

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WIRTGEN AMERICA, INC.,
Petitioner,

v.

CATERPILLAR INC.,
Patent Owner.

IPR2022-01394
Patent 7,523,995 B2

Before BARRY L. GROSSMAN, JAMES J. MAYBERRY, and
MATTHEW S. MEYERS, *Administrative Patent Judges*.

MAYBERRY, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Wirtgen America, Inc. (“Petitioner”), filed a Petition requesting *inter partes* review of claims 18, 21–35, 45, and 49–63 (the “Challenged Claims”) of U.S. Patent No. 7,523,995 B2 (Ex. 1001, the “’995 patent”). Paper 2 (“Pet.”), 1. Caterpillar Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021) (permitting the Board to institute trial on behalf of the Director). To institute an *inter partes* review, we must determine that the information presented in the Petition shows “a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons set forth below, upon considering the current record, we institute an *inter partes* review.

B. *Real Parties-in-Interest*

Petitioner identifies Wirtgen America, Inc. and Wirtgen GmbH as the real parties-in-interest. Pet. 87. Patent Owner identifies Caterpillar Inc. as the real party-in-interest. Paper 4, 1.

C. *Related Matters*

The parties each identify the following district court litigation as a matter related to the ’995 patent: *Wirtgen America Inc. v. Caterpillar Inc.*, Case No. 1:17-cv-00770 (D. Del.). Pet. 87; Paper 4, 1. Patent Owner also identifies the following *inter partes* review cases as matters related to the ’995 patent: IPR2022-01395, IPR2022-01396, and IPR2022-01397. Paper 4, 1.

D. The '995 Patent

The '995 patent, titled “Milling Machine,” issued on April 28, 2009, from application number 11/180,688. Ex. 1001, codes (54), (45), (21). The '995 patent ultimately claims priority to a foreign application, Italian Patent Application No. TO2004A0499, filed on July 15, 2004. *Id.* at code (30).

The '995 patent relates to “work machines for the treatment of roadway surfaces, and more particularly to a road planer or milling machine.” Ex. 1001, 1:5–6. Figure 1 is illustrative and is reproduced below.

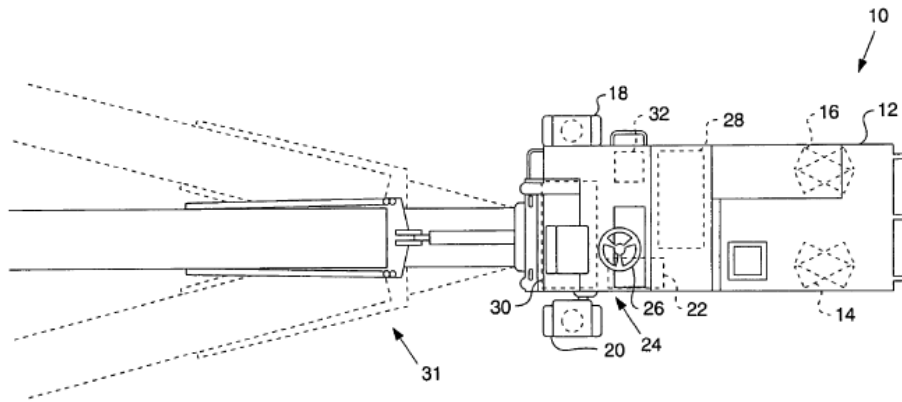


Figure 1 of the '995 patent depicts a top plan view of a self-propelled work machine. Ex. 1001, 3:26–28, 3:43–44, Fig. 1. As shown, self-propelled work machine 10 includes machine frame 12 supportable by front ground engaging units 14 and 16, and rear ground engaging units 18 and 20. *Id.* at 3:43–48. “[R]ight rear ground engaging unit 20 . . . may be pivotable between a projecting position as shown in solid lines in F[igure] 1 and a retracted position in which the one ground engaging unit 20 is positioned within the frame 12 as indicated by the recess 22 shown in hidden lines.” *Id.* at 3:51–56.

Figures 2 through 4 illustrate an exemplary embodiment of the '995 patent. Ex. 1001, Figs. 2–4; *see id.* at 4:38–44. Figure 2 is reproduced below.

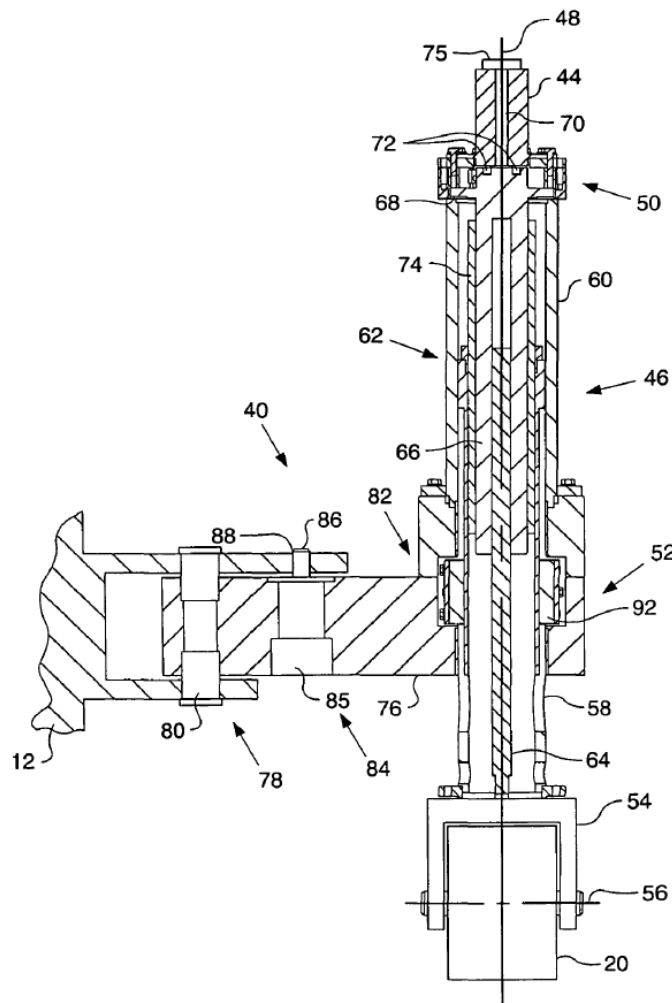


Figure 2 of the '995 patent depicts a partially sectioned longitudinal view of a detail of the work machine shown in Figure 1, referred to as “a cold planer.” Ex. 1001, 3:29–31, Fig. 2. As shown, “work machine 10 includes . . . support device 40 connected between the machine frame 12 and the one ground engaging unit 20”; “first actuator 42 is connected to the support device 40 and is adapted to move the one ground engaging unit 20 between

the projecting . . . and the retracted position . . . relative to . . . frame 12”; “second actuator 44 is associated with . . . support device 40 and . . . adapted to maintain the same rotational direction of the one ground engaging unit 20 in each of the projecting and retracted positions”; “controller 32 . . . is adapted to coordinate the actuation of . . . actuators 42, 44”; “support device 40 includes . . . lifting column 46 adapted to controllably raise and lower the associated connected ground engaging unit 20 relative to the machine frame 12”; and “second actuator 44 is connected to . . . lifting column 46 and . . . adapted to cause . . . a portion of . . . lifting column 46 to rotate about . . . lifting column axis 48,” which “is oriented generally vertically relative to . . . work machine 12.” *Id.* at 4:38–60.

“When flush milling is desired, for example, along a curb or close to a wall, the operator may choose to move the one ground engaging unit 20 to the retracted position relative to the machine frame 12.” Ex. 1001, 7:56–59. Figure 3 is illustrative and reproduced below.

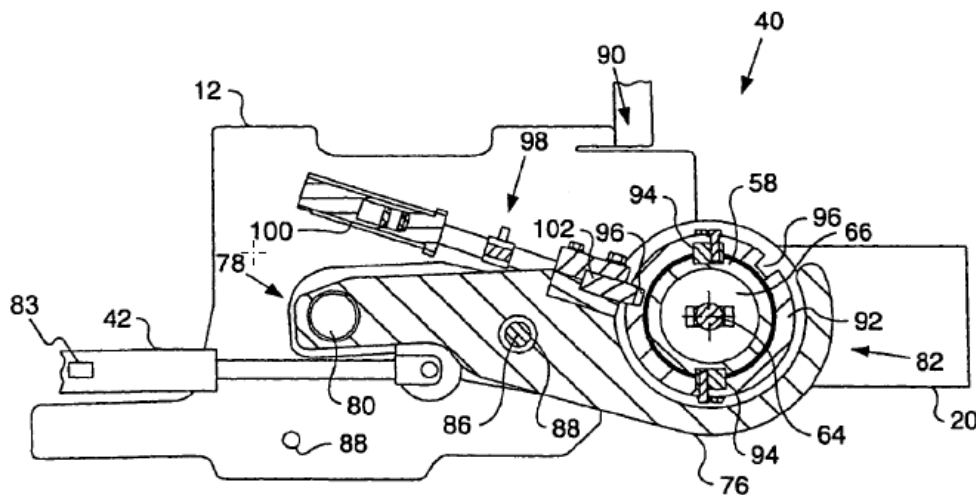


Figure 3 of the '995 patent depicts “a partially sectioned top plan view of the apparatus of FIG. 2, with the ground engaging unit arranged in a retracted position relative to the frame.” Ex. 1001, 3:32–34, Fig. 3.

“Absent conditions calling for flush milling, the work machine 10 may be configured as shown in FIG. 4, with the one ground engaging unit 20 in the projecting or outboard position relative to the machine frame 12.” Ex. 1001, 7:49–52. Figure 4 is illustrative and is reproduced below.

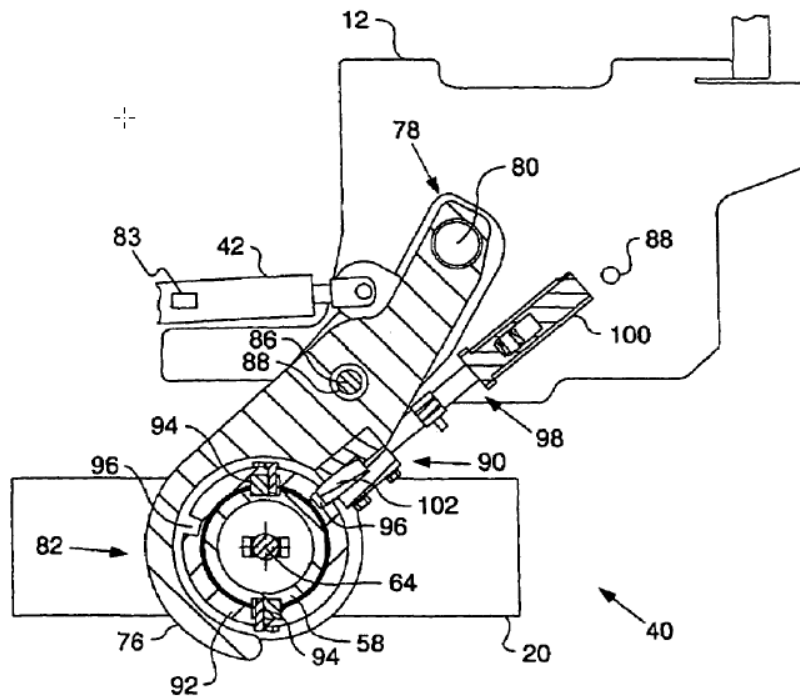


Figure 4 of the '995 patent depicts “a partially sectioned top plan view of the apparatus of FIG. 2, with the ground engaging unit arranged in a protracting position relative to the frame.” *Id.* at 3:35–37.

E. Challenged Claims

The Petition challenges claims 18, 21–35, 45, and 49–63. Pet. 1. Below, we reproduce claims 18 and 45, which are the independent claims being challenged.

18. A self-propelled machine, comprising:

a machine frame supportable by a plurality of ground engaging units;

a support device connected between said machine frame and at least one of said ground engaging units, said support device including a lifting column having a lifting column axis and being adapted to controllably raise and lower said at least one ground engaging unit about said axis relative to said machine frame;

a first actuator connected to said support device and adapted to move said at least one ground engaging unit between projecting and retracted positions relative to said machine frame; and

a second actuator connected to said lifting column and adapted to cause at least a portion of said lifting column to rotate about said lifting column axis relative to said machine frame, said second actuator being positioned at a location linearly spaced apart from said first actuator along said lifting column axis.

Ex. 1001, 11:34–52.

45. A self-propelled machine, comprising:

a machine frame supportable by a plurality of ground engaging units;

support means for supporting said machine frame, said support means being connected to said machine frame and including a generally vertically oriented lifting column having a lifting column axis and being connected to at least one of said ground engaging units;

first actuatable means for moving said at least one ground engaging unit between projecting and retracted positions relative to said machine frame;

second actuatable means for rotating said at least one ground engaging unit to maintain the same rotational direction of said at least one ground engaging unit in each of said projecting and retracted positions, said second actuatable means being

positioned at a location spaced apart from said first actuatable means along an axis of said lifting column; and controller means for coordinating the actuation of said first and second actuatable means.

Id. at 14:31–50.

F. Prior Art and Asserted Grounds

Petitioner asserts that the Challenged Claims are unpatentable based on the following challenges:

Claims Challenged	35 U.S.C. §	References/Basis
18, 29–31	103(a)	Volpe, ¹ Piccoli ²
21–27, 32, 35, 45, 49–55, 57–60, 63	103(a)	Volpe, Piccoli, Skotnikov ³
33	103(a)	Volpe, Piccoli, Dubay ⁴
61	103(a)	Volpe, Piccoli, Skotnikov
28, 56	103(a)	Volpe, Piccoli, Skotnikov, McColl ⁵
34	103(a)	Volpe, Piccoli, McCutcheon ⁶
62	103(a)	Volpe, Piccoli, Skotnikov, McCutcheon

Pet. 20.

Petitioner relies on the declaration testimony of Cameron Orr (Ex. 1003) in support of these challenges.

¹ Volpe SF 100 T4 Operator’s Manual; published Oct. 1993 (Ex. 1005, “Volpe”).

² Piccoli, US 2003/0180092 A1; published Sept. 25, 2003 (Ex. 1006, “Piccoli”).

³ Skotnikov et al., US 6,311,795 B1; issued Nov. 6, 2001 (Ex. 1008, “Skotnikov”).

⁴ Dubay et al., WO 02/103117 A1; published Dec. 27, 2002 (Ex. 1007, “Dubay”).

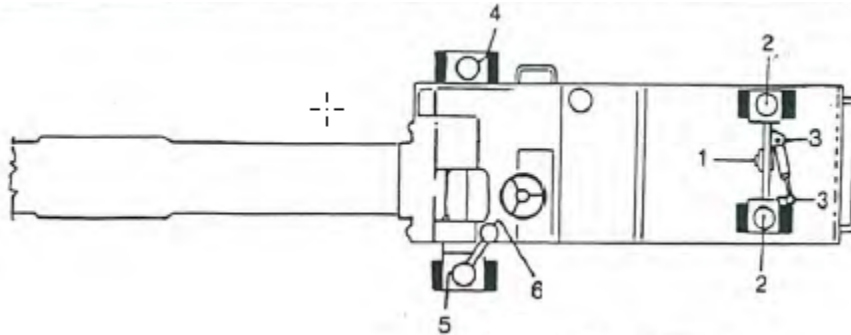
⁵ McColl, US 4,237,994; issued Dec. 9, 1980 (Ex. 1010, “McColl”).

⁶ McCutcheon, US 4,566,553; issued Jan. 28, 1986 (Ex. 1013, “McCutcheon”).

The following subsections provide brief descriptions of the asserted prior art references.

1. *Volpe (Ex. 1005)*

Volpe is an operating manual for a cold planer machine. Ex. 1005, 2, 3, 6. Part of Figure BB-1 of Volpe is reproduced below.



This part of Figure BB-1 depicts a top plan view of the cold planer. *Id.* at 65, Fig. BB-1. As shown, the cold planer includes a frame, steering wheel, two front wheels and two rear wheels, as well as sliding supports for the left and right rear wheels. *See id.* Figure AH-7 of Volpe is reproduced below.

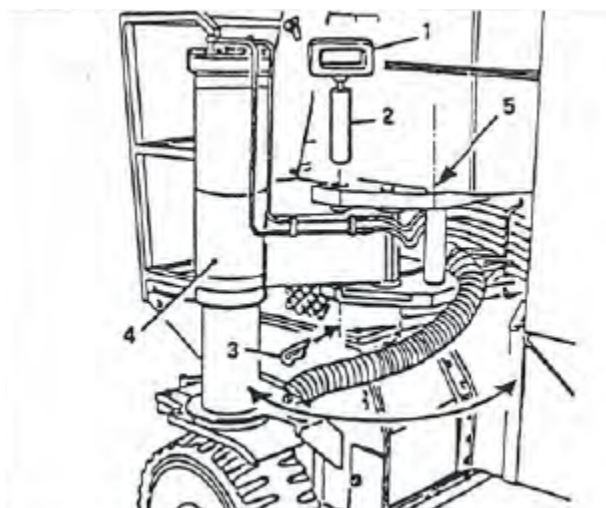
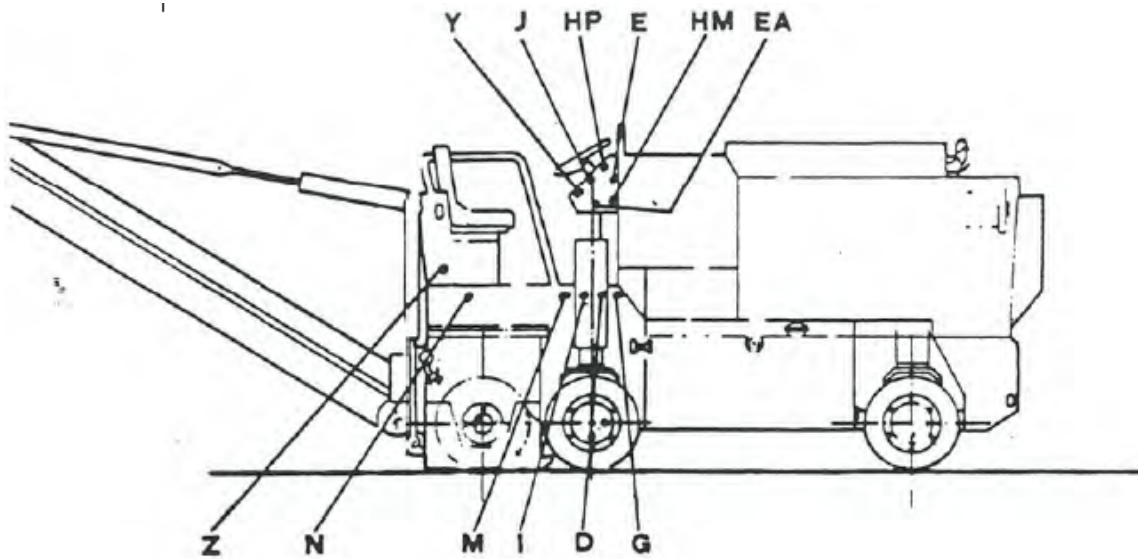


Figure AH-7 of Volpe is a visual aid for positioning the right rear wheel. *Id.* at 51. Volpe describes that “[i]f it is necessary to work up against pavement [curbs], walls or other obstacles, the rear right wheel can be positioned so that it is flush with the profile of the cutter drum.” *Id.* “In order to bring the wheel to this position,” Volpe instructs the operator to “proceed as follows:”

- a) Place a wooden spacer between the ground and the cutter drum.
- b) Lower the right hand side of the frame until the wheel is raised from the ground.
- c) Screw the handle (1) onto the pin (2), remove the safety spring (3) and then remove the pin (2).
- d) Swing the support (4) towards the frame until the pin hole (2) is aligned with the hole (5).
- e) Insert the pin (2), insert the safety spring (3); unscrew the handle (1) and return it to the tool box.
- f) Lower the wheel and raise the frame; the vehicle is now ready for work.

Id. Volpe then explains that “[t]o return the wheel to its outside position, reverse the above procedure but this time swinging the wheel out from its position flush with the cutter drum.” *Id.*

Part of Figure D-4 of Volpe is reproduced below.



This part of Figure D-4 depicts a side view diagram of the Volpe cold planer machine with labels identifying the machine's electrical connectors and main components. Ex. 1005, 100–101. Lastly, Volpe also describes a hydraulic oil tank and hydraulic transmission system. *Id.* at 27.

2. *Piccoli (Ex. 1006)*

Piccoli, titled “Device for Forming Tight Radius Curbs and Gutters with a Paving Machine,” published September 25, 2003. Ex. 1006, codes (54), (43). Piccoli “relates . . . to a system and method to allow a paving machine to form tight radii in continuous extrusions.” *Id.* ¶ 2. Figure 1 of Piccoli is reproduced below.

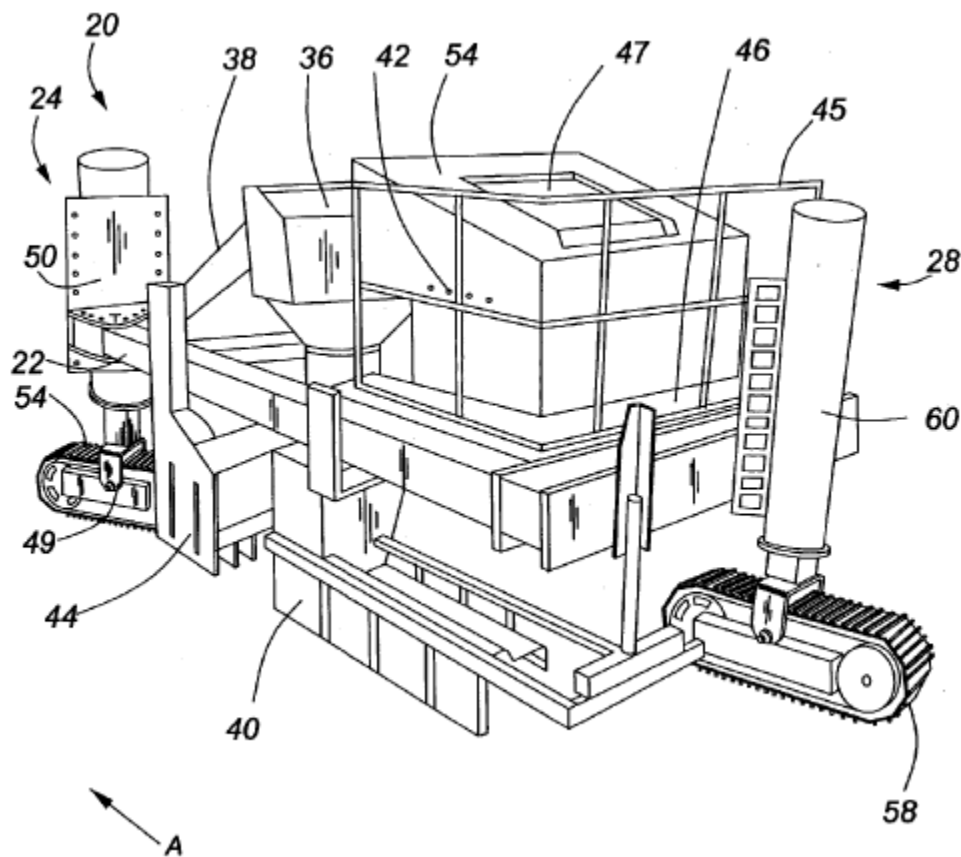


Figure 1 of Piccoli depicts a typical paving machine according to one embodiment. Ex. 1006 ¶ 31. “Paving machine 20 includes a main frame 22 supported on vertically adjustable upright leg assemblies,” preferably “a first front leg assembly 24, a second front leg assembly (not seen), and a rear leg assembly 28,” where paving machine 20 may be self-propelled by a moveable ground engaging track mounted to each leg assembly, “the first front track 49 being mounted to a hydraulic power-swing leg.” *Id.* ¶¶ 31, 38. Piccoli also describes its machine as a “a typical curb-forming machine” whose steering mechanism may be modified “to allow for much sharper turns and tighter radii on continuous extrusions.” *Id.* ¶¶ 37, 42. For example, Piccoli describes that the positioning of leg assembly 24’s leg 50

“in an offset operating position . . . is desirable when avoiding obstructions the front track 49 would have encountered if it was in its normal position.”

Id. ¶ 47; *see also id.* at Fig. 1 (depicting items 24, 50).

Figure 3 of Piccoli is reproduced below.

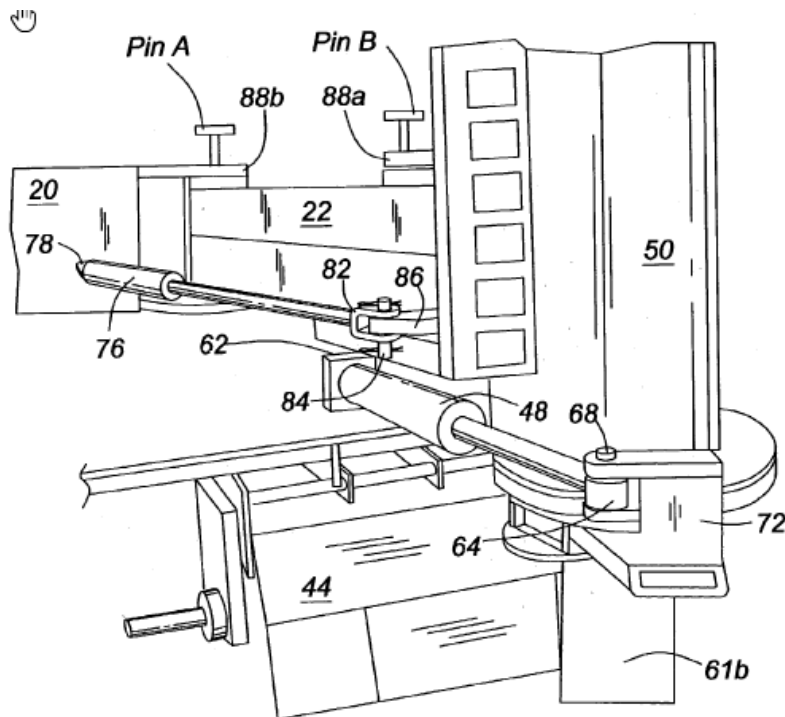


Figure 3 of Piccoli depicts the mounting of the front leg assembly. Ex. 1006 ¶ 14. As shown, Piccoli shift cylinder 76 is provided for repositioning leg assembly 24 relative to the frame, and steering cylinder 48 is provided for rotating or otherwise positioning ground engaging track 49. *Id.*, Fig. 3, ¶¶ 40–42; *see also id.*, Figs. 2, 4a, 4b. Piccoli also describes a hydraulic system including a hydraulic circuit 90 to direct hydraulic fluid to the steering cylinder 48 and shift cylinder 76 to position leg 50 and track 49. Ex. 1006 ¶¶ 49, 50, 54, 57, Figs. 6, 8, 10, 13.

3. Skotnikov (Ex. 1008)

Skotnikov, titled “Work Vehicle Steering and Suspension System,” issued November 6, 2001. Ex. 1008, codes (54), (45). Skotnikov “relates

... to a work vehicle steering system for off-road work vehicles.” *Id.* at 1:5–8. Figure 1 of Skotnikov is reproduced below.

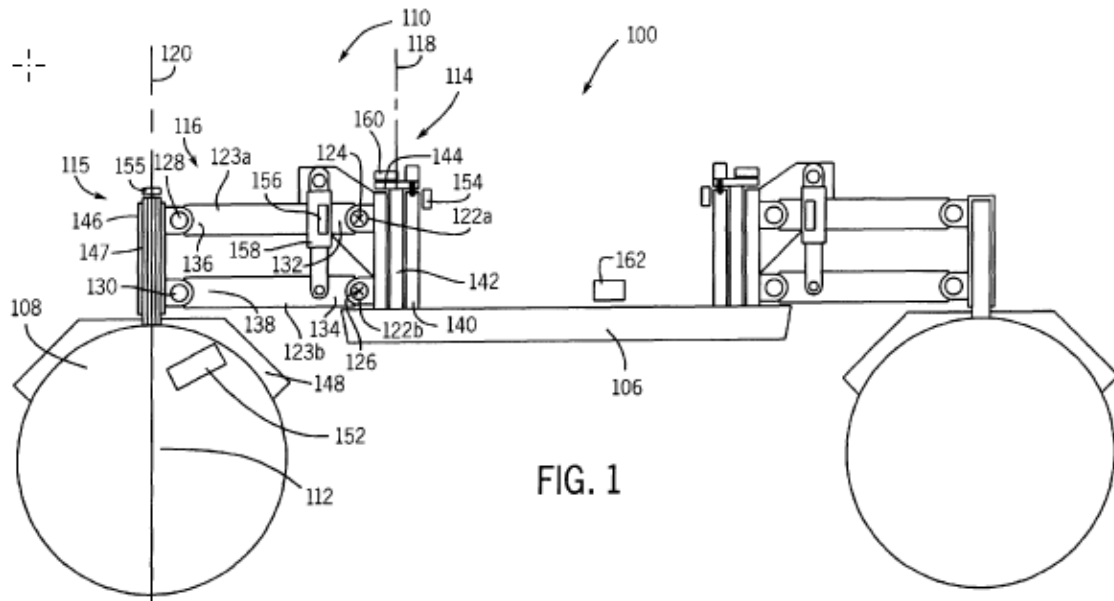


FIG. 1

Figure 1 of Skotnikov is a side view of a chassis of a work vehicle having a steering and suspension system. Ex. 1008, 2:22–24. As shown, “chassis 100 includes a frame 106 coupled to four wheel assemblies 108 via four suspension/steering coupling assemblies 110.” *Id.* at 2:57–59. One coupling assembly 110 includes rotatable assemblies 114, 115, and 116. *Id.* at 3:17–18. Rotatable assemblies 114 and 115 can include helical rotary actuators, such as a hydraulic cylinder, and can be configured to rotate an axle or shaft within sleeves 140 and 146, respectively. *Id.* at 3:35–49, 3:53–55.

Figure 6 of Skotnikov is reproduced below.

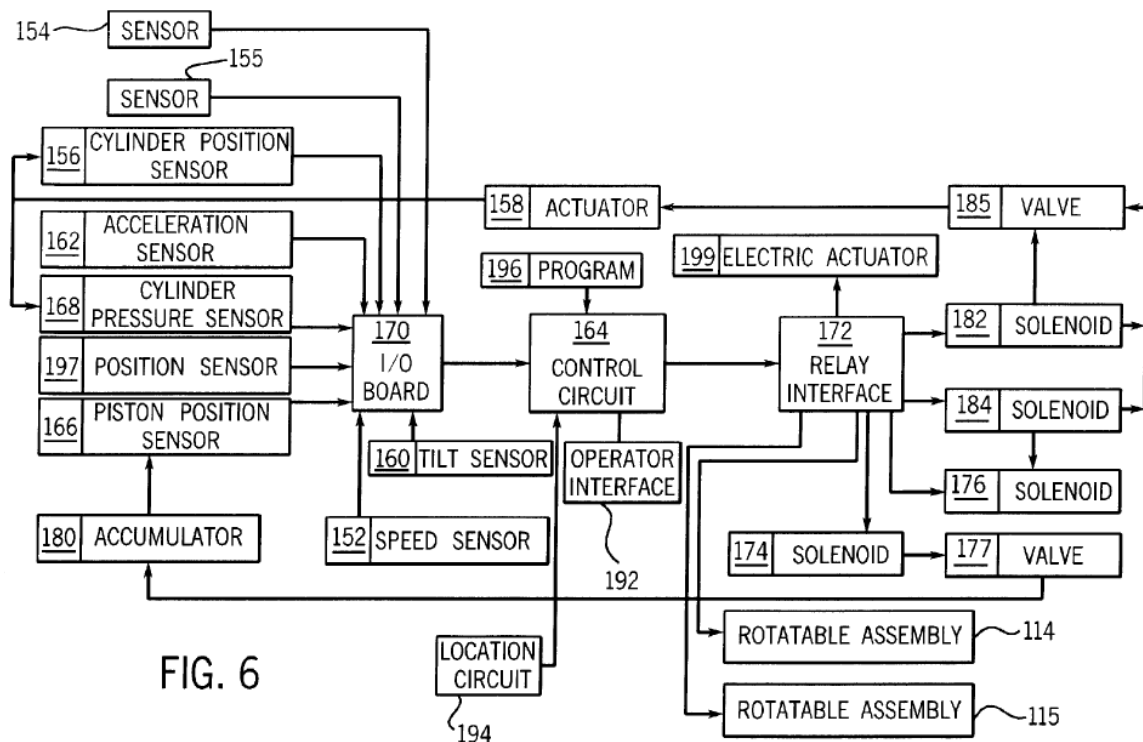
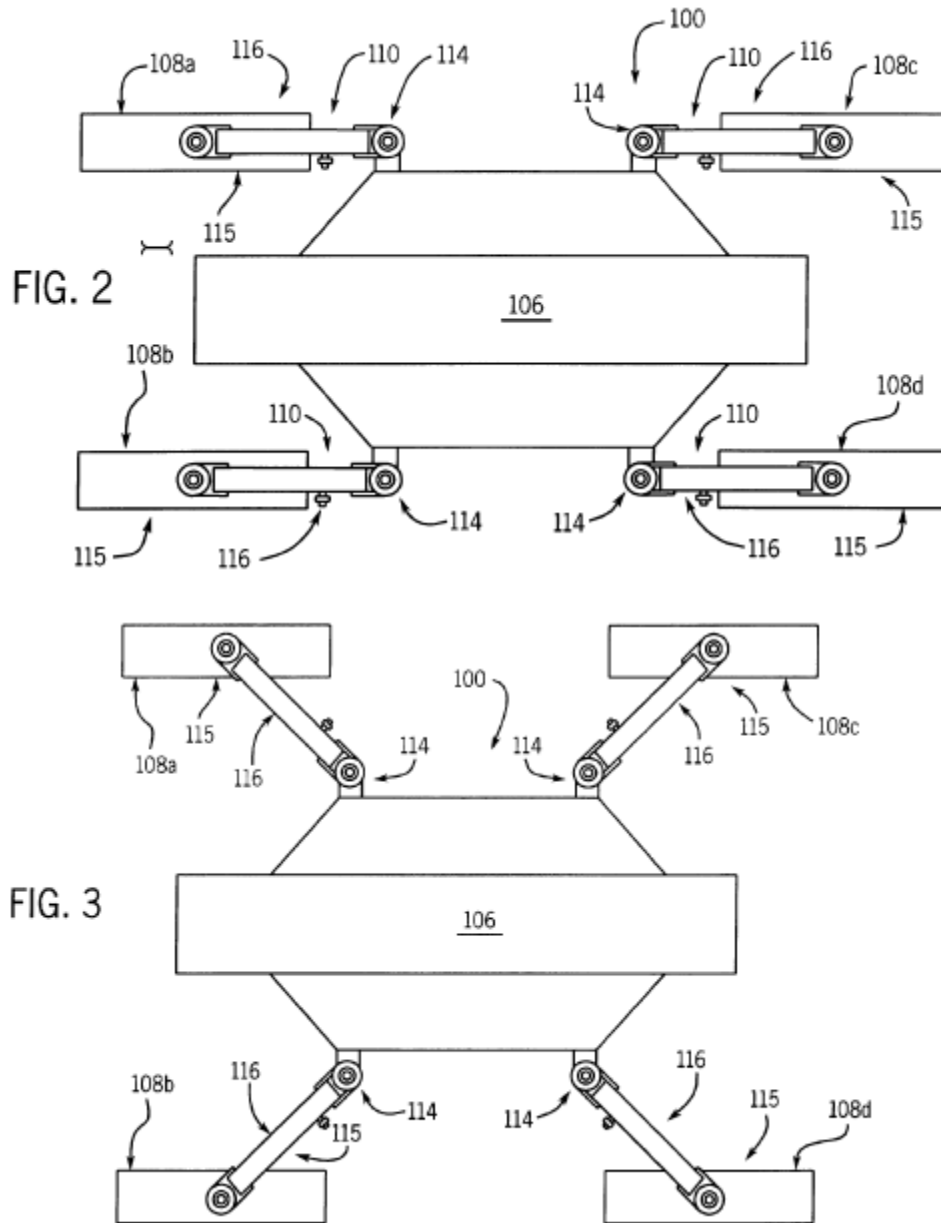


Figure 6 of Skotnikov depicts the control circuit for the steering and suspension system. Ex. 1008, 2:34–35. As shown, control circuit 164—through the use of a relay interface 172, sensors 152, 154, 155, 156, 160, 162, 166, 168, and 197 and actuator solenoids 174, 176, 182, and 184—is operative to provide control signals to rotatable assemblies 114 and 115 in order to steer wheel assemblies 108. *Id.* at 4:46–48, 4:62–67. In one embodiment, “[c]ontrol circuit 164 is configured to lower frame 106 via coupling assemblies 110 by enabling solenoid 182,” which “actuates valve 185 to remove hydraulic oil from actuator 158,” which then “retracts, providing a decreased distance between sleeve 140 and lever 123*b* to move frame 106 downward relative to wheel 108.” *Id.* at 7:52–57.

Control circuit 164 may also be configured to provide control signals to rotatable assemblies 114 and 115 to adjust the distance between wheels

108a, 108b, 108c, and 108d. *Id.* at 5:2–4. This wheel width adjustment can be seen in Figures 2 and 3, which are reproduced below.



Figures 2 and 3 of Skotnikov depict wheel assemblies 108 with narrow and wider widths, respectively. Ex. 1008, 5:19–21.

4. *Dubay (Ex. 1007)*

Dubay, titled “Milling Machine with Re-Entering Back Wheels,” published December 27, 2002 from an international application, PCT/EP02/04638, filed April 26, 2002. Ex. 1007, codes (54), (43), (21), (22).

In the background discussion of Dubay, Dubay references “[a] prospectus entitled ‘Bitelli Volpe SF 100 T4M deep-cut cold planer for asphalt and concrete’” and states that the prospectus “describes a work machine comprising a frame which is supported by four wheels, a pair of oppositely arranged front wheels and a pair of oppositely arranged rear wheels.” *Id.* at 1:14–16. Dubay further states that, in the prospectus, “[o]ne of the rear wheels is adapted to raise and lower the frame relative to the respective rear wheel,” and “the operator hydraulically lowers the frame with respect to the rear wheel[;] [i].e.,] a hydraulic cylinder located inside the lifting column provides for this lowering movement.” *Id.* at 1:16–18, 1:28–2:2. Dubay additionally states that the machine’s support arm is “pivotally connected to the frame,” thereby “allow[ing] for movement between the two operating positions.” *Id.* at 1:22–25.

Dubay’s “invention relates . . . to a planer or milling machine for asphalt and concrete.” Ex. 1007, 1:7–9. Figure 4 of Dubay is reproduced below.

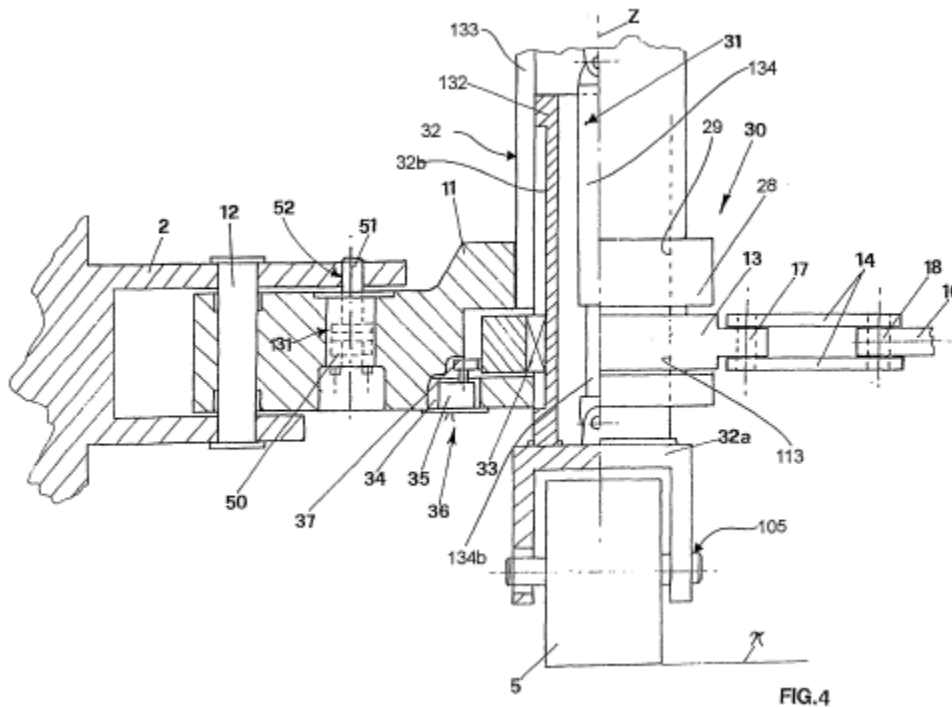


Figure 4 of Dubay is a schematic vertical sectional view of a detail of a cold planer. *Id.* at 4:11–14, 4:17. As shown, actuator 50—preferably a hydraulic jack—“is mounted in the seat 131 provided in the support arm 11,” and “actuator 50 is used for blocking a rotary movement of the support arm 11 with respect to the frame 2” through stem 51 that “can be inserted in to holes 52, 52a . . . in the frame 2 . . . to block or lock the support arm 11.” *Id.* at 9:19–26. According to Dubay, “locking the articulation apparatus 10 in this manner will also lock or block the wheel 5 . . . in the retracted position 70 and in the projecting position 60 relative to the frame 2, respectively.” *Id.* at 9:26–29.

5. *McColl (Ex. 1010)*

McColl, titled “Independent Steering and Propulsion System for Off Road Vehicle,” issued December 9, 1980. Ex. 1010, codes (54), (45). McColl “relates to self-propelled vehicles used primarily to transport long loads across roadless terrain.” *Id.* at 1:15–17. McColl describes a vehicle

including “modular front and rear wheel assemblies,” each having “an electrical or hydraulic actuator . . . to impart individually controlled steering movements to the particular wheel.” *Id.* at 1:29–30, 1:62–64. McColl’s vehicle further includes a “steering control system” with “a turn angle sensor . . . incorporated in the steering linkage for each wheel to continuously generate a signal proportional to the turning angle of such wheel.” *Id.* at 6:29–32, 6:34–35. Notably, McColl’s control system includes “a microprocessor 204 to control respectively the turn angle of the vehicle,” where “sensor signals” “respectively proportional to the rotational velocity of the wheel and to the angle of turn of the particular wheel” “are inputs to [the] microprocessor.” *Id.* 1:64–1:68, 6:34–43. McColl also describes that its “microprocessor can be programmed to cause the vehicle to turn according to the Ackerman[n] principle.” *Id.* at 2:18–24; *see also id.* at 7:12–24, 8:53–62.

6. *McCutcheon (Ex. 1013)*

McCutcheon, titled “Agricultural Work Vehicle,” issued January 28, 1986. Ex. 1013, codes (54), (45). McCutcheon relates to “an agricultural work vehicle having an extensible and articulate load supportive frame which is particularly adapted to single-handed operations.” *Id.* at 1:5–8. Figure 1 of McCutcheon is reproduced below.

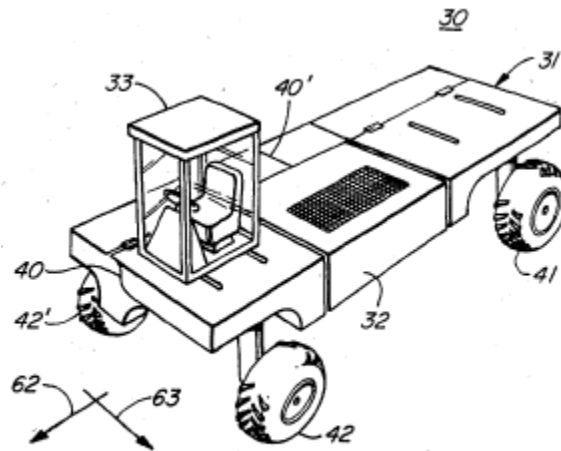


FIG. 1

Figure 1 of McCutcheon depicts a perspective view of an agricultural work vehicle. *Id.* at 2:46–47, Fig. 1. As shown, agricultural work vehicle 30 for endwise or broadside travel 62, 63 includes an extensible load supportive frame 31, an operator's cab 33 mounted thereon, individual panels 32 (some of which are overlapped at 40, 40'), and wheel assemblies 41, 41', 42, and 42'. *Id.* at 3:37–49, 4:54–64.

Figure 7 of McCutcheon is reproduced below.

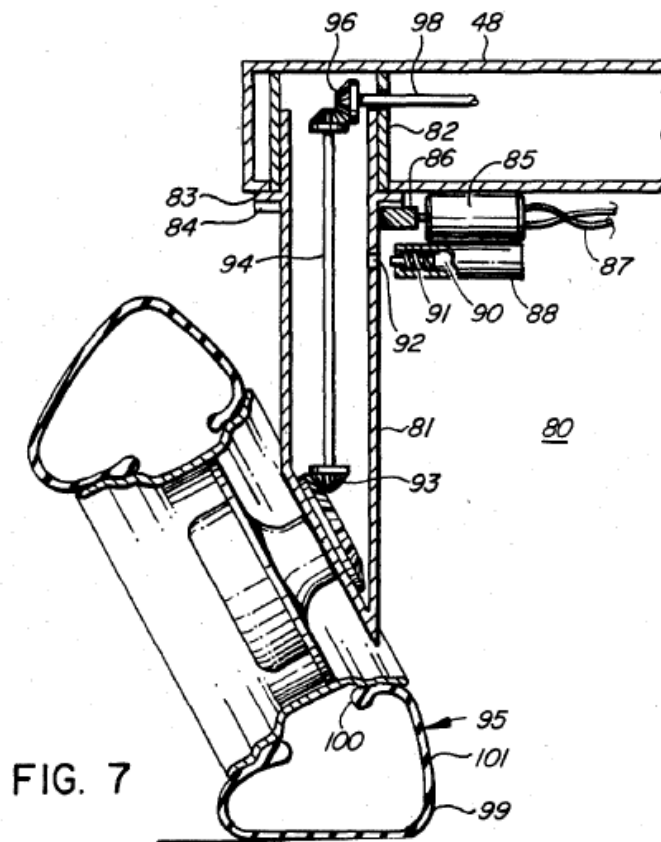


Figure 7 of McCutcheon depicts a fragmentary cross-sectional view of a wheel assembly usable on the vehicle shown in Figure 1. Ex. 1013, 2:60–62. As shown, each “wheel assembly 80 . . . comprise[s] a hollow wheel strut 81” and “a hydraulically driven steering motor 85 that is remotely controllable from the cab” of the vehicle. *Id.* at 6:5–16. Motor 85 provides “[s]teering control of the strut 81” through the “control of solenoid valves,” which apply “hydraulic fluid . . . to drive the motor 85.” *Id.* at 6:14–23. “Attached to the motor 85 is a wheel lock solenoid 88” and “a slidable plunger 90.” *Id.* at 6:24–26. “A series of apertures 92 are formed in the strut 81 in line with the plunger 90 and are engagable thereby under remote control from the cab 33 to lock the assembly 80 into predetermined positions.” *Id.* at 6:26–29.

II. ANALYSIS OF PETITIONER’S CHALLENGES

A. *Applicable Law*

Petitioner’s asserted grounds of unpatentability are based on obviousness under 35 U.S.C. § 103.

Section 103(a) forbids issuance of a patent when “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.”

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 ordinary skill in the art; and (4) when available, objective evidence, such as commercial success, long felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

The Supreme Court made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. “[O]bviousness must be determined in light of *all the facts*, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine” teachings from multiple references. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) (“The

presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact.”).

B. Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Petitioner contends “[a person having ordinary skill in the art] in the technical field of the ’995 patent (mobile construction machines) would have had knowledge of the technical literature concerning machine design, including hydraulic and mechanical systems and their use to steer and position wheels or tracks, before July 2004.” Pet. 15 (referencing Ex. 1003 ¶¶ 35–36). Petitioner further contends that

a [person having ordinary skill in the art] would typically have had: (i) a bachelor’s degree (or equivalent) in mechanical engineering (or a similar field) and at least two years of experience working on mobile construction machine design (or in a similar field); or (ii) seven years of experience working on mobile construction machine design (or in a similar field).

Id. (referencing Ex. 1003 ¶¶ 35–36). Patent Owner does not address the level of ordinary skill in the art at this stage of the proceeding.

For the purposes of this Decision, we apply Petitioner’s definition of the level of ordinary skill in the art. We determine that this definition is consistent with the prior art of record and the skill reflected in the Specification of the ’995 patent, based on our review of the limited record.

C. Claim Construction

In *inter partes* reviews, we interpret a claim “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).” 37 C.F.R. § 42.100(b). Under this standard, we construe 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.” *Id.*

Independent claim 45 uses “means-plus-function” language, reciting several such clauses. Ex. 1001, 14:31–50; *see* 35 U.S.C. § 112, ¶ 6⁷.

Means-plus-function claiming occurs when a claim term is drafted in a manner that invokes 35 U.S.C. § 112, ¶ 6, which states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

See 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (en banc).

On the record before us, we have not been directed to any dispute between the parties whether § 112, ¶ 6 applies to the recited means-plus-function clauses in the Challenged Claims.

Where claim language may be construed according to 35 U.S.C. § 112(f) (or its predecessor, § 112, ¶ 6), a petitioner must provide a construction that includes both the claimed function and the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function. 37 C.F.R. § 42.104(b)(3). Petitioner provides specific constructions and cites allegedly corresponding structure and function in the Specification for some, but not all, of the “means for” clauses in challenged claim 45. Pet. 15–20. In particular,

⁷ We cite to the pre-AIA version of the statute applicable to the Challenged Claims.

Petitioner proposes specific constructions for claim 45’s “support means,” “first actuatable means,” and “second actuatable means,” but does not propose a specific construction for claim 45’s “controller means.” *See id.*

Significant to our analysis of Petitioner’s patentability positions, Petitioner contends that the function associated with the second actuatable means is “rotating said at least one ground engaging unit to maintain the same rotational direction of said at least one ground engaging unit in each of said projecting and retracted positions.” Pet. 18 (referencing Ex. 1001, 14:38–43). With respect to the structure disclosed in the Specification for performing this function, Petitioner identifies certain disclosure of a rotary actuator and concludes that a person having ordinary skill in the art would have understood the structure associated with the second actuatable means to be “a rotary actuator positioned at a top portion of the lifting column and configured to rotate part of the lifting column and the wheel/track about the lifting column axis.” *Id.* at 20.

We determine that we need not expressly construe any claim terms to resolve the parties’ disputes on the record before us. *See 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)). To the extent that the scope of any particular claim term requires discussion, however, we provide it in our assessment of the challenges, which we turn to next.

D. Ground 1: Claims 18 and 29–31 as unpatentable over Volpe and Piccoli

Petitioner contends that the combined teachings of Volpe and Piccoli render obvious the subject matter of claims 18 and 29–31. Pet. 26–45. Patent Owner disputes Petitioner’s contention that the proposed combination teaches or suggests the “first actuator” element of claim 18, as well as the proposed motivation to combine Volpe and Piccoli. We address Petitioner’s contentions and Patent Owner’s arguments below.

Before turning to the analysis of the challenged claims, we address Petitioner’s contentions with respect to motivation to combine Volpe and Piccoli, and Petitioner’s reliance on Dubay in the Petition for Ground 1.

1. Motivation to combine Volpe and Piccoli

As will be explained in more detail in our limitation-by-limitation analysis of claim 18, Petitioner contends that it would have been obvious to modify Volpe’s machine to add actuators as taught by Piccoli. See Pet. 26–42. Petitioner contends that a person having ordinary skill in the art would have been motivated to modify Volpe’s machine to use actuators to pivot the support arm and rotate the rear wheel. *Id.* at 37–39. Petitioner explains that Volpe uses manual processes to pivot its support arm and rotate its rear wheel, and a person having ordinary skill in the art “would have known that manually pivoting the lifting column and its wheel was inconvenient and unsafe for the operator.” *Id.* at 39 (referencing Ex. 1011 ¶ 10; Ex. 1003 ¶¶ 178–180). Petitioner adds that “[u]sing Piccoli’s cylinder to move Volpe’s rear wheel would have automated the process of pivoting the lifting column, ultimately making the process ‘faster and safer for the operator.’” *Id.* at 39–40 (referencing Ex. 1011 ¶¶ 11, 16; Ex. 1003

¶¶ 178–180); *cf.* Ex. 1023, 23 (finding, in a Final Written Decision in IPR2018-01201, between Petitioner and Patent Owner, “that the advantages of faster and safer operation provide adequate reasoning in support” of automating pivoting Volpe’s support arm).

Petitioner also contends that a person having ordinary skill in the art would have been motivated to modify Volpe with Piccoli’s actuators to avoid the rear wheels scraping the ground when the wheels are in a retracted position and the machine turns. Pet. 40 (referencing Ex. 1014⁸ ¶ 12).

Petitioner also contends that a person having ordinary skill in the art “would have had a reasonable expectation of success in combining the teachings of Piccoli’s actuators with Volpe because Piccoli’s actuators would perform their same intended function.” Pet. 41 (referencing Ex. 1003 ¶¶ 181–182). Petitioner further contends that “using hydraulic cylinders to automate other swing legs (including four bar linkages and single support arms) had already successfully been achieved and was predictable.” *Id.* (referencing Ex. 1011 ¶¶ 24–25, Figs. 3–5; Ex. 1021, 3:29–41, Fig. 3; Ex. 1015, 4:15–21, Figs. 3a–3c; Ex. 1003 ¶¶ 181–182).

Patent Owner argues that “Petitioner fails to show adding Piccoli’s actuators to Volpe as proposed would resolve the operator-inconvenience

⁸ Bitelli, EP 1 039 037 A2, published September 27, 2000. (“Bitelli ’037”). Bitelli ’037 is directed to “a heavy vehicle for breaking up ground provided with retracting and steering rear wheels.” Ex. 1014 ¶ 1. When discussing the prior art, Bitelli ’037 states that “[o]ne limitation shown by the machine described in the aforementioned patent is that when the rear wheels or tracks are set in their retracted position inside the frame, when turning they scrape the ground with considerable resistance.” *Id.* ¶ 12. The “aforementioned patent” is “a patent application having protocol number VI98U000098,” which was filed by Bitelli S.p.A. *See id.* at code (71), ¶ 11.

issue.” Prelim. Resp. 34. Patent Owner argues that Piccoli’s repositioning of its leg requires an operator to manually adjust locking pins. *Id.* at 34–35 (referencing Ex. 1006 ¶¶ 42–45, Figs. 7, 9 (describing and depicting leg movement)). Patent Owner argues that similar locking pins are used in Volpe as in Piccoli. *Id.* at 35–36.

We have reviewed Patent Owner’s argument and cited evidence and determine, on the current record, that Petitioner provides sufficient arguments and evidence, at this stage of the proceeding, to support its reasoning that a person having ordinary skill in the art would have added Piccoli’s actuator to automate moving Volpe’s leg. Even accepting Patent Owner’s characterization of the similarities in operating the locking pins in the two references, Piccoli teaches using an actuator to move the leg itself, something done manually in Volpe.

Because we find this reasoning sufficient for institution, we do not address Petitioner’s other contentions with respect to motivation to combine. We will address all of Petitioner’s contentions and supporting evidence on a complete trial record.

2. *Petitioner’s reliance on Dubai*

Petitioner relies on Dubai in two asserted challenges—challenging claims 33 (Ground 3) and 61 (Ground 4). *See* Pet. 20. Petitioner, however, appears to contend that Dubai, in discussing “[a] prospectus entitled ‘Bitelli Volpe SF 100 T4M deep-cut cold planer for asphalt and concrete,’” in Dubai’s discussion of the background art, is discussing the Volpe reference. *See, e.g.*, Pet. 26 (“Volpe discloses a ‘[c]old planer for asphalt and concrete,’ which corresponds to ‘[a] self-propelled machine.’ . . . Indeed, Dubai acknowledges that Volpe ‘describes a work machine.’” (first and second

alteration in original; emphasis omitted) (referencing, in part, Ex. 1007, 1:13–16)). Petitioner provides citations to Dubay to support Petitioner’s contentions with respect to what Volpe discloses. *See, e.g., id.; id.* at 27 (“Dubay also acknowledges that Volpe’s machine includes ‘a frame which is supported by four wheels, a pair of oppositely arranged front wheels and a pair of oppositely arranged rear wheels.’” (referencing Ex. 1007, 1:14–16)).

Patent Owner argues that Petitioner’s reliance on Dubay in Ground 1 is improper. Prelim. Resp. 27–32. Patent Owner argues that Petitioner does not establish that the “prospectus entitled ‘Bitelli Volpe SF 100 T4M deep-cut cold planer for asphalt and concrete’” is the same document as Volpe. Prelim. Resp. 28–29.

We agree with Patent Owner that Petitioner does not establish that the document discussed in Dubay is Volpe. As such, we give little probative weight, at this stage of the proceeding, to Petitioner’s reliance on Dubay to support what Volpe discloses.

Patent Owner also argues that Dubay is inadmissible hearsay evidence and that Dubay describes the operation of a machine, not the content of the prospectus. Prelim. Resp. 28, 30–32. As to the first point, in an *inter partes* review, we typically do not rule on the admissibility of evidence absent a motion to exclude, which would occur during trial after filing an objection (*see* Rule 64 (b), (c)). As to the second point, the question is not what Dubay is describing, but whether Dubay provides any evidentiary support to how a person having ordinary skill in the art would have understood what Volpe discloses.

3. *Independent claim 18*

We now turn our analysis to the scope and content of the prior art and any differences between the prior art and the subject matter of independent claim 18, on a limitation-by-limitation basis.

a) *Preamble*

The preamble of claim 18 recites “[a] self-propelled machine.” Ex. 1001, 11:34. Petitioner contends that Volpe discloses a cold planer, which corresponds to the recited self-propelled machine. Pet. 26 (referencing Ex. 1005, 2, 65 (Fig. BB-1); Ex. 1007, 1:13–2:7; Ex. 1003 ¶¶ 147–149); *see also id.* (providing a figure from Volpe depicting Volpe’s cold planer). Petitioner also contends that “Dubay acknowledges that Volpe ‘describes a work machine.’” *Id.* (referencing Ex. 1007, 1:13–16).

Petitioner also contends that Piccoli discloses a self-propelled machine. Pet. 27 (referencing Ex. 1006 ¶ 12; Ex. 1003 ¶¶ 147–149); *see also id.* (providing Figure 1 from Piccoli, depicting Piccoli’s exemplary machine).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Volpe teaches or suggests the subject matter of the preamble. In view of this determination, we need not resolve, at this stage of the proceeding, whether the preamble is limiting.

Patent Owner does not dispute Petitioner’s contentions with respect to the preamble at this stage of the proceeding.

b) *The machine frame element*

Claim 18 recites “a machine frame supportable by a plurality of ground engaging units.” Ex. 1001, 11:35–36 (the “machine frame” element

of claim 18). Petitioner contends that Volpe discloses a machine frame supported by wheels. Pet. 27 (referencing Ex. 1005, 0008 (providing “[f]rame serial number”), 16, 51, 65; Ex. 1003 ¶¶ 150–152); *see also id.* at 27 (providing annotated image from Volpe, indicating the frame and ground engaging units).

Petitioner also contends that Piccoli teaches a machine with a frame supported by tracks. Pet. 28 (referencing Ex. 1006 ¶¶ 31–32; Ex. 1003 ¶ 151); *see also id.* (providing annotated version of Piccoli’s Figure 1, indicating the frame, a ground engaging unit, a support device, and a lifting column).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that the combination of Volpe and Piccoli teaches or suggests the subject matter of the machine frame element of claim 18.

Patent Owner does not dispute Petitioner’s contentions with respect to this limitation at this stage of the proceeding.

c) The support device element

Claim 18 also recites “a support device connected between said machine frame and at least one of said ground engaging units, said support device including a lifting column having a lifting column axis and being adapted to controllably raise and lower said at least one ground engaging unit about said axis relative to said machine frame.” Ex. 1001, 11:37–42 (the “support device” element of claim 18). Petitioner contends that Volpe’s swing arm and lifting column correspond to the recited support device. Pet. 29. Petitioner adds that “Dubay acknowledges that Volpe’s swing arm

is ‘pivotally connected to the frame,’ thereby ‘allow[ing] for movement between the two operating positions.’” *Id.* (referencing Ex. 1007, 1:22–25).

Petitioner explains that Volpe’s “sliding support” (which Petitioner contends corresponds to the recited lifting column) is connected to a wheel and allows the operator to lower the machine. Pet. 29 (referencing Ex. 1005, 23, 32, 51, 65; Ex. 1003 ¶¶ 153–158); *see also id.* at 30 (providing an annotated image from Volpe indicating the frame, lifting column, ground engaging unit, swing arm, support device, and pivot motion). Petitioner cites to Dubai to support this reading of Volpe. *See id.* at 29–30 (referencing Ex. 1007, 1:16–18, 1:28–2:2).

Petitioner contends that Piccoli discloses a similar device. Pet. 30; *see also id.* at 31 (providing an annotated version of Piccoli’s Figures 2 and 3, indicating the lifting column, frame, and support device).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that the combination of Volpe and Piccoli teaches or suggests the subject matter of the “support device” element of claim 18.

Patent Owner does not dispute Petitioner’s contentions with respect to this limitation at this stage of the proceeding.

d) The first actuator element

Claim 18 also recites “a first actuator connected to said support device and adapted to move said at least one ground engaging unit between projecting and retracted positions relative to said machine frame.” Ex. 1001, 11:43–46 (the “first actuator” element of claim 18). Petitioner contends that Piccoli’s shift cylinder 76 corresponds to the recited first actuator. Pet. 32 (referencing Ex. 1006 ¶¶ 31, 42; Ex. 1003 ¶¶ 159–165). Petitioner contends

that a person having ordinary skill in the art “would have been motivated to combine the teachings of Piccoli’s shift cylinder with Volpe . . . resulting in a hydraulic cylinder connected to Volpe’s frame and support arm to move the support arm relative to the frame to pivot Volpe’s wheel between the retracted and projecting positions.” *Id.* at 33 (referencing Ex. 1003 ¶¶ 178–180).

Patent Owner argues that the “first actuator” element “requires moving . . . [at least one ground engaging unit] between projecting and retracted positions. Petitioner does not assert Piccoli teaches such movement, or positions.” Prelim. Resp. 33. Patent Owner argues that, in Piccoli, shift cylinder 76 adjusts the turning radius of Piccoli’s machine. *Id.* Patent Owner adds that “[t]o the extent Petitioner meant to assert instead that the proposed combination of Volpe and Piccoli would **result** in the claimed first actuator . . ., such an assertion is improperly bolstered by the misplaced contention that Piccoli itself discloses the claimed actuator.” *Id.*

We have considered Patent Owner’s arguments and determine, on the current record, that Petitioner sufficiently demonstrates that the combined teachings of Volpe and Piccoli disclose the recited first actuator. To the extent that Patent Owner argues against the references separately, such an argument is improper in the obviousness context. *See, e.g., In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”). Petitioner clearly relies on the combined teachings of Volpe and Piccoli to satisfy the entirety of the “first actuator” element. *See* Pet. 33.

Upon review of the information in the Petition and corresponding evidence, and considering Patent Owner's counter arguments, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that the combination of Volpe and Piccoli teaches or suggests the subject matter of the "first actuator" element of claim 18.

e) The second actuator element

Claim 18 further recites "a second actuator connected to said lifting column and adapted to cause at least a portion of said lifting column to rotate about said lifting column axis relative to said machine frame." Ex. 1001, 11:47–50 (the "second actuator" element of claim 18). Petitioner contends that Piccoli's steering cylinder 48 corresponds to the recited second actuator. Pet. 33 (referencing Ex. 1006 ¶¶ 39, 40; Ex. 1003 ¶¶ 166–172); *see also id.* at 34 (providing an annotated version of Piccoli's Fig. 3, identifying the second actuator and lifting column). Petitioner contends that the proposed modification "result[s] in a hydraulic cylinder connected to Volpe's lifting column to rotate the lifting column's inner tube and rear wheel." *Id.* at 34 (referencing Ex. 1003 ¶¶ 178–180).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that the combination of Volpe and Piccoli teaches or suggests the subject matter of the "second actuator" element of claim 18.

Patent Owner does not dispute Petitioner's contentions with respect to this limitation at this stage of the proceeding.

f) The spaced apart element

Finally, claim 18 recites "said second actuator being positioned at a location linearly spaced apart from said first actuator along said lifting

column axis.” Ex. 1001, 11:50–52 (the “spaced apart” element of claim 18). Petitioner contends that the combined teachings of Volpe and Piccoli teach this limitation. Pet. 34 (referencing Ex. 1003 ¶¶ 173–177). Petitioner contends that Piccoli shows its steering cylinder 48 spaced apart from shift cylinder 76 along the vertical axis of lifting column 50. *Id.* at 34–35 (referencing Ex. 1006 ¶¶ 40–42; Ex. 1003 ¶¶ 174–176); *see also id.* at 35 (providing an annotated version of Piccoli’s Fig. 3, identifying the frame, first and second actuators, and lifting column, and identifying the vertical separation of the actuators).

Petitioner contends that

Piccoli teaches rotating the *lower* inner tube of the lifting column to rotate its wheel and positioning the shift cylinder along the lifting column’s outer tube, which is disposed *above* the rotating assembly that connects the steering cylinder to the inner tube of the lifting column. . . . in combining the teachings of Piccoli with Volpe, a [person having ordinary skill in the art] would have coupled a steering cylinder to the inner tube of Volpe’s lifting column to rotate the rear wheel and would have positioned a shift cylinder at an axis extending through the outer tube of Volpe’s lifting column such that the shift cylinder is linearly spaced apart from the steering cylinder along the lifting column axis . . . allow[ing] the first and second actuators to fully extend and retract without interference.

Id. at 35–36 (referencing Ex. 1006 ¶¶ 39, 41; Ex. 1003 ¶¶ 174–177); *see also id.* at 36 (providing an annotated version from Volpe, identifying the inner and outer tubes of the lifting column).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that the combination of Volpe and Piccoli teaches or

suggests the subject matter of the “spaced apart” actuators element of claim 18.

Patent Owner does not dispute Petitioner’s contentions with respect to this limitation at this stage of the proceeding.

g) Conclusion

For the reasons discussed above, we determine, on the current record, that the information presented in the Petition shows a reasonable likelihood that claim 18 is unpatentable under 35 U.S.C. § 103 over the combination of Volpe and Piccoli.

4. Dependent claims 29–31

Petitioner also contends that dependent claims 29–31 are unpatentable as obvious over the combination of Volpe and Piccoli. Pet. 20, 42–45. As we discuss above, Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’995 patent is unpatentable, and we institute on all challenges raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”); Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019) (“The Board will not institute on fewer than all claims or all challenges in a petition.”), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“CTPG”).

Still, we have reviewed Petitioner’s contentions and citations to the evidence and determine that Petitioner has made a sufficient showing, on the

current record, that dependent claims 29–31 are unpatentable under 35 U.S.C. § 103 over the combination of Volpe and Piccoli.

E. Ground 2: Claims 21–27, 32, 35, 45, 49–55, 57–60, and 63 as unpatentable over Volpe, Piccoli, and Skotnikov

Petitioner contends that the combined teachings of Volpe, Piccoli, and Skotnikov render obvious the subject matter of claims 21–27, 32, 35, 45, 49–55, 57–60, and 63. Pet. 20, 45–74. Patent Owner disputes Petitioner’s application of the prior art to the “second actuatable means” limitation of claim 45. We address this argument below

1. Independent claim 45 - the second actuatable means element

Claim 45 recites, in relevant part, a “second actuatable means for rotating said at least one ground engaging unit.” Ex. 1001, 14:42–43 (the “second actuatable means” element of claim 45). Petitioner contends that this element “is similar to [the second actuator element of claim 18] . . . [and] Piccoli discloses the recited second actuatable means in the form of a steering cylinder.” Pet. 47. As Patent Owner argues, however, Petitioner construed the “second actuatable means” element of claim 45 to mean “to include a rotary actuator positioned at a top portion of the lifting column and configured to rotate part of the lifting column and the wheel/track about the lifting column axis.” Pet. 20; Prelim. Resp. 6. Piccoli’s steering cylinder is not a rotary actuator. Petitioner fails to explain adequately how Piccoli’s steering cylinder satisfies Petitioner’s construction of this claim limitation.⁹

⁹ Patent Owner argues that Petitioner’s failure to identify a rotary actuator in the prior art violates 37 C.F.R. §42.104(b)(4). Prelim. Resp. 6. We do not agree. Petitioner does identify where it thinks the claim element is found in the prior art. See Pet. 47. Instead, Petitioner’s failure to identify a structure

Accordingly, Patent Owner demonstrates, on the current record, a deficiency in Petitioner's position with respect to claim 45 and claims that depend therefrom.¹⁰

2. *Dependent claims 21–27, 32, 35, 49–55, 57–60, and 63*

Petitioner also contends that dependent claims 21–27, 32, 35, 49–55, 57–60, and 63 are unpatentable as obvious over the combination of Volpe, Piccoli, and Skotnikov. Pet. 20, 53–74. As we discuss above, Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '995 patent is unpatentable, and we institute on all challenges raised in the Petition. *See SAS Inst.*, 138 S. Ct. at 1354, 1359–60; *see also PGS*, 891 F.3d at 1360; Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019).

Still, we have reviewed Petitioner's contentions and citations to the evidence and determine that Petitioner has made a sufficient showing, on the current record, that dependent claims 21–27, 32, and 35 are unpatentable under 35 U.S.C. § 103 over the combination of Volpe, Piccoli, and Skotnikov. With respect to claims 49–55, 57–60, and 63, which ultimately depend from claim 45, Petitioner does not rely on Skotnikov to remedy the deficiency we identify above with respect to claim 45. Accordingly, Petitioner fails to demonstrate sufficiently that claims 49–55, 57–60, and 63

that meets its claim construction for the claim element goes to the strength of the merits of the Petition.

¹⁰ Because we determine that Patent Owner demonstrates, on the current record, a deficiency in Petitioner's position with respect to claim 45 and the second actuator means element, we do not address Patent Owner's other arguments directed to limitations in claim 45. *See Prelim. Resp.* 7–11.

are unpatentable under 35 U.S.C. § 103 over the combination of Volpe, Piccoli, and Skotnikov.

F. Remaining Grounds and Challenges

Petitioner further contends that:

the combined teachings of Volpe, Piccoli, and Dubay render obvious the subject matter of claim 33 (Ground 3);

the combined teachings of Volpe, Piccoli, Skotnikov, and Dubay render obvious the subject matter of claim 61 (Ground 4);

the combined teachings of Volpe, Piccoli, Skotnikov, and McColl render obvious the subject matter of claim 28 and 56 (Ground 5);

the combined teachings of Volpe, Piccoli, and McCutcheon render obvious the subject matter of claim 34 (Ground 6); and

the combined teachings of Volpe, Piccoli, Skotnikov, and McCutcheon render obvious the subject matter of claim 62 (Ground 7).

Pet. 20, 74–86.

Because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '995 patent is unpatentable, we institute on all challenges raised in the Petition. *See SAS Inst.*, 138 S. Ct. at 1354, 1359–60; *see also PGS*, 891 F.3d at 1360; Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019).

Relevant to claims in these grounds that depend from claim 45, we do not discern, on the current record, that Petitioner relies on the additional prior art references to remedy the deficiency identified above with respect to claim 45. As such, Petitioner's analysis of these dependent claims suffers from the same deficiency we identify with respect to claim 45.

III. DISCRETIONARY DENIAL

A. Discretion under 35 U.S.C. § 314(a)

The Board has discretion not to institute an *inter partes* review. See 35 U.S.C. § 314(a) (authorizing institution of an *inter partes* review under particular circumstances, but not requiring institution under any circumstances); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that under § 314(a), “the PTO is permitted, but never compelled, to institute an IPR proceeding”).

Petitioner filed two parallel petitions challenging the ’995 patent—this Petition and a petition in IPR2022-01395 (the “’1395 Petition”). Petitioner argues that both petitions are justified, but ranks this Petition first should the Board elect to consider only one petition. Paper 1, 1. Patent Owner argues that multiple petitions are not warranted.

Because Petitioner ranks the present Petition first among the two petitions, we need not address the appropriateness of multiple petitions here. We will address the parties’ positions in our analysis of the ’1395 Petition, if necessary.

B. Discretion under 35 U.S.C. § 325(d)

Patent Owner contends that we should exercise our discretion under 35 U.S.C. § 325(d) to deny the Petition, applying our precedential decisions in *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”) and *Becton, Dickinson & Co. v. B. Braun Melsungen AG*,

IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph) (“*Becton, Dickinson*”). Prelim. Resp. 12–27.

Patent Owner argues that the Petition essentially reconstructs the disclosures previously considered by the examiner during the prosecution of the application that matured into the ’995 patent with its proposed combination of Volpe and Piccoli. Prelim. Resp. 14. For the reasons provided below, we disagree and we do not exercise our discretion to deny institution under § 325(d).

1. Applicable Framework

Section 325(d) provides that, in determining whether to institute an *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d) (2018). The Board uses a two-part framework in determining whether to exercise its discretion under § 325(d), specifically:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and
- (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics at 8.

In applying the two-part framework, we consider several non-exclusive factors from *Becton, Dickinson*, which provide “useful insight into how to apply the framework” (*Advanced Bionics* at 9): (a) the similarities and material differences between the asserted art and the prior art involved during examination; (b) the cumulative nature of the asserted art and the

prior art evaluated during examination; (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art (or Patent Owner distinguishes the prior art); (e) whether Petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments. *Becton, Dickinson* at 17–18. If, after review of factors (a), (b), and (d), we determine that the same or substantially the same art or arguments previously were presented to the Office, we then review factors (c), (e), and (f), which relate to whether the petitioner demonstrates that the Office erred in a manner material to the patentability of the challenged claims. *Advanced Bionics* at 10.

2. *Analysis*

We start our analysis with a review of the relevant history of the '995 patent before the Office. We then apply the *Advanced Bionics* framework to the facts.

a) History of the '995 patent before the Office

In this proceeding, as discussed above, Wirtgen America, Inc. challenged claims 18, 21–35, 45, and 49–63 of the '995 patent with seven grounds, which relied on combinations of Volpe, Piccoli, Skotnikov, Dubay, McColl, and McCutcheon. A discussion about what these prior art references describe can be found above. *See supra* § I.F.

Relevant to our analysis here, the Office rejected pending claims 21 and 47 (which issued as independent claims 18 and 45, respectively) over

Dubay (“Wo document ’117”) and Littman¹¹. Ex. 1002, 280, 318. The examiner reasoned that

[i]t would have been considered obvious to one of ordinary skill in the art to modify Wo document by substituting the rotary actuator as taught by Littman . . . for the rotary means (actuator (21) and linkage 14, 16) as disclosed by Wo document since the substitution of one known element for another would have yielded predictable results. Such a substitution would reduce the cumbersomeness of having several linkage mechanisms.

Id. at 280–281.

In arguing that pending claim 21 was patentable over the examiner’s proposed combination, the applicant stated that Littman did not disclose the second actuator connected to a lifting column, as Littman did not disclose a lifting column, and Littman provides no suggestion to linearly space apart its actuator from the first actuator. Ex. 1002, 307. The applicant made similar arguments with respect to claim 47. *Id.* at 309–310.

The claims were then allowed. *See* Ex. 1002, 314.

b) Part One of the Advanced Bionics framework

Under the first part of the *Advanced Bionics* two-part framework, we determine “whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office.” *Advanced Bionics* at 8. We look to *Becton, Dickinson* factors (a), (b), and (d) to inform our analysis. *Advanced Bionics* at 9–10.

(1) Becton, Dickinson Factors (a), (b), and (d)

Factor (a) under the *Becton, Dickinson* construct looks at “the similarities and material differences between the asserted art and the prior art

¹¹ US 4,558,758, issued December 17, 1985 (Ex. 2001, “Littman”).

involved during examination.” *Advanced Bionics* at 9 n.10. Factor (b) under the *Becton, Dickinson* construct looks at “the cumulative nature of the asserted art and the prior art evaluated during examination.” *Advanced Bionics* at 9 n.10. Factor (d) under the *Becton, Dickinson* construct looks at “the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art” or Patent Owner distinguishes the prior art. *Advanced Bionics* at 9 n.10.

We find that neither the same or substantially the same art previously was presented to the Office nor the same or substantially the same arguments previously were presented to the Office. As an initial point, there is no dispute that Piccoli was not before the Office. *See* Pet. 22–23.

The examiner’s rejections during prosecution of the application that matured into the ’995 patent relied on Littman, which features a rotary actuator located just above the wheel at the lower part of its leg, to teach the second actuator. *See* Ex. 1002, 280–281; Ex. 2001, 4:13–32 (describing drive means 88), Figs. 1–5 (depicting drive means 88). The Petition relies on a linear actuator from Piccoli for the second actuator. Pet. 33–34. As such, we find that Piccoli is not substantially similar to or cumulative of Littman.

Also, the examiner reasoned that a person having ordinary skill in the art would have looked to Littman’s rotary actuator as the second actuator. Ex. 1002, 280–281. The applicant argued that Littman does not suggest spacing its rotary actuator apart from a first actuator or have a lifting column. In contrast, Petitioner directs us to express disclosures in Piccoli of a lifting column and first and second actuators spaced apart in the vertical

direction. *See* Pet. 34–35. As such, little overlap exists between the arguments made during prosecution and the arguments in the Petition.

For the reasons discussed above, we find that Part One of the *Advanced Bionics* framework is not satisfied.

c) Part Two of the Advanced Bionics framework

Because we find that Part One of the *Advanced Bionics* framework is not satisfied, we need not move to Part Two of the framework.

d) Conclusion

Based on our analysis of the *Becton, Dickinson* factors within the *Advanced Bionics* framework, we determine that discretionary denial under § 325(d) is not appropriate under the facts before us.

IV. CONCLUSION

Based on the information presented, we determine Petitioner has established a reasonable likelihood that it would prevail with respect to at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review on all challenges.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to claims 18, 21–35, 45, and 49–63 of U.S. Patent No. 7,523,995 B2;

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

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