisse, Filice	15	
21	103	Goldstein, Boggs, Janisse, Velasquez, Guibaud, Tucker		21
Overall Outcome			1, 2, 4, 6–15	3, 5, 21

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