

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL J. SULLIVAN

Appeal 2007-1970
Application 10/167,744
Application Technology Center 1700

Decided: August 13, 2007

Before CHARLES F. WARREN, CHUNG K. PAK, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL
AND ORDER REMANDING TO THE EXAMINER

This is an appeal from the Examiner's final rejection of claims 1-11, 19, 21-30, and 32-34. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).¹

Appellants' invention relates to a multilayer golf ball with multiple cover layers having essentially the same hardness to combine the benefits of

¹ An oral hearing was held on July 11, 2007.

a harder, stiffer, more resilient ball with a softer, more responsive ball. More particularly, the invention relates to a golf ball with at least two covers, e.g., an inner cover and an outer cover, wherein the layers have the same Shore hardness, at least one cover layer is formed of a polymer blend including a polyurethane composition, and at least one cover layer is formed of a different polymer blend. The invention further relates to a golf ball having a core and two or more cover layers, wherein the multiple cover layers are formed from materials that are substantially the same composition with the same Shore hardness, but are modified in some way to alter the processing or performance characteristics of the golf ball (Specification [0001]). Independent Claims 1 and 19 are reproduced below:

1. A golf ball comprising:

a core;

a cover disposed about the core, comprising:

an inner cover layer formed from a first composition having a first hardness and a first coefficient of friction; and

an outer cover layer formed from a second composition having a second hardness and a second coefficient of friction, wherein the second hardness differs from the first hardness by about 5 points or less, and wherein the second coefficient of friction is greater than the first coefficient of friction.

19. A golf ball comprising:

a core;

a cover disposed about the core, comprising:

an inner cover layer formed from a first composition having a first hardness and a first flexural modulus; and

an outer cover layer formed from a second composition having a second hardness and a second flexural modulus, wherein the second hardness differs from the first hardness by about 5 points or less,

wherein the first and second flexural moduli are substantially similar at ambient temperature, and wherein the second flexural modulus differs from the first flexural modulus at temperatures above or below ambient.

The Examiner relies on the following prior art references to show unpatentability:

Maruko	US 5,704,853	Jan. 6, 1998
Sullivan	US 6,394,914 B1	May 28, 2002

The Examiner made the following rejections:

1. Claims 19, 21-30, and 32-34 under 35 U.S.C. § 102(a, e) as anticipated by Sullivan;
2. Claims 1-10 under 35 U.S.C. § 102(a, e) as anticipated by or under 35 U.S.C. § 103(a) as obvious over Sullivan; and
3. Claim 11 under 35 U.S.C. § 103(a) as obvious over Sullivan in view of Maruko.

ISSUES

- I. The Examiner contends that Sullivan inherently anticipates claims 1-10, 19, 21-30, and 32-34. Appellant contends that the Examiner has failed to establish that Sullivan's golf ball necessarily has the claimed characteristics of flexural modulus, contact angles, and coefficient of

friction. The issue before us is: Has the Examiner made sufficient factual findings to establish that each and every claim limitation is found either expressly or inherently in Sullivan? For the reasons discussed below, we answer this question in the negative.

II. The Examiner contends that it would have been a matter of routine optimization to select materials for use in the cover layers of Sullivan and thereby achieve the features recited in claims 1-11. Appellant contends that the Examiner's finding of obviousness is based on an improper obvious-to-try rationale. The issue before us is: Has the Examiner provided a reasonable basis to conclude that one of ordinary skill in the art would have been motivated to select materials for the inner and outer cover layers such that the resultant golf ball would have the claimed features? For the reasons discussed below, we answer this question in the affirmative.

RELEVANT FINDINGS OF FACT

- 1) The Specification teaches that when the same compositions are used in both the inner and the outer cover layers, the processing or performance characteristics of the golf ball may be modified by the addition of additives to the inner and/or outer cover layers. The additives modify properties such as color, coefficient of friction, specific gravity, dynamic modulus, or other dynamic mechanical properties, resiliences, wettabilities, melting or softening points, melt flow properties, abrasion resistances, natural frequencies, tear resistances, tensile yield strengths, or combinations thereof that can advantageously

improve processing or performance characteristics, while still maintaining the same hardness for each material layer composition (Specification 7:7-13).

- 2) The Specification teaches that coefficient of friction may be adjusted by the addition of fillers (Specification 8:34). A list of exemplary fillers is provided on page 9 of the Specification.
- 3) According to the Specification, fillers such as “zinc oxide, barium sulfate, flakes, fibers, and regrind, may be used to modulate the flexural moduli of any given cover layer, while having little to no effect on the hardness of the layer” (Specification 10:21-23).
- 4) Sullivan discloses a golf ball comprising a core, an inner cover, and an outer cover.
- 5) Sullivan discloses examples of golf balls in which the same ionomers are used for the inner and outer cover layers. Sullivan indicates that a mix of additives has been added to the outer cover layers. The Shore D hardness is the same for both inner and outer cover layers:

Example 2 (Table 10): The inner cover is 50 ppm Iotek 1002 and 50 ppm Iotek 1003. The inner cover has a thickness of 0.045. The outer cover is 45.3 ppm Iotek 1002, 45.3 ppm Iotek 1003, and 9.4 ppm TG MB.² The outer cover has a thickness of 0.055. The Shore D hardness of both inner and outer covers is 71.

² “TG MB = top grade master batch; a mix of additives including coloring materials and fillers added to the cover composition to achieve the desired

Example 3 (Table 10): The inner cover is 50 ppm Iotek 7510 and 50 ppm Iotek 7520. The inner cover has a thickness of 0.045. The outer cover is 45.3 ppm Iotek 7510, 45.3 ppm Iotek 7520, and 9.4 ppm TG MB. The outer cover has a thickness of 0.055. The Shore D hardness of both inner and outer covers is 47.

- 6) Sullivan discloses that in a particularly preferred form of the invention, at least one of the inner, intermediate, and outer cover layers contains a filler. The filler is preferably used to adjust the density, flex modulus, mold release, and/or melt flow index of the cover layer (col. 10, ll. 39-44).
- 7) Sullivan states that “[t]he filler preferably is selected from the group consisting of precipitated hydrated silica, clay, talc, asbestos, glass fibers, aramid fibers, mica, calcium metasilicate, barium sulfate, zinc sulfide, lithopone, silicates, silicon carbide, diatomaceous earth, polyvinyl chloride, carbonates, metals, metal alloys, tungsten carbide, metal oxides, metal stearates, particulate carbonaceous materials, micro balloons, and combinations thereof” (col. 11, ll. 58-65).

color, weight and other characteristics of the finished product” (Sullivan, US 6,368,236 and US 6,142,886).

ANALYSIS AND CONCLUSIONS

I. *Anticipation Rejections* - Has the Examiner made sufficient factual findings to establish that each and every claim limitation is found either expressly or inherently in Sullivan?

A reference is anticipatory within the meaning of § 102 if it discloses each and every claim limitation either expressly or inherently. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999); *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997). In the present case, the Examiner attempts to establish anticipation of claims 1-10, 19, 21-30, and 32-34 by identifying portions of Sullivan which teach the individual components of Appellant's claimed golf ball. The Examiner does not, however, direct us to a single working embodiment of a golf ball which includes all of the features recited in any one of the independent claims. See *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 1000, 78 USPQ2d 1417, 1424 (Fed. Cir. 2006) (the question is whether the prior art describes the claimed subject matter, or something falling within the claim, with sufficient specificity to anticipate the claim). At best, the referenced portions of Sullivan provide guidelines for selection of appropriate materials for use in the inner and outer layers of a golf ball. Therefore, we find that the Examiner has failed to establish a *prima facie* case of anticipation. The rejections of claims 1-10, 19, 21-30, and 32-34 as anticipated by Sullivan are reversed.

II. *Obviousness Rejections* - Has the Examiner provided a reasonable basis to conclude that one of ordinary skill in the art would have been

motivated to select materials for the inner and outer cover layers such that the resultant golf ball would have the claimed features?

Where patentability rests upon a property of a claimed material not disclosed within the art, the PTO has no reasonable method of determining whether there is, in fact, a patentable difference between the prior art materials and the claimed material. Thus, the PTO can properly require an applicant to prove that the prior art product does not necessarily possess the characteristics of the claimed product. *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); *In re Best*, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433 (CCPA 1977).

The Examiner found that Sullivan discloses a golf ball comprising a core, an inner cover layer formed from a first composition, and an outer cover layer formed from a second composition (Answer 6). The Examiner concluded that because Sullivan utilizes the same materials and manufacturing methods as those of Appellant, Sullivan's golf ball would inherently have the properties recited in claims 1-10 (Answer 7). The Examiner further determined that it would have been a matter of routine optimization to select materials which would achieve specific differences in coefficient of friction between the layers (Answer 7).

Sullivan specifically discloses two examples of golf balls in which the compositions of the inner and outer cover layers differ only in the presence of additives and fillers in the outer cover layer. (Finding of Fact 5). The inner and outer cover layers have the same Shore D hardness. Sullivan identifies additives useful for imparting flexural changes, etc. to a golf ball. (Findings of Fact 6 and 7). Some of these same additives are described by

Appellant as useful in adjusting coefficient of friction (Answer 7). (Findings of Fact 2 and 3). Therefore, it is reasonable to conclude that it would have been obvious to one of ordinary skill in the art to select an additive from among those identified by Sullivan to achieve a desired property and thereby obtain a golf ball which inherently has layers with the claimed coefficients of friction. Accordingly, we find that the Examiner properly shifted the burden to Appellant to establish that claims 1-10 patentably distinguish over Sullivan's golf ball.

Appellant argues that Sullivan fails to specifically disclose the recited values for coefficient of friction, and that the Examiner is employing an improper "obvious to try" rationale (Br. 15-18). However, it is well settled that merely asserting that the prior art does not inherently achieve the claimed properties does not satisfy the Appellant's burden of overcoming the Examiner's *prima facie* showing of obviousness. *See In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138-39 (Fed. Cir. 1986). *See also In re Mayne*, 104 F.3d 1339, 1343-44, 41 USPQ2d 1451, 1456 (Fed.Cir.1997); *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984).

The rejection of claims 1-10 under 35 U.S.C. § 103(a) as obvious over Sullivan is affirmed.

Appellants do not present any additional substantive arguments with respect to the rejection of claim 11 under 35 U.S.C. § 103(a) as obvious over Sullivan in view of Maruko. Accordingly, this rejection is also affirmed.

REMAND

It is not clear on this record whether the Examiner considered obviousness as a basis for rejection of claims 19, 21-30, and 32-34.

Therefore, we remand the Application to the Examiner for a determination of whether "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains" as required under 35 U.S.C. § 103 and consideration of any secondary indicia of non-obviousness such as unexpected results. 37 C.F.R. §41.50(a)(1) (2006); Manual of Patent Examining Procedure (MPEP) § 1211 (8th ed., Rev. 5, August 2006).

The Examiner may wish to consider the following additional findings of fact:

- 9) Sullivan discloses an embodiment of a golf ball in which the inner cover layer has a Shore D hardness in the range of 10-55 and is preferably formed from ionomeric or non-ionomeric polyolefin material. The outer cover layer has a Shore D hardness in the range of 10-55 and preferably comprises ionomer. Even more preferably, the Shore D hardness of both layers is in the range of 30-50 (col. 5, ll. 15-21).
- 10) Sullivan discloses that a suitable non-ionomeric polyolefin material for the inner cover layer is a polyurethane (*see* col. 3, ll. 14-30).
- 11) Sullivan specifies ESTANE® polyester polyurethane X-4517 as a suitable material for use in the cover layers (col. 7, ll. 22-34). The Shore D hardness of ESTANE® polyester polyurethane X-4517 is 39 (US 6,142,887).

- 12) Sullivan identifies IOTEK 7510 as a suitable ionomer for use in the cover layers. The Shore D hardness of IOTEK 7510 is 35 (Table 9). IOTEK 7510 is a zinc salt of a terpolymer of ethylene, acrylic acid and methyl acrylate (US 6,142,887).
- 13) Sullivan teaches that “[a] cover layer with a particular Shore D hardness can be formed using a single ionomer, or more commonly, a blend of two or more ionomers” (col. 18, ll. 63-65).
- 14) In Table 2, Sullivan identifies fillers which are particularly useful for adjusting flex modulus of the cover layer.
- 15) Sullivan teaches that environmental conditions, such as temperature, moisture, atmospheric pressure, etc., effect the distance a ball will travel when hit (col. 13, ll. 24-26).

ORDER

The rejection of claims 19, 21-30, and 32-34 under 35 U.S.C. § 102(a, e) as anticipated by Sullivan is reversed.

The rejection of claims 1-10 under 35 U.S.C. § 102(a, e) as anticipated by Sullivan is reversed.

The rejection of claims 1-10 under 35 U.S.C. § 103(a) as obvious over Sullivan is affirmed.

The rejection of claim 11 under 35 U.S.C. § 103(a) as obvious over Sullivan in view of Maruko is affirmed.

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

AFFIRMED-IN-PART and REMANDED

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