

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ADLENS USA, INC. AND ADLENS, LTD.,
Petitioner,

v.

SUPERFOCUS HOLDINGS LLC, SUPERFOCUS, LLC,
INSOLVENCY SERVICES GROUP, INC., AND
DR. STEPHEN KURTIN,
Patent Owner.

Case IPR2015-01824
Patent 8,708,487 B2

Before LORA M. GREEN, GRACE KARAFFA OBERMANN, and
ELIZABETH M. ROESEL, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Petitioner, Adlens USA, Inc. and Adlens, Ltd., filed a Petition seeking *inter partes* review of claims 1–5 of U.S. Patent No. 8,708,487 B2 (Ex. 1001, “the ’487 patent”). Paper 2 (“Pet.”). Patent Owner, Superfocus Holdings LLC, *et al.*,¹ filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may be authorized only if the information presented in the Petition and the Preliminary Response shows that there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition. Applying that standard, we institute an *inter partes* review of claims 1–5 of the ’487 patent for the reasons and on the grounds set forth below.

Our findings of fact and conclusions of law are based on the record developed thus far, before the filing of Patent Owner’s Response. This is not a final decision as to the patentability of any challenged claim. Our final decision will be based on the full record developed during the trial.

I. BACKGROUND

A. *Related Proceedings*

The parties state that the ’487 patent was asserted in *Superfocus Holdings LLC v. Adlens USA, Inc.*, No. 1:14-cv-14189 (D. Mass.), which was filed on November 18, 2014 and dismissed without prejudice on March 11, 2015. Pet. 1–2; Paper 8.

¹ Patent Owner identifies the following parties as comprising Patent Owner: Superfocus Holdings LLC; Superfocus, LLC; Insolvency Services Group, Inc., solely in its capacity as Assignee for the benefit of creditors of Zoom Focus Eyewear, LLC; and Dr. Stephen Kurtin. Paper 8.

The '487 patent is related to U.S. Patent No. 8,967,797 B2, which is a continuation of and claims priority to the application that issued as the '487 patent. The '797 patent is the subject of co-pending IPR2015-01821 between the same parties.

B. Information Relied Upon

Petitioner's patentability challenges are based on the following references:

Reference	Patent/Publication No.	Date	Exhibit
Gordon	US 1,269,422	June 11, 1918	1007
Kurtin et al. ("Kurtin '629")	US 5,371,629	Dec. 6, 1994	1009
Cronin et al. ("Cronin")	US 5,526,067	June 11, 1996	1006
Kurtin ("Kurtin '532")	US 2008/0084532 A1	Apr. 10, 2008	1004

In addition, Petitioner relies on the Declaration of Dr. Nickolaos Savidis, Ex. 1003 ("Savidis Declaration").

C. Asserted Ground of Unpatentability

Petitioner asserts that claims 1–5 of the '487 patent are unpatentable under 35 U.S.C. § 103(a) based upon Kurtin '532, Kurtin '629, and Gordon and/or Cronin.²

² Although not included in the summary or heading for the asserted ground, Cronin is relied upon in the alternative as providing a motivation to combine the teachings of Kurtin '532 and Kurtin '629, optionally as modified by Gordon. Pet. 33, 34.

II. ANALYSIS

A. *The '487 Patent (Ex. 1001)*

The '487 patent discloses variable focus spectacles (eyeglasses) in which each eye's lens can be adjusted independently of the other eye's lens. Ex. 1001, Title, Abstract, 1:56–58. The '487 patent describes the invention in connection with variable focus spectacles and lenses of the type disclosed in Kurtin '532, which is incorporated by reference in the '487 patent. *Id.* at 1:59–61, 1:66–67, 2:13–30, 3:36–39. Such lenses include a rigid lens, a distensible membrane, and a transparent liquid filling a space between the rigid lens and membrane. *Id.* at 2:13–17. The rigid lens and membrane are each held by rings spaced from one another and joined by a flexible sealing member, which keeps the liquid from escaping and allows the inter-ring spacing to be varied, thereby causing the membrane to bulge or recede and changing the optical power of the lens. *Id.* at 2:17–20, 2:24–28. According to the '487 patent, Kurtin '532 discloses a bilateral adjustment using an actuator within the bridge of the eyeglasses, while the inter-ring spacing at a point substantially opposite the bridge is set by a leaf hinge. *Id.* at 2:1–9, 2:20–24.

In the invention of the '487 patent, the leaf hinge of Kurtin '532 “is replaced by a hinge means with controllable axial length ('H/CAL') which can be manually set by the wearer.” *Id.* at 2:31–33; *see also* 3:52–55. The H/CAL, also referred to as a “fluctuating vision compensation mechanism,” allows the inter-ring spacing and optical power of each lens of the eyeglasses to be adjusted for each eye separately. *Id.* at 2:33–48, 3:4–9.

The variable focus spectacles are shown in Figures 1–3 of the '487 patent, reproduced below:

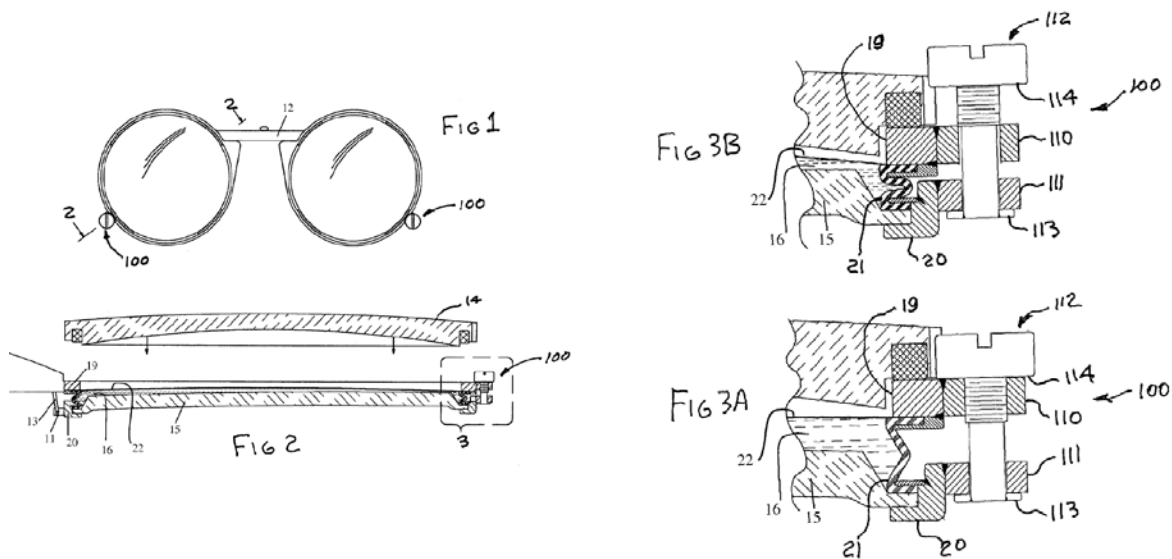


Figure 1 shows a front view of a pair of eyeglasses. *Id.* at 3:23–24. Figure 2 shows a cross-sectional view of one lens unit, and Figures 3A and 3B show an enlarged view of the H/CAL adjustment mechanism set to provide minimum and maximum optical power, respectively. *Id.* at 3:25–31, 3:60–62.

As shown in Figures 1–3, the eyeglasses include bridge 12, and each lens unit includes rear lens 15, transparent optical liquid 16, front ring 19, rear ring 20, bellows 21, and distensible membrane 22. According to the '487 patent, each of these components is disclosed in Kurtin '532 with the same identification numbers, and components added by the '487 patent are given numbers over 100. *Id.* at 3:36–39.

Figure 1 shows two “fluctuating vision compensation mechanisms 100” in a pair of variable focus spectacles. *Id.* at 3:50–52. As shown in Figures 3A and 3B, each mechanism 100 includes tab 110 attached to front ring 19 and tab 111 attached to rear ring 20, each tab having a hole to receive controllable spacing screw 112 having head 114 and retainer 113 to keep the screw from coming out of tab 111. *Id.* at 3:63–4:11. The hole in

tab 110 is tapped (threaded), such that rotation of screw 112 adjusts the distance between front ring 19 and rear ring 20 at the location of mechanism 100. *Id.* at 3:65–67, Figs. 3A, 3B.

B. Illustrative Claim

The '487 patent includes 5 claims, of which claims 1 and 4 are independent. Claim 1 is reproduced below with bracketing lettering and a paragraph break added to correspond to Petitioner's contentions:

1. [a] Variable Focus Spectacles comprising: first and second transparent members;

[b] first and second membrane support structures, each having an opening therein, the first and second membrane support structures being respectively associated with and mounted adjacent to and within the field of view of the first and second transparent members;

[c] first and second adjustable connectors respectively connecting the first and second transparent members to the first and second membrane support structures, each of the first and second adjustable connectors allowing adjustment of a distance between its respective transparent member and its associated membrane support structure at a location of said connector while,

[d] at another location along a perimeter of the transparent member spaced apart from the location of the connector, a distance between the respective transparent member and its associated membrane support structure is kept unchanged,

[e] the first and second adjustable connectors being manually adjustable independently of each other;

[f] a transparent membrane attached to each of said first and second membrane support structures across said openings;

[g] a flexible seal extending between each one of said first and second transparent members and its associated membrane support structure, said flexible seal permitting

motion between one of the first and second transparent members and its associated membrane support structure; and

[g] liquid having a predetermined index of refraction substantially filling spaces between each of said first and second transparent members and its associated membrane support structure within its respective seal.

Ex. 1001, 4:37–5:2. Independent claim 4 is similar to claim 1, except that it omits paragraph [e] and includes the additional limitation of claim 3, which depends from claim 1. *See* Pet. 40–43 (comparison between ’487 patent claims 3 and 4).

C. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015). Claim terms are given their ordinary and customary meaning, as 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).

Neither Petitioner nor Patent Owner proposes an explicit construction for any claim term. Pet. 4; Prelim. Resp. 20.

We determine that it is not necessary to provide an explicit construction for any claim term at this stage of the proceeding. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Obviousness

Petitioner asserts that the subject matter of claims 1–5 would have been obvious to one of ordinary skill in the art based upon the disclosures of Kurtin '532 (Ex. 1004) and Kurtin '629 (Ex. 1009) in view of Gordon (Ex. 1007) and/or Cronin (Ex. 1006). Pet. 27–43.

As discussed above, the '487 patent acknowledges that the invention is a modification of Kurtin '532 consisting of replacing the disclosed leaf hinge “by a hinge means with controllable axial length (‘H/CAL’) which can be manually set by the wearer.” Ex. 1001, 2:31–33; *see also* 1:59–61, 3:52–55. The '487 patent further acknowledges that Kurtin '532 discloses all elements of the invention, except for the H/CAL adjustment mechanism, also referred to as a “fluctuating vision compensation mechanism.” *Id.* at 2:13–40, 3:36–49.

Kurtin '629 discloses spectacles having variable focal length lenses including frame 10, rigid lens 12, membrane 15 attached at its periphery to membrane support 14, flexible seal 13 between the rigid lens and membrane support, and liquid 21 between the rigid lens and membrane. Ex. 1009, Abstract, Figs. 1–3, 3:10–33, 3:40–45. The optical power of the lenses is varied by turning nut 20, which is threaded on screw 21 and engages actuating tabs 19 of membrane supports 14, causing them to pivot relative to frame 10 via hinges 16 and pins 17 and causing membranes 15 to bulge or recede. *Id.* at Abstract, Figs. 2–3, 3:50–4:9.

Gordon discloses spectacles having adjustable focus lenses. Ex. 1007, Figs. I–IV, 1:9–23, 1:41–42. Gordon discloses a first embodiment shown in Figure I and a second embodiment shown in Figures II–IV. *Id.* at 1:30–52, 2:5–6. In both embodiments, the focus of each lens 7 can be adjusted by

turning screw 5, which changes the diameter and circumference of the lens and causes lens side portions 8 to move toward or away from each other with the help of transparent liquid 11 that fills a pocket between side portions 8. *Id.* at Figs. I–IV, 1:67–80, 1:87–100, 2:5–22. In the Figure I embodiment, screw 5 connects ears 4 of lens frames 3 to bridge seats 4, and in the Figure II embodiment, screw 5 connects ears 12 of lens frames 3 to each other. *Id.* at Figs. I, II, and IV, 1:45–52, 2:5–19.

Cronin discloses variable focal length eyeglasses having a frame, a pair of lens assemblies, and an actuation mechanism. Ex. 1006, Abstract, 2:48–50, Fig. 1. Each lens assembly includes a rigid substrate, a membrane support spaced from the rigid substrate, a flexible seal extending between the rigid substrate and the membrane support, a transparent elastomeric membrane sealed around its periphery to the membrane support, and a transparent liquid filling the space between the rigid substrate and the membrane forming a liquid lens. *Id.* at Abstract, 2:50–57. The actuation mechanism causes relative motion between the membrane and the rigid substrate so that both optical and prismatic power of the liquid lens changes by varying a force applied to the flexible seal along one section, while another section of the seal acts as a hinge. *Id.* at Abstract, 2:57–64.

Cronin's disclosed embodiment includes lens actuators 4L and 4R having calibration screws 42L and 42R, respectively. *Id.* at 5:63–66. The purpose of these screws is to allow independent calibration (i.e., adjustment) of the focal length of the left and right lenses, respectively. *Id.* at 4:27–32, 5:17–22, 5:66–6:2, Figs. 2 and 4.

1. *Claim 1*

Petitioner contends that Kurtin '532 teaches all limitations of claim 1, except for the adjustment limitations. Pet. 30–31. Citing the Savidis Declaration, Petitioner contends that it would have been obvious to modify Kurtin '532 to provide independent adjustability of each lens, as taught by Gordon or Cronin, by replacing Kurtin '532's non-adjustable connector (leaf hinge 23) with an adjustable connector, such as the screw, nut, and tab arrangement of Kurtin '629 or that arrangement modified by the screw and tabs taught by Gordon. Pet. 32–38; Ex. 1003 ¶¶ 77–84. Petitioner contends that the proposed modification of Kurtin '532 would have resulted in variable focus spectacles satisfying the adjustment limitations of claim 1. Pet. 32–38.

Patent Owner does not challenge Petitioner's contention that Kurtin '532 teaches all limitations of claim 1, except for the adjustment limitations. Regarding the adjustment limitations, Patent Owner challenges the sufficiency of Petitioner's rationale for combining Kurtin '532 with Kurtin '629 as motivated by Gordon or Cronin and for further modification of that combination in view of Gordon. Prelim. Resp. 22–33.

Patent Owner contends that Gordon would not have motivated the combination of Kurtin '532 and Kurtin '629 and that these three references are not combinable because Gordon's method of adjusting the optical power of a liquid-filled lens is different from and incompatible with the adjustment method of Kurtin '532 and Kurtin '629. Prelim. Resp. 22–27, 30. According to Patent Owner, Kurtin '532 and Kurtin '629 teach adjusting both lenses simultaneously by changing the distance between a membrane support and a rigid lens, while Gordon teaches adjusting each lens by

reducing the circumference of the lens frame causing the lens to bulge. *Id.* at 24–27, 30.

We agree with Patent Owner that Gordon’s method for adjusting the optical power of a liquid-filled lens is different from the method disclosed in each of Kurtin ’532 and Kurtin ’629. Petitioner, however, relies upon Gordon to teach the concept of independent adjustment of each lens, not the specific method of adjustment. The fact that Gordon’s adjustment method differs in some respects from that taught by Kurtin ’532 and Kurtin ’629 does not detract from Gordon’s teaching of independent adjustment of each lens and does not make it less obvious to modify Kurtin ’532 to make each lens independently adjustable. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“[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. . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”).

Patent Owner further contends that Petitioner’s proposed substitution would render Kurtin ’532 unsuitable for its intended use and change its principle of operation by vitiating “a critical function of the leaf hinge.” Prelim. Resp. 28–29. On this record, we are not persuaded that the liquid-filling function of Kurtin ’532’s leaf hinge is “critical,” as argued by Patent Owner. *Id.* at 28. The evidence demonstrates that, while hole 25 in leaf hinge 23 permits insertion of a hypodermic syringe for filling the lens with liquid, Ex. 1004 ¶ 41, the same function could be performed without the leaf hinge, simply by inserting a needle through the rubber of bellows 21 at an

appropriate location, as described in the preceding paragraph of Kurtin '532, *id.* ¶ 40.

Patent Owner further contends that it would not have been obvious to modify the actuator of Kurtin '629 with Gordon's screw because, whereas Kurtin '629's actuator comprising nut 20 and screw 21 is oriented perpendicular to the lens surface, Gordon's screw 5 is oriented parallel to the lens surface and therefore could not have performed the intended function of Kurtin '629's actuator. Prelim. Resp. 29–32. We are not persuaded by Patent Owner's argument, which misstates the substitution proposed by Petitioner. The Petition asserts:

It would have been an obvious and routine design choice to replace Kurtin's '629 nut and screw combination, connected via tabs to Kurtin's '532 membrane support structure front ring 19 and rear lens 15 holding rear ring 20, with Gordon's threadably engaged screw by having one tab have a hole and the other tab have threads for receiving the threaded screw, resulting in the screw connecting (i) the tab attached to or integral with membrane support structure front ring 19 and (ii) the tab attached attached [*sic*] to or integral with rear lens holding rear ring 20.

Pet. 37–38. Patent Owner quotes part of this sentence, Prelim. Resp. 29, but omits the second half, which explains how the proposed substitution would be made.

Petitioner's proposed modification adopts the perpendicular orientation of Kurtin '629's nut and screw combination, but uses the screw and threaded hole taught by Gordon in the orientation taught by Kurtin '629 to adjustably connect the membrane support and lens holding ring taught by Kurtin '532. Pet. 37–38. On this record, the evidence shows sufficiently that Petitioner's proposed modification involves the substitution of one

known type of adjustable screw connection for another, that both types of connections were known in the art for performing the same function (adjusting the distance between two tabs connected eyeglass lens frames), and that the substitution would have yielded predictable results. *Id.*; Ex. 1004 (Kurtin '532 Fig. 5 showing front ring 19 non-adjustably connected to rear ring 20); Ex. 1009 (Kurtin '629 Fig. 3 showing and tab 19 of front rim 14 adjustably connected to rear frame 10 by screw 21 and nut 20); Ex. 1007 (Gordon Fig. IV showing tabs 12 adjustably connected by screw 5 via threaded hole in one tab and unthreaded hole in other tab). Accordingly, on this record, we are persuaded that the evidence is sufficient to support obviousness of Petitioner's proposed modification. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007) ("when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result").

Patent Owner further contends that the Kurtin references cannot be combined with Cronin because Cronin does not disclose independently adjusting each eye's lens or adjusting the distance between a transparent member and membrane support structure of each lens. Prelim. Resp. 32–33. On this record, however, we are persuaded that Cronin discloses independently adjusting each eye's lens by using a calibration screw to adjust the distance between a transparent member and membrane support. Pet. 21, 32; Ex. 1006, 2:48–64, 4:27–32, 5:17–22, 5:66–6:2, Figs. 2 and 4.

On this record, we are persuaded that the information submitted by Petitioner, including Kurtin '532 (Ex. 1004), Kurtin '629 (Ex. 1009), Gordon (Ex. 1007), Cronin (Ex. 1006), and the Savidis Declaration

(Ex. 1003 ¶¶ 70–91), shows sufficiently that it would have been obvious to one of ordinary skill in the art to provide variable focus spectacles in which each eye’s lens is manually adjustable independently of the other eye’s lens by changing a distance between a membrane support and a transparent member, as recited in claim 1.

2. *Claims 2–5*

Petitioner contends that Kurtin ’532 teaches the additional limitation of dependent claims 2 and 5, Pet. 38–39, 43 and that the proposed modification of Kurtin ’532 would have resulted in variable focus spectacles satisfying the limitations of dependent claim 3 and independent claim 4, Pet. 39–43.³ At this stage, Patent Owner argues claims 1–5 as a group and presents no argument regarding any claim separately from the other claims.

On this record, we are persuaded that Petitioner’s argument and evidence show sufficiently that replacing Kurtin ’532’s non-adjustable connector (leaf hinge 23) with an adjustable connector, such as the screw, nut, and tab arrangement of Kurtin ’629 or that arrangement modified by the screw and tabs taught by Gordon would have resulted in variable focus spectacles satisfying the limitations of claims 2–5. *Id.* at 38–43.

Accordingly, on this record, we are persuaded that Petitioner’s argument and evidence are sufficient to demonstrate a reasonable likelihood of prevailing on its assertion that the subject matter of claims 1–5 would have been obvious to one of ordinary skill in the art based upon the disclosures of Kurtin ’532 and Kurtin ’629 in view of Gordon and/or Cronin.

³ Petitioner shows that claim 4 is the same as dependent claim 3, except that one limitation of claim 3 is absent from claim 4. Pet. 40–43.

E. Procedural Matters Raised by Patent Owner

1. Savidis Declaration

Patent Owner argues that the Petition improperly incorporates by reference the Savidis Declaration, without presenting substantive arguments explaining the significance or relevance of the testimony. Prelim. Resp. 1–5. In the alternative, Patent Owner argues that the Savidis Declaration should be given no weight because it repeats verbatim conclusory arguments from the Petition without providing any independent analysis. *Id.* at 5–9.

We are not persuaded that any portion of the Petition identified by Patent Owner improperly incorporates by reference testimony from the Savidis Declaration. We agree with Patent Owner that, for the most part, the Savidis Declaration repeats verbatim arguments from the Petition. We do not, however, agree that the Savidis Declaration is merely conclusory or that it fails to disclose the underlying facts or data upon which the opinions are based. Nor does verbatim repetition necessarily reflect a lack of independent analysis. Whether the Declaration reflects the independent analysis and opinions of Dr. Savidis can be explored through cross-examination.

2. Prior Art Combinations

We are not persuaded by Patent Owner’s argument that the Petition lacks specificity in identifying the alternative combinations of prior art references on which Petitioner’s obviousness ground is based. Prelim. Resp. 10–12. Our understanding of these alternatives is discussed in Section II.D. *See* pages 8–14, *supra*. Patent Owner provides a list of these alternatives, Prelim. Resp. 11, which is accurate with one exception: we understand Petitioner to rely on Cronin as a motivating reference, not just for

the combination of Kurtin '532 and Kurtin '629, but also for the alternative combination of Kurtin '532, Kurtin '629, and Gordon. Pet. 32–38. The fact that Petitioner's claim chart does not include citations to Cronin is not determinative because the Petition itself identifies how that reference is relied upon to support Petitioner's obviousness ground. *Id.* at 33, 34.

III. CONCLUSION

For the reasons stated above, we institute an *inter partes* review as set forth in the Order. At this stage of the proceeding, the Board has not made a final determination with respect to the patentability of the challenged claims or any underlying factual or legal issues.

IV. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of the '487 patent is instituted on the following ground of unpatentability asserted in the Petition:

Claims 1–5 under 35 U.S.C. § 103 as obvious over Kurtin '532 and Kurtin '629 in view of Gordon and/or Cronin.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '487 patent is hereby instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial; and

FURTHER ORDERED that the trial is limited to the ground identified above and no other ground of unpatentability is authorized.

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