

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTIVEPOWER, INC.,
Petitioner,

v.

CUTSFORTH, INC.,
Patent Owner.

Case IPR2013-00268
Patent 7,141,906 B2

Before TRENTON A. WARD, MIRIAM L. QUINN, and CARL M. DeFRANCO,
Administrative Patent Judges.

WARD, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

MotivePower, Inc., Petitioner, filed a Petition to institute an *inter partes* review of claims 1, 2, 4, 5, 10–14, 16–19, 21, and 22 (the “challenged claims”) of U.S. Patent No. 7,141,906 B2 (Ex. 1001, “the ’906 patent”) pursuant to 35 U.S.C. §§ 311–19. Paper 1 (“Pet.”). The Board granted the Petition and instituted trial for all asserted claims. Paper 9 (“Dec.”). Although Petitioner proposed nine grounds of unpatentability, we instituted trial on only the three following grounds:

- (1) Claims 1, 2, 4, 5, 10–14, 16–19, 21, and 22 as anticipated by Ohmstedt¹;
- (2) Claims 1, 2, 4, 5, 10, 11, 14, 16–19, 21, and 22 as anticipated by Krulls ’155²; and
- (3) Claims 12 and 13 as obvious over Krulls ’155 and Ohmstedt.

Dec. 18.

On February 18, 2014, the Board granted the Motion to Amend the claims filed by Cutsforth, Inc., Patent Owner, in which Patent Owner requested cancellation of claims 1, 2, 4, 5, and 10–13. Accordingly, Petitioner’s challenges to these claims were rendered moot.

During trial, Patent Owner filed a Patent Owner Response (“PO Resp.”) addressing the grounds involved in trial and relying on the Declaration of Thomas A. Keim, Sc. D. (Ex. 2017). Paper 14. Petitioner filed a Reply to Patent Owner’s Response. Paper 21 (“Pet. Reply”). An oral hearing was held on August 6, 2014, and a transcript of the hearing is included in the record. Paper 29 (“Tr.”).

¹ U.S. Patent No. 3,864,803 (Ex. 1003) (“Ohmstedt”).

² U.S. Patent No. 3,387,155 (Ex. 1007) (“Krulls ’155”).

We have statutory authority under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Petitioner has met its burden to prove by a preponderance of the evidence that claims 14, 16–19, 21, and 22 of the '906 patent are unpatentable.

B. Related Proceedings

Petitioner indicates that the '906 patent is the subject of a co-pending federal district court case, styled *Cutsforth, Inc. v. MotivePower, Inc.*, No. 0:12-cv-01200-SRN-JSM (D. Minn.). Pet. 2. In addition, the patents listed below are related to the '906 patent and are the subject of *inter partes* review as follows:

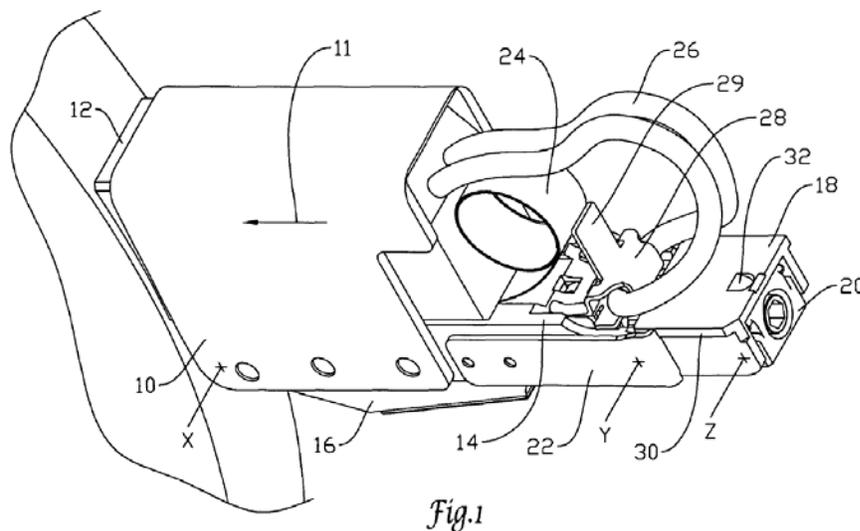
U.S. Patent No.	<i>Inter Partes</i> Proceeding
7,122,935 B2	IPR2013–00267
7,417,354 B2	IPR2013-00270
7,990,018 B2	IPR2013-00274
8,179,014 B2	IPR2013-00272

C. The '906 Patent

The '906 patent generally relates to a brush holder assembly for use in electrical devices and slip ring assemblies. Ex. 1001, 1:14–16. In particular, the patent describes that a brush is used in an electrical device to pass electrical current from a stationary contact to a moving contact surface, and vice versa. *Id.* at 1:20–22. The brush is in contact with a moving surface; thus, the surface of the brush wears down, reducing the quality of the electrical contact. *Id.* at 1:32–51. The

'906 patent describes that when the brush is so worn that it requires replacement, the moving contact surface may need to be halted, which may be difficult or expensive. *Id.* at 1:65–2:1. Alternatively, the '906 patent describes that maintaining the relative motion during replacement of the brush may be unsafe because of the risk of arcing and an accidental short circuit in the electrical components. *Id.* at 2:2–6. The patent, therefore, describes that it would be an advantage to remove or replace a worn brush without stopping the moving parts involved. *Id.* at 2:6–10.

One embodiment of the '906 patent describes a brush holder assembly with a mounting bracket in an “engaged” configuration, relative to a lower mount block. *Id.* at 2:58–61. For example, Figure 1 of the '906 patent, reproduced below, illustrates an “engaged” configuration where brush 12, surrounded by brush box 10, is put in contact with a conducting surface because brush spring 24 pushes the brush toward the bottom edge of box 10. *Id.* at Fig.1; 4:21–40; 6:18–32.



According to Figure 1 above, brush box 10 is affixed to beam 14, which is affixed, via a hinged attachment, to lower mount block 16. *Id.* at 4:30–34. In the

“engaged” position, as shown in Figure 1, a conductive path is formed from brush 12 through brush conductor 26, terminal 28, and conductor strap 34 (not in Figure 1 but shown in Figure 2, reproduced below). *Id.* at 7:11–14.

The '906 patent further describes a “disengaged” configuration, shown in particular with respect to Figure 2, reproduced below.

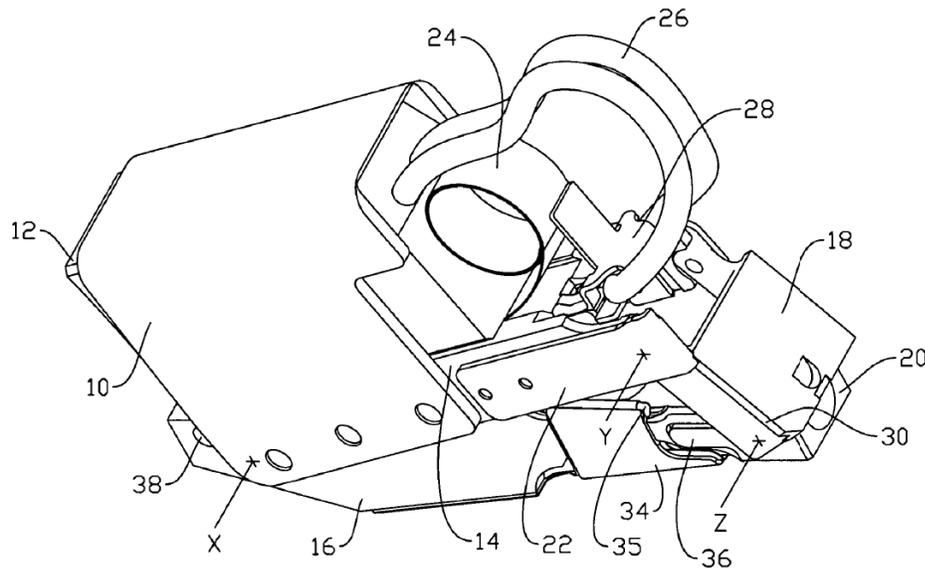


Fig.2

As illustrated in Figure 2 above, a hinging action takes place at certain pivot lines, such as pivot line “X,” about which beam 14 moves with respect to lower mounting block 16. *Id.* at 6:45–55. In the disengaged position, conductor strap 34 breaks contact with terminal 28, thus interrupting the current flow before the brush breaks contact with the conductive surface. *Id.* at 10:64–11:5.

Claim 14, reproduced below, is illustrative of the claimed subject matter:

14. A brush holder assembly for holding a brush having a conductive element, the brush holder assembly comprising:
 - a mounting block including an engagement portion;

a beam having an engagement portion complementary with the mounting block engagement portion, wherein the mounting block engagement portion is slidably engaged with the beam engagement portion, and wherein the beam is slidable relative to the mounting block between a first, disengaged position and a second, engaged position;

a brush catch coupled to the beam for selectively engaging the brush; and

a brush release extending from the mounting block and configured for sliding engagement with the brush catch said brush release is a projection extending from the mounting block.

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). Claim terms also are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Also, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (“limitations are not to be read into the claims from the specification”).

In the Decision on Institution, we interpreted the term “mounting block” of the ’906 patent to mean “a base for affixing to another structure.” Dec. 7–8. We do not modify the construction of “mounting block” in this decision. Regarding

the terms “beam” and “projection extending from the mounting block,” Patent Owner argues that the constructions should be modified. Each of those terms is analyzed in turn.

1. “*beam*”

Patent Owner argues that the term “beam” should be construed as “a long, straight structural member designed to be rigid.” PO Resp. 9–10. More particularly, Patent Owner argues that mechanical engineering textbooks and dictionaries define a “beam” as “a structural member the length of which is long compared with its cross-sectional dimensions . . . [and that is] used to carry transverse and lending loads.” PO Resp. 11–12 (citing Ex. 2016). Furthermore, Patent Owner relies upon the testimony of its expert, Dr. Thomas A. Keim, stating that the term “beam” refers to a rigid element. PO Resp. 11–12 (citing Ex. 2017 ¶ 89). Additionally, Patent Owner quotes the statement in the ’906 patent Specification that the “beam” be constructed of stainless steel to provide high strength and durability. PO Resp. 14 (citing Ex. 1001, 5:4–17). As to requiring that the beam be “straight,” Patent Owner argues that a mechanical engineering textbook notes that a beam “is straight or nearly so” and “long in proportion to its depth.” PO Resp. 12 (citing Ex. 2010, 89).

Petitioner disagrees and argues that Patent Owner is attempting to improperly narrow the term “beam.” Furthermore, Petitioner argues that the term “beam” should be given its plain and ordinary meaning of an “elongated support structure.” Pet. Reply 8. Petitioner further argues that the portions of the Specification quoted by Patent Owner do not require “rigid” materials because the Specification expressly states that, although in “some embodiments” stainless steel can be used for the beam, “other materials, including other metals, non metals, *plastics* and/or composites may also be used.” Pet. Reply 5–6 (citing Ex. 1001,

5:4–11) (emphasis added). Therefore, we are not persuaded by Patent Owner to read a limitation recited in the Specification for “some embodiments” into all embodiments encompassed by the claims. Ex. 1001, 5:4–11. As to the Patent Owner’s proposal that the term “beam” includes a requirement that it be “long” and “straight,” Patent Owner fails to cite to any disclosure in the Specification of the ’906 patent that any embodiments of the “beam,” much less all embodiments, must be long and straight. Furthermore, Patent Owner provides neither an indication of what constitutes a sufficiently straight or sufficiently long beam nor any citations to disclosure in the ’906 patent or other materials defining those limitations. For example, because beam 14 in the ’906 patent Specification is not “straight” in all directions, we presume that Patent Owner does not propose that the “beam” be “straight” in all directions, but the Patent Owner Response fails to identify which axis of the “beam” is to be “straight.”

In view of the foregoing, we construe the term “beam” of the ’906 patent to mean “an elongated support structure.”

2. *“beam” and “brush catch”*

Patent Owner argues that “beam” and “brush catch” must be construed as distinct physical structures. PO Resp. 8. Petitioner agrees that the “beam” and “brush catch” cannot refer to identical structures, but Petitioner further argues that the “brush catch” can be a sub-component of the “beam” that is attached to or integral with the beam. Pet. Reply 2.

We agree with Petitioner. Patent Owner fails to cite any statements from the Specification of the ’906 patent that prohibit the “brush catch” from being a sub-component of the “beam.” Accordingly, we are not persuaded by Patent Owner’s contention that the claim language requires that the “brush catch” be a distinct

physical structure in all embodiments and cannot be a sub-component of the “beam” that is coupled, integrally or otherwise, to the beam.

3. *“projection extending from the mounting block”*

Patent Owner argues that the phrase “projection extending fro[m] the mounting block” in claim 14 should be construed as “a structure that protrudes outwardly from the mounting block.” Prelim. Resp. 12. Thus, Patent Owner seeks a construction of the phrase that limits the direction to which the projection extends to include only “outwardly” protruding extensions. *See* Prelim. Resp. 12. Patent Owner fails to provide any support in the ’906 patent Specification to require this narrowed construction and only cites to a definition of “projection” as “a projecting or protruding part.” *Id.* at 12. We agree with Patent Owner that the phrase should be construed according to its plain and ordinary meaning, but we do not agree that the term “projection” is limited to an “outward” projection in a certain direction. As we determined in the Decision on Institution, we conclude that the phrase “projection extending from the mounting block” is not limited only to projections extending outwardly from the mounting block. Dec. 8–9.

B. Anticipation by Ohmstedt

With respect to the alleged ground of unpatentability based on anticipation by Ohmstedt, we have reviewed the Petition, the Patent Owner Response, and Petitioner’s Reply, as well as the relevant evidence discussed in each of those papers.

1. *Overview of Ohmstedt (Ex. 1003)*

Ohmstedt discloses a brush mounting device that allows “brush maintenance [to] occur while the machine is under load and voltage is applied to the brushes.” Ex. 1003, 2:64–66. Figure 1 of Ohmstedt is reproduced below.

discloses inwardly extending teeth 25 for tightly gripping the electrically conductive brush 27. Ex. 1003, 2:15–17.

2. *Analysis*

Concerning independent claim 14, Petitioner contends that Ohmstedt discloses a mounting block (brush box 13) having an engagement portion (pair of slots 57) and a beam (brush holder 11) including an engagement portion (biased legs 21) complimentary with the mounting block engagement portion, wherein the beam (brush holder 11) is slidable relative to the mounting block (brush box 13) between a first, disengaged position and a second, engaged position. Pet. 14 (citing Ex. 1003, 2:5–49, 3:8–12, Figs. 1, 2). Furthermore, Petitioner contends that Ohmstedt discloses the claimed “brush catch coupled to the beam” by disclosing that “each leg [21] includes inwardly extending teeth 25 for tightly gripping an electrically conductive brush 27.” Pet. 16 (citing Ex. 1003, 2:12–17).

Additionally, Petitioner contends that Ohmstedt discloses the claimed “brush release extending from the mounting block” by disclosing a brush release (ramps 59) extending from the mounting block (brush box 13) configured for sliding engagement with the brush catch (outwardly extending portions 23, teeth 25) and the brush release (ramps 59). Pet. 16 (citing Ex. 1003, 2:5–49, 3:2–12, Figs. 1, 2). Patent Owner argues the disclosures cited from Ohmstedt fail to anticipate the challenged claims. We address Patent Owner’s arguments in turn.

First, Patent Owner argues that Ohmstedt fails to disclose a beam that is distinct from a brush catch. PO Resp. 20. More particularly, Patent Owner argues that claim 14 requires a “beam” and a “brush catch coupled to beam” and that there must be a physical distinctness between the beam and the brush catch. PO Resp. 20–21.

We are not persuaded by Patent Owner's argument. As construed above, the claimed "brush catch" can be provided as an integral sub-component of the "beam." As shown in Figure 1 of Ohmstedt above, outwardly extending portions 23 and teeth 25 are sub-components of biased legs 21 provided at the bottom of biased legs 21. Ex. 1003, Fig. 1. Accordingly, we determine that the cited Ohmstedt disclosures meet the limitations of a "beam" and a "brush catch."

Second, Patent Owner argues that Ohmstedt does not disclose a "beam," as recited in claim 14. PO Resp. 23. Specifically, Patent Owner argues that neither brush holder 11 nor inwardly biased legs 21 of Ohmstedt are "long, straight structural members designed to be rigid." PO Resp. 23. We are not persuaded by Patent Owner's argument. As discussed above, we do not adopt Patent Owner's proposed construction of "beam" to mean "a long, straight structural member designed to be rigid." We construe "beam" to mean an "elongated support structure," and Patent Owner does not dispute that brush holder 11, disclosed in Ohmstedt, provides an "elongated support structure." Accordingly, we are persuaded that Ohmstedt's brush holder 11, identified by Petitioner in its challenge for the beam (Pet. 14), discloses this "beam" limitation.

Third, Patent Owner argues that Ohmstedt does not disclose a "brush release" that is a "projection extending fro[m] the mounting block," as recited in claim 14. PO Resp. 25–26. More particularly, Patent Owner argues that Ohmstedt's ramps 59 ("projections") are inset into brush box 13 ("mounting block") and do extend from it. PO Resp. 26–27. Patent Owner contends that ramps 59 from Ohmstedt, relied upon by Petitioner for the "brush release" limitation, are simply slopes or inclines into the material of brush box 13 that do not project. PO Resp. 29. At the Oral Hearing, Patent Owner stated that projecting from the mounting block requires "projecting from an outer surface of the block."

Tr. 75:15–18.

As discussed above, we do not adopt Patent Owner’s proposed construction of “projection extending from the mounting block” and conclude that the phrase is not limited only to projections extending outwardly from the mounting block. Ramps 59, disclosed in Ohmstedt, project from a surface of the mounting block (brush box 13) so as to intersect with divergent portions 23 of biased legs 21. Pet. 16 (citing Ex. 1003, 2:5–49, 3:2–12, Figs. 1, 2); Tr. 44:13–22. Therefore, we are not persuaded by Patent Owner’s argument that Ohmstedt fails to disclose the claimed “projection extending from the mounting block.”

With respect to the recitation in claim 19 that the “brush catch includes a spring,” Petitioner relies upon Ohmstedt’s disclosure of inwardly biased legs 21, divergent portions 23, and teeth 25. Pet. 17 (citing Ex. 1003, 2:12–17, Figs. 1, 2). Furthermore, Petitioner argues that biased legs 21 are forced outward by brush release 59, and that, when biased legs 21 are removed, they retain, or spring, to their original inwardly biased shape, allowing teeth 25 to contact the brush. *Id.* Patent Owner does not disagree, and concedes that Ohmstedt’s “legs 21 are configured to exert opposing inward *spring* forces that retain a brush 27 until bent outward.” PO Resp. 19 (emphasis added). Accordingly, we determine that the cited Ohmstedt disclosures meet the limitation of a “brush catch [that] includes a spring.”

As for the remaining elements recited in claims 14, 16–19, 21, and 22, which were not disputed by Patent Owner, we also find that Ohmstedt discloses those elements according to the comparisons between the Ohmstedt disclosures presented in the Petition and the claim limitations. *See* Pet. 14–18. For the foregoing reasons, we conclude that Petitioner has demonstrated by a

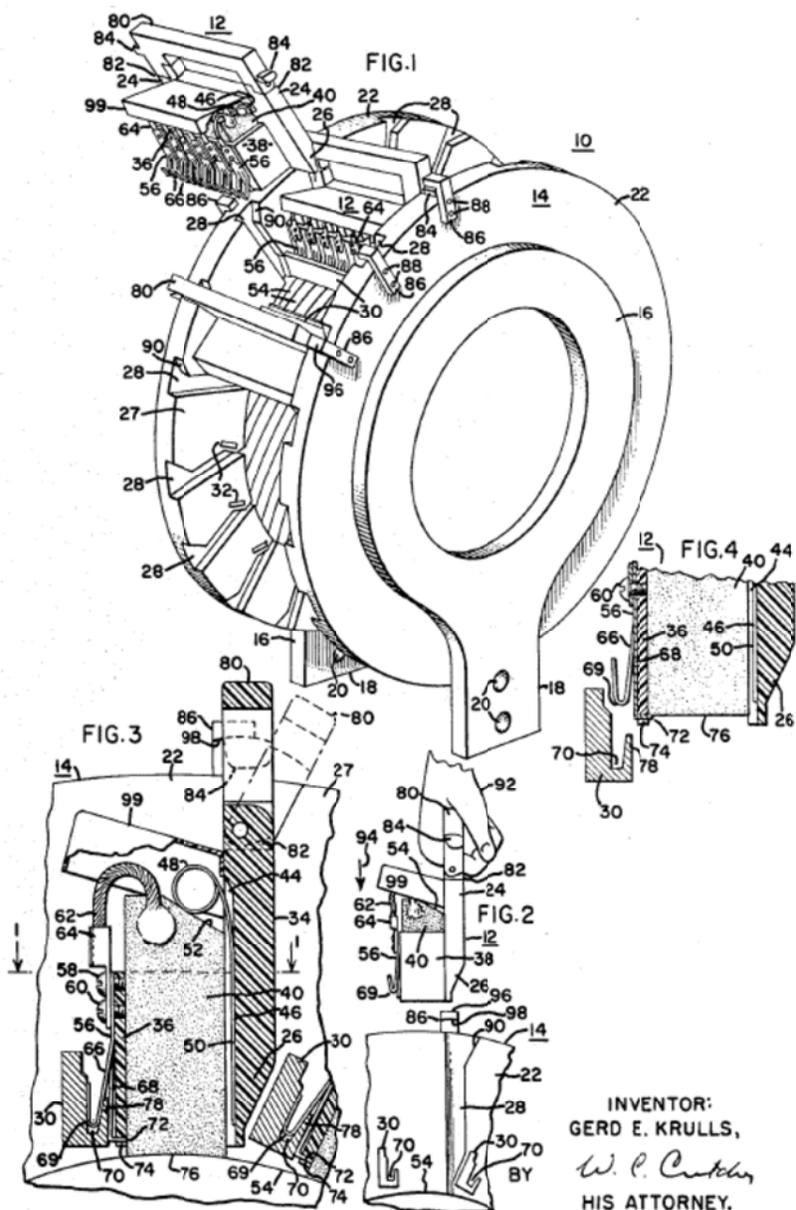
preponderance of the evidence that claims 14, 16–19, 21, and 22 are anticipated by Ohmstedt.

C. Anticipation by Krulls '155

With respect to the alleged ground of unpatentability based on anticipation by Krulls '155, we have reviewed the Petition, the Patent Owner Response, and Petitioner's Reply, as well as the relevant evidence discussed in each of those papers.

1. Overview of Krulls '155 (Ex. 1007)

Krulls '155 relates to a removable brush magazine arrangement for holding and replacing brushes in a dynamoelectric machine. Ex. 1007, 1:11–13. Krulls '155 discloses removable brush magazine 12 and stationary structure 14 for supporting the magazines and allowing brushes 40 to contact collector ring 54. Ex. 1007, 2:11–13. Figures 1–4 of Krulls '155 are reproduced below.



As shown in Figures 1–4 above, Krulls ’155 discloses cross-bus bars 30 having slot 70 with engagement portion 78. Ex. 1007, 3:47–38; 3:74–4:4. When brush magazine 12 is moved into its operating position, the engagement portion 78 of slot 70 deflect legs 66 of magazine 12, which “causes the tab 72 [of the brush magazine 12] to be withdrawn from under the lower end 76 of the brush, thereby

releasing the brush as shown in FIG. 3 to engage the collector ring 54.” Ex. 1007, 4:3–11. Accordingly, brush magazine 12 retains brush 40 until releasing it to contact collector ring 54 when magazine 12 is moved into its operating position.
Id.

2. *Analysis*

With respect to claim 14, Petitioner argues that Krulls ’155 discloses a mounting block (cross-bus bar 30) with an engagement portion (slot 70 with engagement portion 78), a beam (brush magazine 12) with an engagement portion (U-shaped free ends 69), a brush catch (right angle tab portion 72), and a brush release (engagement portion 78) for sliding engagement with the brush catch. Pet. 25–28 (citing Ex. 1007, 3:74–4:11). Specifically, Petitioner relies upon the Krulls ’155 disclosure of outer legs 66 that are inserted in slot 70 and engaged by a portion of cross-bus bar 30, such that they are deflected away from the front of the brush magazine, which “causes the tab 72 to be withdrawn from under the lower end 76 of the brush, thereby releasing the brush.” Pet. 25–28 (quoting Ex. 1007, 3:74–4:11). Patent Owner argues that the disclosures cited from Krulls ’155 fail to anticipate the challenged claims. We address Patent Owner’s arguments in turn.

First, similar to the arguments made against anticipation by Ohmstedt, Patent Owner argues that Krulls ’155 fails to disclose a “brush catch” that is a separate physical structure from the “beam.” PO Resp. 33. More particularly, Patent Owner argues that Petitioner argues incorrectly that resilient member 56 of Krulls ’155 is both the “beam” and “brush catch.” PO Resp. 33.

We are not persuaded by Patent Owner’s argument. As properly construed, the claimed “brush catch” can be provided as an integral sub-component of the “beam.” Accordingly, Petitioner relies upon right angle tab portion 72, an integral sub-component of resilient member 56 of brush magazine 12, as the “brush catch.”

As shown in Figure 4 of Krulls '155 above, right angle tab portion 72 is provided at the bottom of resilient member 56. Ex. 1007, Fig. 4. Accordingly, we determine that the cited disclosures in Krulls '155 meet the limitations of a “beam” and a “brush catch.”

Second, Patent Owner argues that Krulls '155 does not disclose a “beam,” as recited in claim 14. PO Resp. 35. Specifically, Patent Owner argues that neither brush magazine 12 nor resilient member 56 of Krulls '155 is a long, straight structural member designed to be rigid. PO Resp. 35. We are not persuaded by Patent Owner’s argument. As discussed above, we do not adopt Patent Owner’s proposed construction of “beam” to mean “a long, straight structural member designed to be rigid.” We construe “beam” to mean an “elongated support structure” and Patent Owner does not dispute that the brush magazine disclosed in Krulls '155 provides an “elongated support structure.” Accordingly, we are persuaded that the brush magazine 12 having resilient members 56 disclosed in Krulls '155, identified by Petitioner in its challenge for the beam (Pet. 25–26), discloses this “beam” limitation.

Third, Patent Owner argues that Krulls '155 does not disclose that the mounting block engagement portion is slidably engaged with the beam engagement portion and a brush release for sliding engagement with the brush catch, as recited in claim 14. PO Resp. 37. More particularly, Patent Owner argues that the cited portion of Krulls '155 just shows one engagement, the engagement of resilient member 56 with cross-bus bar 30, not the engagement of the mounting block with the beam and the separate engagement of the brush release with the brush catch. *Id.*

Contrary to Patent Owner's arguments, Petitioner relies upon engagement of outer legs 66 in Krulls '155 with slot 70 of cross bus-bar 30 for the claim limitation of "beam is slidable relative to the mounting block," and Petitioner relies upon the sliding of tab 72 away from the brush to release the brush for the claim limitation of a brush release "configured for sliding engagement with the brush catch." Pet. 26, 28 (citing Ex. 1007, 3:65–72, 3:73–4:11). Accordingly, we are persuaded that Krulls '155 discloses both a "beam [that] is slidable relative to the mounting block" and a brush release "configured for sliding engagement with the brush catch." *Id.*

With respect to the recitation in claim 19 that the "brush catch includes a spring," Petitioner relies upon the disclosure in Krulls '155 of resilient members 56 having outer legs 66 and center legs 68. Pet. 29 (citing Ex. 1007, 3:73–4:11, Figs. 1, 2). Furthermore, Petitioner argues outer legs 66 and center legs 68 retain, or spring, to their original inwardly biased shape when disengaged from slot 70. *Id.* Patent Owner concedes that Krulls '155 discloses that "resilient members 56 are designed to bend and flex in order to release the brushes 40 from the removable brush magazine." PO Resp. 32. Accordingly, we determine that the cited Krulls '155 disclosures meet the limitation of a "brush catch [that] includes a spring."

As for the remaining elements recited in claims 14, 16–19, 21, and 22, which were not disputed by Patent Owner, we also find that Krulls '155 discloses those elements according to the comparisons between the Krulls '155 disclosures presented in the Petition and the claim limitations. *See* Pet. 25–30. For the foregoing reasons, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 14, 16–19, 21, and 22 are anticipated by

Krulls '155.

III. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that (1) claims 14, 16–19, 21, and 22 of the '906 patent are anticipated by Ohmstedt and (2) claims 14, 16–19, 21, and 22 of the '906 patent are anticipated by Krulls '155.

IV. ORDER

Accordingly, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 14, 16–19, 21, and 22 of the '906 patent are unpatentable; and

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

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