

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FITBIT, INC.,
Petitioner,

v.

ALIPHCOM, INC. D/B/A JAWBONE,
Patent Owner.

Case IPR2016-00607
Patent 8,529,811 B2

Before CHRISTOPHER L. CRUMBLEY, JON B. TORNQUIST, and
JEFFREY W. ABRAHAM, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

DECISION

Institution of *Inter Partes* Review
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

I. INTRODUCTION

Fitbit, Inc. (“Fitbit”) filed a Petition requesting an *inter partes* review of claims 1–26 of U.S. Patent No. 8,529,811 B2 (Ex. 1001, “the ’811 patent”). Paper 2 (“Pet.”). AliphCom, Inc. d/b/a Jawbone (“Jawbone”), the assignee of the ’811 patent, filed a Preliminary Response to the Petition. Paper 10 (“Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any Preliminary Response shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Taking into account the information presented, we conclude that the information presented in the Petition establishes that there is a reasonable likelihood that Fitbit will prevail in challenging claims 16–26 of the ’811 patent as unpatentable. Pursuant to 35 U.S.C. § 314, we hereby authorize an *inter partes* review to be instituted as to these claims of the ’811 patent.

A. Related Matters

We are informed that the ’811 patent has been asserted in several actions captioned *AliphCom d/b/a/ Jawbone and BodyMedia, Inc. v. Fitbit, Inc.*, No. 3:15-cv-02579 (N.D. Cal.); and *Certain Activity Tracking Devices, Systems, and Components Thereof*, Inv. No. 337-TA-963 (ITC). Pet. 3. Related U.S. Patent Nos. 8,793,522 and 8,446,275 are also challenged in these District Court and ITC proceedings. Furthermore, related U.S. Patent No. 8,793,522 has been challenged in IPR2016-00658, and U.S. Patent No.

8,446,275 has been challenged in IPR2016-00714, both currently pending before the Board.

B. The '811 Patent

The '811 patent, titled “Component Protective Overmolding Using Protective External Coatings,” issued September 10, 2013, from U.S. Patent Application No. 13/427,839, filed on March 22, 2012. Ex. 1001, (54), (45), (21), (22). The patent describes the formation of component protective overmoldings including a protective material and one or more moldings. *Id.* at (57). The moldings and protective material are applied over one or more elements, including a sensor, coupled to a framework, the framework configured to be wearable. *Id.* at 8:13–31. At least one inner molding is formed over the elements, protective material, and framework. *Id.* An outer molding is formed over the inner molding, the framework, the elements, and the protective material. *Id.* at 8:32–34. The coatings may be waterproof or water-resistant, and may have certain properties, such as a hydrophobic, an oleophobic, or an anti-bacterial property. *Id.* at 8:52–58. The molding may be made from a medical-grade thermoplastic elastomer. *Id.* at 8:46–51. The '811 patent also discloses a method of making the moldings wherein if a molding is defective, it may be removed and re-applied. *Id.* at 10:19–38.

C. Illustrative Claims

Of the challenged claims, claims 1 and 16 are independent, and are reproduced below:

1. A method, comprising:
 - selectively applying at least one covering substantially over one or more of a plurality of elements coupled with a framework for a wearable device configured to be worn by a user, the plurality of elements including at least a sensor;
 - selectively forming a first inner molding that covers all or substantially all of the at least one covering, the plurality of elements, and the framework;
 - selectively forming a second inner molding that covers all or substantially all of the first inner molding; and
 - selectively forming an outer molding of the wearable device, the outer molding covering all or substantially all of the second inner molding, the outer molding configured to be positioned in contact with the user.

Ex. 1001, 13:40–54.

16. A method, comprising:
 - selectively applying at least one protective material substantially over one or more of a plurality of elements coupled with a framework for a wearable device configured to be worn by a user, the plurality of elements including at least a sensor;
 - forming one or more inner moldings substantially over a subset or all of the framework, the at least one protective material and the plurality of elements, after the selectively applying, at least one of the one or more inner moldings having a protective property; and

forming an outer molding of the wearable device that covers all or substantially all of the one or more inner moldings, the outer molding configured to be positioned in contact with the user.

Id. at 14:23–38.

D. Asserted Grounds of Unpatentability

Fitbit challenges claims 1–26 of the ’811 patent on the following grounds of unpatentability:

Reference(s)	Basis ¹	Challenged Claim(s)
Lo ²	§ 102(b)	16–19, 23, 26
Lo and Huang ³	§ 103(a)	20–22
Lo and Handbook of Thermoplastic Elastomers ⁴	§ 103(a)	24
Lo and Toyoda ⁵	§ 103(a)	25
Anderson ⁶ and Downey ⁷	§ 103(a)	1, 6, 15
Anderson, Downey, and Huang	§ 103(a)	2, 3, 5

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the ’811 patent issued was filed before that date, our citations to Title 35 are to its pre-AIA version.

² U.S. Patent Publication No. 2006/0264756 A1 (Nov. 23, 2006) (Ex. 1003).

³ U.S. Patent Publication No. 2006/0110537 A1 (May 25, 2006) (Ex. 1007).

⁴ Jiri G. Drobny, HANDBOOK OF THERMOPLASTIC ELASTOMERS (1st ed. 2007) (Ex. 1006).

⁵ U.S. Patent Publication No. 2010/0178834 A1 (July 15, 2010) (Ex. 1008).

⁶ U.S. Patent Publication No. 2009/0047797 A1 (Feb. 19, 2009) (Ex. 1004).

⁷ U.S. Patent Publication No. 2009/0295596 A1 (Dec. 3, 2009) (Ex. 1005).

Reference(s)	Basis ¹	Challenged Claim(s)
Anderson, Downey, and Handbook of Thermoplastic Elastomers	§ 103(a)	4, 7
Anderson, Downey, and Toyoda	§ 103(a)	8, 9
Anderson, Downey, and Azuma ⁸	§ 103(a)	10–12
Anderson, Downey, and Brennan ⁹	§ 103(a)	13, 14

Fitbit asserts that Toyoda is prior art to the '811 patent under 35 U.S.C. § 102(a) and that Lo, Huang, Handbook of Thermoplastic Elastomers, Anderson, Downey, Azuma, and Brennan are prior art under 35 U.S.C. § 102(b). Pet. 5. Jawbone does not, at this stage of the proceeding, challenge the prior art status of any reference.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe claims by applying the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 579 U.S. ___, 136 S. Ct. 2131 (2016). Under the broadest reasonable interpretation standard, and absent any special definitions, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms or phrases

⁸ U.S. Patent 5,286,330 (Feb. 15, 1994) (Ex. 1009).

⁹ U.S. Patent 5,844,523 (Dec. 1, 1998) (Ex. 1010).

must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Neither party asked that we construe any term used in the challenged claims.¹⁰ However, both parties appear to have different interpretations for the claim phrase to *cover all or substantially all*. As discussed in the sections below, Fitbit appears to interpret the phrase as requiring something less than contact with all sides of the underlying layer. By way of illustration, Fitbit alleges that layer 1490 of Lo's Figure 14C, reproduced below, *covers all or substantially all* of plastic housing 1474. Pet. 23.

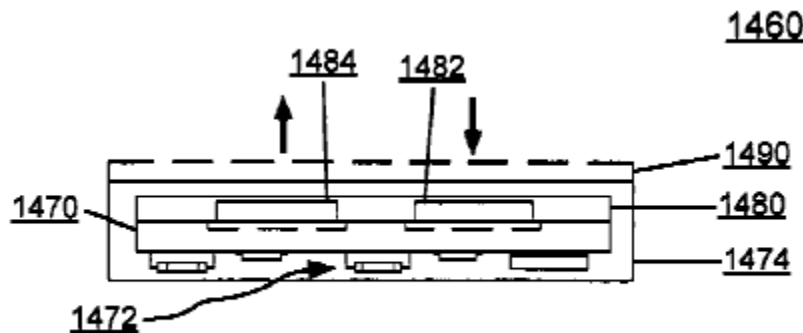


Figure 14C

Figure 14C depicts sealed ultrasonic monitor 1460 having printed circuit board 1470, plastic housing 1474, protective layer 1480, and transmission medium 1490.

Jawbone, by contrast, argues that “[i]t is not clear that a person of ordinary skill in the art would consider covering only one of six sides as

¹⁰ Fitbit notes that in the ITC proceeding, the claim term “forming ... a molding” has been discussed, and was given its plain and ordinary meaning. Pet. 18; *see also In re Certain Activity Tracking Devices, Systems, and Components Thereof*, No. 337-TA-963, slip op. at 26–27 (ITC Feb. 17, 2016) (*Markman* order, adopting plain and ordinary meaning for these terms). We do not consider a construction of this term to be necessary for purposes of this Decision.

‘cover[ing] all or substantially all.’” Prelim. Resp. 7. Jawbone’s claim construction position appears to be that for this claim term to be met, the outer molding should cover all exposed sides of the inner molding. *See id.*

Given the parties’ differing application of the term, we determine that *cover all or substantially all* requires an express construction.

We begin, as we must, with the language of the claims themselves. *See Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves.”). Claim 1 requires: 1) “selectively forming a first inner molding that *covers all or substantially all* of the at least one covering, the plurality of elements, and the framework”; 2) “selectively forming a second inner molding that *covers all or substantially all* of the first inner molding”; and 3) “selectively forming an outer molding of the wearable device, the outer molding *covering all or substantially all* of the second inner molding, the outer molding configured to be positioned in contact with the user.” (Emphasis added).

Claim 16 requires “forming an outer molding of the wearable device that *covers all or substantially all* of the one or more inner moldings, the outer molding configured to be positioned in contact with the user” (emphasis added).

We do not discern any particular meaning from the context of the term within the claims. Nor does common usage of these terms resolve the claim construction inquiry. “Cover” is defined as, *inter alia*, “extend over,” “rest on the surface of,” “place something over or upon,” or “provide with a

covering or top.” Ex. 3001.¹¹ Another general-purpose dictionary defines “cover” as “put something over, on top of, or in front of” or “to be over much or all of the surface of.” Ex. 3002.¹² A reasonable interpretation of *covers all or substantially all*, therefore, could be “on top of” (which would support Fitbit’s application of the term), or could be “over much or all of the surface of” (which would support Jawbone’s apparent interpretation).

Under the broadest reasonable interpretation standard, we apply the broadest construction that is reasonable in light of the specification. The specification¹³ does not use the claim term *covers all or substantially all*. We note, however, that the specification states that the outer molding (which, according to both claims 1 and 16, “covers all or substantially all” of the inner molding) “may be selectively, partially, or completely applied to a given item.” Ex. 1001, 7:27–29. The “outer molding *may* also be configured to completely enclose or encase an underlying item.” *Id.* at 7:29–31 (emphasis added). The specification also notes that the term *substantially* includes both “partially or entirely.” Ex. 1001, 8:65. These passages, therefore, suggest that something less than complete encapsulation may be consistent with the claim term.

¹¹ “Cover,” Dictionary.com, at <http://www.dictionary.com/browse/cover?s=t> (last visited June 24, 2016).

¹² “Cover,” Merriam-Webster, at <http://www.merriam-webster.com/dictionary/cover> (last visited June 24, 2016).

¹³ Nor does the prosecution history of the ’811 patent or its related patents introduced into the record appear to offer any definitive guidance as to what this claim term means. *See* Exs. 1016–19.

At this stage of the proceeding, the record supports two reasonable interpretations of *covers all or substantially all*, as set forth above. Fitbit's implied construction, which encompasses a layer that is only on top of the underlying layer, is broader than Jawbone's, which would require complete encapsulation. The broadest reasonable construction in light of the specification is, therefore, Fitbit's. For purposes of this Decision, we adopt Fitbit's interpretation. We note, however, that this is a preliminary claim construction made without the benefit of briefing by the parties, as neither the Petition nor the Preliminary Response provide a claim construction analysis. In briefing during trial, the parties are encouraged to set forth an explicit construction of *covers all or substantially all*, supported by analysis and evidence.

B. Anticipation by Lo

Fitbit contends that claims 16–19, 23, and 26 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Lo. Pet. 19–28. Fitbit relies upon the Declaration of Dr. Darran Cairns (Ex. 1002) to support its positions.¹⁴

Lo is directed to a wearable device that is in contact with the user so as to determine the user's pulse. Ex. 1003 ¶ 6. The wearable device of Lo

¹⁴ Jawbone objects to Dr. Cairns' testimony as relying on evidence that is not qualified as prior art, and providing unsupported conclusory statements. Prelim. Resp. 33–35. As a result, Jawbone asks that we accord Dr. Cairns' testimony no weight. At this preliminary stage of the proceeding, we consider a determination of the weight to be given Dr. Cairn's testimony to be premature. Jawbone may challenge Dr. Cairns' testimony during trial through cross-examination, and the Board will assign the testimony appropriate weight at the time of the Final Written Decision.

contains sensors that are encapsulated on a substrate, which is further encapsulated by a molding, and fitted with a transmission medium that is overmolded on the last-formed molding. *Id.* at ¶¶ 123, 125, 126.

One embodiment of Lo's device is set forth in Figure 14C, reproduced below:

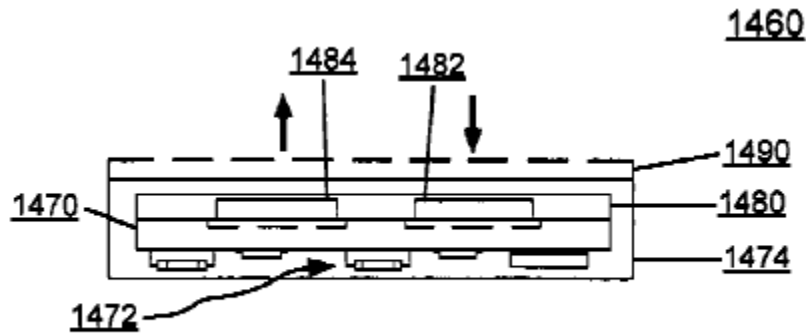


Figure 14C

Figure 14C depicts sealed ultrasonic monitor 1460 having printed circuit board 1470, plastic housing 1474, protective layer 1480, and transmission medium 1490. *Id.* ¶ 125. According to Lo, plastic housing 1474 “encapsulates the entire ultrasonic monitor, including protective layer 1480.” *Id.*

A further illustration of the device of Lo is provided in Figure 15A, reproduced below:

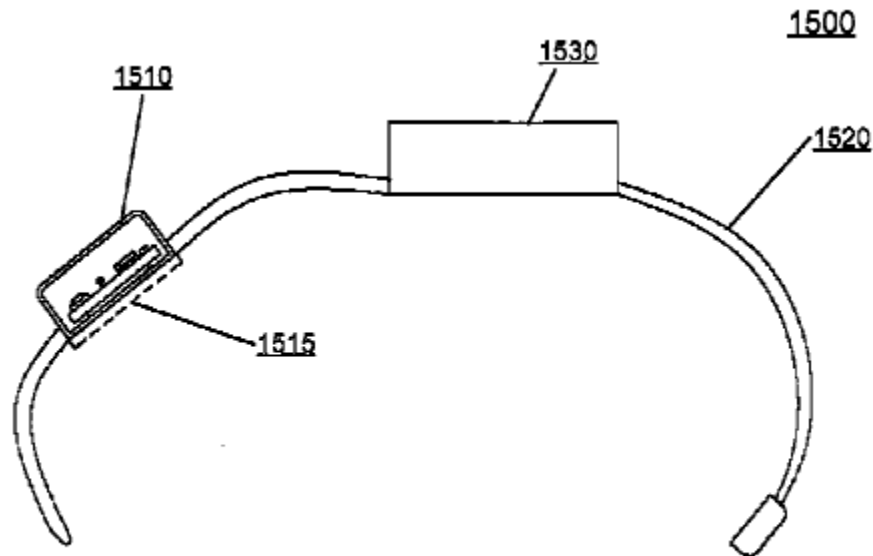


Figure 15A

Figure 15A of Lo depicts monitor 1500 including ultrasonic monitor module 1510 having transmission medium 1515 attached. *Id.* ¶ 126.

1. Clams 16–19 and 26

Referring to Figures 14C and 15A, Fitbit contends that Lo meets all elements of claim 16. Fitbit sets forth that Lo discloses a method in which a protective material (protective layer 1480) is selectively applied over a plurality of elements (1482, 1484) coupled to a framework (1470) for a wearable device (as shown in Lo Figure 15A) configured to be worn by a user, the plurality of elements (1482, 1484) including at least one sensor. Pet. 20–22. Fitbit also states that one or more inner moldings (plastic housing 1474) are formed substantially over a subset or all of the framework (1470), the at least one protective material (1480), and the plurality of elements (1482, 1484). *Id.* at 22–24. After application, the inner molding (1474) allegedly has a protective property. *Id.* Fitbit argues that the outer

molding (transmission medium 1490) of the wearable device covers all or substantially all of the inner molding (1474) and the outer molding (1490) is configured to be positioned in contact with the user. *Id.* at 22–24. Fitbit cites Lo’s specification, which states that the “transmission medium can be ... over-molded onto ... the plastic housing.” *Id.* at 23 (quoting Ex. 1003 ¶ 114). As shown in Lo Figures 14C and 15A, the transmission medium is formed on top of the inner molding (1474)/housing (1510). Fitbit then argues that the “’811 patent similarly describes forming layers, including an outer molding, by ‘overmolding.’” *Id.* at 23.

Jawbone argues that Lo’s outer molding (transmission medium 1490) does not *cover all or substantially all* of the inner molding (plastic housing 1474) because the transmission medium covers only one side of the inner molding, and leaves three, possibly five, sides exposed. Prelim. Resp. 6–7. Therefore, Jawbone argues Lo’s outer molding does not cover all or substantially all the inner molding. *Id.*

As discussed above, for purposes of this decision we determine that Fitbit’s implied claim construction—which reads *covers all or substantially all* to encompass something less than complete encapsulation—is not unreasonable on this record. As a result, we do not find Jawbone’s argument on this element to be persuasive at this time.

Jawbone also argues that Fitbit’s anticipation analysis is flawed, as it relies on a combination of the embodiments depicted in Figures 14C and 15A. Prelim. Resp. 8 n.4. We are not persuaded, however, that Fitbit’s analysis combines two separate embodiments. Fitbit relies on Figure 15A as evidence that the transmission medium of Figure 14C is configured to be

positioned in contact with the wearer. Pet. 23–24. On this record, it is reasonable to infer that if the transmission medium of Figure 15A is intended to be so positioned, the transmission medium of Figure 14C is as well. We do not interpret Fitbit to be arguing that separate embodiments of a reference should be combined, as is prohibited under an anticipation analysis.

Fitbit’s explanation of how each claim limitation is met is reasonable, under the preliminary claim construction that we have adopted. Jawbone’s arguments to the contrary are not persuasive on this record. For these reasons, the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claim 16 would have been anticipated by Lo.

With respect to dependent claims 17–19, and 26, Fitbit sets forth sufficiently how the additional limitations of these dependent claims are disclosed by Lo, and Jawbone does not specifically dispute their disclosure. Jawbone’s opposition is limited to indicating that Lo does not disclose all elements of claim 16, which we address above. We, therefore, also are persuaded that the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claims 17–19 and 26 are anticipated by Lo.

2. Claim 23

Claim 23 depends from claim 16 and further requires that “the at least one protective material is configured to protect the one or more of the plurality of elements from damage occurring during the forming of the one or more inner moldings.” Fitbit argues that Lo’s protective material (1480),

applied to encase the plurality of elements and the framework, has “firmness” that can prevent damage to the elements due to contact with the oil-based outer molding (transmission medium 1490) and other objects, and that compounds may be used for the protective material “so long as they provide adequate mechanical strength.” Pet. 27 (citing Ex. 1003 ¶¶ 62, 115, 116).

Jawbone argues that Lo does not specifically disclose that the protective material is configured to protect the elements from damage during formation of the inner molding, because Lo ¶ 115 refers only to protection from the oil-based outer molding, transmission medium 1490. Prelim. Resp. 10–11. On this record, we disagree. Lo teaches that the protective material not only protects the elements from the transmission medium, but also “other objects.” Ex. 1003 ¶ 115. Thus, we do not understand the protection of Lo’s protective material to be limited to protection from the transmission medium. Lo discloses that the protective material covers the elements and has firmness, and that materials selected for the protective material are required to have adequate strength. On this record, we are persuaded that the protective material is configured to protect the elements during the formation of the inner molding. This implies that the protective material has been configured to protect the elements during formation of the inner molding.

For these reasons, the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claim 23 would have been anticipated by Lo. Fitbit’s explanation of how each claim limitation is met is reasonable, under the preliminary claim

construction that we have adopted. Jawbone's arguments to the contrary are not persuasive on this record.

C. Obviousness Over Lo and Huang

Claims 20–22 depend from claim 16, and require the protective property of the inner molding to be hydrophobic (claim 20), oleophobic (claim 21), or anti-bacterial (claim 22). Huang, directed to an anti-fingerprint coating which can be used in consumer electronics such as cell phones, personal computers, and notebooks, discloses a coating that has hydrophobic, oleophobic, or anti-bacterial properties. Ex. 1007 ¶¶ 2, 8, 14. Fitbit argues that the use of hydrophobic, oleophobic, and anti-bacterial coatings was understood by those of skill in the art, and that these coatings were commercially available from vendors. Pet. 28–33. Fitbit also contends that moldings were inherently hydrophobic (*id.* at 29), and that the oleophobic coating would be particularly useful considering that an oil, such as baby oil or mineral oil, may be applied between the user's skin and the Lo monitor (*id.* at 32). Fitbit also contends that the use of an anti-bacterial coating would prevent bacteria build-up on Lo's device, which may be used while exercising. *Id.* at 33.

Jawbone argues that Fitbit has not set forth a rational basis for the combination. Prelim. Resp. 15. Jawbone contends that the reasons for combining Huang with Lo are not supported by sufficient analysis, and also contends that Fitbit has not explained whether, after modification, Lo would still be suitable for its intended purpose, because Lo teaches the criticality of the materials used in its ultrasonic monitor for transmitting ultrasonic waves. *Id.* at 15–18.

At this stage of the proceeding, we are not persuaded by Jawbone's arguments on these points. Fitbit's rationale for combining the two references is reasonable, considering the use of the Lo device in exercise. Furthermore, Fitbit's expert testifies as to the use and availability of these coatings, and cites to materials that one of ordinary skill would have access to and knowledge of, that support Fitbit's arguments about use and availability.

For these reasons, the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claims 20–22 would have been obvious over Lo and Huang. Fitbit's explanation of how each claim limitation is met is reasonable. Jawbone's arguments to the contrary are not persuasive on this record.

D. Obviousness Over Lo and the Handbook of Thermoplastic Elastomers

Claim 24 depends from claim 16 and requires that the “at least one of the one or more inner moldings comprises a medical-grade thermoplastic elastomer.” Fitbit contends that Lo discloses that the materials contacting the user's skin should be medical grade, and that the Handbook of Thermoplastic Elastomers, an industry handbook, discloses a number of medical-grade thermoplastic elastomers for use in medical devices. Pet. 33–34.

Jawbone argues that Fitbit has not provided a rational basis for combining Lo and the Handbook of Thermoplastic Elastomers or a reasonable expectation of success in doing so. Prelim. Resp. 15, 18–19. Jawbone argues that Fitbit's reasons are generic, conclusory rationales, and

that they do not address the suitability of the proposed modification of Lo's intended purpose of providing an ultrasonic monitor. *Id.* at 18–19.

On this record, we are not persuaded by Jawbone's arguments on these points. Fitbit's rationale is reasonable, considering that Lo's device is meant to be worn, and that Lo states that medical-grade materials should be used for portions of the device in contact with a user's skin. Furthermore, Fitbit's expert testifies as to the use and availability of the medical-grade thermoplastic elastomers in medical devices.

For these reasons, the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claim 24 would have been obvious over Lo and the Handbook of Thermoplastic Elastomers.

E. Obviousness Over Lo and Toyoda

Claim 25 depends from claim 16 and requires “removing and re-applying at least one of the one or more inner moldings after an inspection of the one or more inner moldings.” Fitbit contends that inspecting a product for defects is a standard and fundamental step in the manufacturing process that was well understood before the priority date of the '811 patent. Pet. 35. As an example, Fitbit cites to Toyoda, which is directed to forming resin layers on electronic devices and inspecting the resin layer for defects, and if found, removing the defective resin layer and re-applying a new resin layer. *Id.* at 35–37. Fitbit argues that it was known before the priority date of the '811 patent that a defective molding left the designer with two options: (1) discard the device, or (2) remove and re-apply the molding, the choice of which was generally dictated by the cost of the device's

constituent components. *Id.* at 36–37. Fitbit argues that the use of Toyoda’s inspection steps in the Lo manufacturing process would involve the application of known techniques to improve the reliability of Lo’s moldings in the same way as in Toyoda. *Id.* at 37.

Jawbone argues that Fitbit merely alleged that the limitations of claim 25 were independently known, and that Fitbit has provided only a conclusory, generic motivation for making the combination, not the required articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See* Prelim. Resp. 19–20. On this record, we disagree. Fitbit’s argument that Toyoda discloses “fundamental manufacturing inspection steps” which a person of ordinary skill in the art would apply to the manufacturing process of Lo is, at least on this record, reasonable and supported by the testimony of Dr. Cairns. *See* Ex. 1002 ¶ 68.

For these reasons, the record before us establishes a reasonable likelihood that Fitbit will prevail on its assertion that the subject matter of claim 25 would have been obvious over Lo and Toyoda.

F. Obviousness Over Anderson and Downey

Fitbit contends that claims 1, 6, and 15 are unpatentable under 35 U.S.C. § 103(a), as their subject matter would have been obvious over the combined disclosures of Anderson and Downey. Pet. 37–46. Fitbit also relies upon the Declaration of Dr. Cairns (Ex. 1002) to support its positions.

Anderson, directed to a method for producing shock and tamper-proof electronic devices, discloses sensors that are encapsulated on a substrate, which are further encapsulated by a tamper-proof molding, then filled with a filling material, and encapsulated by outer molding. Ex. 1004 ¶¶ 27, 28, 40–

49. Anderson discloses both liquid encapsulation and mold encapsulation. *Id.* ¶ 49. Anderson’s outer molding provides a moisture resistant and durable handling surface for a microelectronic device. Pet. 37–38; Ex. 1004 ¶¶ 41, 44. Fitbit contends that Anderson teaches that its “multi-layer protection of microelectronic elements (*e.g.*, integrated circuits) may be beneficially applied to applications where a high tolerance to impact, shock, and vibration as well as protection from moisture and environmental hazards are desired.” Pet. 38.

Figure 6b of Anderson depicts one embodiment of the invention and is reproduced below:

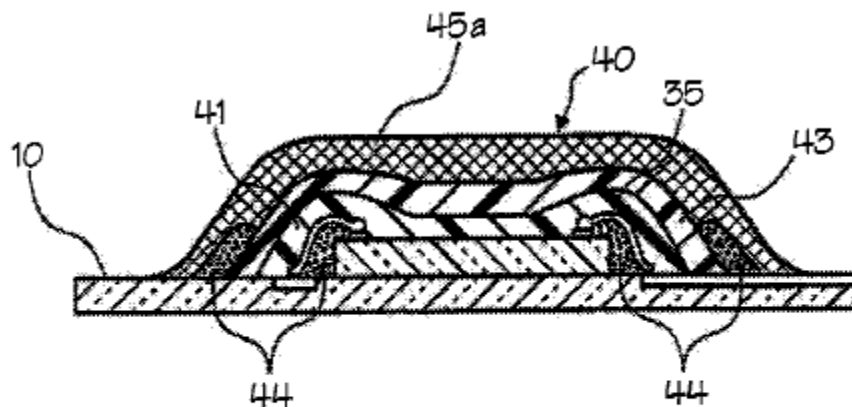


Fig. 6b
(SIDE VIEW)

Figure 6b of Anderson depicts substrate 10 with die (not numbered) having electrical connectors 35, covered by intermediate primer coating layer 41, tamper resistant coating 43, encapsulant material 45a, and filler material 44.

Downey, directed to a swim watch, discloses a display and sensors on substrates and enclosed—not by encapsulations or moldings—but by mechanical seals incorporated in a housing on a wristband, to make the

swim watch substantially waterproof or water-resistant. Ex. 1005 ¶¶ 20–31; Pet. 38–39. Downey teaches that its components require protection against environmental contaminants, moisture, vibration, impact, and the like. *Id.* ¶ 26.

Fitbit alleges that Anderson teaches selectively applying primer layer 41 (covering) substantially over circuit components coupled with a substrate 10 (elements coupled with a framework); selectively forming a tamper-resistant coating 43 (first inner molding) that covers all or substantially all of the primer coating, the circuit elements, and/or the printed circuit board; selectively forming filler-material inner coating 44 (second inner molding) that covers all or substantially all of the tamper-resistant coating; and selectively forming shell outer coating 45a (an outer molding), the shell outer coating that covers all or substantially all of the inner coating to provide a moisture barrier and handling surface. Pet. 39–44. The layers protect against impact, shock, vibration, moisture, and environmental hazards. *Id.* 38.

Fitbit contends that Downey has a housing that contains elements and sensors coupled to frameworks for a wearable device configured to be worn by a user, and that Downey, like Anderson, requires protection against environmental contaminants, moisture, vibration, impact, and the like. *Id.* Fitbit reasons that “[o]ne skilled in the art would have been motivated to apply Anderson’s method to protect the internal components of Downey’s watch, which is subjected to moisture, vibration, shocks, and environmental hazards during exercise or swimming.” *Id.* at 41. Fitbit adds that while “Anderson does not expressly disclose a wearable device positioned to be in

contact with a user,” a person of ordinary skill in the art would have “appl[ied] the Anderson multi-layer method to a wearable device positioned to be in contact with a user, such as Downey.” Pet. 44. Fitbit proposes that, because Anderson’s outer molding has “resilient handling characteristic” and “provides a smooth, rigid, moisture resistant and durable handling surface for the microelectronic device” that a skilled artisan would have understood that “these properties of Anderson’s outer molding would have been equally applicable to and desirable for the outer housing of Downey’s exercise watch, which would have been in contact with a user during active use.” *Id.* at 44–45.

We disagree with Fitbit’s analysis of Anderson’s disclosure. Specifically, Anderson does not disclose that its filler material 44 (alleged to be the second inner molding of claim 1) covers all or substantially all of the tamper resistant coating 43 (alleged to be the first inner molding), as required by claim 1. Anderson describes that the filler material has “a low viscosity and wicking property to reach and fill gaps in the [tamper resistant coating] coated circuit and the shell coating 45.” Ex. 1004 ¶ 39. Elsewhere, the filler material is described as “a very low viscosity, low stress epoxy material” that “flows easily and wicks up to fill gaps or spaces.” *Id.* ¶ 41. The filler material is said to “*reside in the gaps* and/or air pockets previously located in [tamper resistant coating] 43 coated circuit.” *Id.* ¶ 44 (emphasis added). In other words, the filler material is poured over the underlying layer of tamper resistant coating, but flows down and around the layer to fill any gaps between it and the circuit below. As evidenced by Figure 6b, filler material adjoins a small portion of the bottom of the die and tamper resistant

coating 43, the alleged first inner molding. This is not “covering all or substantially all” of the tamper resistant coating, as required by claim 1.

Figure 7g of Anderson, cited as further support by Fitbit, does not convince us otherwise. Fitbit provides the following highlighted version of the Figure in the Petition:

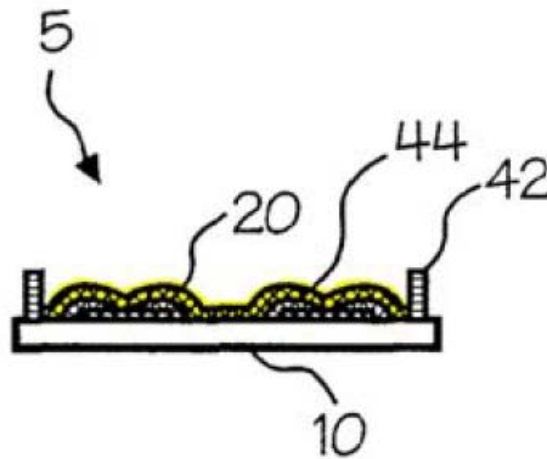


Fig. 7g

Presumably, Fitbit is arguing that the highlighted layer of Figure 7g is filler material 44, which is shown as covering all or substantially all of the underlying layers. When Figure 7g is viewed in conjunction with Figure 7c of Anderson, however, we find this interpretation to be incorrect:

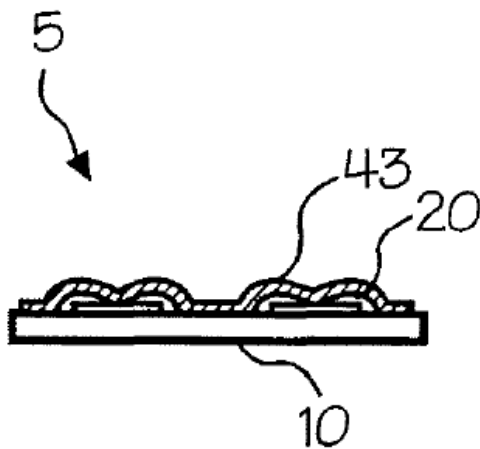


Fig. 7c

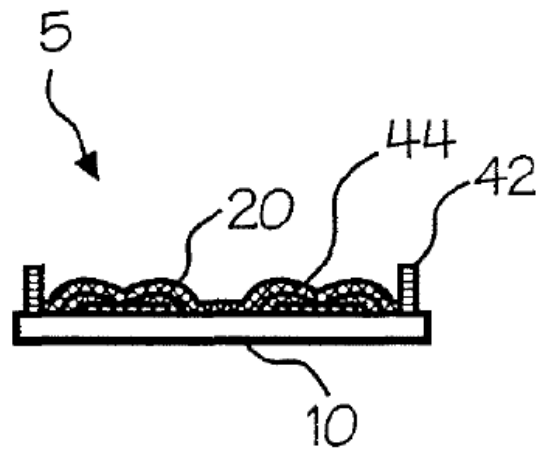


Fig. 7g

Figure 7c depicts a step prior to that shown in Figure 7g, wherein tamper resistant coating 43 is applied to the substrate. Looking at these two Figures side-by-side, we find that the layer highlighted by Fitbit in the Petition is in fact tamper resistant coating 43, although it is not numbered in Figure 7g. The label 44 is instead applied to the underlying cross-hatched layer added between steps 7c and 7g, the filler layer. We conclude, therefore, that filler layer 44 does not *cover all or substantially all* of the tamper resistant coating, as Fitbit alleges.

For this reason, we conclude that Fitbit has not shown that Anderson discloses a second inner layer that covers all or substantially of a first inner layer, as required by claim 1. Fitbit does not allege, nor do we find, that Downey remedies this deficiency. We, therefore, conclude that the combination of Anderson and Downey does not teach or suggest all

elements of claim 1, or its dependent claims 6 and 15, and do not institute trial on this ground.

G. Remaining Obviousness Grounds Involving Anderson and Downey in Combination With Other References

Fitbit sets forth five additional grounds based on the combination of Anderson with Downey, and further secondary references. Each of these grounds relies on Anderson as disclosing a second inner molding that covers all or substantially all of the first inner molding. As set forth above, we find Fitbit's evidence and arguments on this element lacking. None of the references added to the proposed combinations in the grounds (Huang, the Handbook of Thermoplastic Elastomers, Toyoda, or Azuma) are said to remedy the deficiency of Anderson identified above. For this reason, we also deny institution of trial on these related grounds of unpatentability.

III. CONCLUSION

For the foregoing reasons, we conclude that the information presented in the Petition and Preliminary Response establishes that there is a reasonable likelihood that Fitbit will prevail in challenging claims 16–26 of the '811 patent as unpatentable. The record does not establish, however, a reasonable likelihood of success as to claims 1–15.

IV. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a) and 37 C.F.R. § 42.4, an *inter partes* review is hereby instituted based on the following grounds:

1. Whether claims 16–19, 23, and 26 are unpatentable under 35 U.S.C. § 102(b) as having been anticipated by Lo;
2. Whether claims 20–22 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Lo and Huang;
3. Whether claim 24 is unpatentable under 35 U.S.C. § 103(a) as having been obvious over Lo and the Handbook of Thermoplastic Elastomers; and
4. Whether claim 25 is unpatentable under 35 U.S.C. § 103(a) as having been obvious over Lo and Toyoda;

FURTHER ORDERED that no grounds are authorized for this *inter partes* review other than those identified above; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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