

PUBLIC VERSION

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN ROAD CONSTRUCTION
MACHINES AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1088

COMMISSION OPINION

On February 14, 2019, the presiding Administrative Law Judge (“ALJ”) in the above-identified investigation issued her final initial determination (“FID”) finding a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“section 337”), by respondents Wirtgen GmbH, Wirtgen Group Holding GmbH (“Wirtgen Group”), Wirtgen America, Inc. (“Wirtgen America”), and Joseph Vögele AG (“Vögele”) (collectively, “Respondents”). Having considered the FID, the parties’ petitions, responses thereto, written submissions, and the record in this investigation, the Commission has determined to affirm with modification the FID’s findings with respect to a section 337 violation by respondents Wirtgen GmbH, Wirtgen Group, and Wirtgen America (collectively, “Wirtgen”), based on the infringement of claim 19 of U.S. Patent No. of 7,140,693 (“the ’693 patent”). All findings in the FID that are consistent with this opinion are affirmed.

I. BACKGROUND

A. Procedural Background

The Commission instituted this investigation on November 29, 2017, based on a complaint filed by Caterpillar Inc. of Peoria, Illinois and Caterpillar Paving Products, Inc. of Minneapolis, Minnesota (collectively, “Caterpillar” or “Complainants”). *See* 82 Fed. Reg. 56625-26 (Nov. 29, 2017). The complaint, as supplemented, alleges violations of section 337 of

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the Tariff Act of 1930, as amended (19 U.S.C. § 1337), based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain road construction machines and components thereof by reason of infringement of claims 1, 15-19, 24-28, 36, and 38 of the '693 patent; claims 1-5, 8, 9, and 12-17 of U.S. Patent No. 9,045,871 ("the '871 patent"); and claims 1-3, 7, and 8 of U.S. Patent No. 7,641,419 ("the '419 patent"). *See id.*

The notice of investigation identifies the following respondents: Wirtgen GmbH of Windhagen, Germany; Vögele of Ludwigshafen, Germany; Wirtgen Group of Windhagen, Germany; and Wirtgen America of Antioch, Tennessee.¹ *See id.* The Office of Unfair Import Investigations is not a party to this investigation. *See id.*

The ALJ found (and the Commission affirmed, *see infra* section III) that the asserted claims of the '871 patent are invalid under 35 U.S.C. § 101 as directed to ineligible subject matter. *See* Order No. 18 (May 24, 2018), *aff'd*, Comm'n Notice (June 27, 2019).² The Commission terminated the '419 patent from the investigation after Caterpillar withdrew its allegations with respect to that patent. *See* Order No. 26 (July 5, 2018), *unreviewed*, Comm'n Notice (July 25, 2018). The Commission also terminated claim 25 of the '693 patent from the

¹ Wirtgen Group owns and controls a group of companies in the road construction industry including Wirtgen GmbH, Wirtgen America, and Vögele. *See* Complaint at ¶ 13 (EDIS Doc. No. 626840); RX-2C (Schmidt Direct Witness Statement ("DWS") at Q/A 8); Respondents' Response to the Complaint ("Answer") at ¶ 13 (EDIS Doc. No. 632768). Wirtgen GmbH manufactures certain accused products (road-milling machines) outside of the United States and sells them for importation into the United States. *See* Complainants' Post-Hearing Brief at 3 ("CIB") (EDIS Doc. No. 658733); Complaint at ¶ 11; Answer at ¶ 11. Wirtgen America sells the accused road-milling machines in the United States. *See* CIB at 3 (citing RX-2C, Schmidt DWS at Q/As 7-8); Complaint at ¶ 14; Answer at ¶ 14. Vögele manufactures paving machines and was accused of infringing the '871 patent, which the Commission found to be invalid. *See* CIB at 3, 6; Order No. 18 (May 24, 2018), *aff'd*, Comm'n Notice (June 27, 2019).

² Commissioner Schmidtlein dissents from the Commission's decision to affirm Order No. 18 and has filed a separate dissenting opinion.

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investigation after Caterpillar withdrew its allegations as to that claim. *See* Order No. 38 (Oct. 16, 2018), *unreviewed*, Comm'n Notice (Nov. 9, 2018). Claims 1, 15-19, 24, 26-28, 36, and 38 (hereinafter, "the asserted claims") of the '693 patent (hereinafter, "the asserted patent") remain pending in this investigation.³

The ALJ conducted an evidentiary hearing on September 25 and 26, 2018, and on February 14, 2019, she issued her FID finding a violation of section 337.⁴ Specifically, the FID finds that: (1) certain accused products, namely the Wirtgen W 100 CFi, W 120 CFi, and W 130 CFi road milling machines (collectively, "the series 1810 machines"), infringe the asserted claims of the '693 patent, but an older series of milling machines, namely, the Wirtgen W 100 Fi, W 120 Fi, and W 130 Fi (collectively, "the series 1310 machines"), do not infringe the patent; (2) all of the asserted claims, except claim 19 of the '693 patent, are invalid as anticipated and/or obvious over the asserted prior art; and (3) the domestic industry requirement is satisfied by Complainants' PM3XX domestic industry products. The ALJ also issued a Recommended Determination ("RD") recommending that the Commission issue a limited exclusion order ("LEO") against Respondents' infringing products and cease and desist orders ("CDO") against each Respondent.⁵ The ALJ further recommended against setting a bond (*i.e.*, a zero percent bond) for infringing products imported during the period of Presidential review.

³ Complainants asserted the '871 patent (not the '693 patent) against respondent Vögele. *See, e.g.*, CIB at 6 ("Caterpillar has not alleged that Vögele participates in the manufacture or importation of the Wirtgen-brand milling machines accused of infringing the '693 patent. Vögele remains in the Investigation pending Commission review of the '871 patent."). The Commission's finding of patent invalidity under 35 U.S.C. § 101 is dispositive as to Vögele.

⁴ *See* Hearing Tr. (EDIS Doc. Nos. 656926, 656927, 656968, 656969).

⁵ The FID and the RD appear, respectively, at pages 1-79 and 79-84 of the ALJ's "Initial Determination on Violation of Section 337; Recommended Determination on Remedy and Bonding" (Feb. 14, 2019) (EDIS Doc. No. 667138).

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On February 27, 2019, both Complainants and Respondents filed petitions for review of the FID.⁶ In particular, Complainants petitioned for review of the FID's findings with respect to: (1) the construction of the claim term "a retracted position relative to said frame"; (2) the prior art status of the Bitelli SF 102 C machine (RX-213) vis-à-vis the '693 patent; (3) invalidity of certain asserted claims over Volpe SF 100 T4⁷ (RX-802) in view of Ulrich U.S. Patent No. 3,633,292 (RX-946); (4) no invalidity of certain asserted claims over Gutman U.S. Patent No. 3,843,274 (RX-940)⁸; (5) non-infringement of the '693 patent by the non-accused series 1310 machines; and (6) the FID's failure to address indirect infringement even though it was asserted by Complainants and not contested by Respondents. Respondents petitioned for review of the FID's findings concerning: (1) no invalidity of claim 19 over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and Busley WO 97/42377 (RX-950), and in particular, the FID's finding of no motivation to combine the references; and (2) the economic prong of the domestic industry requirement. On March 7, 2019, the parties filed responses to each other's petitions.⁹

⁶ See Complainants' Petition for Review of the Initial Determination (EDIS Doc. No. 668540) (hereinafter, "Complainants' Pet."); Respondents' Petition for Commission Review of Initial Determination (EDIS Doc. No. 668520) (hereinafter, "Respondents' Pet.>").

⁷ The Volpe SF 100 T4 machine is an earlier machine model of Bitelli SpA ("Bitelli"), the former owner and assignee of the '693 patent, and is discussed in the specification of the '693 patent. See RX-802; FID at 37; JX-1, '693 patent at 1:12-56.

⁸ Complainants argued that the claims are not obvious over Gutman for the additional reason that Gutman does not disclose "a retracted position relative to said frame," as properly construed. See Complainants' Pet. at 27.

⁹ See Complainants' Response to Respondents' Petition for Review of the Initial Determination (EDIS Doc. No. 669352) (hereinafter, "Complainants' Pet. Resp."); and Respondents' Response to Complainants' Petition for Review of the Initial Determination (EDIS Doc. No. 669329) (hereinafter, "Respondents' Pet. Resp.>").

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On March 18, 2019, the parties filed statements on the public interest pursuant to Commission Rule 210.50, 19 C.F.R. § 210.50.¹⁰ On March 29, 2019, non-party Roadtec, Inc. (“Roadtec”) filed comments in response to the Federal Register notice requesting public interest comments.¹¹ *See* 83 Fed. Reg. 10836-37 (Mar. 22, 2019).

On April 12, 2019, the Commission issued a Notice determining to review the FID in part. *See* 84 Fed. Reg. 16282-83 (Apr. 18, 2019). Specifically, the April 12, 2019 Notice provided that:

[T]he Commission has determined to review the FID in part. Specifically, the Commission has determined to review the FID’s findings with respect to: (1) claim construction of the term “a retracted position relative to said frame” and any related findings including with respect to infringement, invalidity, and technical prong of the domestic industry requirement; (2) infringement of the asserted method claims, *i.e.*, claims 17-19, 24, 26-28, and 38 of the ’693 patent; (3) invalidity of certain asserted claims of the ’693 patent over Volpe SF 100 T4 in view of U.S. Patent No. 3,633,292 (Ulrich); (4) no invalidity of certain asserted claims over U.S. Patent No. 3,843,274 (Gutman) alone or in combination with other prior art; and (5) no invalidity of claim 19 over Volpe SF 100 T4 in view of Ulrich and WO 97/42377 (Busley). The Commission has determined not to review the remainder of the FID.

See id. The Commission did not request briefing from the parties on the issues under review but solicited written submissions only on the issues of remedy, the public interest, and bonding. *See id.*

¹⁰ *See* Complainants’ Statement on the Public Interest (EDIS Doc. No. 670334) (hereinafter, “Complainants’ PI Br.”); and Respondents’ Statement on the Public Interest (EDIS Doc. No. 670324) (hereinafter, “Respondents’ PI Br.”).

¹¹ *See* Roadtec’s Statement on the Public Interest (EDIS Doc. No. 671706) (hereinafter, “Roadtec’s PI Br.”).

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On April 30, 2019, the parties filed written submissions¹² in response to the April 12, 2019 Notice, and on May 10, 2019, the parties filed responses to each other's submissions.¹³

B. The Asserted Patent

The '693 patent, titled "Milling Machine with Re-Entering Back Wheels," issued on November 28, 2006, and claims priority to a foreign patent application filed in Italy on April 27, 2001, and an international application filed under the Patent Cooperation Treaty on April 26, 2002.¹⁴ The '693 patent identifies Gregory Henry Dubay, Michele Orefice, and Dario Sansone of Italy as inventors and Bitelli SpA,¹⁵ an Italian company, as the assignee. *See* JX-1.

The '693 patent generally relates to "work machines for the treatment of roadway surfaces, and more particularly to a planer or milling machine for asphalt and concrete." *See* JX-1 at 1:6-8; *id.* at Fig. 1 (reproduced below).¹⁶

¹² *See* Complainants' Brief in Response to the Commission Notice (EDIS Doc. No. 674531) (hereinafter, "Complainants' Remedy Br."); and Respondents' Statement on Remedy, the Public Interest, and Bonding (EDIS Doc. No. 674508) (hereinafter, "Respondents' Remedy Br.").

¹³ *See* Complainants' Reply Brief in Response to the Commission Notice (EDIS Doc. No. 675627) (hereinafter, "Complainants' Remedy Resp."); and Respondents' Reply Statement on Remedy, the Public Interest, and Bonding (EDIS Doc. No. 675643) (hereinafter, "Respondents' Remedy Resp.").

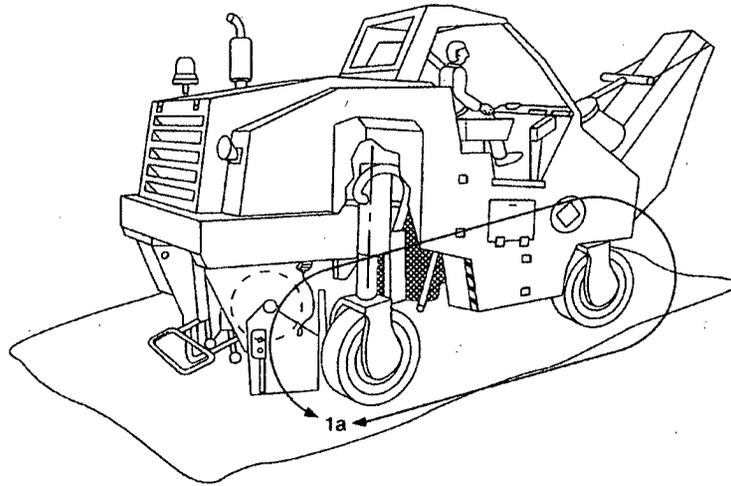
¹⁴ The effective date of the '693 patent pre-dates the America Invents Act ("AIA") enacted by Congress on September 16, 2011. Thus, the pre-AIA version of the Patent Act, 35 U.S.C. § 1 *et seq.*, applies to the '693 patent.

¹⁵ Respondents note that Caterpillar acquired Bitelli in 2000. *See* Respondents' Post-Hearing Brief at 2 n.1 ("RIB") (EDIS Doc. No. 658755).

¹⁶ The FID explains that "road milling machines, also known as 'cold planers,' . . . are used to remove asphalt and concrete on road surfaces" and that "[m]illing is a step in the process of resurfacing a road where part of the existing pavement is removed to provide a textured surface for a new layer of pavement." *See* FID at 2 (citations omitted).

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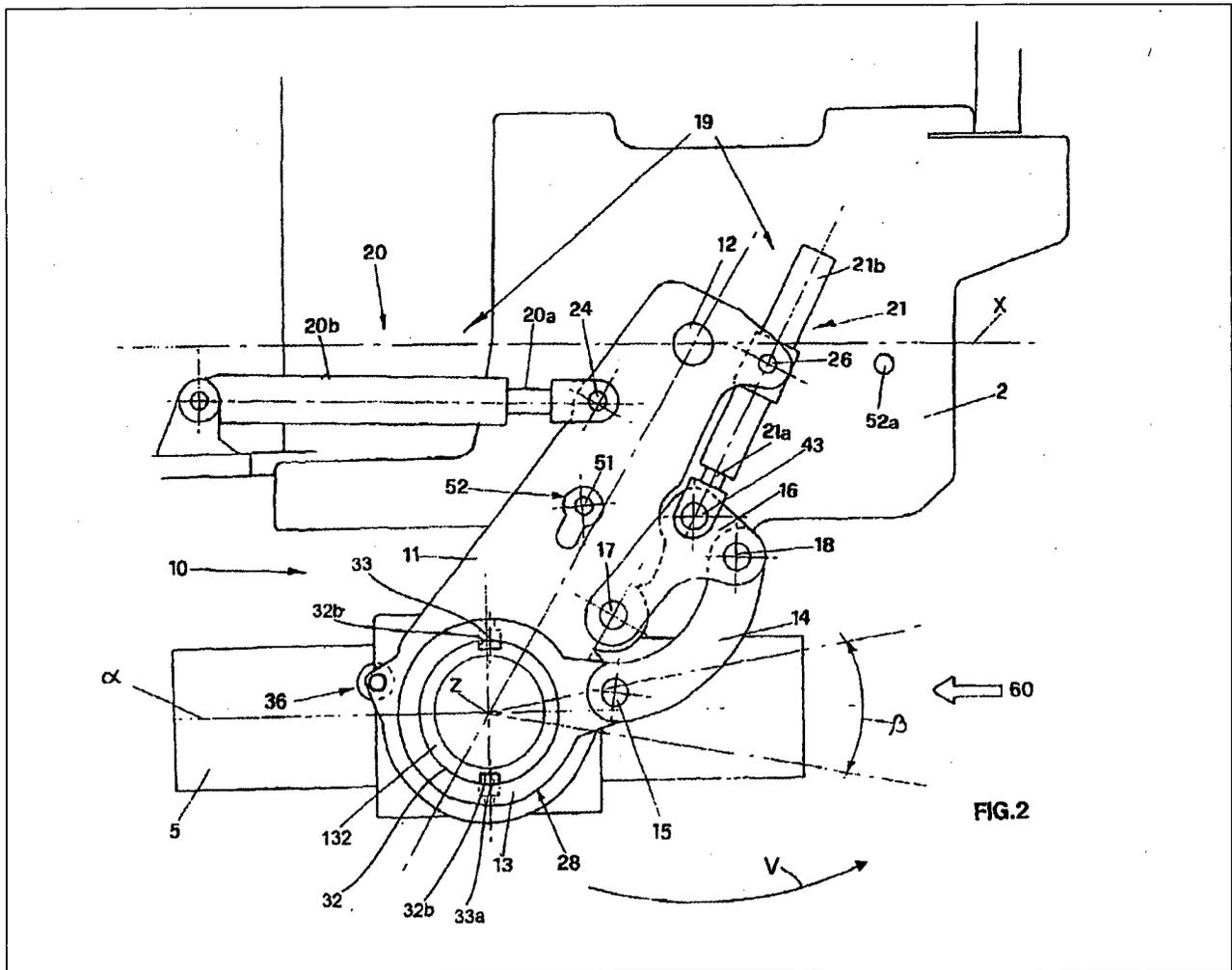
FIG - 1 -



More specifically, as illustrated in Figures 2 and 3 of the '693 patent (reproduced below), the claimed invention relates to a work machine including: (1) a frame (2) supported by a plurality of wheels or tracks (5), at least some of which are associated with respective lifting columns adapted to raise and lower the frame relative to the respective wheels or track; (2) a work tool supported by the frame (2); (3) a drive mechanism adapted to rotate the work tool and at least one of the wheels or tracks (5); and (4) an articulation apparatus (10) using a first actuator (20) and a pivoting support arm (11) to move one of the wheels or tracks (5) between a projecting position and a retracted position relative to the frame, and a second actuator (21) adapted to rotate the wheel or track (5) about a vertical axis (Z). *See, e.g., id.* at Abstract, 9:24-44 (claim 1), 2:36-49, Fig. 2 (reproduced below), 2:60-64 (“FIG. 2 is a schematic top plan view . . . of a detail of a cold planer similar to the one of FIG. 1 showing an articulation apparatus of a preferred embodiment of the present invention with a rear wheel arranged in a projecting position relative to the frame.”); 2:65-67 (“FIG. 3 is a schematic top plan view similar to FIG. 2 with the rear wheel arranged in a retracted position relative to the frame.”).

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The '693 patent explains that the claimed work machine allows "the automated movement to position a wheel or track assembly either projecting or retracted relative to the frame [to] occur[] with a greater stability in comparison with known machines," and "is less prone to wear, requires less maintenance, and is easier to manufacture than known machines." See *id.* at 2:24-30. In addition, the specification continues, the "change of rotational direction of the wheel or track about a vertical axis is facilitated in a compact and robust manner to adapt for the changing steering requirements when moving the wheel or track from the projecting to the retracted position relative to the frame and vice versa." See *id.* at 2:30-35.



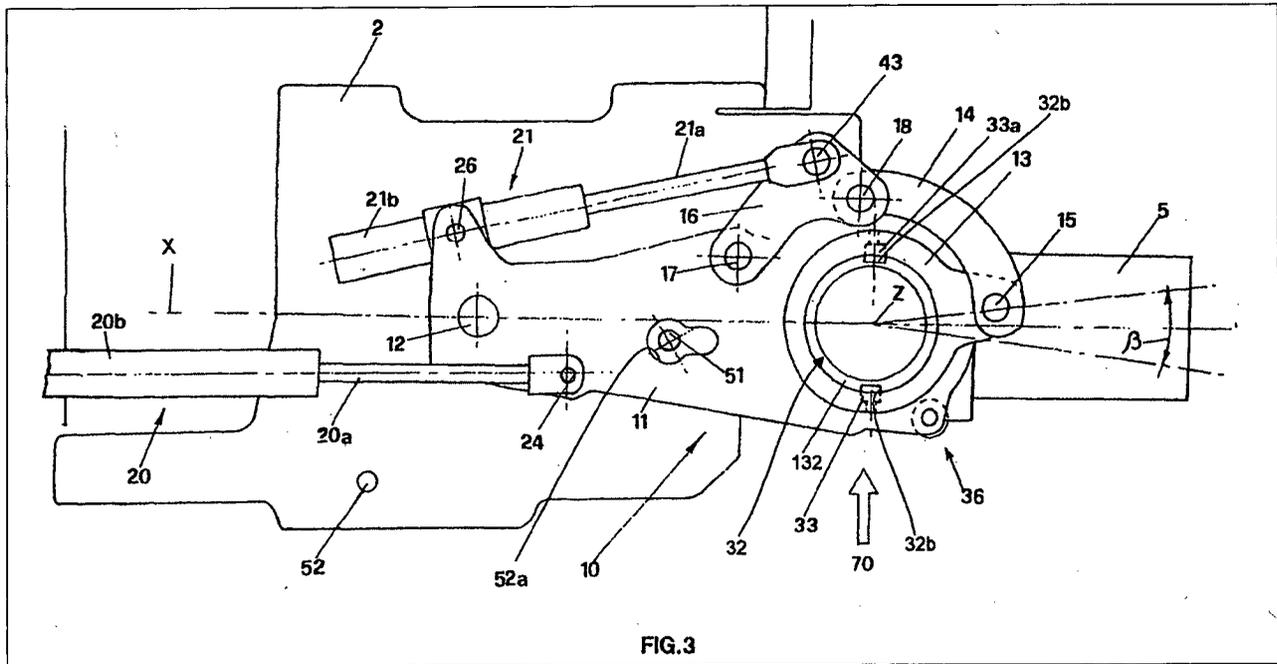


FIG. 3

C. Caterpillar's Domestic Industry Products

As noted in the FID, the domestic industry products are Caterpillar's PM3XX series cold planer machines, which include model numbers PM310, PM312, and PM313. See FID at 3 (citing CX-401C (Engelmann¹⁷ DWS) at Q/A 12). Caterpillar contends that the domestic industry products practice claims 1-3, 5, 6, 17-19, 24, and 28 of the '693 patent. See *id.* at 64 (citing CX-399C (Reinholtz¹⁸ DWS) at Q/A 60-164).

D. Wirtgen's Accused Products

The accused products are Wirtgen's series 1810 compact milling machines, model numbers W 100 CFi, W 120 CFi, and W 130 CFi.¹⁹ See FID at 3 (citing CX-399C (Reinholtz DWS) at Q/A 170; RX-2C (Schmidt²⁰ DWS) at Q/A 23). In addition, as noted in the FID,

¹⁷ Eric Engelmann is an employee and fact witness for Complainants.

¹⁸ Dr. Charles Reinholtz served as Complainants' technical expert in this investigation.

¹⁹ Complainants also accused certain paving machines manufactured by Vögele of infringing the '871 patent, which the Commission found to be invalid. See CIB at 3; *supra* note 1.

²⁰ Jan Schmidt is an employee and fact witness for Respondents.

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Wirtgen has also identified a prior generation of milling machines, the 1310 series, with model numbers W 100 Fi, W 120 Fi, and W 130 Fi.²¹ *See id.* (citing RX-2C (Schmidt DWS) at Q/A 23).²²

II. STANDARD ON REVIEW

Commission Rule 210.45(c) provides that “[o]n review, the Commission may affirm, reverse, modify, set aside or remand for further proceedings, in whole or in part, the initial determination of the administrative law judge” and that “[t]he Commission also may make any findings or conclusions that in its judgment are proper based on the record in the proceeding.” *See* 19 C.F.R. § 210.45(c). In addition, as explained in *Certain Polyethylene Terephthalate Yarn and Products Containing Same*, “[o]nce the Commission determines to review an initial determination, the Commission reviews the determination under a *de novo* standard.” Inv. No. 337-TA-457, Comm’n Op., 2002 WL 1349938, *5 (June 18, 2002) (citations omitted). This is “consistent with the Administrative Procedure Act which provides that once an initial agency decision is taken up for review, ‘the agency has all the powers which it would have in making the initial decision except as it may limit the issues on notice or by rule.’” *Id.* (citing 5 U.S.C. § 557(b)).

²¹ The 1310 series machines were not accused by Complainants, but Respondents requested that the ALJ adjudicate infringement with respect to those machines.

²² Wirtgen further identified [] but the FID declined to adjudicate those [] on the basis that “[they] have not been implemented in any imported articles,” and as such, “[they] are not ripe for a determination of infringement or non-infringement in this investigation.” *See* FID at 24-25. Wirtgen did not petition for review of the FID’s findings with respect to the [], and the Commission determined not to review this issue.

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III. DISCUSSION - '871 PATENT

The Commission affirms Order No. 18 in its entirety for the reasons provided in the Order.²³ First, the Commission agrees with the ALJ's holding that the asserted claims of the '871 patent are directed to an abstract idea. Under step one of the *Alice* analysis,²⁴ the Federal Circuit has held that claims directed to "collecting information, analyzing it, and displaying certain results of the collection and analysis," "fall into a familiar class of claims 'directed to' a patent-ineligible concept." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). The asserted claims here are drawn to the abstract idea of automating a paving machine by using conventional electronic components that substitute for human control of the machine's functions. *See* Order No. 18 at 11. Specifically, the claims are directed to the abstract idea of automating the settings of a paving machine's screed assembly by using conventional electronic components that substitute for a user's selection of the machine's settings by sensing, storing, and recalling the user's earlier choice of settings in order to automatically adjust the screed according to the stored user setting data. As the ALJ found, simply limiting the abstract idea to paving machines does not make the idea patentable. *See id.*; *Alice*, 134 S. Ct. at 2358 ("*Flook* stands for the proposition that the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.") (citation omitted); *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1346 (Fed. Cir. 2017) ("First, we 'determine whether the claims at issue are directed to a patent-ineligible concept.' If so, we 'examine the elements of the claim to determine whether it

²³ Commissioner Schmidlein dissents from the Commission's decision to affirm Order No. 18 and has filed a separate dissenting opinion.

²⁴ *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355-57 (2014) ("*Alice*")

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contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.”) (quoting *Alice*, 134 S. Ct. at 2355, 2357).

Likewise, the ALJ found that “the fact that the asserted claims are directed to physical phenomena,” *e.g.*, a paver that automatically adjusts its screed assembly based on stored user setting data, “is beside the point.” Order No. 18 at 16 (quoting *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1373 (Fed. Cir. 2017) (quoting *Alice*, 134 S. Ct. at 2358)). The Court in *Smart Systems* rejected the patent-holder’s argument that the claimed inventions are not abstract because they “operate in the tangible world” by allowing access through locked turnstiles in a transit system based on acquired bankcard data; instead, the Court held the claims to be patent ineligible because “the claims are directed to the collection, storage, and recognition of data.” 873 F.3d at 1371-72 (“We have determined that claims directed to the collection, storage, and recognition of data are directed to abstract ideas.”) (citing *Elec. Power*, 830 F.3d at 1353; *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017)).

Caterpillar relies on *Diamond v. Diehr*, 450 U.S. 175 (1981), *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), and *Thales*. But those cases are readily distinguishable. In *Diehr*, while the claimed invention relied on a mathematical formula, the Arrhenius equation, the patented process utilized the Arrhenius equation to transform uncured synthetic rubber “into a different state or thing.” *Diehr*, 450 U.S. at 184. Among other things, “[t]he invention in *Diehr* used a ‘thermocouple’ to record constant temperature measurements inside the rubber mold—something ‘the industry ha[d] not been able to obtain.’” *Alice*, 134 S. Ct. at 2358. Thus, the invention at issue in *Diehr* was patentable because it improved an existing

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technological process. *Id.* But even if the invention in *Diehr* were directed to an abstract idea, it included an inventive concept. Specifically, the claims in *Diehr* applied a mathematical formula, which was not patentable alone, in a very particular and specific way—to a process of curing raw rubber in a mold according to a specific series of steps including constantly measuring the temperature of the mold in real time for re-use in the formula to calculate the remaining curing time. *Diehr*, 450 U.S. at 177-78, 187.

In *Enfish*, the Court found that the claims at issue were “directed to an improvement in the functioning of a computer” and hence eligible for patent protection under section 101. *Enfish*, 822 F.3d at 1338; *see also id.* at 1337 (“The specification . . . teaches that the self-referential table functions differently than conventional database structures.”).

Regarding *Thales*, the patent claimed a technological advancement in determining the position and orientation of an object on a moving platform. *Thales*, 850 F.3d at 1345. The prior art used inertial sensors that measured the position of the object and platform relative to the earth. The invention in *Thales*, used those same sensors, but in an unconventional manner. The sensors directly measure the gravitational field in the platform frame and then calculate position information relative to the frame of the moving platform. *Id.* In contrast to these cases, as disclosed by the specification, the inventions of the '871 patent here use generic and conventional means in a conventional way and do not solve a technological problem or advance existing technology in any way.

As the ALJ observed, the elements of the machine claimed in the '871 patent are described at a high level of generality and as conventional components. *See* Order No. 18 at 12 (citing '871 patent at col. 3, ll. 8-10 (“While an endless path conveyor is shown, one or more feed augers or other material feed components may be used instead of or in addition to the

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conveyor”); *id.* at col. 3, ll. 49-51 (“The tow arm actuators may be any suitable actuators, such as, for example, hydraulic cylinders”); *id.* at col. 3, ll. 58-61 (“The screed assembly may be any of a number of configurations known in the art such as a fixed width screed, screed extender or a multiple section screed that includes extensions.”); *id.* at col. 4, ll.27-29 (“The method by which a screed assembly can be adjusted to control the height of the upper surface of the paving material is well known.”)).

As the ALJ further observed, “[t]he critical element of the invention consists of the generic electronic controller that permits coordination and control of ‘the various systems and components associated with the paving machine including the screed assembly.’” Order No. 18 at 12 (citing ’871 patent at col. 5, ll. 1-3). The specification discloses that the controller permits “operators of the paving machine to enter and receive information concerning operation of the paving machine” *Id.* (citing ’871 patent at col. 5, ll. 28-32). “The controller also permits automation of the machine’s functions, such as pile height or conveyor speed.” *Id.* (citing ’871 patent at col. 5, ll. 62-65). “The controller ‘may be configured to determine paving output data such as mat thickness, mat smoothness, mat temperature, mat elevation, and mat cross-slope from information it receives from various sensors associated with the paving machine.’” *Id.* (citing ’871 patent at col. 6, ll. 2-6). “The controller also may ‘communicate with various sensors on the screed assembly.’” *Id.* (citing ’871 patent at col. 6, ll. 21-22). “To provide further control over the paving process, the controller may be in communication with a variety of other mechanisms of the paving machine. . . .” *Id.* at 12-13 (citing ’871 patent at col. 6, l. 58-col. 7, l. 5).

As the ALJ correctly determined, “[t]he specification’s focus on conventional elements and components is consistent with the generality of claim 1.” Order No. 18 at 13. “Claim 1

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describes a ‘paving machine’ that is ‘configured’ to permit adjustments to the screed assembly.” *Id.* (citing ’871 patent at col. 9, ll. 51-54). “The machine has ‘actuators’ associated with adjustable components of the screed assembly.” *Id.* (citing ’871 patent at col. 9, ll. 56-60). “The machine has sensors to sense the configurations of the screed assembly.” *Id.* (citing ’871 patent at col. 9, ll. 61-64). “The machine has an ‘input device’ to allow an operator to enter commands.” *Id.* (citing ’871 patent at col. 9, ll. 65-67). “The machine has a ‘controller’ in communication with the other generic components that can save commands in memory and recall them later, thus making adjustments to the screed assembly components ‘automatically’ to correspond with the recalled information.” *Id.* (citing ’871 patent at col. 10, ll. 1-25). In short, the ’871 patent does not claim or describe as innovative any feature of either the paving machine, its adjustable screed assembly components, or the electronic controller that is disclosed. Instead, the ’871 uses conventional sensors, actuators, and controllers in their ordinary manner in a conventional paving machine.

Second, we also affirm the ALJ’s holding that the asserted claims of the ’871 patent lack an inventive concept. Under *Alice* Step two, tribunals must consider the claims “both individually and as an ordered combination,” to see whether they contain “an inventive set of components or methods,” “inventive programming,” or an inventive approach in “how the desired result is achieved.” *Elec. Power*, 830 F.3d at 1353-55. The Federal Circuit has also held that the machine-or-transformation test may be helpful in deciding eligibility at step two. *Smart Sys.*, 873 F.3d at 1375 (citing *Ultramerical, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014)). Under that test, patentability may be conferred on claims that transform “a particular article into a different state or thing.” *Ultramerical*, 772 F.3d at 716. However, as discussed above, the ’871 patent recites the use of standard electronic components to improve the

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functionality of a paving machine, and the patent discloses no innovative system for implementing the invention. Claim 1 describes and claims a generic controller that functions in a conventional way to collect, manipulate, and communicate data for adjusting conventional screed assembly components using the recalled user setting data.

In addition, unlike *Diehr*, the invention disclosed in the '871 patent does not transform anything. See Order No. 18 at 20-21. For example, “[t]he patent does not identify any mechanical distinction between the screed assembly in the patented invention and screed assemblies in other paving devices.” *Id.* Instead, “the invention focuses on the electronic elements,” which according to the patent improves speed and accuracy of setting up the screed. *Id.* at 21. That is not enough to render the invention patent eligible. See *id.* (citing *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015) (“Nor, in addressing the second step of *Alice*, does claiming the improved speed or efficiency inherent with applying the abstract idea on a computer provide a sufficient inventive concept.”)).

Caterpillar, relying on *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018), contends that the ID violates summary determination standards by resolving factual disputes against non-movant Caterpillar in determining that the claims are conventional and that “whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” Caterpillar Pet. at 17 (EDIS Doc No. 646749) (citing *Berkheimer*, 881 F.3d at 1368). But *Berkheimer* holds that the second step of the *Alice* test is satisfied “when the claim limitations ‘involve more than performance of well-understood, routine, [and] conventional activities previously known to the industry.’” *Berkheimer*, 881 F.3d at 1367 (quoting *Content Extraction*, 776 F.3d at 1347-48 (quoting *Alice*, 134 S. Ct. at 2359)). As discussed above, the specification discloses that the claimed invention uses well-understood,

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routine, and conventional components previously well-known to the industry. Moreover, resolving section 101 disputes via summary determination is entirely appropriate. *See* Order No. 18 at 7-8; *see also Intellectual Ventures Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1311, 1317-18 (Fed. Cir. 2016) (relying, *inter alia*, on statements in the patent specification to affirm grant of summary judgment finding certain asserted claims invalid under section 101); *Berkheimer*, 881 F.3d. at 1368 (“Nothing in this decision should be viewed as casting doubt on the propriety of [previous cases resolving patent eligibility on motions to dismiss or summary judgment].”).

In addition, as the ID observes, Caterpillar failed to dispute any fact material as to whether the elements of claim 1, alone or in combination, transform the conventional components into an eligible inventive concept. *See* Order No. 18 at 6. Caterpillar also does not dispute that the disclosed sensors, actuators, and controllers are used in a conventional manner. The only inventive concept alleged by Caterpillar is the addition of a generic controller to *save and recall* existing, observable information provided by the sensors so that humans do not have to “observe a multitude of settings and hope that they could recreate them at a later time.” Caterpillar Resp. to Statement of Undisputed Material Facts Nos. 2-4, 20 (EDIS Doc. No. 634953). *See also* Order No. 18 at 2, 20. However, such use of a controller is conventional, and as such is not sufficient to confer the inventive concept necessary to overcome a section 101 challenge. *See id.* at 20-21.

IV. DISCUSSION - '693 PATENT

As discussed *supra* section I(A), the Commission determined to review: (1) the claim construction of the term “a retracted position relative to said frame”; (2) the infringement of the asserted method claims, *i.e.*, claims 17-19, 24, 26-28, and 38 of the '693 patent; (3) the invalidity

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of certain asserted claims (*i.e.*, claims 1, 15-18, 24, 26-27, 36, and 38) of the '693 patent over Volpe SF 100 T4 in view of Ulrich; (4) no invalidity of certain asserted claims (*i.e.*, claims 1, 15-19, 24, 26-28, 36, and 38) of the '693 patent over Gutman alone or in combination with other prior art; and (5) no invalidity of claim 19 of the '693 patent over Volpe SF 100 T4 in view of Ulrich and Busley. *See* 84 *Fed. Reg.* at 16282. The Commission has determined not to review the remainder of the FID and such findings have thus become the determination of the Commission. *See* 19 C.F.R. § 210.42(h)(2).

A. Claim Construction

In a *Markman* Order, which issued on July 18, 2018, the ALJ construed the claim terms as follows:²⁵

Claim Term	Construction
a support arm pivotally connecting said frame to the lifting column associated with said one wheel or track (claim 1) a support arm pivotally connecting the frame to the lifting column associated with the one wheel or track (claim 36) connected to said frame by a support arm (claim 17) connected to the frame by a support arm (claim 38)	plain and ordinary meaning, without a limitation requiring that the support arm be the “only” pivotal connection to the frame
articulation apparatus adapted to pivotally move	Not a means-plus-function term under 35 U.S.C. § 112, paragraph 6

²⁵ No party challenged the ALJ’s claim constructions from the *Markman* Order. The parties also did not challenge the ALJ’s finding that a person of ordinary skill in the art would have “a bachelor’s degree in mechanical engineering or a closely related field . . . [and] at least two years of experience in the design and development of mechanisms, drive systems, and machinery of the type used in construction machines.” *See* Order No. 28 (*Markman* Order) at 5 (adopting Caterpillar’s proposed definition for the level of ordinary skill in the art); *see also* FID at 3.

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Claim Term	Construction
rotating said lifting column (claim 19)	rotating at least a portion of said lifting column

As relevant to this opinion, the FID construes the term “a retracted position relative to said frame” (*see, e.g.*, claim 1 of the '693 patent, JX-1 at 9:34-37, reproduced below with the disputed term bolded and italicized). For example, independent claim 1 of the '693 patent recites:

1. A work machine comprising:
 - a frame supported by a pair of front wheels or tracks and a pair of rear wheels or tracks, at least one of the wheels or tracks being associated with a respective lifting column adapted to raise and lower said frame relative to the respective wheel or track;
 - a work tool supported by said frame;
 - a drive mechanism adapted to rotate said work tool and at least one of said wheels or tracks;
 - an articulation apparatus adapted to pivotally move said one of said wheels or tracks associated with said lifting column between a projecting position and ***a retracted position relative to said frame***, said articulation apparatus including:
 - a support arm pivotally connecting said frame to the lifting column associated with said one wheel or track;
 - a first actuator connected to said support arm and operable to pivot said support arm relative to said frame;
 - a second actuator adapted to rotate said at least one wheel or track about a vertical axis.

See JX-1, '693 patent at 9:24-44 (claim 1) (emphasis added).

Complainants argued that the proper construction of the term “a retracted position relative to said frame” requires the swinging arm or leg to be “within the outline of the frame.” *See* Complainants’ Pet. at 11. Consistent with Respondents’ position, however, the FID finds

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that “th[e] plain language [of the claims] only requires that the retracted position be closer to the frame than the projecting position.” *See* FID at 44; Respondents’ Pet. Resp. at 10. The FID reasons that “[t]he limitation . . . is not restricted to an ‘interior’ position and there is no reference to ‘zero extension.’” *See id.* In addition, the FID continues, “[a]lthough the specification of the ’693 patent describes ‘flush milling,’ there is no reference to this operation in the claim language.” *See id.* The Commission determined to review the FID’s findings with respect to the claim construction of the term “a retracted position relative to said frame.” *See* 84 *Fed. Reg.* at 16282.

Claim construction is a “matter of law exclusively for the court.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (*en banc*), *aff’d*, 517 U.S. 370 (1996). Starting with claim language,²⁶ claim 1 requires “an articulation apparatus adapted to pivotally move said one of said wheels or tracks associated with said lifting column between a projecting position and a retracted position relative to said frame.” *See, e.g.*, claim 1 of the ’693 patent, JX-1 at 9:34-37. At a minimum, the claim language distinguishes between a projecting position and a retracted position relative to the frame. On the other hand, the FID’s construction only requires the retracted position to be closer to the frame than the projecting position; however, this would allow the retracted position to project from the frame and effectively be a projecting position relative to the frame. *See* Complainants’ Pet. at 12. In effect, the FID construes the retracted position to be relative to the projecting position whereas the claim language requires “a projecting position and a retracted position *relative to said frame*.” In other words, the point of

²⁶ In construing disputed terms, the Court should first look at the claims themselves, for “[i]t is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

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reference in claim 1 for the two positions in which the wheels or tracks may pivot is the “frame” whereas the FID’s point of reference is the projecting position.

The ’693 patent specification clarifies and supports a construction where the retracted position may not project away from the frame.²⁷ The specification distinguishes between the projecting and the retracted positions by explaining in the background section that “[t]he possibility of positioning at least one of the rear wheels in the projecting position improves weight distribution during operation of the work machine, while the possibility of positioning the wheel in the retracted position allows the work machine to operate flush to a wall or curb.” See JX-1 at 1:48-52. In other words, the wheels or tracks in a retracted position cannot project away from the frame, as the FID suggests, because such position does not allow the machine to operate flush to a wall or curb. See, e.g., CX-712C (Reinholtz Rebuttal Witness Statement (“RWS”)) at Q/As 31-32.

Additional portions of the specification cited by Complainants equate “retracted” with “interior” or “inside” the frame. See Complainants’ Pet. at 12-13. For example, the specification states that “EP 0 916 004 A1²⁸ discloses a work machine for the treatment of roadways having a rear support wheel which can be pivoted between an *interior or retracted*

²⁷ As stated in *Phillips*, the claims “must be read in view of the specification, of which they are a part” and the specification “is always highly relevant to the claim construction analysis . . . ; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Markman*, 52 F.3d at 979). As the Federal Circuit explained in *Phillips*, the specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). The Federal Circuit concluded that “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

²⁸ EP 0 916 004 A1 is the European patent publication that corresponds to U.S. Patent No. 6,106,703 to Simons et al. (RX-949). See JX-2.110-111 (’693 Patent File History).

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position and an *exterior or projecting* position” See JX-1, ’693 patent at 1:57-60 (emphasis added). Thus, it appears that the patentee is equating “interior” with “retracted” and “exterior” with “projecting.” Similarly, the disclosure in the ’693 patent specification of an exemplary embodiment wherein “[t]he first actuator **20** is adapted to pivot the support arm **11** so as to position the wheel **5** either to project from the frame **2**, as indicated by reference numeral **60** in FIG. 2, or to be *retracted inside* the frame **2**, as indicated by reference numeral **70** in FIG. 3,” is consistent with Complainants’ proposed construction that “retracted position relative to said frame” means inside the frame. See *id.* at 5:29-33.

Complainants’ best support with respect to the meaning of the term “a retracted position relative to said frame” resides in the prosecution history²⁹ of the ’693 patent, which shows that the patentee distinguished prior art embodiments where the arm can be pivoted to a position parallel to the frame, and instead equated the claim term to a position within the frame. See Complainants’ Pet. at 15. Specifically, in an Office Action dated June 18, 2004, the USPTO Examiner rejected some of the claims under 35 U.S.C. § 102 as anticipated by U.S. Patent No. 6,443,687 (Kaiser). See JX-2, ’693 Patent File History at JX-2.82-83. The Examiner stated that “Kaiser discloses a frame (1) supported by a plurality of wheels (8, 15) . . . ; an articulation apparatus (see Fig. 2) adapted to pivotally move said one of said wheels (15) . . . between a projecting position and a retracted position relative to said frame (1), said articulation apparatus including a support arm (11) . . . , a first actuator (7b) connected to said support arm (11) and

²⁹ In addition to the claim language and the specification, courts “should also consider the patent’s prosecution history, if it is in evidence.” See *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). As the Federal Circuit explained, “the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” See *id.* (citation omitted).

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operable to pivot said support arm (11) relative to said frame (1).” *See id.* More specifically, Kaiser discloses an excavator-hoist including a frame or “chassis” (1) and “projecting pivotable arms” (11) attached to the front end of the chassis (1) with “wheels” (15) provided at the free ends of the arms (11). *See* Kaiser at Abstract, 3:17-27, Figures 1 and 2 (reproduced below). In particular, Kaiser explains that “[t]he arms 11 are supported for pivotal movement about vertical axes 12 and horizontal axes 13” and “[t]he arms 11 are pivoted about their vertical axes 12 by respective piston-cylinder units 7b.” *See id.* at 3:18-21.

Fig. 1

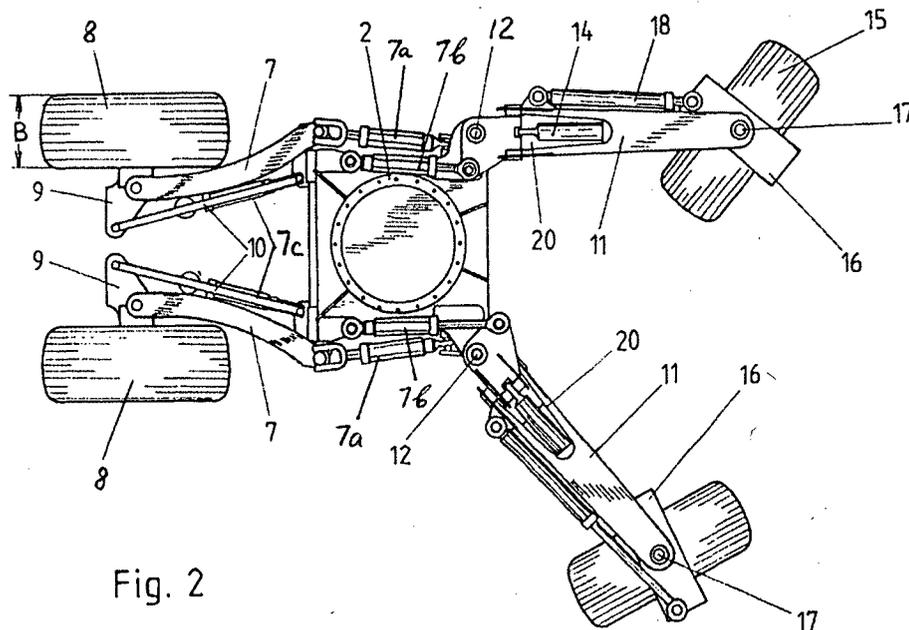
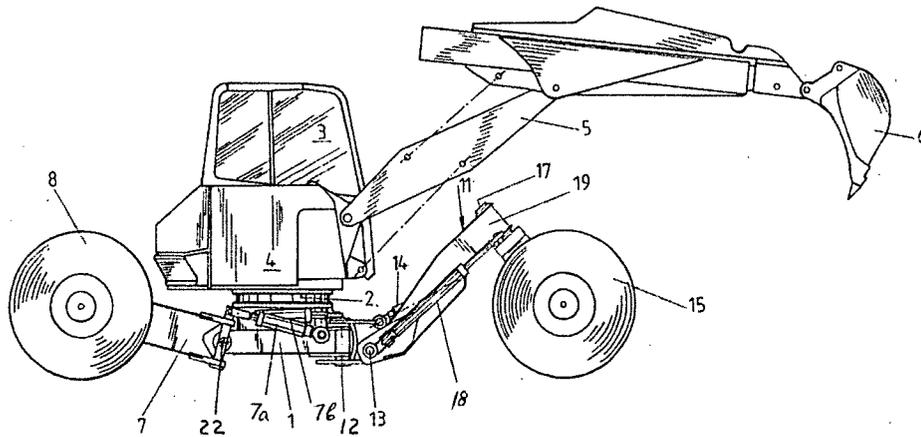


Fig. 2

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In its October 22, 2004 response to the Office Action rejection over Kaiser, the patentee argued that “Kaiser . . . does not teach or suggest an articulation apparatus adapted to pivotally move one of the wheels or tracks associated with the lifting column between a projecting position and a retracted position relative to the frame (chassis).” JX-2, ’693 Patent File History at JX-2.100. The patentee explained that “Kaiser does not disclose the ability to retract any of the wheels or tracks relative to the chassis” and that “[a]t best, Kaiser discloses moving the wheels to a position where they are roughly parallel with the side of the chassis and always far in front of or behind the chassis, but never retracted relative to the chassis, as claimed by applicant (‘a retracted position relative to said frame’).” *Id.* The patentee added that “[t]his feature of retracting a wheel or track to a position *within* the chassis is desirable in the case of a road mill, but would not be used or considered for use in a machine of the sort described by Kaiser.” *Id.* (emphasis added). In other words, the patentee expressly stated that an embodiment having the support arm and wheel at a position roughly parallel with the side of the frame is not “a retracted position relative to said frame,” and that a feature of the invention is to retract the wheel or track to a position *within* the frame. In the subsequent Office Actions, the Examiner did not restate the rejection over Kaiser and appeared to have withdrawn such rejection. Thus, the prosecution history shows that the patentee understood, and the Examiner agreed, that the term “a retracted position relative to said frame” means a position where the wheel or the track is within or inside the frame.³⁰

The intrinsic record therefore supports Complainants’ position that the plain meaning of the term “a retracted position relative to said frame” refers to “a position within or inside the

³⁰ Complainants also rely on RX-959 (Simons) and RX-936 (Bitelli) which were cited by the ’693 patent and which suggest that the retracted position is inside the frame.

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frame.” Alternatively, the patentee disclaimed embodiments where the arm is parallel to the frame and described retracting the wheel to a position within or inside the frame as a feature of the invention. *See Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (“Although the construction of a claimed term is usually controlled by its ordinary meaning, we will adopt an alternative meaning ‘if the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention.’”) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366-67 (Fed. Cir. 2002)). Thus, Complainants’ proposed construction is also supported under a prosecution history disclaimer theory.

The extrinsic evidence³¹ also supports the claim construction. Complainants’ expert, Dr. Reinholtz, testified that a person of ordinary skill in the art would understand the term “retracted position relative to said frame” to require the wheel or track to be within the outline of the frame. *See* Complainants’ Pet. (citing CX-712C (Reinholtz RWS) at Q/As 32, 173).

Respondents’ counterarguments are not persuasive. Respondents identified no instance in the record where “a retracted position relative to said frame” refers to a position that is not inside or within the frame. For example, Respondents argued that “the prosecution history cuts against Caterpillar’s argument,” explaining that “[d]uring prosecution, . . . applicant overcame [a] rejection [over Gutman (RX-940)] by arguing (incorrectly) that Gutman did not disclose a pivoting actuator or lifting columns,” but “[t]he applicant never suggested that Gutman failed to

³¹ The extrinsic evidence “can shed useful light on the relevant art,” but it is “less significant” than the intrinsic record in determining the legally operative meaning of claim language.” *See Phillips*, 415 F.3d at 1317 (citation omitted).

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disclose a retracted position.” See Respondents’ Pet. Resp. at 15 (citing JX-2, ’693 Patent File History at JX-2.83, JX-0002.101-102).

Respondents’ argument makes little sense because Gutman was not used by the Examiner to establish that it discloses “a retracted position relative to said frame” so the patentee would not be expected to respond that Gutman does not disclose that element. Rather, the Examiner rejected the claims under 35 U.S.C. § 103(a) as being obvious over Simons U.S. Patent No. 6,106,073 (RX-949) in view of Gutman (RX-940). See JX-2, ’693 Patent File History at JX-2.83-84. The Examiner argued that Simons discloses “an articulation apparatus . . . adapted to pivotally move said one of said wheels (16) associated with said lifting column (48) between a projecting position and a retracted position relative to said frame” but that “Simons . . . lacks a second actuator adapted to rotate said at least one wheel about a vertical axis (Z)” and that “Gutman . . . teaches a second actuator . . . adapted to rotate said at least one wheel . . . about a vertical axis (Z).” See *id.* It would be immaterial for the patentee to argue that Gutman does not disclose “a retracted position relative to said frame” when the Examiner made no such assertion and the patentee did not deny that Simons discloses that feature. See *id.* at JX-2.101-102; see also FID at 44 (“Simons describes ‘a *retracted interior* end position’ that ‘does not project beyond the zero extension side.’”) (citing Simons (RX-949 [sic])) (emphasis added).³²

Thus, the evidence shows that the term “a retracted position relative to said frame” is consistently used to mean that the position is within or inside the frame, and nothing in the intrinsic or extrinsic record suggests otherwise. Accordingly, the Commission has determined

³² As discussed *supra* note 28, EP 0 916 004 A1 is the European patent publication that corresponds to Simons (RX-949), and the ’693 patent states that “EP 0 916 004 A1 discloses a work machine for the treatment of roadways having a rear support wheel which can be pivoted between an interior or retracted position and an exterior or projecting position” See JX-1, ’693 patent at 1:57-60.

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to construe the term “a retracted position relative to said frame” to mean “a position within or inside the frame.”³³

B. Infringement by the Series 1810 Milling Machines

Complainants assert a section 337 violation based on infringement of claims 1, 15-19, 24, 26-28, 36, and 38 of the '693 patent. *See supra* section I(A). Claims 1, 15-16, and 36 are apparatus claims and claims 17-19, 24, 26-28, and 38 are method claims. More specifically, Complainants assert a section 337 violation as to the apparatus claims based on Respondents' alleged direct infringement of those claims. *See* CIB at 25. Complainants assert a section 337 violation as to the method claims based on: (1) Respondents' alleged direct infringement of those claims; and separately and independently, (2) Respondents' alleged indirect infringement of those claims. *See id.*

The FID addresses Complainants' direct infringement allegations as to the asserted apparatus and method claims, but does not address Complainants' indirect infringement allegations for the method claims. Specifically, the FID determines that Wirtgen's undisputed importation of the accused products, *i.e.*, Wirtgen's series 1810 milling machines, infringes the apparatus claims and that Wirtgen's undisputed use of those accused machines infringes the method claims. *See* FID at 16-23. In particular, the FID finds that “[t]here is no dispute regarding the structure of the accused apparatus, and Wirtgen does not contest Dr. Reinholtz's analysis showing that it moves the rear tracks between a projecting position and a retracted position in the accused products.” *See* FID at 17 (citing CX-399C (Reinholtz DWS) Q/As 200-206). More specifically, Dr. Reinholtz testified that “when the track is in the retracted position,

³³ Complainants note, and Respondents do not dispute, that changing the claim construction as discussed herein will not affect the FID's conclusions on infringement and the technical prong of the domestic industry requirement. *See* Complainants' Pet. at 33.

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the track is entirely within the outline of the frame and when the track is in the projecting position, the track is entirely outside of the outline of the frame.” See CX-399C (Reinholtz DWS) at Q/A 206 (citing CDX-1C at CDX-1.95-96). In other words, Dr. Reinholtz’s infringement analysis conforms to the Commission’s construction for the term “a retracted position relative to said frame,” as discussed *supra* section IV(A).

Respondents did not petition for review of the FID’s findings with respect to direct infringement. Complainants, however, did file a petition for review. Complainants’ petition faulted the FID for failing to address indirect infringement by the accused products with respect to the asserted method claims. See Complainants’ Pet. at 45. Complainants sought an adjudication of indirect infringement for the method claims, arguing that indirect infringement was not contested and that “Wirtgen is liable for both contributory and induced infringement of the asserted method claims.” See *id.*

Complainants’ theories of contributory and induced infringement are predicated on the undisputed direct infringement of the method claims in the United States by Respondents’ customers. See *id.* at 45-46 (citing CX-399C, Reinholtz DWS at Q/As 316-32, 344-54; JX-4C, Allen³⁴ Dep. Tr. at 109:1-112:2, 113:8-118:8, 138:11-140:5; CPX-46C; CPX-47C; CPX-49C). As to contributory infringement, Complainants alleged that “[t]he swinging leg of the accused products constitutes a material part of the invention” and “there are no substantial noninfringing uses of the accused products.” See *id.* at 46 (citing CX-399C, Reinholtz DWS at Q/A 341-42). Still further, Complainants alleged that Respondents had knowledge of the ’693 patent. See *id.* (citing CX-399C, Reinholtz DWS at Q/A 336-40; JX-8C, Piller Dep. Tr. at 65:4-19, 68:16-69:20; JX-9C, Schmidt Dep. Tr. at 10:4-13).

³⁴ Timothy Allen is an employee of Wirtgen America.

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As to induced infringement, Complainants alleged that “Wirtgen knowingly induced infringement by its customers and possessed the required specific intent through its marketing and instructional materials” and that “Wirtgen GmbH induces infringement by Wirtgen America through its training.” *See id.* (citing CX-399C, Reinholtz DWS at Q/A 344-54; CX-3; CX-208; CX-221; JX-4C, Allen Dep. Tr. at 138:11-140:5).

Respondents did not contest any of the allegations or evidence nor did they contest that they indirectly infringe the method claims. Instead, they simply asserted that the Commission need not address indirect infringement because the claims are invalid and because Respondents were already found to directly infringe the asserted claims. *See* Respondents’ Pet. Resp. at 32 (citing *Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984); 19 C.F.R. § 210.42(d)).

As previously noted, the Commission determined to review the FID’s findings with respect to the “infringement of the asserted method claims, *i.e.*, claims 17-19, 24, 26-28, and 38 of the ’693 patent.” *See* 84 Fed. Reg. at 16282. Respondents do not contest the allegations and evidence put forward by Complainants showing that they indirectly infringe the asserted method claims and accordingly, on review, the Commission has determined that Wirtgen induces the infringement of, and contributorily infringes, claims 17-19, 24, 26-28, and 38 of the ’693 patent in connection with the series 1810 milling machines. The Commission has determined to take no position as to whether Wirtgen’s own use of the asserted method claims in the United States (*i.e.*, Wirtgen’s own direct infringement of the claimed methods) constitutes a cognizable violation of section 337.

C. Invalidity - Obviousness

With the exception of claim 19 of the ’693 patent, the FID determines that the asserted claims are invalid. Specifically, the FID finds claims 1, 15-18, 24, 26-28, 36, and 38 of the ’693

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patent (*i.e.*, all of the asserted claims except claim 19) to be invalid as anticipated by the Bitelli³⁵ SF 102 C machine³⁶ and claims 1, 15-18, 24, 26, 27, 36, and 38 of the '693 patent (*i.e.*, all of the asserted claims except claims 19 and 28) to be invalid as obvious over the Volpe SF 100 T4 machine³⁷ (RX-802) in view of Ulrich (RX-946).³⁸ See FID at 29, 37, 43-51, 84. On the other hand, the FID finds claims 19 and 28 not obvious over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and/or Busley (RX-950) and none of the asserted claims obvious over Gutman (RX-940) alone or in combination with other prior art. See FID at 48, 51-63.

Complainants petitioned for review of the FID's findings of obviousness over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and the findings of non-obviousness over Gutman.³⁹ See Complainants' Pet. at 20-27. Respondents petitioned for review of the FID's findings of no invalidity with respect to claim 19 over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and Busley (RX-950). See Respondents' Pet. at 12-21.

The Commission determined to review the FID's findings with respect to: (1) the invalidity of certain asserted claims (*i.e.*, claims 1, 15-18, 24, 26-27, 36, and 38) of the '693 patent over Volpe SF 100 T4 in view Ulrich; (2) no invalidity of claim 19 over Volpe SF 100 T4

³⁵ As discussed *supra* section I(B), Bitelli is the assignee of the '693 patent and was acquired by Caterpillar in 2000.

³⁶ The Commission determined not to review the FID's findings with respect to invalidity of certain asserted claims as anticipated by the Bitelli SF 102 C machine. See 84 *Fed. Reg.* at 16282.

³⁷ As discussed *supra* note 7, the Volpe SF 100 T4 machine is an earlier model of Bitelli's cold planers. See FID at 37.

³⁸ The FID also relies on Bitelli II, EP 1 001 088 A2 (RX-0937) as a secondary reference in finding certain dependent claims invalid. See FID at 48-51. No party challenged the FID's findings in connection with Bitelli II.

³⁹ Complainants argued that the claims are not obvious over Gutman for the additional reason that Gutman does not disclose "a retracted position relative to said frame," as properly construed. See Complainants' Pet. at 27.

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in view of Ulrich and Busley; and (3) no invalidity of certain asserted claims (*i.e.*, claims 1, 15-19, 24, 26-28, 36, and 38) over Gutman alone or in combination with other prior art. *See* 84 *Fed. Reg.* at 16282.

1. Volpe SF 100 T4 in view of Ulrich

The FID finds that claims 1, 15-18, 24, 26, 27, 36, and 38 of the '693 patent are invalid as obvious over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946). *See* FID at 37-51. The FID notes that the '693 patent specification discusses the operation of the Volpe SF 100 T4 machine and explains that:

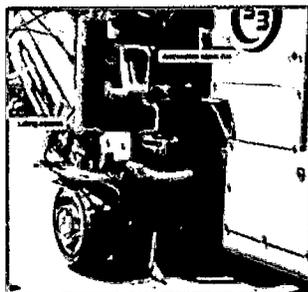
The operation of the Volpe machine is discussed in detail in the specification of the '693 patent, which describes a "Bitelli Volpe SF 100 T4M deep-cut cold planer for asphalt and concrete." In the Volpe machine, "[o]ne of the rear wheels is adapted to raise and lower the frame relative to the respective rear wheel." The rear wheel can also be moved between a projecting position and a retracted position, but this requires "manual operation." Mr. Arnold⁴⁰ reviewed a manual for the Volpe machine and observed the manual movement of the right rear wheel during an inspection.

See FID at 37-38 (citing JX-1, '693 patent at 1:12-56; RX-1C (Arnold DWS) at Q/As 110-13; RX-802 (Volpe manual); RPX-1039 (video of Volpe machine)); *see also* RDX-1C.28 (reproduced below).

⁴⁰ John W. Arnold served as Respondents' technical expert in this investigation.

Volpe Machine

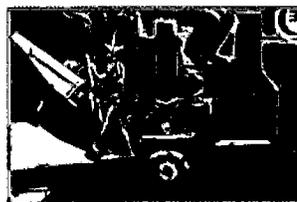
- Pivotal right rear wheel.
 - Manually movable between a retracted and a projecting state.



RPX-1041 at 0:16 (annotated)



First Wheel Position, RFX-1039 at 1:14; see also RX-1030



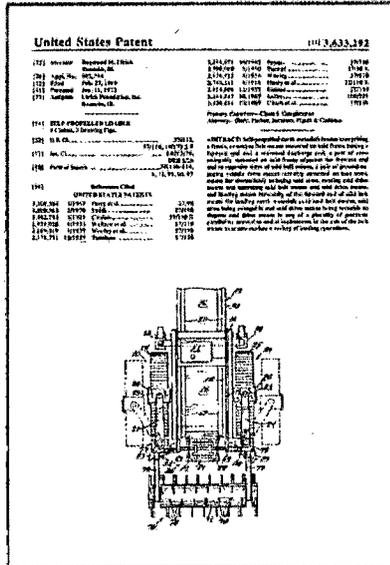
Second Wheel Position, RFX-1039 at 0:00; see also RX-1027

CONFIDENTIAL BUSINESS INFORMATION, SUBJECT TO PROTECTIVE ORDER

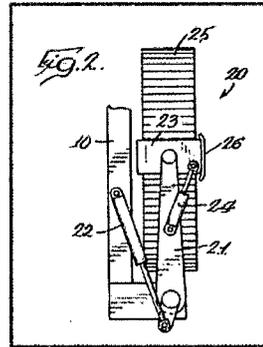
RDX-0001C.28

The FID finds that “Ulrich describes a swing-leg mechanism, featuring arms that ‘can be disposed at a variety of positions,’ using ‘a hydraulic cylinder or jack for moving the arm relative to the frame,’ and another ‘hydraulic cylinder or jack for turning the clevis relative to the arm,’ with ‘an endless track or a bogey assembly of drive wheels mounted on the clevis.’” See FID at 38 (citing RX-946, Ulrich at 1:39-60; RX-1C (Arnold DWS) at Q/A 116); see also RX-1C, Arnold DWS at Q/A 115 (“Ulrich included actuators to control both the pivoting of the support arm and the orientation of the track attached to the support arm. Ulrich taught that “[b]y appropriate manipulation of the motor means 22 and 24, the arms 21 and drive mechanisms 25 can be disposed at a variety of positions with the mechanisms 25 normal or parallel to the machine, as indicated in the drawings, or with the mechanisms inclined to the axis of the machine should that prove desirable.”) (citing RDX-1C.30 (reproduced below)).

Ulrich



- US 3,633,292 to Ulrich
- Title: "Self-Propelled Loader"
- Issued: January 11, 1972



RX-0946.0002

RDX-0001C.30

The FID finds “clear and convincing evidence that persons of ordinary skill in the art were motivated to automate the movement of the manual swing legs in machines like the Volpe SF 100 T4, and one of the known options for doing so was to add actuators like those disclosed in references like Ulrich.” See FID at 39-41. The FID also finds a reasonable expectation of success, particularly with larger machines. See *id.* at 41-42 (“As Mr. Arnold explains, the motivation to implement actuators to move a support arm would become more important ‘on larger road milling machines,’ where ‘the swing leg may be too heavy to manually pivot.’ . . . And there would be a greater likelihood of success for this combination in larger machines, where Caterpillar’s concerns regarding compatibility would be mitigated.”) (citing RX-1C (Arnold DWS) at Q/A 123).

Complainants argued that “[t]he FID’s finding that the combination of Volpe and Ulrich meets the asserted claims is premised entirely on an incorrect claim construction . . . of ‘a

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retracted position relative to said frame.” *See* Complainants’ Pet. at 20. Specifically, Complainants explained, “when the proper construction of ‘a retracted position relative to said frame’ is applied, the evidence shows that Ulrich fails to meet this limitation.” *See id.* Complainants also argued that “[b]ecause the [Volpe] machine was designed with space considerations in mind, incorporating automated actuators like those used in Ulrich into the Volpe machine would no longer allow the machine to achieve the claimed ‘retracted position relative to said frame.’” *See id.* at 24-25. Complainants further alleged that “one of ordinary skill in the art would not have had a reasonable expectation of success in combining Volpe [SF 100 T4] with Ulrich.” *See id.* at 34-38.

While the Commission agrees with Complainants that Ulrich does not disclose the term “a retracted position relative to said frame,”⁴¹ as construed *supra* section IV(A), Volpe SF 100 T4 undisputedly discloses that limitation such that Complainants cannot escape the FID’s findings of invalidity over Volpe SF 100 T4 in view of Ulrich. *See* FID at 37-38 (“The rear wheel [of Volpe SF 100 T4] can also be moved between a projecting position and a retracted position, but this requires ‘manual operation.’”) (citing JX-1, ’693 patent at 1:18-56 (stating that the Bitelli Volpe SF 100 T4M is 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. . . . Means are provided to allow for two operating positions of the one rear wheel. In a first operating position the rear wheel is mounted at the frame in what is called a projecting position, in a second operating position the rear wheel is mounted at the frame in a *retracted* position relative to the general outline of the frame.”) (emphasis added)); *see also id.* at 43-44

⁴¹ Ulrich, like Kaiser (discussed *supra* section IV(A)), discloses a machine wherein the wheel or track is parallel to the frame rather than at a position within or inside the frame, as required under the Commission’s construction. *See* Ulrich (RX-946) at Figure 3.

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("[T]here is no dispute that Volpe's wheel moves 'between a projecting position and a *retracted* position relative to said frame.'") (emphasis added); RX-1C (Arnold DWS) at Q/As 110-113, 146; RX-0802 (Volpe manual); *see also* Respondents' Pet. Resp. at 21-22.

The FID's finding that Ulrich discloses the term "a retracted position relative to said frame" is therefore entirely redundant in the FID's invalidity analysis. *See* FID at 44. Indeed, the FID also finds that the rear wheel of Volpe SF 100 T4 can be moved between a projecting position and a retracted position, but that this movement requires manual operation. *See* FID at 37-45. The FID then relies on Ulrich for its disclosure of an actuator that can automate Volpe's manual movement of the rear wheel between a projecting position and a retracted position. *See id.*; *see, e.g., id.* at 45 ("As discussed above, one of ordinary skill in the art would have been motivated to combine th[e] actuator [of Ulrich] with the arm of the Volpe machine to automate the projection and retraction of the rear wheel, with predictable results.") (citing RX-1C (Arnold DWS) at Q/As 152-53; RX-946, Ulrich at 1:44-46); *see also* Respondents' Pet. Resp. at 21-24.

Similarly, a determination that Ulrich does not disclose the term "a retracted position relative to said frame" does not change the FID's findings with respect to the motivation to combine Volpe SF 100 T4 and Ulrich and the reasonable expectation of success of such combination. *See* FID at 39-42. For example, the FID finds that "the record shows a clear motivation to pursue automation of the swing legs in work machines like the Volpe SF 100 T4, and persons of ordinary skill in the art would consider similar structures in related machines." *See id.* at 40. The FID explains that "Mr. Sansone's admission that Bitelli considered 'a number of options,' including the use of actuators, . . . confirms that actuators like those disclosed in Ulrich were among 'a finite number of identified, predictable solutions' that would have been considered by one of ordinary skill in the art." *See id.* (citing ; CX-713C at Q/A 23 (Sansone);

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KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007) (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.”). As the FID notes, Bitelli’s own prior art patent application, EP 1001088 (Bitelli II, RX-937) (filed on March 15, 1999, and published on May 17, 2000), shows that there was motivation to automate the manual swing legs of the Volpe machine. Indeed, Bitelli II describes the manual operation of Volpe’s rear wheels and states that “the manual character of the shift is awkward for the operator, who is forced, in order to carry it out, to get out of the machine and to go on both sides of it to carry out the move of the wheel rotation.” See FID at 39 (citing RX-937, Bitelli II at ¶ [0010]); see also *id.* (“The specification of the ‘693 patent identified the same problems with the Volpe SF 100 T4, noting that manually pivoting the support arm is ‘somewhat uncomfortable for the operator, who is obliged to leave his seat and carry out the required operations manually.’”) (citing JX-1, ‘693 patent at 1:48-56).

As noted in the FID, Bitelli II also states that this “limitation” can be overcome with a “machine . . . in which the shift operation of the back wheels from the projecting position to the re-entering position with respect to the frame is made in an automatized way.” See *id.* (citing RX-937, Bitelli II at ¶ [0011]); see also *id.* (citing RX-1C (Arnold DWS) at Q/As 123-24 (testifying that “[m]anually pivoting the Volpe machine’s support arm was inefficient and physically demanding” and that using Ulrich’s actuators to move the Volpe machine’s support arm “would have improved the efficiency” and “would have made the Volpe machine safer”).

The FID correctly rejects Caterpillar’s arguments that Ulrich describes a different type of machine from the Volpe SF 100 T4. See *id.* at 40. The FID reasons that “[this] is the type of distinction that was rejected by the Supreme Court in *KSR*, which recognized that ‘[w]hen a

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work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one.” *See id.* (citing *KSR*, 550 U.S. at 417).

The FID also correctly rejects Complainants’ argument that there was no reasonable expectation of success. *See id.* at 41-42. As the FID explains, “Caterpillar’s arguments improperly narrow the obviousness inquiry” and “[t]he fact that it would be difficult to add Ulrich’s actuators to the Volpe SF 100 T4 because of a size difference does not preclude a finding of obviousness.” *See id.* at 42. For example, the FID cites Federal Circuit precedent which held that “[i]t would have been obvious to one of ordinary skill and creativity to adapt the safety mechanisms of the prior art cigarette lighters, as disclosed in [the prior art], . . . even if it required some variation in the selection or arrangement of particular components.” *See id.* (citing *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1371-72 (Fed. Cir. 2011)).

Consequently, as the FID explains, “the motivation to implement actuators to move a support arm would become more important ‘on larger road milling machines,’ where ‘the swing leg may be too heavy to manually pivot.’” *See id.* (citing RX-1C, Arnold DWS at Q/A 123); *see also* Respondents’ Pet. Resp. at 25-29. Lastly, the Commission agrees with the FID that “there would be a greater likelihood of success for this combination in larger machines, where Caterpillar’s concerns regarding compatibility would be mitigated.” *See* FID at 42.⁴²

⁴² The FID also addressed Complainants’ evidence on secondary considerations but the FID finds that it does not affect the obviousness analysis. *See* FID at 63-64. Specifically, the FID finds that Complainants’ “evidence of indicia of non-obviousness is entitled to little weight” because “it lacks the required nexus with the scope of the claims.” *See id.* (citing *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 668 (Fed. Cir. 2000); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008), *abrogated on other grounds by Travel Sentry, Inc. v. Tropp*, 877 F.3d 1370 (2017)). Complainants did not petition for review of the FID’s findings with respect to secondary considerations, and the Commission determined not to review this issue.

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Thus, the Commission has determined to affirm the FID's findings and conclusion with respect to the invalidity of claims 1, 15-18, 24, 26, 27, 36, and 38 of the '693 patent over Volpe SF 100 T4 in view of Ulrich, except to the extent the FID determines that Ulrich discloses "a retracted position relative to said frame." See FID at 44.

2. Volpe SF 100 T4 in view of Ulrich and Busley

The FID finds claim 19 ("The method of claim 17,⁴³ wherein positioning said wheel or track in said rotational direction includes rotating said lifting column.") not invalid over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and Busley (RX-950).⁴⁴

The FID explains that "Busley . . . includes a right rear wheel that can pivot between a projecting position and a retracted position" but that "Wirtgen's obviousness arguments focus on a different feature of Busley . . . , where the front wheels of the machine are mounted on lifting columns that facilitate steering." See FID at 51 (citing RX-950, Busley at 7-9, Fig. 1; RX-1C (Arnold DWS) at Q/A 234). The FID explains that "[a] piston rod and cylinder used for steering is connected to Busley's front lifting columns via a 'link ring' on each column, rotating

⁴³ Claim 17 recites "[a] method of controlling the position of at least one wheel or track of a plurality of wheels or tracks supporting a frame of a work machine, said at least one wheel or track being connected to a respective lifting column connected to said frame by a support arm, said lifting column being adapted to raise and lower said frame relative to the respective wheel or track, said method comprising the steps of: controllably actuating a first actuator to pivot said support arm relative to said frame to position said wheel or track between a projecting or retracted position relative to said frame, the projecting and retracted position forming an arc of at least 90°, and controllably actuating a second actuator to position said wheel or track in a selected rotational direction about a vertical axis of said wheel or track." See JX-1, '693 patent at 10:43-57 (claim 17). As discussed *supra* section IV(C)(1), the FID finds claim 17 invalid as obvious over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946).

⁴⁴ The FID also finds claims 2, 3, 5, and 6 not invalid for the same reasons as claim 19 but only claim 19 is asserted against Respondents (Complainants asserted that claims 2, 3, 5, and 6 are practiced by the domestic industry products). Respondents did not petition for review of the FID's findings of validity with respect to the other claims, and the Commission determined not to review this issue.

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the columns to rotate the wheels. *See id.*; *see also* RX-950, Busley, Fig. 2 for a side view of the lifting columns 42 and 43 and the link rings 84 and 86 link rings (reproduced below).

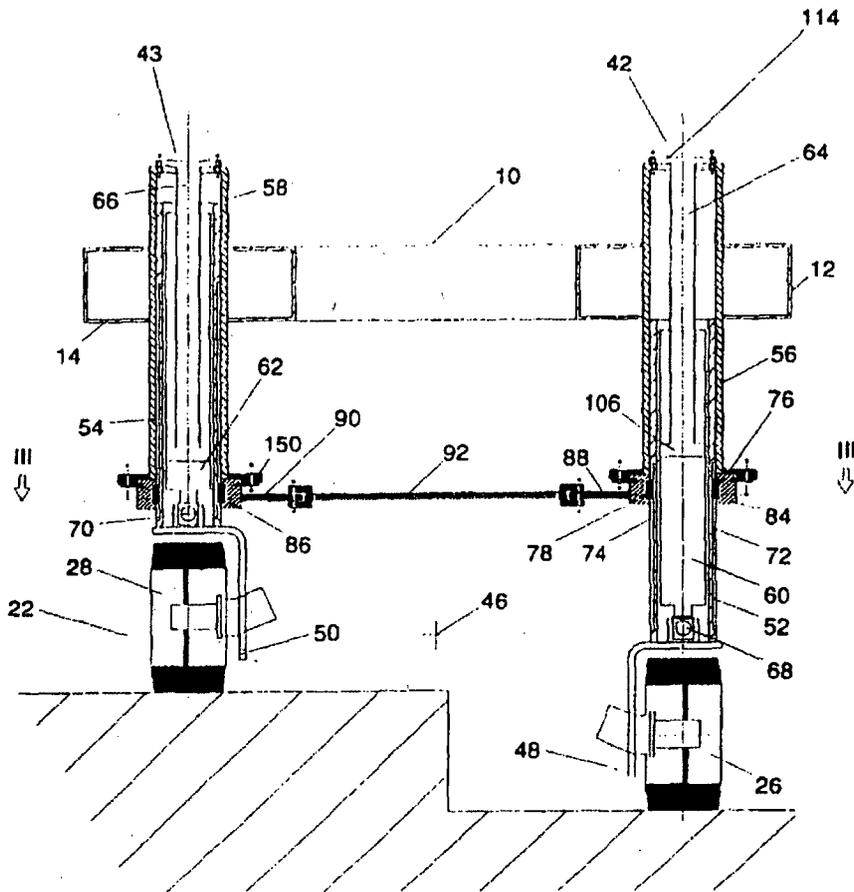


Fig. 2

The FID finds no “credible motivation to combine Busley’s steering mechanism with the Volpe machine and Ulrich.” *See* FID at 52. In particular, the FID finds that Respondents’ expert’s “testimony is wholly conclusory and fails to explain why one of ordinary skill in the art would implement Busley’s link ring connection in place of the connections for the actuators disclosed in Ulrich.” *See id.*; *see also* RDX-1C.30 (showing the actuator of Ulrich) (reproduced *supra* section IV(C)(1)); RX-1C, Arnold DWS at Q/A 51 (“Persons of ordinary skill in the art

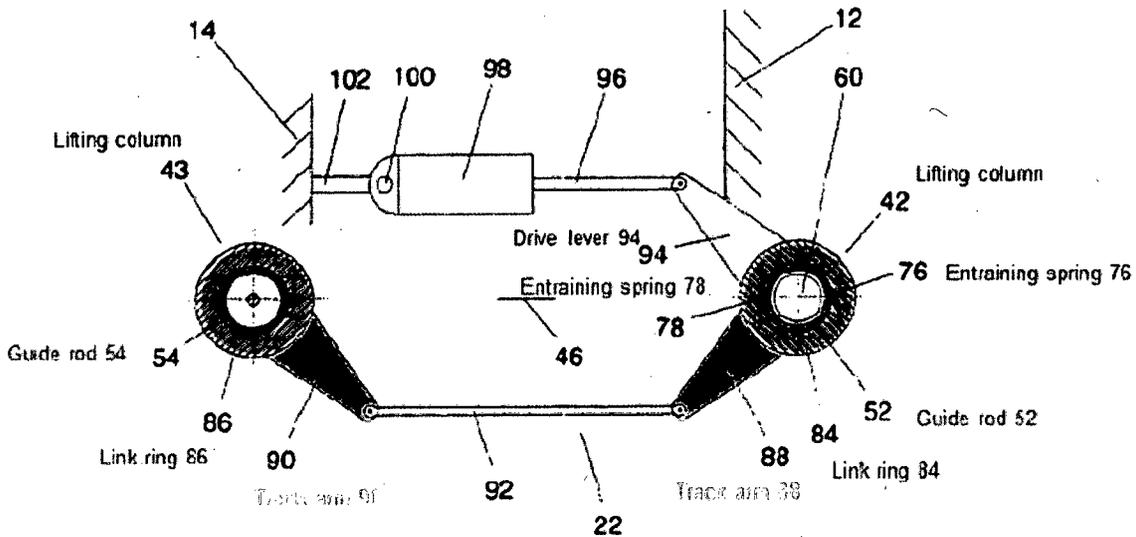
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also were well-aware of designs for automatically rotating the wheel with one actuator while pivoting a single support arm with another actuator. For example, Ulrich used this approach.”). In addition, the FID continues, “the fact that Busley discloses a rear swinging leg that does not implement a link ring teaches away from combining these references in the way that Wirtgen suggests.” *See* FID at 52. On the other hand, the FID credits Complainants’ expert testimony that “Busley’s steering feature is implemented on the lifting columns of its front wheels, which cannot be swung inwards or outwards” and “[while] Busley discloses a rear wheel that can swing outward, similar to the swinging functionality of the Volpe SF 100 T4 rear wheels and Ulrich’s tracks, . . . Busley only implements the link rings for its front wheels that are used for steering.” *See id.* (citing CX-712C (Reinholtz RWS) at Q/A 251; RX-950 (Busley) at 7; Hearing Tr. (Arnold) at 247-48).

Respondents petitioned for review of the FID’s findings of no invalidity with respect to claim 19. Respondents argued that “[their] expert, Mr. Arnold, advanced at least two motivations to combine Busley with the Volpe machine and Ulrich: (i) to provide improved steering; and (ii) to accommodate the Volpe machine’s lifting columns.” *See* Respondents’ Pet. at 19-21 (RX-1C, Arnold DWS at Q/As 52, 227). Respondents alleged that “Busley expressly teaches a configuration that allows the steering actuator to rotate the lifting column as part of positioning the wheel or track.” *See id.* at 13 (citing RX-1C (Arnold DWS) Q/As 227, 228, 233, 234, 253). Respondents reasoned that “Busley discloses ‘link rings’ (denoted **84** and **86** in Busley’s Figure 3, reproduced and annotated below) that are coupled to a milling machine’s front lifting columns **42** and **43** in a coaxial configuration via entraining slots **72** and **74** and entraining springs **76** and **78**.” *See id.* (citing RX-950, Busley at 13:1-5, Fig. 3). In addition, Respondents continued, “[a] piston rod [**96**] and cylinder [**98**] used for steering is connected to

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Busley's front lifting columns via [the] 'link ring' on each column, rotating the columns to rotate the wheels." *See id.* (citing FID at 51). Thus, Respondents concluded, "[i]t is undisputed that this configuration results in the lifting column rotating along with the wheel or track when the wheel or track is turned." *See id.* (citing CIB at 98; CRB at 45-48).⁴⁵



RX-0950 (Busley) at Fig. 3 (annotated).

The Commission finds that the FID correctly determines that Respondents fail to carry their burden to establish invalidity of claim 19 by clear and convincing evidence. The FID correctly finds that Respondents' expert testimony is conclusory and that Busley teaches away from the combination of Volpe and Ulrich. For example, Respondents' expert testified as follows on the motivation to combine Volpe, Ulrich, and Busley:

⁴⁵ Respondents also faulted the FID for stating that "[in the context of claim 28,] neither the Volpe machine nor Ulrich discloses any steering mechanism associated with its pivoting wheels or tracks." *See* Respondents' Pet. at 14 (citing FID at 52). While the Commission agrees with Respondents that Ulrich discloses steering actuators, the statement at issue does not affect the FID's findings as discussed herein and the FID's ultimate conclusion that claim 19 is not obvious over Volpe SF 100 T4 (RX-802) in view of Ulrich (RX-946) and Busley (RX-950).

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Q. What is your opinion on whether a POSA⁴⁶ would have been motivated to combine the Volpe machine, Ulrich, and Busley?

A. A POSA would have been motivated to combine the Volpe machine, Ulrich, and Busley before the priority date of the '693 patent for several reasons. For example, a POSA would have combined the references to provide improved steering controls. As explained in Busley at 1:22-23: "Machines for stripping off road surfaces and which comprise a chassis... are characterised by high manoeuvrability [sic]." As an improvement to this "manoeuvrability," at 12:24-13:5, Busley discusses "steering rings," "guide rods," and a "working cylinder" for improving "steering conditions" related to height adjustable wheel supports. Further, a POSA would have been motivated to combine Busley with the Volpe machine, Ulrich to improve the steering of the wheels of the described machines.

See RX-1C, Arnold DWS at Q/A 227; *see also id.* at Q/A 235.⁴⁷ But Respondents' expert did not explain why and how the Busley embodiments would be an improvement relative to the actuators disclosed in Ulrich. In other words, Respondents failed to explain why a person of ordinary skill in the art would be motivated to combine Volpe, Ulrich, and Busley to improve steering when Respondents acknowledge that "Ulrich includes a steering mechanism associated with its swing legs." *See* Respondents' Pet. at 15; *see also* Complainants' Pet. Resp. at 12.

In addition, as noted in the FID, "Busley's steering feature is implemented on the lifting columns of its front wheels, which cannot be swung inwards or outwards." *See* FID at 52 (citing CX-712C (Reinholtz RWS) at Q/A 251); *see also* CX-712C (Reinholtz RWS) at Q/A 115 ("The solid link 92 keeps the two wheels a constant horizontal distance apart [T]he legs in

⁴⁶ "POSA" means a person of ordinary skill in the art.

⁴⁷ Respondents also relied on their expert's testimony at Q/A 52 to support a motivation to combine, *see* Respondents' Pet. at 19 (citing RX-1C, Arnold DWS at Q/A 52), but Q/A 52 does not relate to Busley specifically; it can apply equally to Ulrich. Indeed, as acknowledged by Respondents, "Ulrich includes a steering mechanism associated with its swing legs: Ulrich also discloses a 'second actuator' that rotates its wheels or tracks." *See* Respondents' Pet. at 15; *see also* RX-1C, Arnold DWS at Q/As 51-52.

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Busley's steering system cannot be swung inwards and outwards, as required by both the Volpe SF 100 T4 and the '693 patent. Fixing the wheel separation distance with a solid connection [(92)] in the Busley steering system destroys the ability to swing a leg in and out."); RX-950 (Busley) at 12:24-13:5 (disclosing that the link rings (84, 86), the guide rods (52, 54), the track rod 92, and the working cylinder 98 allow for constant steering conditions); Complainants' Pet. Resp. at 13. Respondents alleged that the rear wheels in Busley are "steerable" and that "the [Busley] reference is simply silent about how the rear legs are steered." See Respondents' Pet. at 17 (citing RX-950 (Busley)). However, there is no evidence that Busley disclosed the same steering mechanism for the front wheels as the back wheels, *i.e.*, a mechanism that rotates the lifting columns as required by claim 19. Cf. RX-950 (Busley) at 1 ("[T]he wheels of the rear chassis axle can be steerable about a small angle (corrective steering).").

Respondents also argued for the first time in their petition for review (and thereby waived) that there is motivation to combine because "Busley's link-ring configuration also represented an obvious choice from "among 'a finite number of identified, predictable solutions' that would have been considered by one of skill in the art." See Respondents' Pet. at 21 (citing FID at 40); *see also* Complainants' Pet. Resp. at 14-15 (citing Order No. 2, G.R. 8.2, 11.1 (EDIS Doc. No. 630036); *Certain Prods. Having Laminated Packaging, Laminated Packaging, and Components Thereof*, Inv. No. 337-TA-874, Comm'n Op., 2013 WL 11041479, *9 (Sept. 3, 2013) ("Insofar as these arguments were not presented to the ALJ in [Complainant's] post-hearing brief, they have been waived."); *Hazani v. Int'l Trade Comm'n*, 126 F.3d 1473, 1476-77 (Fed. Cir. 1997)). Yet Respondents provided no expert testimony and their only support for this argument is a citation to a portion of the FID that relates to the motivation to combine Volpe SF 100 T4 and Ulrich, not Busley. See Respondents' Pet. at 21 (citing FID at 40).

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The Commission also agrees with the FID that Busley itself teaches away from a combination with Volpe SF 100 T4 and Ulrich. *See* FID at 52. As discussed in the FID, “Busley discloses a rear swinging leg that does not implement a link ring.” *See id.* This is consistent with Dr. Reinholtz’s testimony that “the legs in Busley’s steering system cannot be swung inwards and outwards, as required by both the Volpe SF 100 T4 and [claim 19 of] the ’693 patent” because “[f]ixing the wheel separation distance with a solid connection [(92)] in the Busley steering system destroys the ability to swing a leg in and out.” CX-712C (Reinholtz RWS) at Q/A 115; *see also* Complainants’ Pet. Resp. at 6, 13 (citing *Tec Air, Inc. v. Denso Mfg. Michigan Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999) (“If when combined, the references ‘would produce a seemingly inoperative device,’ then they teach away from their combination.”)).

Thus, the Commission finds that there is neither a motivation to combine nor a reasonable expectation of success in the combination of Volpe SF 100 T4, Ulrich, and Busley. Accordingly, the Commission agrees with the FID’s ultimate conclusion that Respondents fail to carry their burden to establish invalidity of claim 19 by clear and convincing evidence over Volpe SF 100 T4 in view of Ulrich and Busley, with this clarified analysis set forth above.

3. Gutman

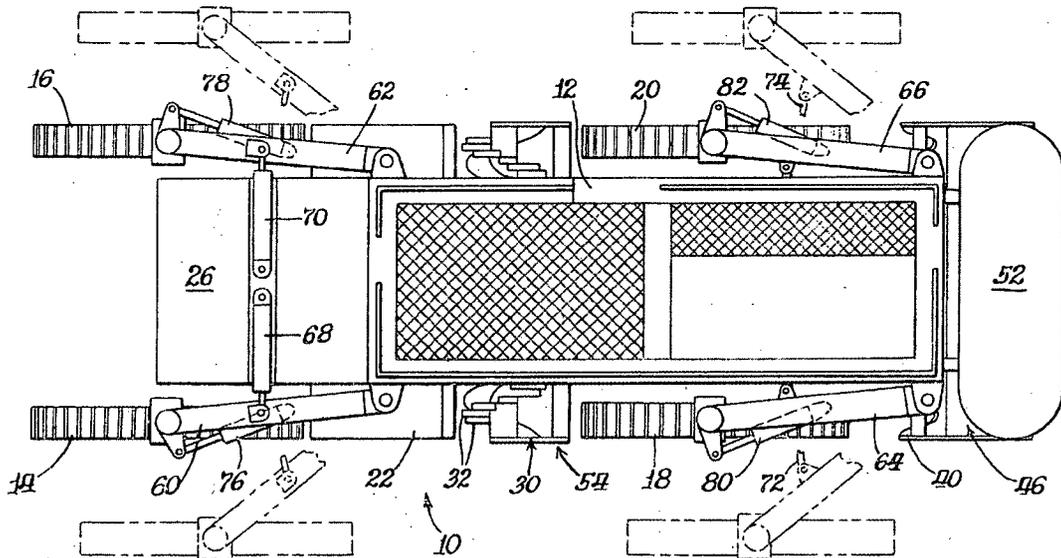
The FID determines that none of the asserted claims are invalid over Gutman (RX-940) alone or in combination with other prior art. *See* FID at 53-63. In particular, the FID finds that “Gutman does not disclose the claimed ‘drive mechanism.’” *See id.* at 53-56. Complainants petitioned for review of the FID’s finding that “Gutman discloses ‘a retracted position relative to the frame’ as claimed in the ’693 patent.” *See* Complainants’ Pet. at 27 (citing FID at 55). Complainants argued that, in view of their proposed construction for the term “a retracted position relative to said frame,” the claims are not invalid over Gutman for the additional reason

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that Gutman does not disclose that limitation. *See id.* at 27-33. Without developing their reasoning, Respondents stated that Gutman discloses a “retracted position relative to said frame” even under Caterpillar’s construction of the term, for the same reasons as those explained with regard to Ulrich. *See* Respondents’ Pet. at 21 n.6; *see also id.* at 19-21.

The Commission agrees with Complainants that Gutman does not disclose the term “a retracted position relative to said frame,” pursuant to the Commission’s construction, *see supra* section IV(A). Gutman, like Kaiser, discloses a machine wherein the wheel or track is parallel to the frame rather than at a position within or inside the frame, as required under our construction. *See* RX-940, Gutman at Figure 3 (reproduced below).⁴⁸

Fig. 3.



⁴⁸ As noted *supra* section IV(A), the Examiner did not state during prosecution of the '693 patent that Gutman (RX-940) discloses the term “a retracted position relative to said frame.” *See* JX-2, '693 Patent Prosecution File History at JX-2.83-84.

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Thus, the Commission has determined to affirm, with the modified reasoning discussed above, the FID's findings of no invalidity over Gutman alone or in combination with other prior art.

D. Conclusion

For the foregoing reasons, the Commission has determined to affirm with the modified reasoning set forth above the FID's findings of a section 337 violation based on the infringement of claim 19 of the '693 patent by Wirtgen's series 1810 milling machines.

V. REMEDY, PUBLIC INTEREST, AND BONDING

A. Limited Exclusion Order

Section 337 requires the Commission to issue an LEO against named respondents that are found to have imported, sold for importation, or sold after importation infringing articles:

If the Commission determines, as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States

See 19 U.S.C. § 1337(d)(1). *See also Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1358 (Fed. Cir. 2010) (“[T]he Commission is required to issue an exclusion order upon the finding of a Section 337 violation absent a finding that the effects of one of the statutorily-enumerated public interest factors counsel otherwise.”).

The RD recommends that the Commission issue an LEO excluding infringing products and components thereof from entry into the United States, against all Respondents. *See* RD at 80. The RD further states that “[t]he Commission may wish to carve out from the LEO Wirtgen's noninfringing series 1310 machines and components that will be used to provide for service and repair of products already in the possession of consumers.” *See id.* Complainants acknowledge that “[t]he ALJ ruled in Wirtgen's favor” in connection with the series 1310

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machines but they argue there should be no carve-out for those machines because “[they] were not accused in this Investigation” and “Wirtgen stopped manufacturing and importing the machines years ago, and Wirtgen has never affirmatively represented that they will be imported again.” *See* Complainants’ Remedy Br. at 4. Complainants further argue that “Respondents’ request to remove ‘components’ from remedial orders was made without any legal or factual support.” *See id.* at 5. Respondents argue that: (1) “any remedial order should be limited to road-milling machines, because the only remaining patent is directed to road-milling machines, rather than the broader category of ‘road construction machines and components thereof’”; (2) “consistent with longstanding Commission practice, any remedial order should contain an explicit carve-out for the noninfringing series 1310 machines and for service and repair parts”; and (3) “any limited exclusion order should include a certification provision allowing Wirtgen to import products after certifying that they are outside the scope of the order.” *See* Respondents’ Remedy Br. at 2-8.⁴⁹

The Commission determines that an LEO is appropriate in this investigation against the Wirtgen respondents which were found to be in violation of section 337. The Commission also finds that the LEO should include an explicit carve-out for Wirtgen’s series 1310 machines which do not infringe the ’693 patent (*see* FID at 23-24). In this investigation, the Commission finds that Respondents have adduced sufficient evidence to support their request for an exemption in the remedial orders for the importation of service and repair components used in

⁴⁹ Respondents argue for the first time in their reply written submission that “[n]o LEO should issue as to Joseph Vögele AG or Wirtgen Group Holding GmbH because neither of those Respondents imported series 1810 machines.” *See* Respondents’ Remedy Resp. at 4. Respondents waived this argument at least with respect to Wirtgen Group Holding GmbH for failure to raise it in their post-hearing briefs, petition briefs, or in their opening written submission.

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servicing or repairing road construction machines already in the possession of consumers.^{50, 51}

Specifically, Respondents established that the accused products are complex work machines that represent an expensive investment for U.S. consumers. *See* Respondents' Remedy Br. at 11 (arguing that the average sale price of Wirtgen's accused products is []) (citing RX-13C); *see also* RD at 81-82 ("Caterpillar computes the value of each inventoried machine in April 2018 at around []") (citing CX-400C (Reed DWS) at Q/A 88; CX-24C). Wirtgen argues

⁵⁰ The Commission notes that, in determining whether any adverse impact upon the statutory public interest considerations may be ameliorated by tailoring remedial orders (for example by providing a narrow exemption, such as a service and repair exemption), it places great value on having a fulsome evidentiary record to inform its analysis. In particular, third-party affidavits are usually very helpful and strongly encouraged. While no such affidavits were submitted in this investigation, other information in the record is sufficient to support our determination regarding a service and repair exemption.

⁵¹ Commissioner Schmidlein does not support granting the exemption to the remedial orders for the importation of service and repair components in light of the limited record on this issue. Respondents' remedy brief to the Commission seeks the exemption due to the expense incurred by U.S. consumers in purchasing the infringing machines. *See* Respondents' Remedy Br. at 6-7 ("[A] service-and-repair carve-out is particularly appropriate where, as here, the underlying article is very expensive."). Commissioner Schmidlein recognizes that granting such an exemption is a matter of discretion. In order to grant the exemption, Commissioner Schmidlein would require record support establishing a factual basis for assessing the remedial orders' impact on the public interest factors. The price of the infringing article, by itself, is insufficient. For example, she would look for record support (*e.g.*, third party affidavits, warranties, and expert testimony) establishing the lack of third party substitutable spare parts and/or establishing United States consumers expected the availability of Respondents' spare parts, which would otherwise be covered by the remedial orders. Given the absence of such record evidence in this investigation, she does not support the exemption.

Commissioner Schmidlein recognizes that Respondents' remedy brief also argues in the context of seeking "tailored" relief that Respondents supply the majority of all road-milling machines in the United States. *See* Respondents' Remedy Br. at 8-9 (citing RX-2C (Schmidt DWS) Q/A 15-18). She, however, observes that Respondents' brief and the information cited as support for Respondents' market share do not address the specific products found to infringe, the Wirtgen 1810 compact milling machines, or provide any context for assessing the potential impact on the public interest factors of excluding the specific products covered by the remedial orders. *See* Complainants' Remedy Br. at 7-8. Without any context as to the remedial orders, Commissioner Schmidlein finds that Respondents' market share information does not support granting the service and repair exemption.

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that this investment would be rendered useless without access to parts for service and repair of machines already in the hands of consumers. *See* Respondents' Remedy Br. at 7 ("Wirtgen's customers should not be required to spend [] for a new milling machine for want of a gasket."); *see also* Complaint Exs. 10, 59 (EDIS Doc. No. 626840) (Wirtgen brochures discussing after-sales customer service and supply of original spare parts). Wirtgen also argues that its proposed exemption is consistent with Commission practice, where the evidentiary record demonstrates a need for a narrow exemption to permit importation of parts for service and repair to alleviate adverse impacts upon consumers that have made significant investments in infringing products prior to the investigation and have shown the harm that would befall these consumers without access to parts for repairs. *See* Respondents' Remedy Br. at 5-7. *Compare Certain Automated Teller Machines, ATM Modules, Components Thereof, & Prods. Containing the Same*, Inv. No. 337-TA-972, Comm'n Op. at 26-27 & n.15 (June 12, 2017) (collecting cases) *with Certain Optical Disk Controller Chips & Chipsets & Prods. Containing Same, Including DVD Players & PC Optical Storage Devices*, Inv. No. 337-TA-506, Comm'n Op., 2007 WL 4713920, *65 (Sept. 28, 2005) (denying service and repair exemption where the record contains no evidence regarding the burdens and expenses that would be imposed on third parties in the absence of this exemption). Respondents also established that they have a significant market share and "suppl[y] the large majority of road-milling equipment in the United States," thereby imposing significant hardship upon numerous innocent consumers in the absence of this exemption. *See* Respondents' Remedy Br. at 8-9 (citing, *inter alia*, RX-2C (Schmidt DWS) Q/As 7, 15-18). Thus, the Commission agrees with Respondents that an exemption in the LEO for service and repair components used in servicing or repairing road construction machines already in the possession of consumers is justified "to prevent harm to

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innocent third parties and U.S. consumers who have purchased infringing goods.” *See id.* at 10 (citing *Certain Elec. Digital Media Devices & Components Thereof*, Inv. No. 337-TA-796, Comm’n Op., 2013 WL 10734395, *81 (Sept. 6, 2013)).

The Commission disagrees with Respondents’ suggestion to limit the LEO to “road-milling machines” rather than the broader “road construction machines and components thereof,” which is consistent with the scope of the investigation. *See* Respondents’ Remedy Br. at 3. The scope of the investigation is defined to include infringing road construction machines and components thereof. *See* 82 Fed. Reg. at 56625-26. Contrary to Respondents’ assertion, claim 19 of the ’693 patent is not limited to road-milling machines but relates more broadly to “work machines.” *See* JX-1, ’693 patent at 10:43-65 (claims 17 and 19); *see also* Complainants Remedy Resp. at 1-2. Thus, the Commission finds no reason to limit the scope of the remedial orders.

Still further, the Commission finds that the LEO should include the standard certification provision that CBP typically requests. The certification provision is justified because not all of the accused products were found to infringe the ’693 patent and because it may not be readily apparent by inspection whether a product or a component thereof is covered or exempted by the LEO. *See Certain Graphics Sys., Components Thereof, & Consumer Prods. Containing the Same*, Inv. No. 337-TA-1044, Comm’n Op. at 65-66 (Sept. 18, 2018).

Thus, the Commission has determined to: (1) issue an LEO against respondents Wirtgen Group, Wirtgen GmbH, and Wirtgen America, covering infringing products (these products do not include Wirtgen’s series 1310 milling machines, which were determined not to infringe); (2) include the standard certification provision in the LEO; and (3) include an exemption for service and repair parts for products already in the possession of consumers.

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B. Cease and Desist Order

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a CDO as a remedy for violation of section 337. *See* 19 U.S.C. § 1337(f)(1). The Commission generally issues cease and desist orders with respect to the imported infringing products when “respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order.”⁵² *See Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm’n Op., 2017 WL 1476193, *3 (Feb. 1, 2017) (citations omitted). Complainants bear the burden of proving that a respondent has a commercially significant inventory in the United States. *See id.*

The RD recommends that the Commission issue CDOs against all respondents found in violation of section 337. *See* RD at 81-82. The RD finds that “Wirtgen’s inventory, valued at close to [] in December 2016, is commercially significant.” *See id.* (citing CX-400C (Reed⁵³ DWS) at Q/As 85, 87, 88; CPX-3C; CX-30C; CX-24C). In addition, “[a]s with the LEO, [the RD states that] the Commission may wish to carve out from the CDO components that will be used to provide for service and repair of products already in the possession of consumers.” *See id.* The RD also notes that “[t]here is no evidence that series 1310 machines

⁵² When the presence of an infringing domestic inventory or domestic operations is asserted as the basis for a CDO under section 337(f)(1), Commissioner Schmidlein does not adopt the view that the inventory or domestic operations needs to be “commercially significant” in order to issue the CDO. *See, e.g., Certain Magnetic Tape Cartridges and Components Thereof*, Inv. No. 337-TA-1058, Comm’n Op. at 65 n.24 (March 25, 2019); *Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm’n Op. at 6-7, n.2 (Feb. 1, 2017). In Commissioner Schmidlein’s view, the presence of some infringing domestic inventory or domestic operations, regardless of its commercial significance, provides a basis to issue a CDO. *Certain Table Saws*, Inv. No. 337-TA-965, Comm’n Op. at 6-7, n.2.

⁵³ Brett L. Reed served as Complainants’ expert in this investigation for domestic industry and remedy issues.

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are currently in Wirtgen's U.S. inventory." *See id.* at 82 n.15. Respondents do not contest the RD's findings with respect to Wirtgen's [] inventory. However, as they did in connection with the LEO, Respondents argue that the CDO should be limited to road-milling machines and the CDO should include a carve-out for the series 1310 machines and for service and repair parts. *See Respondents' Remedy Br.* at 2-8. Respondents also contend that "CDOs should not issue to Wirtgen GmbH or Wirtgen Group because those respondents do not have any domestic inventory." *See Respondents' Remedy Resp.* at 5. Complainants argue that "Wirtgen's inventory is commercially significant" and that Wirtgen America has significant domestic operations that undercut the potential relief of an exclusion order because Wirtgen America has "[the] ability to import large numbers of machines, store them in inventory, and sell them through their dealer network." *See Complainants' Remedy Br.* at 5-6 (citing CX-400C, Reed DWS at Q/As 85-92; CX-24C).

The Commission determines that a CDO is appropriate in this investigation but only against respondent Wirtgen America. Respondents are correct that the record does not support issuing CDOs against Wirtgen GmbH and Wirtgen Group. The evidence presented by Complainants shows that Wirtgen America maintains a commercially significant inventory and significant domestic operations but no such evidence was presented in connection with Wirtgen GmbH or Wirtgen Group. *See Complainants' Remedy Br.* at 5-6 (citing CX-400C, Reed DWS at Q/As 85-92 (discussing sales and inventory maintained by Wirtgen America); CX-24C; CIB at 146-147 (citing CX-400C, Reed DWS at Q/As 85-92; CX-24C; CX-30C; CX-31C; CPX-3C); CX-400C, Reed DWS at Q/A 85 ("CX-024C is a printout, and CPX-003C is the corresponding excel sheet, that shows that Wirtgen America's inventory of compact models [small milling machines, model numbers W100/120/130 CFi, series 1810] in April 2018 was []"); *id.*

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("CX-030C is Wirtgen America's financial statement of June 2017, which shows at page 42 the number of units in inventory June 2017 was also []."); *id.* at Q/A 87 ("[CX-31C] is Wirtgen America's financial package for December 2016. This document shows the inventory of the accused W100/120/130 CFI milling machines to be [] in December 2016 on page 34 []."); *see also* CX-24C, CX-30C, CX-31C.

Thus, the Commission finds that Complainants satisfy their burden to prove that Wirtgen America maintains a commercially significant domestic inventory and/or has significant domestic operations that could undercut the remedy provided by an exclusion order, but fail to meet their burden with respect to the other respondents.⁵⁴ Accordingly, the Commission has determined to issue a CDO against Wirtgen America only.⁵⁵ In addition, for the same reasons discussed *supra* section V(A) in connection with the LEO, the CDO covers: (1) Wirtgen America's infringing products (these products do not include Wirtgen's series 1310 milling machines, which were determined not to infringe), and (2) include an exemption for service and repair parts for products already in the possession of consumers.

C. Bonding

The Commission must also determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day period of Presidential review following the

⁵⁴ Complainants attempt to meet their burden as to other respondents by lumping them with Wirtgen America under the generic Wirtgen designation. But, due to the absence of evidence as to respondents other than Wirtgen America, Complainants have failed to support their request for CDOs against the other respondents.

⁵⁵ Commissioner Schmidlein supports issuance of the CDO in this investigation against Wirtgen America due to its domestic operations and/or maintenance of infringing inventory, regardless of the commercial significance of either the operations or inventory. She observes that the record in this investigation fails to show that participating respondents Wirtgen GmbH or Wirtgen Group maintain any domestic inventory or domestic operations, the two bases asserted by Complainants for CDO relief. Commissioner Schmidlein therefore supports declining to issue CDOs as to those two entities.

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issuance of permanent relief, in the event that the Commission determines to order a remedy. *See* 19 U.S.C. § 1337(j)(3). The purpose of the bond is to protect the complainant from any injury. *See* 19 C.F.R. §§ 210.42(a)(1)(ii), 210.50(a)(3). The complainant has the burden of supporting any bond amount it proposes. *See Certain Rubber Antidegradants, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-533, Comm'n Op. at 40 (July 21, 2006).

The RD recommends against setting a bond during the period of Presidential review. *See* RD at 82-84. The RD reasons that “[n]o bond should be imposed because Caterpillar has failed to carry its burden to support a bond rate.” *See id.* at 84. Complainants agree with the RD and “do not request the imposition of a bond during the period of Presidential review of the Commission’s remedial orders.” *See* Complainants’ Remedy Br. at 7.

The Commission finds that a zero percent bond is appropriate. The RD recommends no bond (and Complainants do not object). Thus, the Commission has determined to set the bond during the period of Presidential review to zero percent of the entered value of the infringing products.

D. The Public Interest

In determining the remedy, if any, for a violation of Section 337, the Commission must consider the effect of the remedy on certain public interest considerations: (1) the public health and welfare; (2) competitive conditions in the United States economy; (3) the production of like or directly competitive products in the United States; and (4) United States consumers. *See* 19 U.S.C. § 1337(d) and (f).

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1. Public Health and Welfare

Respondents argue that “a sudden cease in importation of Wirtgen’s equipment would potentially create public-safety issues . . . particularly . . . with regard to the service and repair parts that keep existing Wirtgen machines operating properly and safely.” *See* Respondents’ Remedy Br. at 8. Complainants disagree and contend that “[w]hile road construction and maintenance are important to United States infrastructure, the general issue has not been recognized as a public health, safety, or welfare concern.” *See* Complainants’ Remedy Br. at 8.

The Commission finds that the remedial orders discussed *supra* sections V(A)-(B) would address the concerns raised and would not have an adverse effect on the public health and welfare.⁵⁶

2. Competitive Conditions in the United States Economy

Respondents argue that the “[e]xclusion of Wirtgen’s products could have significant negative implications for competitive conditions in the U.S. economy” because “Wirtgen supplies the large majority of road-milling equipment in the United States.” *See* Respondents’ Remedy Br. at 8-9 (citing RX-2C (Schmidt DWS) at Q/As 15-18). Complainants respond that “Respondents [incorrectly] rely solely on information about the road milling market in general, not on the specific products at issue, which are compact milling machines,” *i.e.*, machines with milling widths between 1 and 1.5 meters. *See* Complainants’ Remedy Br. at 7-8; Complainants’ Remedy Resp. at 7. Complainants also note that other U.S. suppliers including Caterpillar, Roadtec Inc., and Bomag Americas Inc. provide a wide range of compact milling machine equipment to customers and have the capability to replace the accused products if they

⁵⁶ As explained above in footnote 51, Commissioner Schmidlein does not support granting the exemption to the remedial orders for the importation of service and repair components. She also finds that the record on the public interest factors does not warrant denying remedial relief.

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are excluded. *See* Complainants' Remedy Br. at 8-9 (citing Roadtec's PI Br.); Complainants' Remedy Resp. at 7 (citing Roadtec's PI Br.).

It appears from the record that there are alternative suppliers providing machines having the capability to replace the infringing products. Thus, the remedial orders discussed *supra* sections V(A)-(B) would not present any potential adverse effect on the competitive conditions in the United States economy.

3. The Production of Like or Directly Competitive Articles

Respondents argue that Caterpillar cannot address "the dramatic expansion in output that would be required to fill the market void if Wirtgen's machines were excluded." *See* Respondents' Remedy Br. at 10. However, as noted by Complainants, the presence of other suppliers including Roadtec and Bomag (in addition to Caterpillar) weighs against the potential impact identified by Respondents. *See* Complainants' Remedy Br. at 9; *see also* Roadtec's PI Br. at 1.

Thus, for the same reasons discussed *supra* section V(D)(2), the Commission finds that the remedial orders discussed *supra* sections V(A)-(B) would not have an adverse effect on the production of like or directly competitive products in the United States.

4. United States Consumers

Respondents argue that because "Wirtgen's products represent most machines milling American roads today, [] consumers and the U.S. economy at large would suffer if repair or replacement parts for these products suddenly became unavailable due to the remedial order sought in this case." *See* Respondents' Remedy Br. at 10. Complainants argue that "[t]here is no evidence that U.S. consumers would be harmed by the recommended remedial orders." *See* Complainants' Remedy Br. at 10.

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The Commission finds that the remedial orders discussed *supra* sections V(A)-(B) would address the concerns raised and would not have an adverse effect on United States consumers.

5. Conclusion

Based on the record evidence, the Commission finds that remedial orders directed against infringing products (which include Wirtgen's series 1810 milling machines but not the series 1310 milling machines), and including an exemption for service and repair parts for products already in the possession of consumers, would cause little to no harm to the public health and welfare, the competitive conditions in the United States economy, the production of like or directly competitive products in the United States, and United States consumers.

Thus, the Commission has determined that the public interest factors do not preclude the issuance of remedial orders in this investigation.

VI. CONCLUSION

For the foregoing reasons, the Commission has determined to: (1) affirm with modification the FID's findings of a section 337 violation by Wirtgen's series 1810 milling machines, based on the infringement of claim 19 of the '693 patent; (2) issue an LEO against respondents Wirtgen Group, Wirtgen GmbH, and Wirtgen America, prohibiting the importation of certain road construction machines and components thereof that infringe claim 19 of the '693 patent, and a CDO against respondent Wirtgen America; and (3) set the bond during the period of Presidential review at zero percent of the entered value of the infringing products.

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

Issued: July 15, 2019

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN ROAD CONSTRUCTION
MACHINES AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1088

**DISSENTING OPINION OF COMMISSIONER SCHMIDTLEIN
ON PATENT ELIGIBILITY**

This matter involves the Commission's review of the presiding administrative law judge's grant of summary determination in *Certain Road Construction Machines and Components Thereof*. In the ALJ's initial determination ("ID") at issue, it granted Respondent's motion for summary determination that the asserted claims of U.S. Patent No. 9,045,871 ("the '871 patent") are invalid under 35 U.S.C. § 101 for being directed to ineligible subject matter – *i.e.*, an "abstract idea." On review, I find that the claims are not directed to an abstract idea, but instead to an improved paving machine. In my view it was error for the ID to grant summary determination in favor of Respondents. I therefore dissent from the Commission's decision to affirm the ID.

I. PATENTED TECHNOLOGY

The '871 patent is directed to a type of heavy machinery known as a paving machine with an adjustable screed assembly. '871 patent, Abstract. A screed is a device attached at the rear of a paving machine to spread and compact paving material into a layer or "mat" of "desired thickness, size, and uniformity." *Id.* at 2:50-53. To help achieve the desired uniform depth and smoothness and accommodate different site conditions, the paving machine and screed assembly can include a large number of adjustments. *Id.* at 1:27-40.

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The '871 patent discloses a sensor system with a controller that allows the paving machine to detect and store the varied adjustments made to the configuration of the screed assembly, and discloses a screed assembly that automatically adjusts to correspond to the saved information. See 1:44-2:11. The patent explains that the disclosed paving machine avoids errors that can result in “defects in the mat such as inconsistencies or discontinuities in the compression of the mat and in the thickness, texture, density and smoothness of the mat.” *Id.* at 1:35-40. An example of a paving machine with a screed assembly 18 is shown in Figure 1 of the patent, reproduced below.

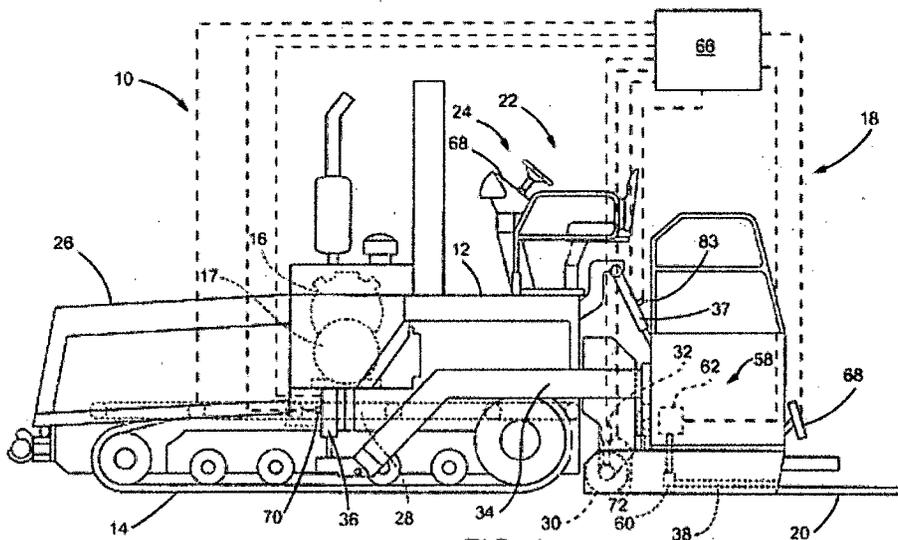


FIG. 1

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Independent claim 1 of the '871 patent, which is representative of those at issue,¹ recites as follows:

1. A paving machine comprising:

a screed assembly having a plurality of adjustable components, the plurality of adjustable components being configured to adjust the screed assembly into a plurality of different configurations;

a plurality of actuators, each actuator being associated with a respective adjustable component of the screed assembly and being supported and configured to adjust the respective adjustable component into different configurations;

a plurality of sensors each configured to sense a configuration parameter of a respective adjustable component of the screed assembly indicative of the configuration of the respective adjustable component; and

an operator input device configured to allow an operator of the paving machine to enter a first save command, a second save command and a recall command; and

a controller in communication with the operator input device and the sensors and configured to control operation of the actuators, the controller being configured to:

save in memory in response to the first save command a first set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components of the screed assembly that exist at the time of entry of the first save command in association with a first paving operation;

save in memory in response to the second save command a second set of the configuration parameters sensed by the plurality of sensors

¹ Complainant selected claim 1 as representative of the other asserted claims. Specifically, Respondent addressed each asserted claim (claims 1-5, 8, 9, 12-17) in its motion for summary determination. Resp. Mem. in Support of Mot. at 2-19. In opposition, Complainant addressed “claim 1 as representative” – without arguing that any other claim was separately or distinctly patent-eligible. Op. at 10 n.2. For this reason, I view claim 1 as representative of the asserted claims for purposes of the § 101 analysis. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018) (explaining that courts may treat a claim as representative when the “patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative”).

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and corresponding to the configurations of the adjustable component of the screed assembly then being used that exist at the time of entry of the second save command in association with a second paving operation;

recall one of the first set or second set of the configuration parameters from memory in response to the recall command in association with a third paving operation; and

adjust automatically the adjustable components of the screed assembly in associate [sic] with the third paving operation to correspond to the configuration parameters included in the recalled first set or second set of the configuration parameters.

II. THE ID UNDER REVIEW

Respondents filed a motion for summary determination pursuant to Commission Rule 210.18² arguing that the asserted claims of the '871 patent are directed to patent-ineligible subject matter under § 101. The ID (Order No. 18) granted the motion. At the first step of the two-part eligibility test, the ID explained that “[i]n this instance, the abstract idea is that of automating a paving machine by using electronic components that substitute for human control of the machine’s functions.” ID at 11. After finding that the claimed mechanical components are simply “generic” and “conventional” components (*id.* at 12-14), the ID then rephrased the abstract idea at issue: “The '871 patent thus discloses the abstract idea of collecting, analyzing, storing and displaying information about a paving machine so that the information can be reproduced, accurately and efficiently, for use in future paving.” *Id.* at 15. The ID explained that “[a]lthough various technological means can be used to execute the idea, it remains just that – an idea” a “memory exercise” or the

² Commission Rule 210.18 provides that summary determination “shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law.” 19 C.F.R. § 210.18(b).

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“equivalent of human mental work.” *Id.*

At the second step of the two-part eligibility test, the ID found that the claims do not contain an inventive concept because they recite the use of standard electronic components to improve the functionality of a paving machine. ID at 20. The ID explained that '871 patent does not identify any mechanical distinction between the screed assembly in the patented invention and the screed assemblies in other paving machines. *Id.* at 20-21. The ID therefore found the asserted claims of the '871 patent to be unpatentable under § 101. The Commission majority has determined to affirm the ID in its entirety. For the reasons explained below, I dissent from the Commission's decision to affirm the ID.

III. DISCUSSION

A. Patent-Eligibility under Section 101

Section 101 of the Patent Act defines the subject matter eligible for patent protection. It provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101. It has long been established that the expansive language of § 101 provides a broad scope for patent eligibility. *See Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980).

Within § 101's expansive language, the Supreme Court has recognized “an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013). The Court has described the concern that drives this exclusionary principle as one of pre-emption. “Laws of nature, natural phenomena, and abstract ideas are . . . the

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basic tools of scientific and technological work.” *Id.* “[M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,” thereby thwarting the primary object of the patent laws. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012).

At the same time, the Court has cautioned lower tribunals to “tread carefully in construing this exclusionary principle lest it swallow all of patent law.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). At some level, “all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.* Thus, an invention is not rendered ineligible for patent protection simply because it involves an abstract concept. *Id.* (citing *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)). “[A]pplication[s]’ of such concepts ‘to a new and useful end’ . . . remain eligible for patent protection.” *Alice*, 573 U.S. at 217 (citing *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

With these concerns in mind, Supreme Court precedent articulates a two-step framework for distinguishing patents that claim laws of nature, natural phenomena, or abstract ideas from those that claim patent-eligible applications of those concepts. *First*, a court must “determine whether the claims at issue are directed to” a “patent-ineligible concept[.]” *Alice*, 573 U.S. at 217 (citing *Mayo*, 566 U.S. at 77-79). *Second*, if the claims are directed to a patent-ineligible concept, the court must then determine whether there are additional elements of the claim that contain an “inventive concept” sufficient to “transform” the claimed matter into a patent-eligible application. *Alice*, 573 U.S. at 217-218 (citing *Mayo*).

If the claims are directed to a patent-eligible concept under *Mayo/Alice* step 1, “the

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claims satisfy § 101 and we need not proceed to the second step.” *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018).

B. The ID Erred in the Application of *Mayo/Alice* Step One

The ID’s step-one abstractness determination turns on the level of generality with which it describes the focus of the claims. It is at such a high level of abstraction as to overlook and misstate what the patent describes as the invention. Re-characterizing claims in a way that is “untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016).

As noted above, the ID found that the patent “discloses the abstract idea of collecting, analyzing, storing and displaying information about a paving machine so that the information can be reproduced, accurately and efficiently, for use in future paving” – observing that this is “a memory exercise.” ID at 15. But on its face claim 1 is directed to more than a memory exercise. Claim 1 contains limitations to specific, physical machinery that moves. Specifically, claim 1 recites, *inter alia*, a “paving machine” with physical components such as actuators, sensors, a screed, and a controller configured to “adjust automatically the adjustable components of the screed assembly” to correspond to previously detected adjustments made to the configuration of the screed assembly.

The patent’s specification provides further insight into the nature of the claims, describing the invention as a solution to a technical problem in the paver set-up. As the patent explains, the paver setup process can be complex and prone to errors. *See* 1:27-40; 8:31-36. The patent describes many different adjustments that can be made to a screed assembly during a standard paving project. *See* 1:27-40; 3:57-4:29. According to the Complainant, conventional pavers lacked set-up functionality to allow users to precisely

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configure a screed, making it difficult for a user to set up a machine the same way on multiple occasions. Compl. Petition at 4. To solve this problem, the '871 patent discloses a sensor system with a controller that allows the paving machine to detect and store the varied adjustments made to the configuration of the screed assembly during a paving job, and then during a future use adjust the screed assembly to precisely correspond to the saved information. See 1:44-2:11.³ This allows the user of the paving machine to avoid error in the set-up, which directly affects the quality of the paving process itself. 8:31-41. The patent explains that the disclosed paving machine avoids errors that lead to “defects in the mat such as inconsistencies or discontinuities in the compression of the mat and in the thickness, texture, density and smoothness of the mat.” 1:35-40.

Step one of the *Mayo/Alice* test is not a pursuit for the abstract idea underlying the claim. This is because “[a]t some level, all inventions . . . embody, use, reflect, rest upon or apply” an abstract idea or other ineligible concept. *Alice*, 573 U.S. at 217; see also *Enfish*, 822 F.3d 1335. To the extent there may be some uncertainty in distinguishing between properly determining what the claim is “directed to” and engaging in an improper exercise to identify the abstract idea (or other patent ineligible concept) that underlies every claim, an important principle must guide the analysis: individual claim limitations cannot be ignored, especially when they go to the heart of the patent’s purported improvement. See *Alice*, 573 U.S. at 218 (“[F]irst determine whether the *claims at issue* are directed to a patent-ineligible concept.”) (emphasis added); *Data Engine Techs. LLC v. Google LLC*,

³ Using this system of sensors, the paver is capable of detecting the configuration of the screed and saving these parameters for future use. 7:6-37. The parameters can be recalled later to perform adjustments to the paving machine. 7:48-67. In particular, a controller can direct the various actuators associated with each of the saved parameters to move the portions of the screed necessary for configuring the machine. *Id.*

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906 F.3d 999, 1011 (Fed. Cir. 2018) (explaining that step 1 inquiry “requires that the claims be read as a whole”). The Federal Circuit applied this principle in *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016), and cautioned that “courts must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims.”

In my view, the ID re-characterized claim 1 in a way that ignored key claim language directed to the improvement provided – *i.e.*, claim language reciting a paving machine that has the ability to automatically adjust the screed assembly to correspond to previous configurations. As the specification confirms, these limitations are important for shortening set-up times and reducing errors in the paver set-up that impacts the quality of the mat.⁴ *See* 1:35-40; 8:31-41.

The Supreme Court has explained the concern that underlies the abstract idea exception is one of pre-emption:

Laws of nature, natural phenomena, and abstract ideas are . . . the basic tools of scientific and technological work. [M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it

⁴ The Commission majority today affirms the ID in its entirety. In affirming the ID, the Commission majority opinion describes the step-one abstractness focus of the claims slightly differently from the ID. The Commission majority opinion states that the claims are “directed to the abstract idea of automating the settings of a paving machine’s screed assembly by using conventional electronic components that substitute for a user’s selection of the machine’s settings by sensing, storing, and recalling the user’s earlier choice of settings in order to automatically adjust the screed according to the stored user setting data.” Notwithstanding this description, I cannot agree that the claims are directed to an abstract idea. As described later in this opinion, the Federal Circuit has explained that claims directed to “improvement[s]” in “something physical” are “critically different” from claims directed to abstract ideas like processing information on a generic computer. *SAP America, Inc. v. Investpic, LLC*, 898 F.3d 1161, 1167-68 (Fed. Cir. 2018). The claimed paving machine is clearly “something physical.” Further, the claimed invention relates to an improvement in the functioning of a paving machine. As the specification of the ’871 patent confirms, the invention substantially shortens set-up times, and reduces errors in the paver set-up that impacts the quality of the mat. *See* 1:35-40; 8:31-41.

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would tend to promote it, thereby thwarting the primary object of the patent laws. We have repeatedly emphasized this . . . concern that patent law not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.

Alice, 573 U.S. at 216 (citations omitted).

Thus, the fundamental question in “abstract idea” cases is whether the claim is directed to a basic building block of scientific or technological activity as to foreclose or inhibit future innovation or whether the claim instead is directed to a tangible application that serves a “new and useful end.” *Gottschalk*, 409 U.S. at 67 (“[A] fundamental truth, . . . mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.”). When all of the claim limitations are taken into account, it can be seen that the ’871 patent does not seek to claim the recall feature itself or otherwise claim the abstract idea of information collection, analysis, and storage itself. Rather, claim 1 recites limitations that tie the invention to a physical paving machine with certain components. These physical elements meaningfully limit the claim so it does not preempt any underlying abstract idea.

Respondents’ motion for summary determination and the ID analogize the ’871 patent to caselaw involving methods implemented by software on generic computer components – the type of claims that often receive eligibility scrutiny under the *Alice* line

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of cases.⁵ See Resp. Mem. in Support of Mot. at 24-25; ID at 11-15. In my view, this analogy rests upon a misunderstanding of precedent. Whereas the caselaw relied upon by Respondents and the ID involved abstract steps performed using software, the '871 patent uses mechanical components to direct physical operations of an actual machine. The Federal Circuit has explained that claims directed to "improvement[s]" in "something physical" are "critically different" from claims directed to abstract ideas like collecting, analyzing, and displaying information on a generic computer. *SAP America*, 898 F.3d at 1167-68 (finding claims ineligible because they were not directed to something physical). The Court in *SAP America* identified three cases as applying the principle that claims directed to improved physical things are eligible subject matter and not abstract: *Diamond v. Diehr*, 450 U.S. 175 (1981); *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017); and *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). In my view, the improved paving machine described in the '871 patent is more analogous to *Diehr*, *Thales*, and *McRO* than cases involving steps performed by software

⁵ Cases cited in the ID and/or Respondents' motion for summary determination include: *Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (software for processing financial transactions); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 610 (Fed. Cir. 2016) (software for taking, transmitting, and organizing digital images); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1345 (Fed. Cir. 2014) (software for processing information); *Elec. Power Group LLC v. Alstom S.A.*, 830 F.3d 1350, 1351-52 (Fed. Cir. 2016) (software for monitoring an electrical grid); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266, 1270-1271 (Fed. Cir. 2012) (software for managing a life insurance policy); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1255-1258 (Fed. Cir. 2016) (software for requesting, receiving, and displaying information on a cellular phone); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1339 (Fed. Cir. 2017) (software for editing electronic documents); *Return Mail, Inc. v. U. S. Postal Serv.*, 868 F.3d 1350, 1367-68 (Fed. Cir. 2017) (software for relaying mailing address data).

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on a generic computer.⁶

In *Diehr*, the Supreme Court held that an improved process for curing rubber, a physical thing, was patent eligible. The claim employed a “well-known” mathematical equation, which by itself is an abstract idea, but it used that equation in a process designed to solve a technological problem that had arisen in the molding of rubber products – *i.e.*, errors that had led to “overcuring” and “undercuring” of the rubber. 450 U.S. at 177-178. The invention in *Diehr* used a “thermocouple” to record constant temperature measurements inside the rubber mold. *Id.* at 178, n.3. The temperature measurements were then fed into a computer, which repeatedly recalculated the remaining cure time by using the mathematical equation. *Id.* at 178-179. Thus, the invention provided an improved method of curing raw rubber. “The use of mathematics to achieve an improvement [did not] change[] the conclusion that improved *physical* things and actions were the subject of the claimed advance.” *SAP America*, 898 F.3d at 1168 (describing *Diehr*) (emphasis added).

In my view, the improvement in *Diehr* is analogous to the current case. Just as errors in the curing process in *Diehr* led to overcuring or undercuring of the rubber, the '871 patent explains that errors in the screed configuration parameters can cause

⁶ The Commission majority affirms the ID’s finding that the fact that claim 1 may involve “physical phenomena” is “beside the point.” See ID at 16. The case cited as support, *Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372 (Fed. Cir. 2017), involved steps performed by software for processing financial transactions, not an improved machine. As relevant here, the *Smart Systems* decision merely stands for the common-sense proposition that the claimed methods are not patent eligible just because they “operate in the tangible world.” This makes sense because generic computers used to perform the claimed steps are tangible objects. But taking *Smart Systems*’ uncontroversial statement and applying it to the improved paving machine at issue here is not supported by the decision.

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“inconsistencies or discontinuities” in the paving process. 1:35-40. *Diehr* and the '871 patent address the problem facing them in similar ways – *i.e.*, the system in *Diehr* automatically opened the press based on temperature and time to reduce errors in curing, while the '871 patented invention detects and automatically adjusts the screed assembly to reduce errors in the paving process.

Similarly, in *Thales*, the improvement was in a “physical tracking system” using two inertial sensors to determine the orientation of the tracked object. *SAP America*, 898 F.3d at 1168 (citing *Thales*, 850 F.3d at 1348-49). While prior methods existed for tracking objects, those methods were prone to error. 850 F.3d at 1345. The patent in *Thales* addressed this problem by claiming a new arrangement of sensors for tracking an object. *Id.* at 1348. The Federal Circuit compared this to *Diehr*, noting that “[j]ust as the claims in *Diehr* reduced the likelihood that the rubber molding process would result in ‘overcuring’ or ‘undercuring,’ the claims here result in a system that reduces errors in an inertial system that tracks an object on a moving platform.” *Id.* Similarly, the '871 patent describes the use of a system of sensors and a moving screed assembly to improve the paving machine and to solve a problem by reducing or eliminating errors in the paving process.

In *McRO* the claims at issue were “directed to the creation of something physical” – namely, the display of “lip synchronization and facial expressions” of animated characters on screens for viewing by human eyes. *SAP America*, 898 F.3d at 1167 (citing *McRO*, 837 F.3d at 1313). The claimed improvement was to how the physical display operated to produce better quality images than those that were previously produced by human animators. *Id.* In my view, this improvement is analogous to the '871 patent, which

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improves the quality of the paving process compared to conventional paving machines where the screed assembly set-up was performed manually by humans.⁷

In making the analogy to software method claims, the Commission majority opinion affirms the ID's findings that the '871 patent is "conventional" with a "high level of generality" under step one. *See* ID at 12. However, ineligible patents "claiming only a result" and which lack "specificity" must be "contrast[ed]" with eligible patents claiming "physical-realm improvements." *SAP America*, 898 F.3d at 1167. The Patent Act includes provisions for challenging eligible patent claims that lack novelty (section 102), that involve the combination of familiar elements according to known methods yielding predictable results (section 103), and that claim inventions in an overly broad fashion (section 112). These concepts, however, should not be confused with whether the claimed subject matter is eligible for patenting. *See Diehr*, 450 U.S. at 188-90 ("The question therefore of whether a particular invention is novel is wholly apart from whether the invention falls into a category of statutory subject matter."); *Data Engine*, 906 F.3d at 1011 ("The eligibility question is not whether anyone has ever used tabs to organize information. That question is reserved for §§ 102 and 103."). As the Supreme Court stated in *Diehr*, "it may later be determined that the respondents' process is not deserving of patent protection because it fails to satisfy the statutory conditions of novelty under § 102 or nonobviousness under § 103. A rejection on either of these grounds does not affect the determination that

⁷ Respondents argue, and the ID finds, that the screed set-up is something traditionally performed by human operators and the claims of the '871 patent simply automate that manual process using conventional components. Resp. Mem. in Support of Mot. at 22-23; ID 15-18. The Federal Circuit, however, noted in *McRO* that "processes that automate tasks that humans are capable of performing are patent eligible if properly claimed." 837 F.3d at 1313. As described above, I find that the claims are not abstract and are similar to those that the Court has previously found to be eligible.

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respondents' claims recited subject matter which was eligible for patent protection under § 101." 450 U.S. at 191.

Finally, even assuming that Respondents and the ID are correct that this case is governed by cases dealing with computer software, it does not lead to the conclusion that claim 1 of the '871 patent is invalid under § 101. Within the software line of cases, there is a recognition that claims can be patent eligible under step one of the *Mayo/Alice* inquiry if the claims are directed to improvements in the way computers carry out their basic functions. *See, e.g., Enfish*, 822 F.3d at 1337 (“[W]e are not persuaded that the invention’s ability to run on a general-purpose computer dooms the claims. . . . [T]he claims here are directed to an improvement in the functioning of a computer.”); *Data Engine*, 906 F.3d at 1008-1011 (holding that claims directed to an improved method for navigating through complex three-dimensional electronic spreadsheets are eligible). As the Federal Circuit explained in *Enfish*, “we [do not] think that claims directed to software, as opposed to hardware, are inherently abstract. . . . [S]oftware can make non-abstract improvements to computer technology just as hardware improvements can.” 822 F.3d at 1335. Thus, even if I am guided by the Federal Circuit’s software caselaw, I find that the invention described in the specification and the claims of the '871 patent is directed to an improvement in the functioning of a paving machine, in a way that can be analogized to *Enfish*. As the specification of the '871 patent confirms, the claimed invention substantially shortens set-up times, and reduces errors in the paver set-up that impacts the quality of the mat. *See* 1:35-40; 8:31-41; *compare Enfish*, 822 F.3d at 1337 (“[O]ur conclusion that the claims are directed to an improvement of an existing technology is bolstered by the specification’s teachings that the claimed invention achieves other benefits over conventional databases,

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such as increased flexibility, faster search times, and smaller memory requirements.”).

Because I believe the claims are not directed to an abstract idea, there is no need to proceed to step two. *See Core Wireless*, 880 F.3d at 1361. I would reverse the ID and remand to the ALJ the investigation as to the '871 patent.⁸ *See Enfish*, 822 F.3d at 1346 (reversing the district court's grant of summary judgment based on § 101 where the claims are directed to patent-eligible subject matter). I therefore dissent from the Commission's decision to affirm the ID.

⁸ I support the Commission's decision today to find a violation and issue remedial relief as to claim 19 of U.S. Patent No. 7,140,693 (“the '693 patent”). Given the procedural posture of the investigation, I would bifurcate the proceedings to remand the '871 patent to the ALJ while also issuing the remedial orders as to the '693 patent without delay.

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **Commission Opinion** has been served to the following parties as indicated, on **July 15, 2019**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
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