

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FOX FACTORY, INC.,  
Petitioner,

v.

SRAM, LLC,  
Patent Owner.

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Case IPR2024-00492  
Patent 7,147,207 B2

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**PATENT OWNER'S NOTICE OF APPEAL**

Notice is hereby given, pursuant to 28 U.S.C. § 1295(a)(4)(A), 35 U.S.C. §§ 141(c), 142, and 319; 37 C.F.R. §§ 90.2(a) and 90.3(a); and Federal Circuit Rule 15(a)(1), that Patent Owner SRAM, LLC (“Patent Owner”) appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision entered by the Patent Trial and Appeal Board (“PTAB”) on August 4, 2025 in IPR2024-00492 (Paper 31) (the “Final Written Decision”) and all underlying findings, determinations, issues, orders, decisions, rulings, and opinions regarding U.S. Patent No. 7,147,207 B2. A copy of the Final Written Decision is attached to this Notice.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner states that the anticipated issues on appeal include, but are not limited to, the following:

1) Whether the PTAB erred in determining that Petitioner Fox Factory, Inc. established that any of claims 1–3, 7, 8, and 10–12 of U.S. Patent No. 10,328,993 B2 are unpatentable as obvious under 35 U.S.C. § 103 in light of the combination of U.S. Patent No. 6,491,146 B1, Japanese Patent Publication No. JP 2516279, and U.S. Patent No. 5,597,054; and

2) All other issues decided adverse to Patent Owner in any order, decision, ruling, finding, determination, judgment, or opinion underlying or supporting the Final Written Decision.

Pursuant to 37 C.F.R. § 90.3, this Notice of Appeal is timely filed within 63 days of entry of the Final Written Decision dated August 4, 2025.

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), this Notice is being filed with the Director of the United States Patent and Trademark Office (via email at [efileSO@uspto.gov](mailto:efileSO@uspto.gov)), and a copy of this Notice is being concurrently filed with the PTAB. Per Federal Circuit Rule 15(a)(1) and 37 C.F.R. 90.2(a)(2), Patent Owner is also electronically filing this notice with the United States Court of Appeals for the Federal Circuit through its CM/ECF System, together with the requisite filing fee.

Dated: October 3, 2025

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**CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing PATENT OWNER'S NOTICE OF APPEAL was electronically filed with the Board via P-TACTS and copies were caused to be served upon the Director of the United States Patent and Trademark Office (via electronic mail), the Court of Appeals for the Federal Circuit (via CM/ECF), and counsel of record (via electronic mail) in this matter on October 3, 2025 as follows:

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FOX FACTORY, INC.,  
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IPR2024-00492  
Patent 7,147,207 B2

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Before MEREDITH C. PETRAVICK, HYUN J. JUNG, and  
KEVIN W. CHERRY, *Administrative Patent Judges*.

JUNG, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
35 U.S.C. § 318(a)

## I. INTRODUCTION

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) (2024) and 37 C.F.R. § 42.73 (2023). For the reasons that follow, we determine that FOX Factory, Inc. (“Petitioner”) has shown by a preponderance of the evidence that claims 1–3, 7, 8, and 10–12 of U.S. Patent No. 7,147,207 B2 (Ex. 1001, “the ’207 patent”) are unpatentable.

### *A. Background and Summary*

Petitioner filed a Petition (Paper 1, “Pet.”) requesting institution of an *inter partes* review of claims 1–3, 7, 8, and 10–12 of the ’207 patent. SRAM, LLC (“Patent Owner”) filed a Preliminary Response. Paper 6. With our authorization, the parties also filed papers directed solely at discretionary denial. Papers 7, 9. Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of claims 1–3, 7, 8, and 10–12 of the ’207 patent on all presented challenges. Paper 11 (“Inst. Dec.”), 2, 33.

After institution, Patent Owner filed a Response (Paper 16, “PO Resp.”), to which Petitioner filed a Reply (Paper 18, “Pet. Reply”), and Patent Owner thereafter filed a Sur-reply (Paper 24, “PO Sur-reply”). An oral hearing in this proceeding was held on May 15, 2025; a transcript of the hearing is included in the record. Paper 30 (“Tr.”).

### *B. Real Parties in Interest*

Petitioner identifies FOX Factory, Inc. and FOX Factory Holding Corp. as real parties in interest. Pet. 102. Patent Owner identifies itself as the real party in interest. Paper 4, 2.

*C. Related Matters*

The parties identify *SRAM, LLC v. FOX Factory, Inc.*, 1:23-cv-00492 (N.D. Ga.) as a related matter. Pet. 103; Paper 4, 2. Patent Owner also identifies IPR2024-00491. *Id.*

*D. The '207 Patent (Ex. 1001)*

The '207 patent issued on December 12, 2006, from an application filed on November 4, 2004. Ex. 1001, codes (22), (45).

The '207 patent relates “particularly to an actuator apparatus for controlling a valve mechanism of a suspension system that includes a valve actuating assembly operable between at least two rider-selectable positions and an adjuster assembly for adjusting the damping characteristics of at least one of the rider-selectable positions.” Ex. 1001, 1:7–13.

Figure 1 of the '207 patent is below reproduced.

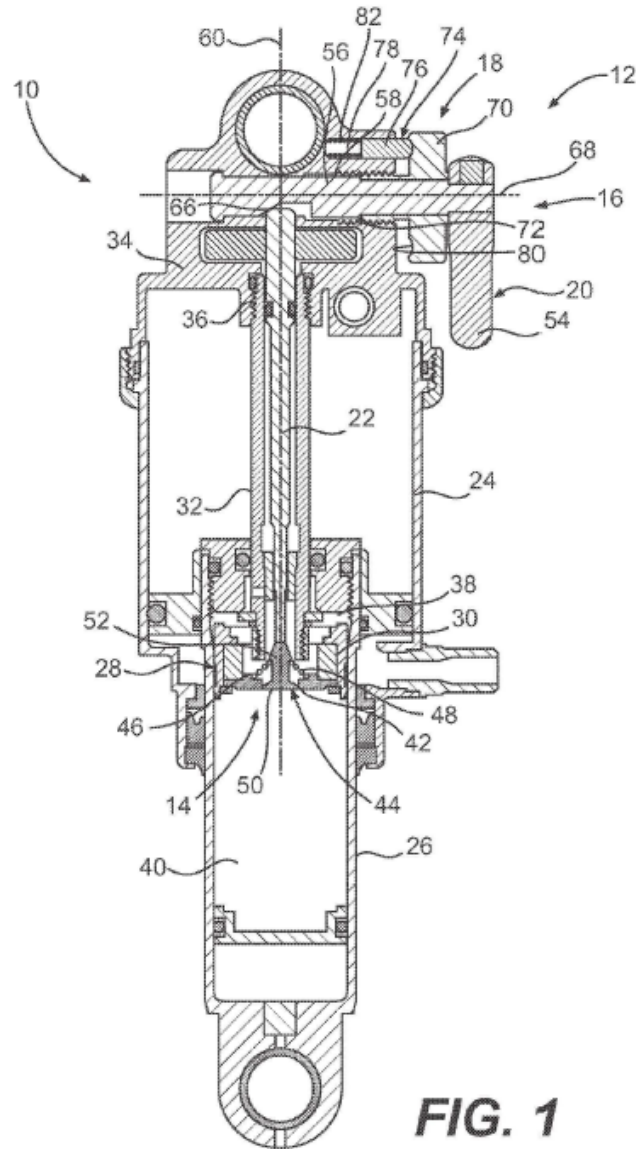


Figure 1 shows a “cross-sectional view of the suspension system.”  
Ex. 1001, 3:13–14. Suspension system 10 includes first and second  
cylinders 24, 26, and second cylinder 26 encloses piston assembly 28 that  
has piston 30 and hollow piston rod 32. *Id.* at 3:63–4:1. Piston 30 divides  
second cylinder 26 into first and second fluid chambers 38, 40, and has fluid  
passageway 42 that allows fluid to pass between chambers 38, 40 to affect  
damping. *Id.* at 4:4–9.

Valve mechanism 14, also enclosed by second cylinder 26, controls fluid flow between chambers 38, 40 and includes valve 44 and valve seat 46. Ex. 1001, 4:10–13. Driver 22 extends through and is displaceable relative to hollow piston rod 32 to engage valve stem 52 of valve 44. *Id.* at 4:19–22.

Suspension system 10 also includes actuator apparatus 12 to control valve mechanism 14. Ex. 1001, 3:42–43. Actuator apparatus 12 includes valve actuating assembly 16 and adjuster assembly 18 operatively connected to valve actuating assembly 16. *Id.* at 3:45–50. Valve actuating assembly 16 is “operable between at least two rider-selectable positions to adjust the valve mechanism 14 between various suspension settings.” *Id.* at 3:45–48. Adjuster assembly 18 can “adjust the damping characteristics corresponding to at least one of the positions of the valve actuating assembly 16 independently of the damping characteristics corresponding to another position of the valve actuating assembly 16.” *Id.* at 3:48–53.

Rider-operated lever 52 is rigidly connected to camshaft 56 that is within opening 58 of first cylinder 24 and engageable with driver 22 to displace driver 22 axially. Ex. 1001, 4:23–26. Three cam surfaces 62, 64, 66 engage with driver 22 and correspond to three rider-selectable positions. *Id.* at 4:27–30, Figs. 2, 3. Adjuster assembly 18 also includes knob 70 threaded into opening 58, and knob 70 can be threaded in and out of opening 58 to displace camshaft 56 along its axis. *Id.* at 4:41–44. Knob 70 at its minimum and maximum thread engagement causes driver 22 to engage cam surface 66 at its lowest and highest points, respectively. *Id.* at 5:3–9, Figs. 4a, 4b. Rotating knob 70 between these extremes provides various positions of driver 22 and resulting in various damping characteristics. *Id.* at 5:9–13.

*E. Illustrative Claim*

The '207 patent includes 12 claims, of which Petitioner challenges claims 1–3, 7, 8, and 10–12. Of the challenged claims, claim 1, reproduced below, is independent.

1. An actuator apparatus for controlling a valve mechanism of a suspension system, the actuator apparatus comprising:

a valve actuating assembly operatively connected to the valve mechanism, the valve actuating assembly including a camshaft rotatable between at least two positions to adjust the valve mechanism between various suspension settings; and

an adjuster assembly operatively connected to the valve actuating assembly for adjusting the damping characteristics corresponding to at least one of the positions of the valve actuating assembly independently of the damping characteristics corresponding to another position of the valve actuating assembly.

Ex. 1001, 8:44–58.

*F. Asserted Prior Art and Proffered Testimonial Evidence*

Petitioner identifies the following references as prior art in the asserted grounds of unpatentability:

| Name   | Reference                             | Exhibit |
|--------|---------------------------------------|---------|
| Nagai  | US 5,597,054, issued Jan. 28, 1997    | 1008    |
| Fox    | US 6,360,857 B1, issued Mar. 26, 2002 | 1005    |
| Yi     | US 6,491,146 B1, issued Dec. 10, 2002 | 1006    |
| JP'279 | JP 2516279, published Nov. 6, 1996    | 1007    |

Petitioner contends that the asserted references are prior art under § 102(b).<sup>1</sup>

Pet. 8–9. Petitioner also provides a Declaration of Alexander Slocum Ph.D.

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<sup>1</sup> The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), took effect on March 16,

(Ex. 1003), and a Supplemental Declaration of Alexander Slocum Ph.D. in Support of Petitioner’s Reply (Ex. 1017).

Patent Owner provides a Declaration of T. Kim Parnell. Ex. 2016. Deposition transcripts for Dr. Slocum (Ex. 2019) and Mr. Parnell (Ex. 1018) were filed.

*G. Asserted Grounds*

Petitioner asserts that claims 1–3, 7, 8, and 10–12 are unpatentable on the following grounds:

| Claims Challenged | 35 U.S.C. § | Reference(s)/Basis |
|-------------------|-------------|--------------------|
| 1–3, 7, 8, 10– 12 | 102(b)      | Fox                |
| 1–3, 7, 8, 10– 12 | 103(a)      | Fox, JP’279, Nagai |
| 1–3, 7, 8, 10– 12 | 103(a)      | Yi, JP’279, Nagai  |

Pet. 2.

## II. ANALYSIS

*A. Legal Standards*

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent [claim] it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). This burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail in an *inter partes* review, the petitioner must support its challenges by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

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2013. Because the ’207 patent issued from an application filed before that date, our citations to 35 U.S.C. §§ 102 and 103 in this Decision are to their pre-AIA versions. *See also* Pet. 8 n.2 (“All cites in this Petition to §§ 102 and 103 are to pre-AIA §§ 102 and 103.”).

Petitioner contends that the challenged claims of the '207 patent are unpatentable under §§ 102 and 103. Pet. 2. A claim is anticipated under § 102(b) “only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

A claim is unpatentable under § 103 if the differences between the claimed subject matter 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. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Whether a combination of elements produces a predictable result weighs in the ultimate determination of obviousness. *Id.* at 416–417.

*B. Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had (1) a Bachelor’s degree in Mechanical Engineering or an equivalent degree, and 1–2 years of experience in design work related to bicycle technology suspension technology; or (2) at least a Master’s degree in Mechanical

Engineering or an equivalent degree with a focus on design of mechanical elements, and a good understanding of mechanical design principles.

Pet. 9–10 (citing Ex. 1003 ¶ 23). We preliminarily adopted Petitioner’s proposed level of ordinary skill in the art. Inst. Dec. 14.

Patent Owner responds that one of ordinary skill in the art would have been “more appropriately connected to, and consider[ed] the particularities of, vehicle suspension designs.” PO Resp. 17. According to Patent Owner, the ordinarily skilled artisan would have had “a degree in Mechanical Engineering and approximately three years’ experience in vehicle component design and like technology, or a Master’s degree or higher in Mechanical Engineering with experience in design of vehicle components or like technology.” *Id.* (citing Ex. 2016 ¶ 48).

Both parties’ proposals require a Bachelor’s degree or a Master’s degree in Mechanical Engineering but differ on the number of years of experience (“1–2 years of experience” versus “three years’ experience”) and from where the experience comes (“design work related to bicycle . . . suspension technology” or “design of mechanical elements” versus “vehicle component design and like technology” or “design of vehicle components or like technology”). Pet. 9–10; PO Resp. 17.

Based on the full record, we find that Patent Owner’s proposed level of ordinary skill in the art is consistent with the ’207 patent and the asserted prior art. PO Resp. 17 (citing Ex. 2016 ¶ 48). Our analysis below, however, would not change if we applied Petitioner’s proposed level of ordinary skill in the art, because it specifies experience in design work related to bicycle suspension technology, instead of the more general design of vehicle components or like technology.

*C. Declarants*

Patent Owner argues that Petitioner’s declarant “does not appear to meet” its proposed level of ordinary skill. PO Resp. 17 (citing Ex. 2016 ¶¶ 4–13). Petitioner replies that its declarant meets both parties’ proposed level of ordinary skill. Pet. Reply 3 (citing Ex. 1003 ¶¶ 4, 23–24; Ex. 2016 ¶ 48); Tr. 9:21–10:24, 24:8–25:11. Petitioner also argues that its declarant has experience in design of vehicle components, but Patent Owner’s declarant appears to have experience only in like technology, not design of vehicle components. *Id.* at 3–4 (citing Ex. 1018, 28:8–29:23; Ex. 2016, App’x A; Ex. 2019, 207:1–208:19, 213:15–221:6, 238:13–245:5).

Petitioner’s declarant has a Ph.D. in Mechanical Engineering with “over 30 years of experience in teaching and directing research related to mechanical engineering and precision machine design.” Ex. 1003 ¶ 4. Based on the full record, we find that his experience “related to mechanical engineering and precision machine design” sufficiently meets or exceeds “experience in design of vehicle components or like technology,” as proposed by Patent Owner (PO Resp. 17).

Petitioner’s declarant would, thus, be a person of ordinary skill in the art under either party’s proposed level of ordinary skill in the art. Therefore, we see no reason to give less weight to the opinions of Petitioner’s declarant. *See also* Tr. 39:21–40:22 (confirming that the argument is about how much weight to give to the testimony).

*D. Claim Construction*

In an *inter partes* review, the claims are construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of

ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Petitioner states that “[n]o terms need construction to resolve the controversy in this forum.” Pet. 8 (citing Ex. 1003 ¶ 32). “Patent Owner agrees that the ’207 Patent’s claim terms require no special claim construction.” PO Resp. 16.

Based on the full record, we determine that express claim interpretation is not necessary to resolve the parties’ dispute. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms that . . . are in controversy, and only 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)).

*E. Asserted Obviousness Based on Yi, JP’279, and Nagai*

*1. Yi (Ex. 1006)*

Yi “relates to a damping adjustable shock absorber.” Ex. 1006, 1:7–8. Figure 12 of Yi is below reproduced.

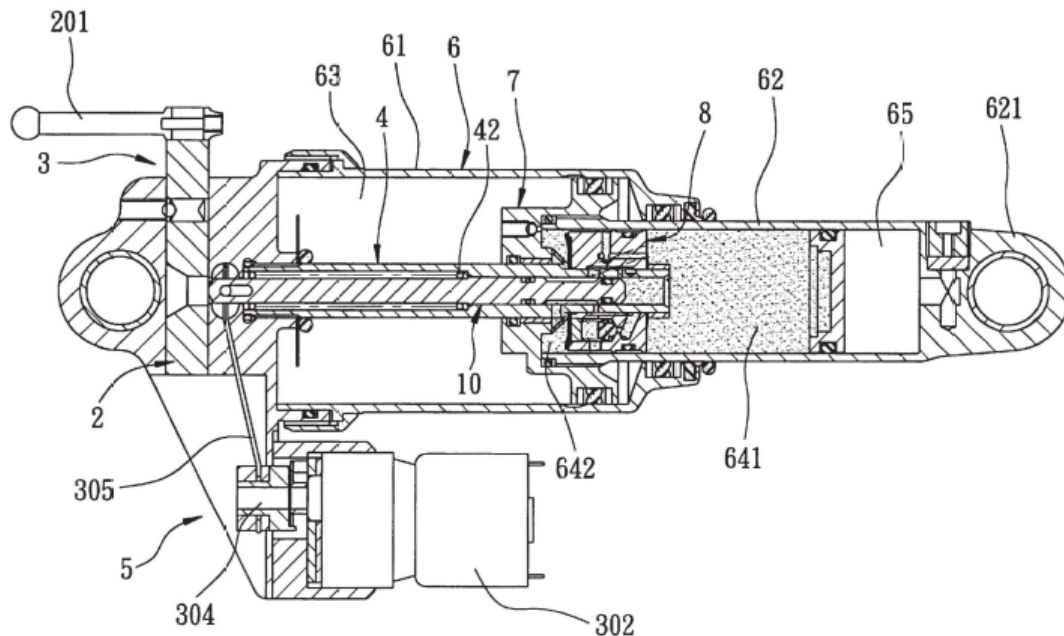


FIG. 12

Figure 12 shows Yi's shock absorber. Ex. 1006, 2:57–58, 5:50–51. Damping adjustable shock absorber 6 includes first and second cylinders 61, 62 coupled and moveable toward each other. *Id.* at 3:1–3, 3:7–8. Hollow shaft 4 extends through first and second cylinders 61, 62. *Id.* at 3:19–20. First piston 7 is sleeved movably on hollow shaft 4 in first cylinder 61, and second piston 8 is in second cylinder 62. *Id.* at 3:26–27, 3:34–35. Shock absorber 6 also includes valves 821, 831, 851, 861 to control damper fluid flow. *Id.* at 3:1–4:57

Damping adjusting rod 10 is disposed on hollow shaft 4 and has three axial positions that permit medium velocity or high velocity damper fluid flow to or from chambers 641, 642. Ex. 1006, 4:18–49. Down-flow adjusting unit 3 has eccentric shaft 2 which is connected to damping adjusting rod 10, and eccentric shaft 2 can turn to move damping adjusting rod 10 in an axial direction. *Id.* at 5:38–43. Handle 201 can operate eccentric shaft 2. *Id.* at 5:53–54.

2. JP'279 (Ex. 1007)

JP'279 discloses “[a] hydraulic shock absorber damping force adjustment mechanism for adjusting compression-side damping force and extension-side damping force.” Ex 1007, code (57).

Cylinder 1 has upper oil chamber S1 and lower oil chamber S2. Ex. 1007, 3, Fig. 1. Piston 10 slides within cylinder 1, and formed in piston 10 are compression-side oil passage 11 and extension-side oil passage 12. *Id.* at 3, Figs. 1, 2. Compression-side valve 13 and extension-side valve 14 are installed on piston 10. *Id.* at 3, Fig. 2. Hollow rod 7 contacts compression-side valve 13. *Id.* at 3.

Figure 4 of JP'279 is below reproduced.

FIG. 4

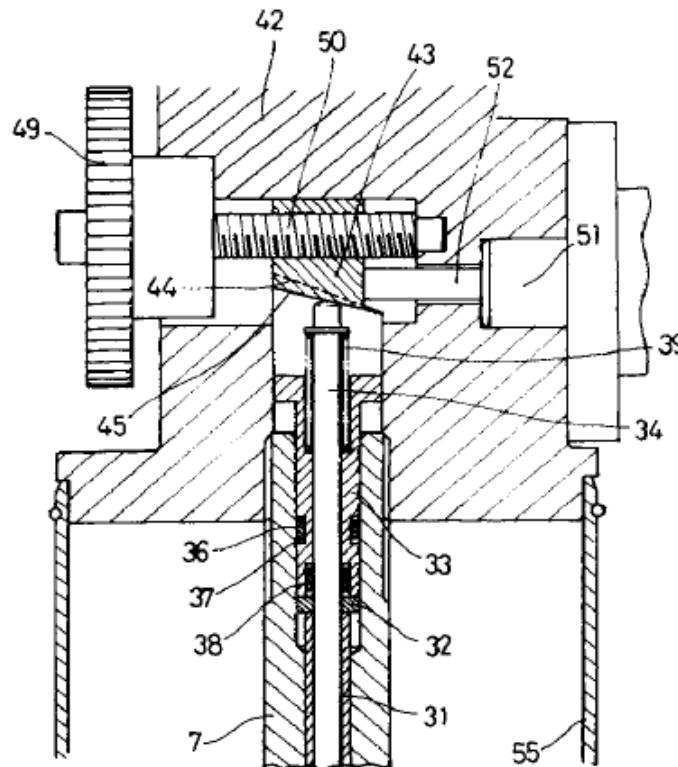


Figure 4 shows “a front view cross section” of a moving mechanism portion of a damping force adjustment mechanism. Ex. 1007, 6–7. When

feed axle 50 is rotated, slider 43 moves in a radial direction, and push rod end 33 which contacts tapered surface 44 of slider 43 advances or retracts to change compression-side damping force. *Id.* at 5–6.

3. *Nagai (Ex. 1008)*

Nagai relates “particularly to a damping force adjusting mechanism for . . . a hydraulic damper.” Ex. 1008, 1:10–13. Figure 7 of Nagai is below reproduced.

**FIG. 7**

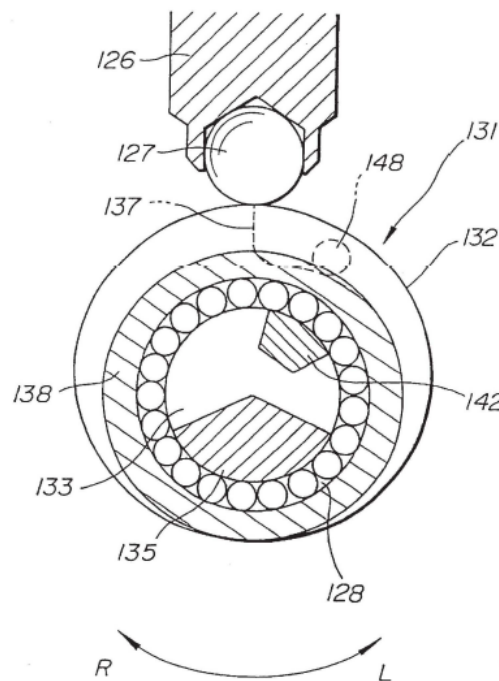


Figure 7 shows a cross-sectional view of a damping force adjusting mechanism. Ex. 1008, 2:66–67. Nagai’s hydraulic damper includes damper assembly 101 with cylinder 102 and piston 110 in sliding contact with cylinder 102. *Id.* at 5:48–56, Fig. 5. Piston 110 divides cylinder 102 into upper and lower oil chambers S3, S4, and piston 110 includes oil passage 111 and bypass oil passage 125 to generate damping forces. *Id.* at 5:58–62, 6:20–23, Fig. 5. Axially moving adjustment rod 126 varies the

cross-sectional area of bypass oil passage 125, thereby adjusting the damping forces generated by piston 110. *Id.* at 7:56–60.

Damping force adjusting mechanism 170 includes needle housing 138 and eccentric cam 131 mounted in needle housing 138. Ex. 1008, 6:31–35. Ball 127 rotates on cam surface 132 of eccentric cam 131 to axially displace adjusting rod 126. *Id.* at 6:36–43.

The angular position of eccentric cam 131 can be limited by projection 135 and integral stopper 142. Ex. 1008, 6:55–61. By limiting the angular position of eccentric cam 131, a minimum damping force and optimum damping force range can be defined. *Id.* at 6:63–7:3.

#### 4. *Independent Claim 1*

- a) *“An actuator apparatus for controlling a valve mechanism of a suspension system, the actuator apparatus comprising:”*

Petitioner argues that Yi, JP’279, and Nagai each disclose an “actuator apparatus for controlling a valve mechanism of a suspension system.” Pet. 75–78 (citing Ex. 1003 ¶¶ 126–128; Ex. 1006, codes (54), (57), 2:66–3:6, 3:34–65, 4:18–49, 5:38–57, Figs. 1–4, 11, 12; Ex. 1007, code (54), 1–2, 5–6, Fig. 4; Ex. 1008, 5:48–65, 6:32–46, 6:55–7:13, 7:56–60, Fig. 6).

The cited portions of Yi describe shock absorber 6. Ex. 1006, code (54) (“Damping Adjustable Shock Absorber for a Bicycle”), code (57), 2:66–3:6 (“damping adjustable shock absorber 6 . . . for a bicycle . . . includes opposing first and second cylinders 61, 62, a hollow shaft 4, first, second, and third pistons 7, 8, 9, first, second, third, and fourth valves 851, 831, 861, 821, a damping adjustment rod 10”), Figs. 1–4, 11, 12. Other cited portions describe eccentric shaft 2, damping adjusting rod 10, and handle 201. *Id.* at 5:38–46 (“The eccentric shaft 2 is turnable so as to move the damping adjusting rod 10 in the axial direction to the first, second, and

third axial positions.”), 5:51–57 (“[T]he eccentric shaft 2 of the down-flow adjusting unit 3 is operated via a handle 201.”).

Petitioner also cites portions that describe valves 851, 831 in channels 85, 87, and those valves operate during a compression stroke. Ex. 1006, 3:34–65. Petitioner further cites portions that explain axial movement of damping adjustment rod 10 adjusts medium-velocity damper-fluid flow through opening 83 and channel 87 or allows high-velocity damper-fluid flow through openings 83, 84 and channel 87. *Id.* at 3:60–65, 4:18–49, 5:38–46. We credit Petitioner’s testimonial evidence for the preamble because the cited portions of the record support it. Ex. 1003 ¶ 126; Ex. 1006, codes (54), (57), 2:66–3:6, 3:34–65, 4:18–49, 5:38–57, Figs. 1–4, 11, 12.

The cited portions of JP’279 and Nagai also describe shock absorbers that have compression damping characteristics that are adjustable. Ex. 1007, code (54), 1–2, 5–6, Fig. 4; Ex. 1008, 5:48–65, 6:32–46, 6:55–7:13, 7:56–60, Fig. 6. We credit Petitioner’s testimonial evidence regarding JP’279 and Nagai because the cited portions of the record support it. Ex. 1003 ¶¶ 127, 128; Ex. 1007, code (54), 1, 2, 4 Fig. 4; Ex. 1008, 5:48–65, 6:55–7:13, 7:56–60, Fig. 6. Patent Owner does not provide a responsive argument regarding the preamble. *See* PO Resp.

Based on the full record before us, Petitioner persuades us, and we find, that Yi teaches or suggests, to the extent the preamble is limiting, “[a]n actuator apparatus for controlling a valve mechanism of a suspension system.”

- b) *“a valve actuating assembly operatively connected to the valve mechanism, the valve actuating assembly including a camshaft rotatable between at least two positions to adjust the valve mechanism between various suspension settings”*

Petitioner relies on Yi’s handle 201, camshaft operable by handle 201, and damping adjusting rod 10 for disclosing the recited “valve actuating assembly.” Pet. 78–79 (citing Ex. 1003 ¶¶ 129, 130; Ex. 1006, 3:1–5:46, 5:51–57, Fig. 12). Petitioner also argues that Yi’s valves 831, 851 disclose a “valve mechanism” operably connected to the asserted valve actuating assembly. *Id.* at 79–81 (citing Ex. 1003 ¶ 130; Ex. 1006, 3:48–4:59, Fig. 4). Petitioner further argues that Yi’s eccentric shaft 2 is rotatable to, at least, three damping positions. *Id.* at 81–82 (citing Ex. 1003 ¶ 131; Ex. 1006, 3:48–65, 4:18–30, 4:39–49, 5:38–44, Figs. 5–7).

The cited portions of Yi describe and show the components (including valves 831, 851 and eccentric shaft 2) of shock absorber 6 and how those components operate. Ex. 1006, 3:1–5:46, 5:51–57, Figs. 4–7, 12. We credit Petitioner’s testimonial evidence that the components of shock absorber 6 teach or suggest a valve actuating assembly operatively connected to a valve mechanism because the cited portions of the record support it. Ex. 1003 ¶ 129; Ex. 1006, 3:1–5:46, 5:51–57, Fig. 12.

Petitioner’s declarant provides an annotated Figure 12 from Yi, reproduced below, showing the valve actuating assembly and the valve mechanism.

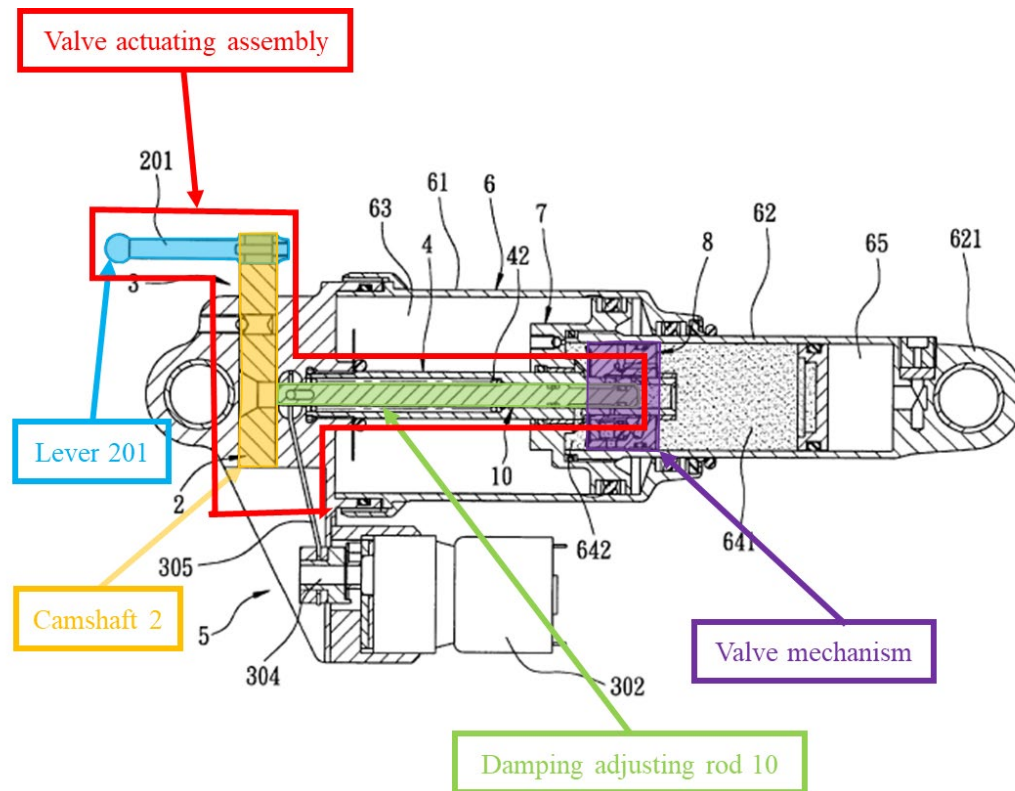


Figure 12 show a sectional view of a shock absorber with labels “Valve actuating assembly,” “Lever 201,” “Camshaft 2,” “Damping adjusting rod 10,” and “Valve mechanism.” Ex. 1006, 2:57–58.

We also credit Petitioner’s testimonial evidence regarding the valve mechanism because the cited portions of the record support it. Ex. 1003 ¶ 130; Ex. 1006, 3:48–4:59, Fig. 4.

Petitioner’s declarant provides an annotated Figure 4 from Yi, reproduced below, identifying valves 821, 831, 851, 861.

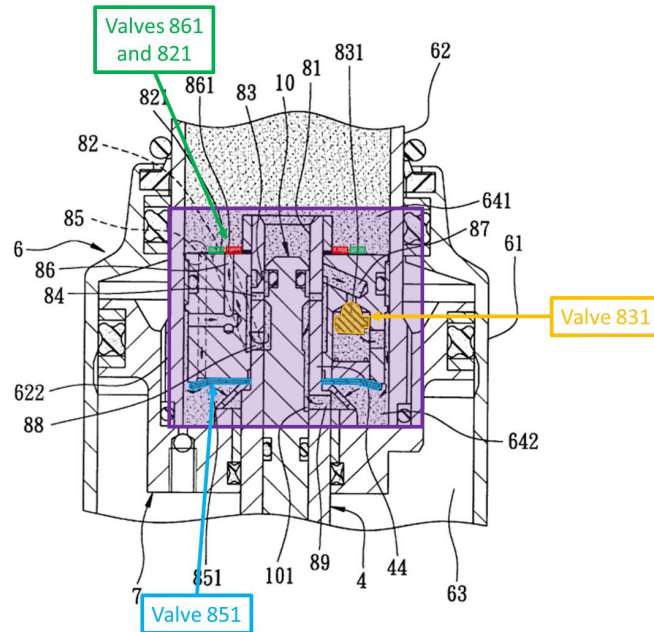
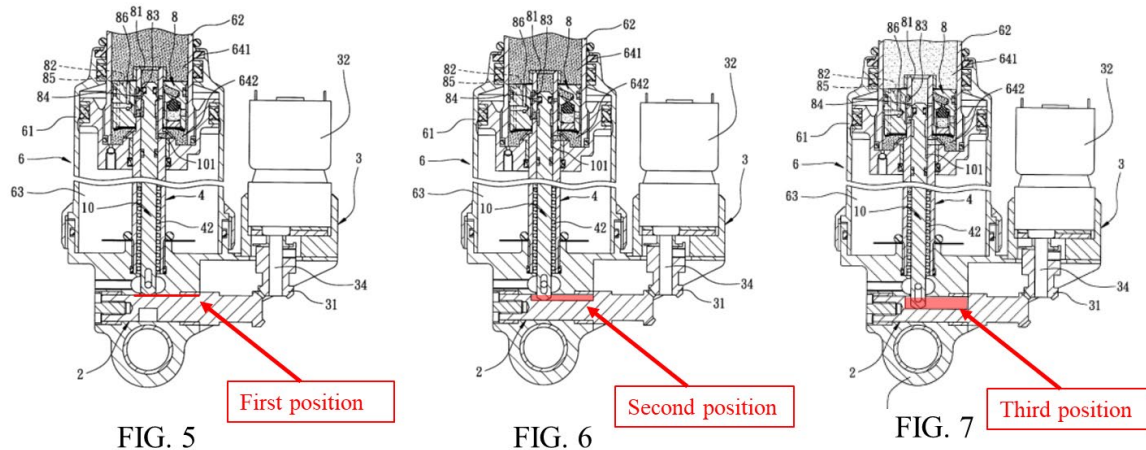


Figure 4 show a partial sectional view to illustrate flow channels in the shock absorber with labels “Valves 861 and 821,” “Valve 831,” and “Valve 851.” Ex. 1006, 2:32–34.

We further credit Petitioner’s testimonial evidence that Yi’s eccentric shaft 2 adjusts the valve mechanism between three damping characteristics because the cited portions of the record support it. Ex. 1003 ¶ 131; Ex. 1006, 3:48–65, 4:18–30 (describing a first axial position of damping adjusting rod 10 that does not allow flow medium velocity flow via opening 83 and channel 87 and a second axial position permitting medium velocity flow through opening 83), 4:39–49 (describing a third axial position permitting high velocity flow via channel 87), 5:38–45 (describing eccentric shaft 2 connected to damping adjusting rod 10 and able to turn damping adjusting rod 10 to the first, second, and third axial positions), Figs. 5–7. Petitioner’s declarant provides annotated Figures 5–7 of Yi, reproduced below, with the asserted damping positions.



Figures 5–7 show partial sectional views to illustrate a damping adjustment rod in three axial positions with the labels “First position,” “Second position,” and “Third position.” Ex. 1006, 2:35–44. Patent Owner does not provide a responsive argument regarding the recited valve actuating assembly. *See* PO Resp.

Based on the full record before us, Petitioner persuades us, and we find, that Yi teaches or suggests “a valve actuating assembly operatively connected to the valve mechanism, the valve actuating assembly including a camshaft rotatable between at least two positions to adjust the valve mechanism between various suspension settings.”

- c) “an adjuster assembly operatively connected to the valve actuating assembly for adjusting the damping characteristics corresponding to at least one of the positions of the valve actuating assembly independently of the damping characteristics corresponding to another position of the valve actuating assembly”

For the recited “adjuster assembly,” Petitioner relies on JP’279’s slider 43 with tapered surface 44 and gear 49 and feed axle 50 that axially displaces slider 43. Pet. 83–84 (citing Ex. 1003 ¶ 133; Ex. 1007, 4–6, Fig. 4); *see also id.* at 66–68 (arguing that JP’279 discloses an adjuster assembly).

The cited portions of JP'279 describe and show components of its shock absorber. Ex. 1007, 4–6, Fig. 4. We credit Petitioner's testimonial evidence regarding the asserted "adjuster assembly" of JP'279 because the cited portions of the record support it. Ex. 1003 ¶ 133; Ex. 1007, 4–6, Fig. 4. Petitioner's declarant provides an annotated Figure 4 from JP'279, reproduced below, to show the components of the asserted adjuster assembly.

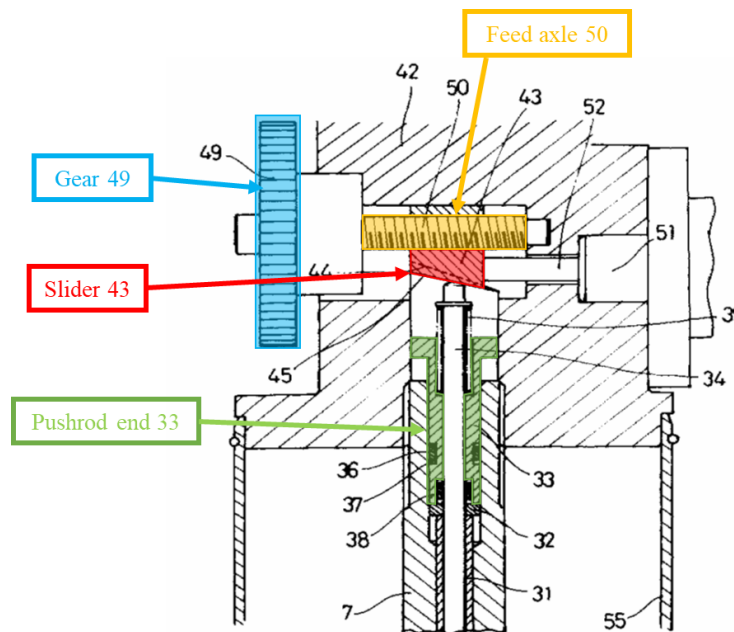


Figure 4 of JP'279 shows a front, sectional view of a moving mechanism portion with labels for "Feed axle 50," "Gear 49," "Slider 43," and "Pushrod end 33." Ex. 1006, 6–7. Patent Owner does not dispute what JP'279 is asserted to teach, but argues that the proposed combination "does not include a means of independent adjustment of damping characteristics." PO Resp. 47 (citing Pet. 71–75).

Based on the full record before us, Petitioner persuades us, and we find, that JP'279 teaches or suggests "an adjuster assembly operatively connected to the valve actuating assembly for adjusting the damping

characteristics corresponding to at least one of the positions of the valve actuating assembly.” Below in our analysis of Petitioner’s proposed combination, we address whether the asserted adjuster assembly adjusts the damping characteristics of one position of the valve actuating assembly “independently of the damping characteristics corresponding to another position of the valve actuating assembly.”

*d) Petitioner’s Asserted Reason for Combining*

Petitioner argues that Yi, JP’279, and Nagai are in the same technical field. Pet. 70 (citing Ex. 1006, code (57), 1:7–8; Ex. 1007, 1; Ex. 1008, 1:10–13). We agree, and find, that Yi, JP’279, and Nagai are in the same field of endeavor. Ex. 1006, code (57), 1:7–8; Ex. 1007, 1; Ex. 1008, 1:10–13. Patent Owner does not dispute that the references are analogous art. *See* PO Resp.

*(1) The Proposed Combination*

Petitioner argues that it would have been obvious to modify Yi to include JP’279’s slider 43 with tapered surface 44 for one of Yi’s settings to provide fine adjustment. Pet. 70–71 (citing Ex. 1003 ¶ 119); *see also id.* at 82–83 (arguing that it would have been obvious to include separate “adjuster assembly” and “valve actuating assembly”) (citing Ex. 1003 ¶ 132).

Petitioner also argues that Nagai’s limiting means would have been included to ensure that damping forces are appropriate and optimum. *Id.* at 72 (citing Ex. 1003 ¶ 122; Ex. 1008, 2:22–40); *see also id.* at 86 (arguing that Yi and JP’279 would have been modified further by Nagai) (citing Ex. 1003 ¶ 135; Ex. 1006, 3:60–65, 4:31–49).

As discussed above, based on the full record, we find that Yi teaches or suggests the recited “valve actuating assembly” and that JP’279 teaches or suggests the recited “adjuster assembly operatively connected to the valve

actuating assembly.” We discuss below Nagai in our analysis of the motivation to combine further with Nagai.

Patent Owner responds that the proposed combination “does not include a means of independent adjustment of damping characteristics.” PO Resp. 47 (citing Pet. 71–75). Patent Owner argues that “the combination of Yi and JP’279, would result in a camshaft having an inclined surface *over the entire device, and not limited to one position of the valve actuating assembly.*” *Id.* (citing Pet. 85; Ex. 1003 ¶ 120; Ex. 2016 ¶ 102). According to Patent Owner, “this hindsight-based alteration would result in a change of damping characteristics *in all positions.*” *Id.* at 48 (citing Ex. 2016 ¶ 102). Patent Owner further argues that “Yi merely discloses what was disparaged in the ’207’s Patent’s Background.” *Id.* at 46–47 (citing Ex. 2016 ¶ 100; Ex. 2019, 171:7–174:7, 184:17–187:3).

Petitioner replies that Yi’s eccentric shaft 2 has three damping positions and one of ordinary skill in the art would have been motivated to add JP’279’s tapered surface 44 to the cam surface corresponding to the medium-velocity compression setting for fine-tuning that setting. Pet. Reply 20–21 (citing Pet. 78–86; Ex. 1003 ¶¶ 131, 132, 134). Petitioner argues, as it did in the Petition, that Yi’s eccentric shaft 2 would have been axially displaced in view of JP’279 to select medium-velocity compression damping setting, and Patent Owner disregards the Petition’s explanations. *Id.* at 21–22 (citing Pet. 82–86; PO Resp. 47–48; Ex. 1003 ¶¶ 133–134). Petitioner also argues that JP’279’s tapered surface is only added to the cam surface corresponding to the one of the three damping positions, so that axial displacement of eccentric shaft 2 does not affect the other two damping positions. *Id.* at 22 (citing Ex. 1017 ¶¶ 26–27).

In the Petition, the proposed combination was “to combine Yi’s valve actuating assembly and elements of JP’279’s adjuster assembly to allow the damping characteristics corresponding *to at least one compression damping setting* of Yi’s valve actuating assembly to be fine-tuned independently of the damping characteristics corresponding to another setting of the valve actuating assembly.” Pet. 70–71 (emphasis added) (citing Ex. 1003 ¶ 119); *see also* Ex. 1006, 5:38–46 (disclosing that “eccentric shaft 2 is turnable so as to move the damping adjusting rod 10 in the axial direction to the first, second, and third axial positions.”). The cited testimony also opines similarly that “at least one of the compression damping settings of Yi’s ‘valve actuating assembly’” would be “finely adjusted independently of the damping characteristics corresponding to another position of the ‘valve actuating assembly.’” Ex. 1003 ¶ 119; *see also* Ex. 1017 ¶¶ 26–30 (explaining the proposed combination).

In view of what was argued in the Petition, Patent Owner’s arguments that the proposed combination “would result in a camshaft having an inclined surface *over the entire device, and not limited to one position of the valve actuating assembly*” and “in a change of damping characteristics *in all positions*” fail to show that the proposed combination lacks “an adjuster assembly” that “adjust[s] the damping characteristics corresponding to at least one of the positions of the valve actuating assembly independently of the damping characteristics corresponding to another position of the valve actuating assembly.” PO Resp. 47–48.

Based on the full record, we determine that Petitioner’s proposed combination would have resulted in “an adjuster assembly operatively connected to the valve actuating assembly for adjusting the damping characteristics corresponding to at least one of the positions of the valve

actuating assembly independently of the damping characteristics corresponding to another position of the valve actuating assembly.”

*(2) Motivation to Combine with JP’279*

Petitioner argues that Yi expresses a desire for a wider range of damping characteristics and JP’279 discloses a capability for fine adjustment. Pet. 71 (citing Ex. 1006, 1:13–16; Ex. 1007, 3, 6). Petitioner also contends that one of ordinary skill in the art would have recognized that fine-tuning of damping is desired. *Id.* (citing Ex. 1003 ¶ 120; Ex. 1006, 5:66–6:7); *see also id.* at 84–85 (arguing it would have been obvious to implement JP’279 in Yi to achieve fine adjustment) (citing Ex. 1003 ¶¶ 123, 134; Ex. 1006, Figs. 5, 6 (annotated with proposed modification)). Petitioner further contends that the proposed modification was within ordinary skill in the art. *Id.* at 71–72 (citing Ex. 1003 ¶ 121; Ex. 1007, 5–6).

The cited portion of Yi states that “conventional shock absorbers normally provide a limited range of damping effects and cannot be adjusted to provide a wider range of damping effects for different road conditions.” Ex. 1006, 1:13–16. We find that this statement in Yi would have motivated one of ordinary skill in the art “to provide a wider range of damping effects for different road conditions,” as argued by Petitioner, beyond that provided by Yi. *See id.* We also credit Petitioner’s testimonial evidence regarding the motivation to combine with JP’279 because the cited portions of the record support it. Ex. 1003 ¶¶ 120, 134; Ex. 1006, 1:13–16, 5:66–6:7, Figs. 5, 6; Ex. 1007, 3, 6, Fig. 4.

Patent Owner responds that Petitioner fails to provide a motivation to combine Yi and JP’279, because the asserted motivation is premised on JP’279 providing finer adjustment than Yi without any basis in the references or knowledge in the art. PO Resp. 48–49 (citing Pet. 71–75, 83–

84; Ex. 2016 ¶ 103). Patent Owner argues that “‘fine’ tuning is a relative term,” neither Yi nor JP’279 provides an inherently finer level of adjustment over the other, and no one knows what the relative fineness of Yi’s or JP’279’s adjuster would be. *Id.* at 49–50 (citing Ex. 2016 ¶¶ 104, 105; Ex. 2019, 102:14–103:3, 117:18–21, 120:15–23, 124:21–125:3, 171:7–18, 181:6–15); *see also id.* at 37–41 (arguing JP’279 does not provide fine tuning) (citing Ex. 1007, 3, 5, 6, Figs. 4, 5; Ex. 2015, 1:33–40, 1:49–53; Ex. 2016 ¶¶ 81–87; Ex. 2019, 70:7–17, 102:4–103:3, 113:4–19, 117:4–21, 120:5–23, 124:21–125:3). According to Patent Owner, one of ordinary skill in the art would not have made the “proffered, slapdash combination.” *Id.* at 51 (citing Ex. 2016 ¶ 107).

Petitioner replies that one of ordinary skill in the art would have understood that Yi provides coarse adjustment and adding JP’279’s tapered surface 44 and using Nagai’s adjustment means would have fine-tuned compression damping characteristics, as known in the art. Pet. Reply 23 (citing Ex. 1017 ¶ 29; Ex. 2019, 194:2–195:13). Petitioner, thus, argues that one of ordinary skill in the art would have been motivated to fine-tune damping characteristics in the second position “to account for the terrain, rider’s weight, etc.,” thereby improving Yi. *Id.* (citing Ex. 1017 ¶ 29).

Petitioner also replies that it does not need to show that its proposed combination is the best option, only a suitable option. Pet. Reply 23–24 (citing PO Resp. 50). Petitioner argues that its combination “would have been simple, cost-effective, and would have yielded predictable results.” *Id.* at 24 (citing Ex. 1017 ¶ 30).

Patent Owner replies that “Yi already provides a full range of damping characteristics” and modifying it does not add “meaningful functionality or damping abilities,” and thus, “there is no lack of ‘fineness’”

to motivate making the combination. PO Sur-reply 22. Patent Owner argues that Petitioner for the first time in reply contends that Yi provides only coarse adjustment with conclusory support from its declarant. *Id.* (citing Pet. 71; Pet. Reply 23; Ex. 1017 ¶¶ 20, 29). Patent Owner also argues that the assumed coarseness is incorrect, Yi provides the same level of tuning as JP'279, and nothing in Yi teaches only three positions. *Id.* at 22–23 (citing Ex. 1018, 97:17–21, 101:22–102:16; Ex. 2016 ¶¶ 82–87, 103–107, 115). Patent Owner further argues that Petitioner provides no evidence that one of ordinary skill in the art would have been motivated to make the asserted combination. *Id.* at 23.

Petitioner provides Figure 6 of Yi, reproduced below, annotated with the proposed modification. Ex. 1003 ¶ 134.

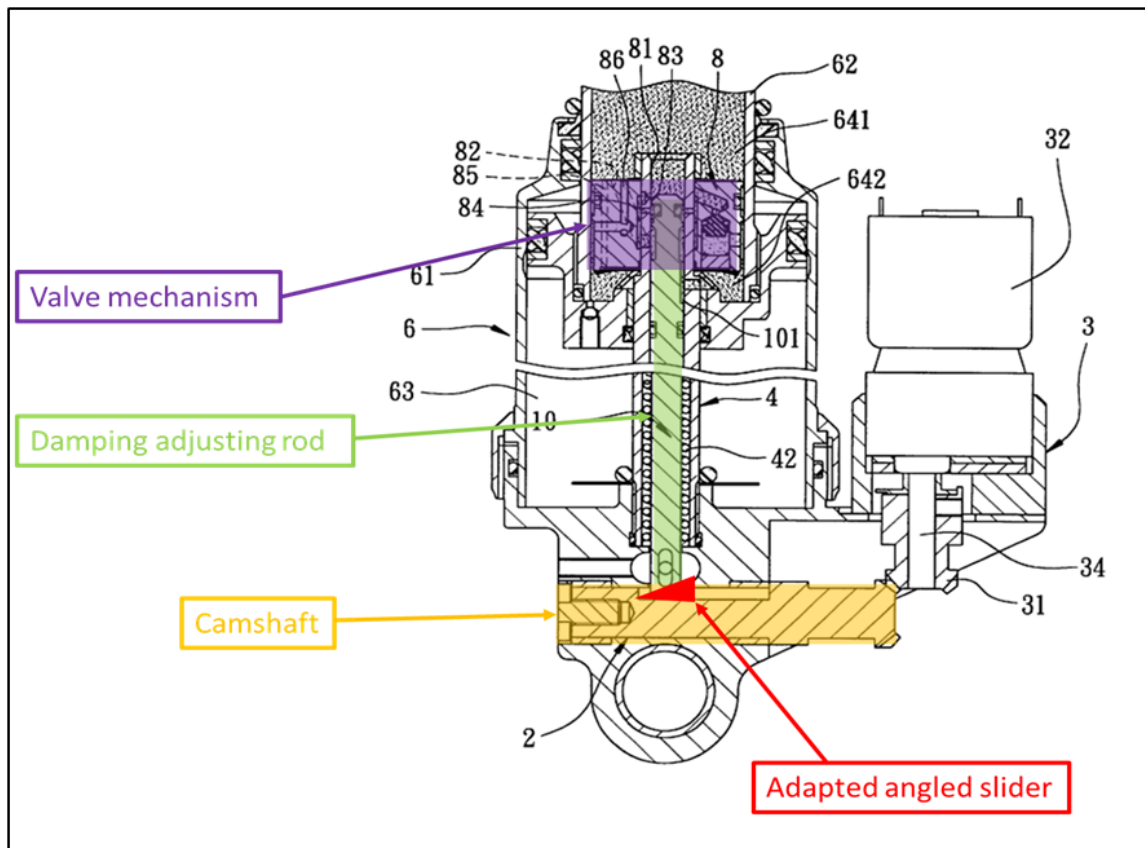


Figure 6 of Yi shows a partial section view with Yi's damping adjusting rod in a second axial position, in which an "Adapted angled slider" has been added on the labeled "Camshaft" where it meets the labeled "Damping adjusting rod" and "Valve mechanism." Ex. 1003 ¶ 134; Ex. 1006, 2:38–40.

As discussed above, we find that Yi discloses "eccentric shaft 2 is turnable so as to move the damping adjusting rod 10 in the axial direction to the first, second, and third axial positions." Ex. 1006, 5:38–46. The annotated Figure 6 above shows that JP'279's slider 43 is added to Yi's eccentric shaft 2 in its second axial position. Ex. 1003 ¶ 134.

Also, in the annotated figure above, movement of Yi's eccentric shaft 2 along its longitudinal axis "would provide an additional range of damping adjustments" to the second axial position of Yi's eccentric shaft 2. Ex. 1003 ¶ 119. Petitioner, thus, persuades us that, by providing "an additional range of damping" in Yi's second axial position with JP'279's slider 43, Yi's second axial position would have fine-tuning. *See id.* We agree with Petitioner that its proposed combination is a suitable option with predictable results. *See* Pet. Reply 23–24; Ex. 1017 ¶ 30.

Because we determine that the addition of JP'279's slider 43 to one of the positions of Yi's eccentric shaft 2 provides an additional range of damping adjustments for that one position of eccentric shaft 2, we do not agree with Patent Owner that JP'279 does not provide finer adjustment. PO Resp. 48–49. What was one damping setting in Yi becomes a range of damping settings in Petitioner's modification of Yi with JP'279. Pet. 71–72. We agree that "fine tuning" is a relative term, as argued by Patent Owner (PO Resp. 49–50), but the proposed combination results in more damping

settings to one of Yi's damping settings, thereby providing the ability for finer adjustment of that one setting (Pet. 71–72).

In Petitioner's view, one of ordinary skill in the art would have had a reasonable expectation of success in making the proposed “modifications to yield the known benefits of fine-tuning the compression damping characteristics of Yi's suspension system and setting an optimum range of damping forces.” Pet. 74–75 (citing Ex. 1003 ¶ 125); *see also* Ex. 1003 ¶¶ 94–96 (explaining how a tapered surface can be added to a cam). Other than disputing that fine tuning would have been a benefit, Patent Owner does not dispute that there would have been a reasonable expectation of success in combining Yi and JP'279 in the manner asserted.

We determine that the proposed combination of Yi and JP'279 would have had a reasonable expectation of success because “the modifications discussed above are simple mechanical adaptations and substitutions.” Ex. 1003 ¶ 121. We agree with Petitioner's declarant that the proposed combination would have been within ordinary skill in the art. *Id.* ¶ 121. For the reasons above, we also agree with Petitioner that the combination would have provided “a wider range of damping effects” or fine tuning to Yi. *Id.* ¶ 125; Ex. 1006, 1:13–16.

The parties also dispute whether the proposed combination would have been a “mere combination[] of known prior-art elements according to known methods to yield predictable results.” Pet. 74; PO Resp. 51–52; Pet. Reply 24. For the reasons above, Petitioner persuades us that there would have been a motivation to combine Yi and JP'279 in the manner asserted with a reasonable expectation of success.

*(3) Inoperability*

In Reply, Patent Owner argues that adding JP’279’s slider to Yi’s camshaft would have rendered Yi inoperable. PO Sur-reply 24–25 (citing Pet. Reply 21, 22, 24; Ex. 1003 ¶ 134; Ex. 1017 ¶ 26; Ex. 2016 ¶¶ 109–110). According to Patent Owner, moving the camshaft axially, as argued by Petitioner, would have interfered with other parts and disconnected the driving unit from its coupler, and Petitioner does not explain how Yi’s detent system would operate after the making the modifications. *Id.* at 25–26 (citing Pet. 65; Pet. Reply 25; Ex. 1018, 97:17–21, 101:22–102:6).

We are still satisfied that Petitioner shows one of ordinary skill in the art would have made the proposed combination of Yi and JP’279. Yi does show a detent on eccentric shaft 2. *See* Ex. 1006, Fig. 12. Yi, however, also indicates that it can operate without the detent. *See, e.g.*, Ex. 1006, Fig. 6 (showing no detent on eccentric shaft 2). Moreover, the record indicates that one of ordinary skill in the art motivated to modify Yi “to provide a wider range of damping effects” would have been able to further modify a detent to operate in the proposed combination. Ex. 1003 ¶ 125.

Yi describes that “up-flow adjusting unit 5 includes a link 305 that is associated with the damping adjusting rod 10 and that is driven by a driving unit 302.” Ex. 1006, 5:54–56. Yi’s description, even in view of Petitioner’s proposed modifications, does not indicate that movement of eccentric shaft 2 in the manner proposed by Petitioner would affect the operation of driving unit 302 because it works through link 305, not eccentric shaft 2. *See id.*

*(4) Motivation to Combine Further with Nagai*

Petitioner argues that one of ordinary skill in the art would have been motivated to include Nagai’s limiting means to ensure that damping forces are appropriate and optimum. Pet. 72 (citing Ex. 1003 ¶ 122; Ex. 1008,

2:22–40); *see also id.* at 86 (arguing that Yi and JP’279 would have been modified further by Nagai) (citing Ex. 1003 ¶ 135; Ex. 1006, 3:60–65, 4:31–49). Petitioner also argues that the proposed further modification would have been within ordinary skill in the art. *Id.* at 72–73 (citing Ex. 1003 ¶ 123; Ex. 1008, 6:55–7:13). Petitioner explains how Yi combined with JP’279 would have been further modified by Nagai. *Id.* at 73–74 (citing Ex. 1003 ¶ 124; Ex. 1006, 5:38–57, Fig. 12 (annotated with proposed modification)).

Petitioner persuades us, and we determine, that one of ordinary skill in the art would have been motivated to include Nagai’s limiting means for the reasons asserted by Petitioner, because Nagai discloses that such limiting means prevent “inappropriate damping forces” and ensures “optimum damping forces.” Ex. 1008, 2:22–40. We credit Petitioner’s testimonial evidence because the cited portions of the record support it. Ex. 1003 ¶¶ 122–124; Ex. 1006, 5:38–57, Fig. 12; Ex. 1008, 2:22–40, 6:55–7:13. Also, because we agree that the proposed modification would have been within ordinary skill in the art, we determine that one of ordinary skill in the art would have had a reasonable expectation of success in making the modification. Ex. 1003 ¶¶ 123, 125. Patent Owner does not present any arguments against the proposed combination with Nagai. *See* PO Resp.

#### *(5) Hindsight*

Patent Owner argues that the references do not teach or suggest Petitioner’s proposed combination and, thus, the combination improperly relies on hindsight. PO Resp. 53 (citing Ex. 2016 ¶ 111). Patent Owner specifically contends that the asserted references fail to teach or suggest an inclined plane on a curved exterior of a camshaft, arranging the inclined plane tangentially to the curvature, shaping the camshaft in the complicated

manner asserted by Petitioner, or a difference with disparaged prior art devices. *Id.* (citing Ex. 1003 ¶¶ 93–96; Ex. 2016 ¶ 112). Patent Owner also argues that there is no motivation to combine and Petitioner is looking to recreate the claims. *Id.*

In Patent Owner’s view, JP’279 does not suggest Petitioner’s modification to Yi, and the proposed combination would be difficult and costly to manufacture. PO Resp. 54 (citing Ex. 2016 ¶¶ 113, 114). Patent Owner also argues that no reference suggests two different, linear means of moving an adjuster rod. *Id.* (citing Ex. 2016 ¶ 115). Patent Owner further argues that the only support for the proposed modification comes from conclusory testimony that is premised on recreating the claims. *Id.* at 55 (citing Pet. 82–86; Ex. 1003 ¶¶ 123, 132–135).

Petitioner replies that its proposed combination “is not based on hindsight because tapered cams were known and were routinely used.” Pet. Reply 24. Petitioner also argues that JP’279 and Nagai show that axially displacing a camshaft was known. *Id.* (citing PO Resp. 51).

For the reasons above, we determine that one of ordinary skill in the art would have been motivated to combine Yi with JP’279 and Nagai. In particular, we find that statements in Yi and Nagai would have motivated one of ordinary skill in the art to make the proposed combination of the three references. Ex. 1006, 1:13–16 (“to provide a wider range of damping effects”); Ex. 1008, 2:22–40 (“no inappropriate damping forces are generated” and “to stop the eccentric cam at a position for optimum damping forces”).

Accordingly, based on the full record, we determine that Petitioner does not engage in impermissible hindsight for the reasons argued by Patent Owner.

*e) Objective Indicia of Non-Obviousness*

Patent Owner does not present any arguments or evidence regarding any objective indicia of nonobviousness for any of the challenged claims. See PO Resp.

*f) Petitioner Shows by a Preponderance of the Evidence that Claim 1 is Unpatentable*

“Once all relevant facts are found, the ultimate legal determination [of obviousness] involves weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan.” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1361 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)). Above, based on full record before us, we provide our factual findings regarding (1) the level of ordinary skill in the art, (2) the scope and content of the prior art, (3) any differences between the claimed subject matter and the prior art, and (4) objective evidence of nonobviousness.

In particular, we find that (1) Patent Owner’s proposed level of ordinary skill in the art is consistent with the prior art of record, (2) Yi, JP’279, and Nagai teach or suggest all the limitations of claim 1, (3) one of ordinary skill in the art would have combined Yi, JP’279, and Nagai in the manner asserted with a reasonable expectation of success, and (4) no objective evidence of nonobviousness has been presented in relation to any of the challenged claims. Weighing these underlying factual determinations, a preponderance of the evidence persuades us that claim 1 of the ’207 patent is unpatentable over Yi, JP’279, and Nagai. *Arctic Cat*, 876 F.3d at 1361.

5. *Dependent Claims 2, 3, 7, 8, and 10–12*

Claims 2, 3, 7, 8, and 10–12 depend directly or indirectly from claim 1. Ex. 1001, 8:59–9:4, 9:19–10:3, 10:10–25. Petitioner contends that Yi alone or Yi modified in view of JP’279 and Nagai teaches or suggests the recitations of these claims. Pet. 86–100. Petitioner supports the contentions with declaration testimony that we credit because the cited portions of the record support it. *Id.*

We determine that Petitioner’s contentions regarding these dependent claims are fully supported by the record. Patent Owner does not contest Petitioner’s challenges to these claims apart from its contentions regarding claim 1. *See* PO Resp. 46–55.

Weighing the underlying factual determinations, a preponderance of the evidence persuades us that claims 2, 3, 7, 8, and 10–12 are unpatentable over Yi, JP’279, and Nagai.

*F. Remaining Challenges*

Having determined that all of the challenged claims are unpatentable over Yi, JP’279, and Nagai, we need not reach Petitioner’s argument that those same claims are also (1) anticipated by Fox and (2) rendered obvious in view of Fox, JP’279, and Nagai. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding that a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”); *Bos. Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020) (non-precedential) (recognizing that the “Board need not address issues that are not necessary to the resolution of the proceeding” and, thus, agreeing that the Board has “discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims”). Accordingly, we do not reach the other grounds.

### III. CONCLUSION<sup>2</sup>

In summary:

| Claims                     | 35 U.S.C.<br>§ | References/Basis                   | Claims<br>Shown<br>Unpatentable | Claims<br>Not Shown<br>Unpatentable |
|----------------------------|----------------|------------------------------------|---------------------------------|-------------------------------------|
| 1–3, 7, 8,<br>10– 12       | 102(b)         | Fox <sup>3</sup>                   |                                 |                                     |
| 1–3, 7, 8,<br>10– 12       | 103(a)         | Fox, JP’279,<br>Nagai <sup>4</sup> |                                 |                                     |
| 1–3, 7, 8,<br>10– 12       | 103(a)         | Yi, JP’279, Nagai                  | 1–3, 7, 8, 10–<br>12            |                                     |
| <b>Overall<br/>Outcome</b> |                |                                    | 1–3, 7, 8, 10–<br>12            |                                     |

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<sup>2</sup> Should Patent Owner wish to pursue amendment of the challenged claim in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

<sup>3</sup> As discussed above in Section II.F., we do not reach this ground.

<sup>4</sup> As discussed above in Section II.F., we do not reach this ground.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–3, 7, 8, and 10–12 of U.S. Patent No. 7,147,207 B2 have been shown, by a preponderance of the evidence, to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2024-00492  
Patent 7,147,207 B2

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