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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANURADHA GODAVARTY, YOUNGJIN JUNG,
and JEAN GONZALEZ

Appeal 2018-008987
Application 14/370,600
Technology Center 3700

Before JENNIFER D. BAHR, MICHELLE R. OSINSKI, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–3, 5, 8–12, 16, 19–21, 23, 27, and 32–42. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

¹ We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as The Florida International University Board of Trustees. Appeal Br. 3.

THE CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. An assembly forming a hand-held probe, comprising:
 - a probe body;
 - a detector assembly disposed within the probe body and comprising a detector operable to capture a focused, non-point image in the near infrared spectrum;
 - a source assembly comprising a near infrared light source, the source assembly being separable from the detector assembly,wherein the near infrared light source is movable relative to the detector assembly and has a range of movement such that the hand-held probe can switch between diffuse reflectance and trans-illumination measurements while the probe body is maintained in the same position.

REJECTIONS

- I. Claims 16 and 36 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.
- II. Claims 1, 5, 8–10, 16, 19, 23, and 27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Patwardhan (US 2009/0137908 A1, pub. May 28, 2009) and Godavarty (US 2010/0155599 A1, pub. June 24, 2010).
- III. Claims 2, 3, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, and Liang (US 2011/0229840 A1, pub. Sept. 22, 2011).
- IV. Claims 11, 12, 21, 32, and 33 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, and Reed (US 6,808,289 B2, iss. Oct. 26, 2004).

- V. Claims 34–42 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, Reed, and Liang.

DISCUSSION

Rejection I – Subject Matter Eligibility

Principles of Law

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[I]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and

mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A

claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The USPTO published revised guidance on the application of § 101. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (the “2019 Eligibility Guidance” or “Guidance”). Under the Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 2019 Eligibility Guidance.

Analysis

In rejecting claims 16 and 36, the Examiner determines that the claims “are directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.” Final Act. 6. In particular, the Examiner determines that the limitations in claims 16 and 36 regarding a processor co-registering image data at tracked probe positions with a 3-dimensional mesh of the region being imaged “clearly require[] mathematical operations, e.g. geometric alignment between data sets.” *Id.* at 6, 7. The Examiner explains that “[t]he above step(s) require mathematically manipulating and/or relating data to ascertain the geometric correspondence between two data sets of extracted data from acquired images and a reference image as required for the function of co-registering images. In that regard, the above step(s) is/are in essence a mathematical algorithm.” *Id.* at 7. The Examiner concludes that “the claims are directed to a judicial exception and fall squarely within the realm of ‘abstract ideas’, which is a patent-ineligible concept (Step 2A: YES).” *Id.* at 8. For the following reasons, we disagree with the Examiner’s determination that the claims recite a judicial exception (i.e., abstract idea in the form of a mathematical algorithm).

Appellant’s independent claim 36 recites a system including a probe body having a tracking target that provides 3-dimensional (3D) position data, a detector that captures a near infrared spectrum image, a modular light source that produces near infrared light, and an adjustable handle assembly that moves the light source through a range of positions that facilitate trans-illumination imaging with or without contact between the handle assembly and subject tissue, such that, when making contact with the subject tissue,

various degrees of tissue compression are facilitated. Appeal Br. (Claims App.). The system also includes a processor configured to capture image data using the detector, co-register the image data at probe positions with a pre-loaded 3D mesh of the region being imaged, and display 3D image data. *Id.* Claim 16, which depends from independent claim 1, recites a system including similar limitations. *Id.*

The 2019 Eligibility Guidance describes the mathematical concepts grouping of abstract ideas as including mathematical relationships, calculations, equations, and formulas. *See* 2019 Eligibility Guidance, 84 Fed. Reg. at 52. The USPTO’s October 2019 Patent Eligibility Guidance Update further explains that

[a] claim does not recite a mathematical concept (i.e., the claim limitations do not fall within the mathematical concept grouping), if it is only based on or involves a mathematical concept. For example, a limitation that is merely based on or involves a mathematical concept described in the specification may not be sufficient to fall into this grouping, provided the mathematical concept itself is not recited in the claim.

October 2019 Update: Subject Matter Eligibility, (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf), 3 (Oct. 17, 2019) (“October 2019 Update”); *see also Mayo*, 566 U.S. at 71 (noting that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas”).

Appellant’s Specification describes that,

[t]o obtain three-dimensional visualization of a large region of interest, each time the probe assembly 103 is moved, the position and orientation of the probe assembly 103 may be monitored and co-registered or mapped. As used herein, co-registration refers to the mapping of sensor data for a particular

region onto to a map (e.g., a discretized mesh) of the entire region of interest(s). Generally, registration provides 3D location and orientation data for the sensor data. For example sensor data captured during a first period at a first position of the probe assembly 103 may be mapped to corresponding first positions of a map of the entire region of interest. To implement self-registration or co-registration of the sensor data for the region of interest, a tracking system may be used to monitor the location of the probe assembly 103.

Spec. ¶ 88. In this regard, to the extent that the co-registering steps identified by the Examiner may, at some level, be based on or involve a mathematical concept, the mathematical concept itself is not recited in the claims. *See also Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348–49 (Fed. Cir. 2017) (determining that claims to a particular configuration of inertial sensors and method of using raw data from the sensors to more accurately calculate the position and orientation of an object on a moving platform “are not merely directed to the abstract idea of using ‘mathematical equations for determining the relative position of a moving object to a moving reference frame,’” and stating, “[f]ar from claiming the equations themselves, the claims seek to protect only the application of physics to the unconventional configuration of sensors as disclosed”).

Furthermore, even if the co-registering limitations recited in claims 16 and 36 were broadly construed as reciting an abstract mathematical concept, the claims also recite additional elements including: a probe body with a tracking target that provides 3D position data, a detector that captures a near infrared spectrum image, and a modular light source (or one that is separable from the detector) that produces near infrared light. Appeal Br. (Claims App.). Claim 36 also additionally recites an adjustable handle assembly that moves the light source in range of positions to facilitate trans-illumination

imaging with or without contact between the handle assembly and subject tissue, and, when making contact with the subject tissue, the positions enable various degrees of tissue compression. *Id.* In other words, looking to the language set forth in the 2019 Eligibility Guidance, even if claims 16 and 36 were interpreted as reciting an abstract idea in the mathematical concepts category, the claims as a whole recite additional elements that integrate the purported abstract idea into a practical application, such that the claims are not simply “directed to” a judicial exception itself. *See* 2019 Eligibility Guidance, 84 Fed. Reg. at 53.

For the above reasons, we conclude that the Examiner erred in determining that the claims are directed to a judicial exception. Accordingly, we do not sustain the Examiner’s 35 U.S.C. § 101 rejection of claims 16 and 36.

Rejection II – Obviousness based on Patwardhan and Godavarty

Independent claim 1 recites, in relevant part, that “the near infrared light source is movable relative to the detector assembly and has a range of movement such that the hand-held probe can switch between diffuse reflectance and trans-illumination measurements while the probe body is maintained in the same position.” Appeal Br. (Claims App.). Appellant contests the Examiner’s finding that Patwardhan discloses this feature. *See* Appeal Br. 15–19; Reply Br. 2–3. We agree with Appellant that a sustainable case of obviousness has not been established.

In rejecting independent claim 1, the Examiner finds that Patwardhan discloses, in relevant part,

a NIR light source (Fig. 2A 210 and [0081]) being separable from the detector assembly ([0069]), wherein the NIR light source is capable to move within a space range (Fig. 3 and [0069]) allowing the hand-held probe to switch between diffuse reflectance and trans-illumination image measurements ([0071] and Fig. 3 with fluorescence measurements with epi-illumination and trans-illumination and diffuse reflectance [0007] or with DOT [0012]) while the probe is in the same position (Fig. 3, [0069]).

Final Act. 11. The Examiner takes the position that

Patwardhan further teaches the choice of the illumination angle ([0069]) being smaller or larger than 45–50° in order to favor surface features or depth features of the targeted tissue ([0069]) therefore at least suggesting the light sources as being movable relative to the tissue and to the camera to optimize the detection by the camera.

Ans. 7.

Appellant persuasively asserts that “Patwardhan does not explain that the illumination source 210 is movable relative to the detector 220, much less that that the illumination source 210 can be moved to switch between diffuse reflectance and trans-illumination measurements while the probe body is maintained in the same position.” Appeal Br. 19 (emphasis omitted). In particular, Patwardhan discloses:

It is preferred to arrange the illumination sources 210 and the detector 220 in such a way that the angle formed by the source, the subject tissue, and the detector is in a range of approximately 45–50 degrees. For an angle smaller than 45–50 degrees, the penetration depth of the light into the tissue will be reduced. For an angle larger than 45–50 degrees, the amount of diffuse reflected light detected will be reduced. However, smaller or larger angles may be used for imaging due to space constraints, enhancing certain skin features, and/or enhancing the tissue surface reflectance signal over the diffuse reflectance signal and vice versa.

Patwardhan ¶ 69 (boldface omitted). Although Patwardhan contemplates a range of angles for orienting illumination source 210 and detector 220 in the system, the Examiner does not point to, nor do we find, any teaching in Patwardhan that illumination source 210 is movable relative to detector 220, much less that the illumination source has a range of movement to facilitate switching between diffuse reflectance and trans-illumination measurements. As Appellant points out, Patwardhan’s disclosure of the 45–50 degree angle range does not necessarily mean that the illumination source is movable relative to the detector because “the manufacturer could [merely] select an angle within this range and design the imaging system to include the light source at a fixed position corresponding to the selected angle.” Appeal Br. 18. In other words, the Examiner’s finding that Patwardhan’s illumination source 210 is movable relative to detector 220 (*see* Final Act. 11; Ans. 7) lacks adequate evidentiary support.

Moreover, although the Examiner takes the position that the disclosure of Patwardhan “suggests” an illumination source that is movable relative to the detector (*see* Ans. 7–8), the Examiner does not articulate sufficient reasoning, supported by rational underpinnings, as to why a person having ordinary skill in the art would have been prompted to modify Patwardhan’s system to include this feature.² *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (stating that “[r]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to

² The Examiner relies on Godavarty for its teaching of a handheld optical probe using a tracking target for tracking the probe, and not for any teaching that would remedy the aforementioned deficiency. *See* Final Act. 11–12.

support the legal conclusion of obviousness” (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006))).

Accordingly, based on the record before us, the Examiner has not met the burden of establishing a proper case that independent claim 1 is unpatentable based on the cited references. On this basis, we do not sustain the rejection of independent claim 1, or dependent claims 5, 8–10, 16, 19, 23, and 27, under 35 U.S.C. § 103(a) as unpatentable over Patwardhan and Godavarty.

*Rejection III – Obviousness based on Patwardhan, Godavarty,
and Liang*

The Examiner’s rejection of claims 2, 3, and 20 relies on the same proposed combination of Patwardhan and Godavarty that we find deficient for the reasons discussed above in connection with Rejection II. *See* Final Act. 15–17. The Examiner relies on Liang for teaching additional features, but does not articulate any findings or reasoning that would cure the aforementioned deficiencies in the combination of Patwardhan and Godavarty. *See id.* Accordingly, for the same reasons discussed above, we do not sustain the rejection of claims 2, 3, and 20 under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, and Liang.

*Rejection IV – Obviousness based on Patwardhan, Godavarty,
and Reed*

Claims 11, 12, and 21

The Examiner’s rejection of claims 11, 12, and 21 relies on the same proposed combination of Patwardhan and Godavarty that we find deficient for the reasons discussed above in connection with Rejection II. *See* Final

Act. 17–20. The Examiner relies on Reed for teaching additional features, but does not articulate any findings or reasoning that would cure the aforementioned deficiencies in the combination of Patwardhan and Godavarty. *See id.* Accordingly, for the same reasons discussed above, we do not sustain the rejection of claims 11, 12, and 21 under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, and Reed.

Claims 32 and 33

In rejecting independent claim 32, the Examiner finds that “Patwardhan does not teach an adjustable handle assembly coupled to the source attachment point on which the source assembly is disposed and configured to move the light source through a range of position” Final Act. 21. However, the Examiner finds that Reed discloses “a flexible LED lamp with a flexible member between the base (Figs.1 and 3A and abstract) with a clamp/clip and the light source module, the flexible member being broadly interpreted as an adjustable handle capable to move [sic] the light source into a first position and a second position.” *Id.* The Examiner determines that it would have been obvious “to have modified the system of Patwardhan to include an adjustable handle assembly coupled to the source attachment point and configured to move the light source into a first position and a second position.” *Id.* The Examiner reasons that one of ordinary skill in the art would have expected the modification to yield predictable results because “both Reed and Patwardhan teach the use of mobile light sources. The motivation would have been to provide a modular flexibility for measurements as suggested by Reed (Figs. 1, 3A).” *Id.* The Examiner also finds that “Godavarty teaches that conventional trans-illumination imaging

such as for mammography is performed by providing different degrees of compression from the illumination source on the patient breast ([0003] and Fig. 5 and [0054]).” *Id.* The Examiner determines that it would have been obvious

to have modified the system of Patwardhan and Reed to have the adjustable handle assembly with (ii) when trans-illumination imaging is performed via contact with the subject tissue, the range of positions facilitates various degrees of compression of the subject tissue between the detector assembly and the source assembly, since one of ordinary skill in the art would recognize that adjusting the level of compression for mammography was routine and conventional in the art, as taught by Godavarty.

Id. at 22. The Examiner explains that the modification would have produced predictable results, and “[t]he motivation would have been to provide enough lightning [sic] for imaging while preserving comfort to the patient as suggested by Godavarty ([0054]).” *Id.*

Appellant argues:

None of the cited references, alone or in combination discloses or suggests, “an adjustable handle assembly configured to ... move the light source through a range of positions including a first position and a second position to ... **when trans-illumination imaging is performed** via contact between the adjustable handle assembly and the subject tissue, the range of positions further facilitates various degrees of **compression of the subject tissue** between the detector assembly and the source assembly” (emphasis added), as recited in claim 32.

Appeal Br. 20. In particular, Appellant asserts that “Reed’s handle assembly . . . does not allow for the light source to be moved within a range of positions that facilitates any degree of compression.” *Id.* at 22. Appellant also asserts that “Godavarty also does not disclose this element, nor was Godavarty relied on for disclosing the adjustable handle.” *Id.*; *see also*

Reply Br. 4 (asserting that, “[w]hile Godavarty more generally discusses compression, Godavarty does not describe an adjustable *handle* assembly configured to facilitate various degrees of compression.”). We are not persuaded by these arguments because they attack the references individually rather than as combined by the Examiner in the rejection. “Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)).

As discussed, above, the Examiner does not rely on Reed for disclosing that the adjustable handle facilitates compression, and does not rely on Godavarty for disclosing an adjustable handle assembly. *See* Final Act. 21. Rather, the Examiner relies on Reed only for teaching an adjustable handle capable of moving a light source into first and second positions. *See id.* The Examiner relies on Godavarty only for disclosing that the use of compression in trans-illumination tissue imaging was known in the art. *See id.* In this regard, Appellant’s arguments against Reed and Godavarty individually are not responsive to the rejection as presented, which is based on a combination of the references’ teachings.

Appellant argues that one of ordinary skill in the art “would not implement a flexible assembly used to support an LED of negligible weight, such as the one used in Reed, as part of a trans-illumination system that requires compression of the subject tissue, as a flexible gooseneck design is not mechanically suited for this particular purpose.” *Id.* at 22 (emphasis omitted). We are not persuaded by this argument because it appears to improperly presume a bodily incorporation of Reed’s flexible lamp assembly

into the system of Patwardhan. “It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012); *see also Keller*, 642 F.2d at 425 (stating, “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference”).

Moreover, Appellant does not specifically address the reasoning articulated by the Examiner in support of the conclusion of obviousness. In particular, Appellant does not contest the Examiner’s determination that it would have been obvious to modify the combined teachings of Patwardhan and Reed, based on the teachings of Godavarty, to have the adjustable handle assembly facilitate various degrees of tissue compression. *See* Final Act. 22. Appellant also does not proffer any factual evidence or persuasive technical reasoning to show that implementing a flexible assembly that is “mechanically suited” for facilitating compression would have been beyond the level of ordinary skill in the art. *See KSR*, 550 U.S. 398 at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

For the above reasons, Appellant’s arguments do not apprise us of error in the rejection of independent claim 32. Accordingly, we sustain the rejection of claim 32, and its dependent claim 33, for which Appellant relies on the same arguments (*see* Appeal Br. 24), under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, and Reed.

Rejection V – Obviousness based on Patwardhan, Godavarty, Reed, and Liang

In contesting the rejection of claim 36, Appellant relies on the same arguments asserted against Rejection IV of independent claim 32, and contends that Liang does not make up for the argued deficiencies in the combination of Patwardhan, Godavarty, and Reed. *See* Appeal Br. 22–23. Appellant does not present any separate arguments for claims 37–42, which depend from claim 36, nor does Appellant present any arguments specifically directed to claims 34 and 35, which depend from claim 32. *See Id.* For the reasons discussed above, Appellant’s argument fails to apprise us of error in the rejection of claim 32, and, likewise, fails to apprise us of error in the rejection of claims 34–42. Accordingly, we sustain the rejection of claims 34–42 under 35 U.S.C. § 103(a) as unpatentable over Patwardhan, Godavarty, Reed, and Liang.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
16, 36	101	Eligibility		16, 36
1, 5, 8–10, 16, 19, 23, 27	103(a)	Patwardhan, Godavarty		1, 5, 8–10, 16, 19, 23, 27
2, 3, 20	103(a)	Patwardhan, Godavarty, Liang		2, 3, 20
11, 12, 21, 32, 33	103(a)	Patwardhan, Godavarty, Reed	32, 33	11, 12, 21
34–42	103(a)	Patwardhan, Godavarty, Reed, Liang	34–42	

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Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
Overall Outcome			32-42	1-3, 5, 8-12, 16, 19, 20, 21, 23, 27

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