UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUTAKA OKADA, MASAAKI HARA
and MITSUYO MAEDA

Appeal 2008-1327
Application 10/196,084
Technology Center 3600

Decided: August 6, 2008

Before: WILLIAM F. PATE, III, LINDA E. HORNER and
STEVEN D.A. McCARTHY, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134 (2002) from the final rejection of claims 1-4 and 33-39. We have jurisdiction under 35 U.S.C § 6(b) (2002).

The claims on appeal relate to a bicycle braking member. Independent claim 1 is typical of the appealed claims and reads as follows:

> 1. A bicycle braking member having a generally annular friction surface and dimensioned to be mounted to rotate with a bicycle wheel, wherein the braking member comprises:
> a generally annular matrix; and
> a nickel-tungsten alloy layer disposed between the matrix and the friction surface.

Claims 1, 3, 4 and 33-39 stand rejected under 35 U.S.C. § 103(a) (2002) as being unpatentable over either Lumpkin (U.S. Patent 6,340,074) or Fujii (U.S. Patent 5,056,630) in view of Thompson (U.S. Patent 5,964,322). Claim 2 stands rejected under § 103(a) as being unpatentable over either Lumpkin or Fujii in view of Thompson and Patel (U.S. Patent 4,136,230).

We AFFIRM the rejection of claims 1, 3, 4 and 33-39 under § 103(a) as being unpatentable over Fujii in view of Thompson as well as the rejection of claim 2 under § 103(a) as being unpatentable over Fujii in view of Thompson and Patel. We REVERSE the rejection of claims 1, 3, 4 and 33-39 under § 103(a) as being unpatentable over Lumpkin in view of Thompson as well as the rejection of claim 2 under § 103(a) as being unpatentable over Lumpkin in view of Thompson and Patel.

ISSUES

Four issues in this appeal are (1) whether Thompson is analogous art; (2) whether a bicycle braking member including a nickel-tungsten layer as recited in claim 1 would have been obvious from the combined teachings of Fujii and Thompson or of Lumpkin and Thompson; (3) whether a bicycle

braking member including a nickel tungsten layer formed in part by subjecting it to heat treatment at from approximately 400°C to approximately 700°C to improve frictional force at high temperatures as recited in claim 36 would have been obvious from the combined teachings of Fujii and Thompson or of Lumpkin and Thompson; and (4) whether a bicycle braking member including a nickel tungsten layer having a thickness from approximately 0.5 μm to approximately 100 μm as recited in claim 2 would have been obvious from the combined teachings of Fujii, Thompson and Patel or of Lumpkin, Thompson and Patel.

FINDINGS OF FACT

The record supports the following findings of fact ("FF") by a preponderance of the evidence.

1. Lumpkin teaches a disk brake caliper for a bicycle in operative engagement with a disc. (Lumpkin, col. 5, l. 65 – col. 6, l. 3.) The disc is rigidly mounted to the hub of a bicycle wheel assembly. (Lumpkin, col. 6, ll. 5-7.) In operation, a brake pad advances into contact with the disc so as to compress the disc between that brake pad and another brake pad. (Lumpkin, col. 13, ll. 24-39.) Lumpkin does not appear to disclose any friction coating on the disc.

2. Fujii discloses a spray coated metal layer formed on at least a part of that surface of a wheel rim with which a brake shoe is brought into contact. (Fujii, col. 2, ll. 12-15.)

3. The spray coated metal layer may be formed on a generally annular part of the surface of the rim. (Fujii, col. 2, ll. 31-33 and Figs. 2-4, ref. no. B.)

4. The spray coated metal layer may be formed from a metal alloy comprising metal elements selected from a group of thirteen specific examples including nickel and tungsten. The spray coated layer may also be formed from a ceramic selected from a group of twenty-three specific examples or a combination of metal and ceramic components. One specific example of a suitable ceramic component is tungsten carbide. (Fujii, col. 2, ll. 36-51.).

5. The spray coating may be applied by plasma, arc, gas flame or detonation spray coating. (Fujii, col. 2, l. 68 – col. 3, l. 2.)

6. The spray coated layer may have a thickness of 20 μm to 300 μm, with a thickness of 50 μm to 150 μm preferred. Fujii teaches that too thin a layer will not produce the desired results while too thick a layer may peel off the rim surface. (Fujii, col. 3, ll. 3-8.)

7. Thompson discloses a brake pad for an elevator having a fused sprayed coating friction material. (Thompson, col. 3, ll. 27-31.) The brake operates by pressing the friction material of the brake shoe against a surface of a guide rail, typically fabricated from steel, to stop the elevator car. (Thompson, col. 2, ll. 1-4 and col. 4, ll. 43-48.)

8. Thompson describes forming brake tiles by spraying a screened admixture of nickel alloy powder and approximately 15 wt% tungsten carbide alloy powder onto a tile matrix using a combustion powder flame spray gun or an arc-plasma spray gun. (Thompson, col. 3, ll. 42-45; col. 3, ll. 53-55; and col. 3, l. 65 – col. 4, l. 4.)

9. Thompson further describes fusing the sprayed layers on the brake tiles in an inert atmosphere furnace by raising the temperature of the furnace to 1000°C at a rate of 50°C per minute; holding the furnace at

1000°C for approximately ten minutes; raising the temperature of the furnace to 1080°C at a rate of 25°C per minute; holding the temperature at 1080°C for approximately twenty-five minutes; lowering the temperature of the furnace to 482°C at a rate of approximately 20°C per minute; holding the temperature at 482°C for approximately one minute; and lowering the temperature of the furnace to room temperature at a rate of 4°C per minute. (Thompson, col. 4, ll. 30-41.)

10. Thompson teaches that brake pads having fused sprayed nickel-tungsten coatings as disclosed in the reference serve as a replacement for conventional brake pads having friction surfaces formed from grey cast iron. (Thompson, col. 3, ll. 18-38.) The same reference teaches that the conventional brake pads using grey cast iron "cannot operate as a consistent friction material at high speeds and loads required by such modern elevator systems due to breaking failures caused by excessive wear and *a reduced coefficient of friction caused by high frictional heating*." (Thompson, col. 1, ll. 42-47.)

PRINCIPLES OF LAW

A claim is unpatentable for obviousness under § 103(a) if "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." In *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the Supreme Court set out factors to be considered in determining whether claimed subject matter would have been obvious:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Id., 383 U.S. at 17-18.

In order to reject a claim under § 103(a), an examiner must establish at least a "prima facie" case that the claimed subject matter would have been obvious. Once the examiner produces prima facie evidence that the claimed subject matter would have been obvious, the applicant may present additional evidence tending to rebut the examiner's conclusion that the claimed subject matter would have been obvious. If the applicant presents additional evidence to rebut the examiner's conclusion, the examiner must consider all of the evidence anew. If the evidence presented by the examiner and any evidence presented by the applicant, considered anew, demonstrate that the claimed subject matter would have been obvious to one of ordinary skill in the art, the claim is properly rejected under § 103(a). *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984).

ANALYSIS

A. The Rejection of Claims 1, 3, 4, 33-35 and 37 Under § 103(a) as Being Unpatentable Over Fujii in View of Thompson

The Appellants contest the rejection of claims 1, 3, 4, 33-35 and 37 together in the Appeal Brief. (App. Br. 4.) Therefore, we understand the Appellant to have grouped claims 1, 3, 4, 33-35 and 37 for purposes of this ground of rejection and select claim 1 to be representative of the group. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007). The Appellants contend that (1) Thompson is non-analogous art (App. Br. 4) and that (2) that there is no clear and particular evidence that Thompson's nickel-tungsten layer would produce any benefit in a bicycle disc brake rotor (App. Br. 5). We disagree with both contentions.

We conclude at the outset that Fujii teaches or suggests each and every limitation of claim 1. Fujii teaches a bicycle wheel rim. (FF 2; *see also* App. Br. 6.) Fujii teaches that the wheel rim is a braking member in the sense that a brake shoe is brought into contact with a spray coated, generally annular part of the surface of the rim. (FF 2-3.) The Appellants do not appear to contest that Fujii's wheel rim is dimensioned to be mounted to rotate with a bicycle wheel. (App. Br. 6.) Fujii's teaching to form a spray coated layer on the generally annular part of the wheel rim (FF 2-3) implies that the wheel rim includes a generally annular matrix and that the spray coated layer is disposed between that generally annular matrix and an exposed friction surface of the layer.

Fujii teaches forming the spray coated layer from one or more of a finite number of specific examples of metal and ceramic components. These specific examples include nickel/tungsten alloys. (FF 4.) One of ordinary

skill in the art would have anticipated that by forming the spray coated layer of Fujii from a nickel-tungsten alloy, one of ordinary skill would succeed in producing a suitable friction layer for a bicycle braking member. One of ordinary skill would anticipate this because the alloy layers recited in claim 1 are used for the same purpose as the spray coated layers taught by Fujii. Therefore, one of ordinary skill in the art would have found it obvious to try forming the spray coated layer from a nickel-tungsten alloy. Given these facts, "obvious to try" implies at least prima facie obviousness. *See Merck & Co. v. Biocraft Labs.*, 874 F.2d 804, 807 (Fed. Cir. 1989); *see also KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1742 (2007).

Although we conclude that the subject matter of claim 1 would have been prima facie obvious from the teachings of Fujii alone, we conclude in the alternative that the subject matter of claim 1 would have been prima facie obvious from the combined teachings of Fujii and Thompson. The Appellants do not contest that Thompson teaches forming a nickel-tungsten alloy layer within the broadest reasonable interpretation of claim 1 by flame spraying or arc-plasma spraying. (*See* FF 8.) As such, the spray coated nickel-tungsten layer taught by Thompson is one of Fujii's specific examples of spray coated layers. Thompson's teaching that this spray coated nickel-tungsten layer is suited for use as a friction layer in a brake, and in particular Thompson's suggestion that this spray coated layer is resistant to excessive wear and to reduction of its coefficient of friction due to high frictional heating (FF 10), would have guided one of ordinary skill in the art to select such a nickel-tungsten layer for use in forming a friction layer on Fujii's bicycle wheel rim.

Turning to the Appellants' contention that Thompson is not analogous art, we note that the established precedent of our reviewing court sets up a two-fold test for determining whether art is analogous: "First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved." *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986). More recently, the U.S. Supreme Court hinted that the range of available art may be even broader: "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one." *KSR Int'l, Inc. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742 (2007). One determines whether a prior art reference is within the same field of endeavor as the subject matter of a claim by comparing the structure and function of the subject matter recited in the claim to that of the subject matter disclosed in the reference. *In re Bigio*, 381 F.3d 1320, 1326 (Fed. Cir. 2004).

Claim 1 recites a bicycle braking member. The Appellants' Specification is directed to a bicycle braking device including brake pads disposed at the ends of hydraulically-actuated pistons so that, when the pistons move from a released position to a braking position, the brake pads frictionally clamp a disc rotor to brake the front wheel of the bicycle. (Spec. 5, ¶ 0028.) Thompson teaches a brake for an elevator which operates by pressing brake shoes against a metal surface so that friction stops the relative movement between the metal surface and the elevator. (FF 7.) Since the relevant structure and function of a brake for a bicycle, that is, the structure and function of the braking members, is similar to the relevant structure and

function of a brake for an elevator, the teachings of Thompson are within the Appellants' field of endeavor.

Even had we determined that the teachings of Thompson were not within the Appellants' field of endeavor, we would find that those teachings are reasonably pertinent to the particular problem which the Appellants address. The Appellants' Specification states that, "in the case of braking devices that operate using frictional force, it is important to suppress so-called fading, in which the braking force drops because of heat generated by friction." (Spec. 1, ¶ 0003). The Appellants assert that brakes incorporating the subject matter of claim 1 may have improved braking characteristics at high temperature. (Spec. 2, ¶ 0005). Thompson teaches that brake pads having fused sprayed nickel-tungsten friction layers as disclosed in the reference address drawbacks of conventional brake pads having friction surfaces formed from grey cast iron including reduced coefficients of friction caused by high frictional heating. (FF 10.) Therefore, one of ordinary skill in the art would have found the teachings of Thompson pertinent to at least one problem with which the Appellants were involved. Thompson is analogous art.

Inasmuch as we have concluded that the subject matter of claims 1, 3, 4, 33-35 and 37 would have been prima facie obvious, and since the Appellants have submitted evidence in rebuttal of obviousness, we now turn to consider this evidence. When such evidence is presented it is our duty to consider the evidence anew. *See*, *e.g.*, *In re Eli Lilly & Co.*, 902 F.2d 943, 945 (Fed. Cir. 1990). We also are mindful that objective evidence of nonobviousness in any given case may be entitled to more or less weight

depending on its nature and its relationship with the merits of the invention. *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983).

The Appellants contend that test results recounted in paragraphs 0042-0073 of their Specification demonstrate that the performance of rotors constructed according to the subject matter of claim 1 was superior in steep slope braking tests and controllability tests to the performance of "conventional rotors" in similar tests. (App. Br. 3.) The Appellants further contend that one of ordinary skill in the art would have expected a nickel-tungsten layer to perform worse in a bicycle environment because of the increase in hardness of the nickel-tungsten layer as temperature rises. The Appellants conclude from these contentions that the performance of the claimed subject matter in the bicycle environment was unexpected. (App. Br. 5).

While we have considered the evidence relied on by the Appellants, we conclude that the entirety of the evidence before us supports the Examiner's rejection of claims 1, 3, 4, 33-35 and 37. Evidence asserted to prove that the subject matter of a claim produces unexpected results must show that the apparatus produces unexpectedly superior results as compared with the closest prior art. *In re Wood*, 599 F.2d 1032, 1037 (CCPA 1979). Here, the closest prior art is Fujii, which actually discloses a wheel rim having a generally annular matrix and a nickel-tungsten alloy layer disposed between the matrix and the friction surface as recited in claim 1. (FF 2-4.) The secondary reference, Thompson, provides evidence that one of ordinary skill in the art would have had reason to select a nickel-tungsten alloy from the finite group of metal and ceramic combinations which Fujii teaches to be preferred for fabricating a friction layer for a wheel rim. The tests recounted

in the Appellants' Specification provide no basis commensurate with the scope of claim 1 for discriminating between the results produced by a bicycle braking member as recited in claim 1 and the results produced by a rim having a nickel-tungsten alloy layer as taught by Fujii. In light of this defect, the evidence of obviousness provided by the teachings of Fujii and Thompson outweighs the evidence asserted by the Appellants to prove unexpected results.

Having now considered all the evidence presented by the Appellants and weighing the evidence anew, it is our conclusion that the evidence for obviousness greatly outweighs the evidence thereagainst. On the record before us, the Appellants have not shown that the Examiner erred in rejecting claims 1, 3, 4, 33-35 and 37 under § 103(a) as being unpatentable over Fujii and Thompson.

B. The Rejection of Claims 36, 38 and 39 Under § 103(a) as Being Unpatentable Over Fujii in View of Thompson

Thompson teaches fusing a nickel-tungsten alloy surface friction layer in an inert atmosphere furnace in a treatment which includes holding the temperature of the furnace at 482°C for approximately one minute. (FF 9.) The Appellants present a single argument with regard to the rejection of claims 36, 38 and 39, namely, that "it is unknown why Thompson, et al. subjects the brake to a temperature of 482°. There is no evidence or reason to believe that the heat treatment affects the frictional force of the resulting brake pad as recited in claims 36, 38 and 39." (Reply Br. 2; *see also* App. Br. 6.) In view of the manner in which the Appellants present this contention, we understand the Appellants to have grouped claims 36, 38 and

39 for purposes of this ground of rejection and select claim 36 to be representative of the group. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007).

Claim 36 recites a bicycle braking member. A claim to a product such as a bicycle braking member is not limited to a product made by particular method steps recited in the claim. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1317 (Fed. Cir. 2006). Nevertheless, where a claimed product and a prior art product "are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art [product does] not necessarily or inherently possess the characteristics of his claimed product." *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977).

Thompson teaches that conventional brake pads having friction surfaces formed from grey cast iron suffer from drawbacks including reduced coefficients of friction caused by high frictional heating. Thompson also teaches that brake pads having fused sprayed nickel-tungsten friction layers as disclosed in the reference address these drawbacks. (FF 10.) Based on these teachings, the Examiner has a rational basis for belief that Thompson carries out the fusion of the spray coated nickel-tungsten layer, including the step of holding the temperature of the furnace at 482°C for approximately one minute, to improve the frictional force of the friction surface at high temperatures. Unless rebutted, this fact implies that a wheel rim as taught by Fujii having a fused sprayed nickel-tungsten layer as taught by Thompson[1] is a bicycle braking member formed in part by subjecting it to

[1] The Appellants do not appear to contest that the teachings of Fujii and Thompson would have suggested a wheel rim having a nickel-tungsten layer which "*comprises* substantially pure nickel alloyed with substantially pure tungsten" as recited in claim 36. [Emphasis added.]

a heat treatment at from approximately 400°C to approximately 700°C to improve frictional forces at high temperatures as recited in claim 36.

The Appellants provide no evidence sufficient to rebut this finding. Counsel's conclusory assertion that there is no evidence or reason to believe that Thompson's heat treatment affects the frictional force of the resulting brake pad cannot substitute for such evidence. *See*, *e.g.*, *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (arguments of counsel are not evidence). Therefore, we conclude that the subject matter of representative claim 36 is prima facie obvious.

We are aware of no evidence of non-obviousness relied on by the Appellants except that which we considered previously with regard to the rejection of claim 1. We have considered all of the evidence pertinent to the rejection of claim 36 including that relied on by the Appellants to prove that the subject matter of claim 1 produces unexpected results. Having weighed all of the evidence anew, we conclude that the evidence that the subject matter of claim 36 would have been obvious greatly outweighs the evidence thereagainst. On the record before us, the Appellants have not shown that the Examiner erred in rejecting claims 36, 38 and 39 under § 103(a) as being unpatentable over Fujii, Thompson and Patel.

C. The Rejection of Claim 2 Under § 103(a) as Being Unpatentable Over Fujii in View of Thompson and Patel

Claim 2 recites a braking member as recited in claim 1 in which the nickel-tungsten layer has a thickness of from approximately 0.5 μm to approximately 100 μm. A prima facie case of obviousness typically exists where a claimed range overlaps a range disclosed in the prior art. *In re*

Peterson, 315 F.3d 1325, 1329 (Fed. Cir. 2003). Fujii teaches forming a metal layer having a friction surface by plasma, arc or gas flame spraying a metal such as tungsten, nickel or an alloy thereof; a ceramic such as tungsten carbide; or a combination of metals, ceramics or both onto a generally annular surface of a bicycle wheel rim. (FF 2-5.) The preferred thickness of the metal layer ranges from 50 μm to 150 μm. (FF 6). This range of thicknesses overlaps the range of thicknesses recited in claim 2. Therefore, the Appellant has not shown that the Examiner erred in determining that claim 2 is prima facie obvious from the teachings of Fujii and Thompson.

In addition, we agree with the Examiner (Ans. 4) that discovering an optimum or workable range for the thickness of the nickel-tungsten layer would have involved only routine skill in the art. Fujii teaches that too thin a friction layer will not produce the desired results while too thick a layer may peel off the rim surface. (FF 6.) These teachings would have suggested to one of ordinary skill in the art the problem to seek an optimum or workable range of layer thicknesses to avoid these difficulties. The Appellants do not appear to contend that the testing required to find an optimum or workable range of thicknesses would have been beyond the level of skill in the art at the time the invention was made. In other words, the testing required to find the optimum or workable range of thicknesses recited in claim 1 would have required no more than the routine application of a well-known problem-solving strategy to a problem apparent from the teachings of Fujii and Thompson. As such, the range of layer thicknesses recited in claim 2 would have been prima facie obvious. *See Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1368 (Fed. Cir. 2007).

We are aware of no evidence of non-obviousness relied on by the Appellants except that which we considered previously with regard to the rejection of claim 1. We have considered all of the evidence pertinent to the rejection of claim 2 including that relied on by the Appellants to prove that the subject matter of claim 1 produces unexpected results. Having weighed all of the evidence anew, we conclude that the evidence that the subject matter of claim 2 would have been obvious greatly outweighs the evidence thereagainst. On the record before us, the Appellants have not shown that the Examiner erred in rejecting claim 2 under § 103(a) as being unpatentable over Fujii, Thompson and Patel.

D. The Rejection of Claims 1, 3, 4 and 33-39 Under § 103(a) as Being Unpatentable Over Lumpkin in View of Thompson and Patel

Lumpkin discloses a bicycle brake pad assembly which urges a brake pad into contact with a disc rigidly mounted to the hub of a wheel assembly but does not appear to disclose any friction coating on the disc. (FF 1.) We agree with the Appellants that "Thompson, et al.'s nickel-tungsten layer is applied to the frictional material of a brake *pad*, not to a brake *rotor*." (App. Br. 4 [emphasis in original].) The Examiner has provided no reasoning with rational underpinnings in the teachings of Lumpkin and Thompson supporting the conclusion that it would have been obvious to one of ordinary skill in the art to modify Lumpkin's disc (as opposed, perhaps, to Lumpkin's brake pads) to include a nickel-tungsten layer. Hence, the combined teachings of Lumpkin and Thompson on which the Examiner relies do not establish prima facie that a bicycle braking member as recited in claims 1 and 36 having "a nickel-tungsten alloy layer disposed between the matrix

and the friction surface," or a method of manufacturing a bicycle member as recited in claim 35 including the step of forming such a layer, would have been obvious to one of ordinary skill in the art.

In light of this conclusion, we need not consider the evidence asserted by the Appellants to prove unexpected results in connection with this ground of rejection. On the record before us, the Appellants have shown that the Examiner erred in rejecting claims 1, 3, 4 and 33-39 under § 103(a) as being unpatentable over Lumpkin and Thompson.

E. The Rejection of Claim 2 Under § 103(a) as Being Unpatentable Over Lumpkin in View of Thompson and Patel

Claim 2 depends from claim 1. We have determined that the combined teachings of Lumpkin and Thompson on which the Examiner relies do not establish prima facie that a bicycle braking member as recited in claim 1 having "a nickel-tungsten layer disposed between the matrix and the friction surface" would have been obvious. The Examiner has identified nothing in Patel which might overcome this deficiency. On the record before us, the Appellants have shown that the Examiner erred in rejecting claim 2 under § 103(a) as being unpatentable over Lumpkin, Thompson and Patel.

CONCLUSIONS OF LAW

On the record before us, the Appellants have not shown that the Examiner erred in rejecting claims 1, 3, 4 and 33-39 under § 103(a) as being unpatentable over Fujii in view of Thompson or in rejecting claim 2 under

§ 103(a) as being unpatentable over Fujii in view of Thompson and Patel. The Appellants have shown that the Examiner erred in rejecting claims 1, 3, 4, 33-39 under § 103(a) as being unpatentable over Lumpkin in view of Thompson as well as in rejecting claim 2 under § 103(a) as being unpatentable over Lumpkin in view of Thompson and Patel.

DECISION

We affirm the Examiner's rejection of claims 1-4 and 33-39.

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) (2007).

AFFIRMED

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DELAND LAW OFFICE
P.O. BOX 69
KLAMATH RIVER, CA 96050-0069