

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LAROSE INDUSTRIES, LLC
Petitioner

v.

CAPRIOLA CORP.
Patent Owner

Case IPR2013-00120¹
Patent 7,731,558 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JAMES B. ARPIN,
Administrative Patent Judges.

ARPIN, *Administrative Patent Judge.*

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

¹ Case IPR2013-00121 has been joined with this proceeding.

I. INTRODUCTION

On January 30, 2013, LaRose Industries, LLC (“Petitioner”) filed a corrected petition (Paper 10)² challenging claims 1-27 of Patent No. US 7,731,558 B2 (Ex. 1001, “the ’558 Patent”). In the corrected petition, Petitioner identifies the following prior art references:

Dunfee	US 750,953	Feb. 2, 1904	(Ex. 1007)
Pacent	US 1,552,227	Sep. 1, 1925	(Ex. 1008)
Engstrom	US 1,642,064	Sep. 13, 1927	(Ex. 1009)
Calvin	US 2,440,661	Apr. 27, 1948	(Ex. 1010)
Ziemianin	US 2,657,369	Oct. 27, 1953	(Ex. 1011)
Bird	US 2,703,393	Mar. 1, 1955	(Ex. 1012)
Geib	US 2,731,614	Jan. 17, 1956	(Ex. 1013)
Pawloski	US 3,289,149	Apr. 28, 1964	(Ex. 1029)
Barrett	US 3,418,438	Dec. 24, 1968	(Ex. 1014)
Edward	US 3,626,360	Dec. 7, 1971	(Ex. 1015)
Teller	US 3,696,548	Oct. 10, 1972	(Ex. 1006)
Taylor	US 4,096,379	June 20, 1978	(Ex. 1017)
Williams	US 4,223,377	Sep. 16, 1980	(Ex. 1024) ³
Robb	US 5,018,980	May 28, 1991	(Ex. 1026)
Lie	US 5,020,253	June 4, 1991	(Ex. 1021)
Yuen	US 5,778,579	July 14, 1998	(Ex. 1025)
Stewart	US 6,019,486	Feb. 1, 2000	(Ex. 1023)
Dai	US 6,241,371 B1	June 5, 2001	(Ex. 1019)
Feuerborn	US 7,080,927 B2	July 25, 2006	(Ex. 1022)

² Unless indicated otherwise, references to papers are to papers filed in IPR2013-00120.

³ Petitioner initially filed Exhibits 1022-1027 in IPR2013-00121. In accordance with our order, Petitioner re-filed these exhibits in IPR2013-00120 after the joinder of these cases. *See* Papers 16 and 17.

Case IPR2013-00120
Patent 7,731,558 B2

Arlinsky	US 2003/0148700 A1	Aug. 7, 2003	(Ex. 1016)
Rosen I	US 2006/0134978 A1	June 22, 2006	(Ex. 1005)
Doherty	US 2007/0184722 A1	Aug. 9, 2007	(Ex. 1020)
Callegari	EP 1 162 400 A2	Dec. 12, 2001	(Ex. 1027)

Product packaging and instruction manual for
Dynatech “ATOMIC BLOX Zetatron” toy construction set
 (“*Atomic Blox*”) (attached as Ex. B to Ex. 1018)

On April 24, 2013, Capriola Corp. (“Patent Owner”) filed a patent owner preliminary response (Paper 13). In a decision to institute (Paper 14), issued June 28, 2013, we instituted *inter partes* review of all of the challenged claims as to the following grounds for review:

- claims 1-27 under 35 U.S.C. § 103(a), as unpatentable over Teller and Rosen I (Paper 14, 17-23);
- claims 1-6, 8-22, 24, 26, and 27 under 35 U.S.C. § 102(e), as anticipated by Doherty (*id.* at 23-25); and
- claims 7, 23, and 25 under 35 U.S.C. § 103(a), as unpatentable over Doherty and Rosen I (*id.* at 25).

In a contemporaneous decision to institute in IPR2013-00121, we instituted *inter partes* review of claims 18-25 as to the following ground for review:

- claims 18-25 under 35 U.S.C. § 103(a), as unpatentable over Feuerborn and Rosen I. IPR2013-00121, Paper 11, 20-22.

IPR2013-00121 was joined with IPR2013-00120 and terminated. *See* IPR2013-00121, Paper 11, 24-25.

On September 27, 2013, Patent Owner filed a motion to amend, accompanied by a single exhibit, Patent No. US 8,371,894 B1 (Ex. 2001, “Rosen II”), but elected not to file a patent owner response. In the scheduling order mailed June 28, 2013 (Paper 15, 2-3), we had cautioned Patent Owner that any arguments for patentability not raised in the patent owner response are deemed waived. On December 27, 2013, Petitioner filed an opposition (Paper 25) to the motion to amend, including three additional exhibits: the declaration of Ronald M. Barrett Ph.D. (Ex. 1028) and Patent Nos. US 3,289,149, issued November 29, 1966 (Ex. 1029, “Pawloski”), and US 5,409,403, issued April 25, 1995 (Ex. 1030, “Falossi”). On January 27, 2014, Patent Owner filed a reply (Paper 28) to Petitioner’s opposition to the motion to amend.

On February 18, 2014, Petitioner filed a motion to exclude evidence (Paper 29). Specifically, Petitioner moved to exclude Rosen II (Ex. 2001) as allegedly lacking relevance to the instant case. Paper 29, 2. On March 3, 2014, Patent Owner filed Patent Owner’s opposition (Paper 32) to Petitioner’s motion to exclude evidence, and, on March 10, 2014, Petitioner filed a reply (Paper 33) to Patent Owner’s opposition to Petitioner’s motion to exclude evidence.

Although only Petitioner requested an oral hearing (Paper 30), we ordered an oral hearing (Paper 31). The oral hearing was conducted on March 24, 2014.⁴

⁴ A transcript of the hearing is included in the record as Paper 36.

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is entered in IPR2013-00120, pursuant to 35 U.S.C. § 318(a).

For the reasons that follow, based on our review of the evidence presented, we conclude that Petitioner has established by a preponderance of the evidence that claims 1-27 of the '558 Patent are unpatentable. The motion to amend requesting entry of substitute claims 47-50 is *denied*.

Petitioner's motion to exclude evidence is *dismissed*.

A. Related Proceedings

The '558 Patent is involved in a Federal district court case, *Capriola Corp. v. LaRose Industries, LLC*, Civil Action No. 8:12-cv-02346 (M.D. Fla.).

B. The '558 Patent

The '558 Patent, titled "Illuminated Toy Building Structures," issued on June 8, 2010, based on U.S. Patent Application No. 11/839,444 ("the '444 Application"), filed August 15, 2007. The '558 Patent relates to "building blocks incorporating a variety of colored lights that can mimic the look of a laser and can be interlocked to make a variety of multi-colored 3-dimensional shapes." Ex. 1001, col. 1, ll. 42-45. The patent describes building blocks of various shapes, such as a cylinder (Figure 1), a rectangle (Figure 2), a cylinder with a 90-degree bend (Figure 3), and a wheel (Figure 4). Figure 1 is reproduced below:

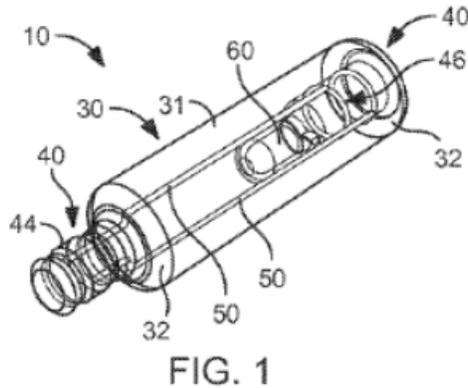


Figure 1 depicts cylindrical, building block 10 comprising non-opaque body 30 with two mechanical connectors 40, one male and one female, for connection to adjoining blocks; light emitting diode (LED) 60; and at least two electrically independent conductors 50 that traverse the body from one connector to the other. *Id.* at col. 3, ll. 46-63. Power source 70 (not shown in Figure 1) provides electric current, which passes from one building block to the next via conductors 50 and is used to power LED 60. *Id.* at col. 3, ll. 52-55; col. 4, ll. 43-49. Figure 5C is reproduced below:

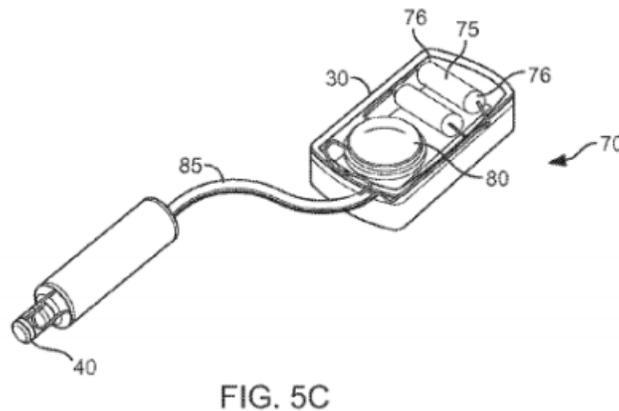


Figure 5C depicts exemplary power source 70. *Id.* at col. 3, ll. 52-55; col. 4, ll. 43-49; col. 5, ll. 50-66. Power source 70 comprises battery 75, conductor

wire 85, mechanical connector 40 with conductors 50 for connecting to a building block and conducting electric current to the block, and electrical switch 80 that controls the flow of current to the connected block(s). *Id.* at col. 5, ll. 50-66. When the LEDs in a set of building blocks are illuminated, each building block “mimics the look of [a] laser as colored light passes” from one block to the next. *Id.* at col. 4, ll. 26-29.

C. Status of the Claims

Of the challenged claims, claims 1, 12, 18, and 26 are independent. Independent claims 1, 12, 18, and 26 recite similar limitations describing the embodiments of linkable blocks or sets of blocks for forming an illuminated structure. As to the dependent claims, claims 2-11, 16, and 17 depend from claim 1; claims 13-15 depend from claim 12; claims 19-25 depend from claim 18; and claim 27 depends from claim 26.

In its motion to amend, Patent Owner proposes four substitute claims, claims 28-31, based on original, independent claims 1, 12, 18, and 26. The substitute claims are reproduced below, with underlined material indicating language added to the existing claims and material in brackets indicating language removed from the existing claims:

28. (Proposed substitute for claim 1) A building block comprising:

a non-opaque body comprising at least two non-conductive mechanical connectors, at least one of the connectors of the body comprising a male connector and at least one of the other connectors of the body comprising a female connector;

two electrical conductors each traversing the body from each connector to each other connector;

at least one LED within the body and electrically connected across the two conductors;

each connector having a housing coupled to the two conductors so as to close a circuit between the conductors and illuminate the LED upon application of a power source to the two conductors of the connector and also transmit power to each other connector of the body along the two conductors; and

whereby with at least two of the building blocks mechanically connected, a power source applied to the two conductors at any one of the connectors of either of the building blocks illuminates each LED;

wherein the non-conductive mechanical connectors are cylindrical and the conductors are arranged such that at least two of the building blocks are mechanically and electrically connectable thereby at any degree of rotation about a connection axis therebetween.

29. (Proposed substitute for claim 12) A building block set comprising:

at least two blocks each having a non-opaque body and each having at least two non-conductive mechanical connectors, one of which is a male connector and the other of which is a female connector, at least two electrical conductors each traversing the respective body from each connector to each other connector and at least one LED disposed within each body and electrically connected to the two electrical conductors of the respective body;

a power source unit having at least one mechanical connector and at least two electrical conductors each traversing the power source unit from each connector of the power source unit to a battery, the battery connected at either end to one of the conductors;

an electrical switch electrically disposed between one end of the battery and one of the connectors of the power source unit;

each connector having a housing coupled to the two conductors so as to close a circuit between the conductors and illuminate the LED upon application of a power source to the connector and also transmit power to each other connector of the body along the two conductors; and

whereby when the blocks and the power source unit are connected to the two conductors at just one of the mechanical connectors of each block, the LEDs of all of the blocks are powered by the battery;

wherein the non-conductive mechanical connectors are cylindrical and the conductors are arranged such that the at least two blocks are mechanically and electrically connectable thereby at any degree of rotation about a connection axis therebetween.

30. (Proposed substitute for claim 18) An illuminated toy building block set comprising:

at least one rectangular block having first and second opposing sides and third and fourth opposing sides, with an electrically conductive male mechanical connector attached with and extending laterally away from each of the first and third sides, and with an electrically conductive female mechanical connector attached with and extending inwardly into the rectangular block from each of the second and fourth sides;

at least one cylindrical block having first and second opposing ends with an electrically conductive male mechanical connector attached at and extending axially from the first end and an electrically conductive female mechanical connector attached at the second end and extending axially inwardly into the cylindrical block;

an LED fitted within each block;

means for conducting electrical current through the LED in each block and each of the electrically conductive mechanical connectors of each block; and wherein

the electrically conductive male mechanical connectors and the electrically conductive female mechanical connectors of each block [[is]] each include nonconductive cylindrical portions and two electrical conductors arranged therewith and are dimensioned so that all of the non-conductive portions of the male connectors are mechanically interconnectable thereby with the non-conductive portions of the female connectors of other blocks at any degree of rotation about a connection axis therebetween with their respective electrical conductors adjoined in an electrically conductive manner.

31. (Proposed substitute for claim 26) An illuminated building block comprising:

[[a]] at least two non-opaque [[body]] bodies, each comprising two nonconductive mechanical connectors, one of the connectors comprising a male connector and the other connector comprising a female connector;

two electrical conductors traversing [[the]] each body from each connector to each other connector with each connector having a housing coupled to the two conductors so as to close a circuit between the conductors and illuminate the LED upon application of a power source to the connector and also transmit power to each other connector of the body along the two conductors, with all of connectors electrically coupled together within the body;

an LED fitted within [[the body]] at least one of the bodies and electrically connected to the two conductors thereof; and wherein

with the at least two bodies connected by respective connectors at any degree of rotation about a connection axis therebetween a power source applied to the two conductors at any one connector of either body illuminates the LED.

Paper 22, 2-7. Thus, Patent Owner proposes amending independent claims 1, 12, 18, and 26 to recite in substitute claims 28-31 that the mechanical connectors of each body or block are “non-conductive” and that the mechanical connectors are rotatable “at any degree of rotation” about a connection axis therebetween. Paper 22, 7-8; Paper 25, 2-3. Further, Patent Owner proposes amending independent claims 1, 12, and 18 to recite in substitute claims 28-30 that the mechanical conductors are “cylindrical.” *Id.*

II. DISCUSSION

As noted above, Patent Owner did not file a patent owner response to the petitions. We have reviewed the evidence presented by Petitioner regarding the claims upon which we instituted *inter partes* review and determine that Petitioner has shown that those claims are unpatentable by a preponderance of the evidence. *See* Paper 10, 16-32 (combination of Teller and Rosen I), *id.* at 32-43 (Doherty, and combination of Doherty and Rosen I); Paper 14, 17-25; IPR2013-00121, Paper 1, 23-25 (combination of Feuerborn and Rosen I); IPR2013-00121, Paper 11, 18-22. Specifically, Petitioner has shown by a preponderance of the evidence that claims 1-27 are unpatentable under 35 U.S.C. § 103(a), as obvious over Teller and Rosen I; claims 1-6, 8-22, 24, 26, and 27 are unpatentable under 35 U.S.C. § 102(e), as anticipated by Doherty; claims 7, 23, and 25 are unpatentable under 35 U.S.C. § 103(a), as obvious over Doherty and Rosen I; and claims 18-25 are unpatentable under 35 U.S.C. § 103(a), as obvious over

Feuerborn and Rosen I. Therefore, we focus our discussion on Patent Owner's motion to amend.

An *inter partes* review is more adjudicatory than examinational in nature. *See Abbott Labs v. Cordis Corp.*, 710 F.3d 1318, 1326 (Fed. Cir. 2013). A *motion* to amend in an *inter partes* review is not itself an amendment. As the moving party, Patent Owner bears the burden of establishing that it is entitled to the relief requested. 37 C.F.R. § 42.20(c); *see also* Paper 36, 32-33 (discussion of burden in motions to amend). Thus, Patent Owner's proposed substitute claims are not entered automatically, but only would be entered if Patent Owner demonstrates the patentability of the substitute claims. *Id.*

A. *Claim Construction*

Claim construction is an important step in a patentability determination. *Oakley, Inc. v. Sunglass Hut Int'l*, 316 F.3d 1331, 1339 (Fed. Cir. 2003); *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003) (“Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims. . . . The second step in the analyses requires a comparison of the properly construed claim to the prior art.”; internal citations omitted). Thus, a panel of the Board has determined previously, and we agree, that a motion to amend should identify how the proposed substitute claims are to be construed, especially when the proposed substitute claims introduce new claim terms or features. *See Idle Free Sys., Inc. v. Bergstrom, Inc.*,

IPR2012-00027, Paper 26, 7 (PTAB June 11, 2013). The motion to amend also must explain how the construed claim is distinguishable over the art.

Neither Patent Owner nor Petitioner challenges our interpretation in the decision to institute of certain terms of claim 1, 12, 18, and 26 that also appear in substitute claims 28-31. Paper 22, 2–7. Because the interpretations of those terms are not challenged, to the extent that they are necessary for assessing the application of the cited art to the substitute claims, they are adopted for purposes of this final decision. *See* Paper 14, 8-17.

1. Preamble Terms

The substitute claims recite the following preambles: “[a] building block comprising” (claim 28), “[a] building block set comprising” (claim 29), “[a]n illuminated toy building block set comprising” (claim 30), and “[a]n illuminated building block comprising” (claim 31). As we determined with respect to the challenged claims, the preambles of the substitute claims do not recite additional structure that is absent from the bodies of the claims or is necessary to give life, meaning, and vitality to the claims. Paper 14, 8-9. Applying the broadest reasonable interpretation of the substitute claims in light of the Specification, we again conclude that the preamble terms are not limiting and, in particular, that the recitations of “building block,” “building block set,” and “toy building block set” in the preambles do not limit the scope of the claims to *toy* blocks or *toy* block sets. *Id.*

2. Male and Female Mechanical Connectors

Each of substitute claims 28-31 recites a plurality of “mechanical

connectors,” at least one comprising a “male” connector and another comprising a “female” connector. The parties do not contend that the modified claim language in the substitute claims alters the meaning of “mechanical connector” in each claim in any way. Consequently, for purposes of the substitute claims, we adopt our previous analysis. *See id.* at 9-13. Specifically, the connectors in substitute claims 28 and 31 must be part “of” the non-opaque body, the blocks in substitute claim 29 must “hav[e]” connectors, and the connectors in substitute claim 30 may be attached permanently or removably. *See* Paper 13, 3.

3. “Means for Conducting Electrical Current Through the LED in Each Block and Each of the Electrically Conductive Mechanical Connectors of Each Block”

The parties do not dispute our interpretation of “means for conducting electrical current through the LED in each block and each of the electrically conductive mechanical connectors of each block” in original claim 18. *See* Paper 14, 14-15. For purposes of substitute claim 30, we adopt our previous analysis and interpret the identical means-plus-function limitation to have the function of “conducting electrical current through the LED in each block and each of the electrically conductive mechanical connectors of each block” and the corresponding structure of power source 70.

4. Claim Language Added In Substitute Claims

Neither party proposes constructions for the claim language added in substitute claims 28-31. In particular, neither party proposes a construction for the terms: “non-conductive,” “at any degree of rotation,” or “cylindrical.” Further, we note that the Specification of the ’558 Patent does

not include definitions of these terms. We determine that these terms need to be construed for our analysis of the substitute claims. For purposes of this final decision, we give these terms their ordinary and customary meanings, consistent with the Specification, as those terms would be understood by one with ordinary skill in the art. We address our construction of each of these terms below.

a. Non-conductive

A relevant definition of the term “conductive” is “having the property or capability of conducting.” RANDOM HOUSE WEBSTER’S COLLEGE DICTIONARY 277 (2d Random House ed. 1999) (Ex. 3001). However, the term “conductive” is used in the Specification to describe the property of conducting electricity. Ex. 1001, col. 4, ll. 43-56. Further, the entire Specification is directed to conducting electricity to illuminate a set of building blocks, and no other type of energy conduction is described that would allow building blocks to be so illuminated. This supports interpreting the claim term as limited, under the circumstances, to conducting electricity. Thus, we construe “non-conductive” as the opposite of conductive, i.e., lacking the property or capability of conducting electricity.

b. Cylindrical

A relevant definition of the term “cylindrical” is “of, pertaining to, or having the form of a cylinder,” and a relevant definition of the word “cylinder” is “a surface or solid bounded by two parallel planes and generated by a straight line moving parallel to the given planes and tracing a curve bounded by the planes and lying in a plane perpendicular or oblique to

them.” RANDOM HOUSE WEBSTER’S COLLEGE DICTIONARY at 331(Ex. 3001). Further, the term “cylindrical” is used in the Specification to describe the cylindrical embodiment of Figure 1 of the ’558 Patent. Ex. 1001, fig. 1; col. 4, l. 66-col. 5, l. 1 (“In the embodiment illustrated in [Figure 1], the body 30 is substantially *cylindrical* 31 with one of the mechanical connectors at either end 32 thereof.”; emphasis added)). Thus, we construe “cylindrical” as an adjective describing a structure as “of, pertaining to, or having the form of a cylinder,” where a cylinder is a surface or solid bounded by two parallel planes and generated by a straight line moving parallel to the given planes and tracing a curve bounded by the planes and lying in a plane perpendicular or oblique to them.

c. At Any Degree of Rotation

A relevant definition of the word “degree” is “the 360th part of a complete angle *or turn . . .*” (emphasis added); a relevant definition of the word “turn” is “to cause to move around or on an axis or about a center; rotate: *to turn a wheel*” (emphasis added); and a relevant definition of the word “rotation” is “the act of rotating; a turning around as on an axis” or “one complete turn of such a body.” RANDOM HOUSE WEBSTER’S COLLEGE DICTIONARY at 349, 1145, 1406 (Ex. 3001). Further, *rotational* axis l_r is depicted in Figure 4 of the ’558 Patent and described in the Specification with respect to the *rotation* of a block body in the form of wheel 38. Ex. 1001, fig. 4; col. 5, ll. 9-11. Referring to Figures 7 and 8 of the ’558 Patent, wheels 38 may be used to create a wheeled structure resembling a vehicle. *Id.* at figs. 7, 8; col. 5, ll. 11-13. Thus, we construe the term “at any degree

of rotation” as any part of one complete turn of a body as on an axis, such as, for example, any part of one complete turn of a wheel on a rotational axis.

4. Remaining Claim Terms or Phrases

No other terms require express construction in reaching our decision in this proceeding.

B. Scope of Motion to Amend

Pursuant to 37 C.F.R. § 42.121(a)(2), a motion to amend may be denied if: (1) the amendments seek to enlarge the scope of the original claims; (2) the amendments introduce new subject matter; or (3) the amendments do not respond to a ground of unpatentability, upon which trial was instituted. For the reasons discussed below, we determine that the substitute claims presented in Patent Owner’s motion to amend: (1) narrow the scope of the original claims, (2) do not introduce new subject matter, and (3) respond to grounds of unpatentability, upon which trial was instituted. *See* Paper 14, 27. Further, contrary to Petitioner’s assertion, we determine that the substitute claims are not indefinite. Nevertheless, because, as set forth below, we deny Patent Owner’s motion to amend for other reasons, we do not discuss further Patent Owner’s arguments regarding the patentability of the substitute claims over the grounds on which we instituted *inter partes* review or Petitioner’s lack of response in its opposition to those arguments. *See* Paper 22, 11-21.

1. Narrowing Amendments

With respect to substitute claim 28, Patent Owner proposes to amend original claim 1 to recite that

a non-opaque body comprising at least two non-conductive mechanical connectors, at least one of the connectors of the body comprising a male connector and at least one of the other connectors of the body comprising a female connector;

two electrical conductors each traversing the body from each connector to each other connector;

Paper 22, 2 (emphasis added). Substitute claims 29 and 31 include similar limitations.⁵ *Id.* at 3-4, 6-7. Petitioner contends that, because each of original claims 1, 12, and 26 recites “upon application of a power source to the *connector*” and “transmit power *to each other connector* of the body” (emphases added), the original claims require, at least implicitly, that the connectors are electrically conductive. Paper 25, 10. Consequently, Petitioner contends that, by amending the original claims to describe the connectors as “non-conductive,” Patent Owner’s substitute claims impermissibly broaden the scope of the original claims. *Id.*; *see* 35 U.S.C. § 316(d)(3) (“An amendment under this subsection may not enlarge the scope of the claims of the patent . . .”); 37 C.F.R. § 42.121(a)(2) (rule implementing the statutory requirement). Petitioner does not contend that

⁵ Petitioner refers to original claims 1, 12, and 26 and, alternately, to claims 28, 29, and 30 and to claims 28, 29, and 31. Paper 25, 10. Because original claim 26 corresponds to substitute claim 31, we treat the reference to claim 30 here as a typographical error.

other limitations added in substitute claims 28, 29, and 31 broaden the scope of original claims 1, 12, or 26. *See* Paper 25, 10.

Patent Owner disagrees and argues that

[t]he original claims also all indicate that a closed circuit allowing illumination of the LED is achieved when a power source is applied to any single connector. If the entire mechanical body of the connector were conductive, this would not be possible – as the entirety of the connector body would then be a permanent short circuit between the two claimed conductors, and the LED would never illuminate.

Paper 28, 1. We note that claims 1, 12, and 26 describe the connectors as “mechanical” connectors and do not state whether the connectors themselves are or are not conductive. *See* Ex. 1001, col. 6, ll. 46-47 (claim 1); col. 7, l. 36 (claim 12); col. 10, ll. 8-9 (claim 26). Moreover, claim 1 recites that the body comprises “two electrical *conductors* each traversing the body *from each connector to each other connector*” (emphases added), and each of claims 12 and 26 recites similar limitations. Ex. 1001, col. 6, ll. 51-52 (claim 1); col. 7, ll. 39-41 (claim 12); col. 10, ll. 11-12 (claim 26). Thus, we conclude that each of the original claims recites that it is the *conductors* traversing the body that conduct electricity between the *connectors*, and we are not persuaded that the connectors are required, implicitly or expressly, to be conductive.

For the foregoing reasons, we determine that Patent Owner’s proposed substitute claims 28, 29, and 31 narrow the scope of the original claims 1,

12, or 26, and comply with 35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2).

2. *Written Description for Substitute Claims*

The purpose of the written description requirement is to convey with reasonable clarity to those skilled in the art that, as of the filing date sought, the applicant was in possession of the invention as now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). “[T]he written description requirement is satisfied by the patentee’s disclosure of ‘such descriptive means as words, structures, *figures*, diagrams, formulas, etc., that fully set forth the claimed invention.’” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 969 (Fed. Cir. 2002) (quoting *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis added)). Patent Owner argues that the additional limitations of substitute claims 28-31 are supported by the disclosure of the patent application, the ’444 Application, from which the ’558 Patent issued. Paper 22, 9-10 (citing Ex. 1004, figs. 1, 2, and 8). For the reasons set forth below, we agree.

a. *Non-Conductive*

Substitute claim 28 recites “[a] building block comprising: a non-opaque body comprising at least two non-conductive mechanical connectors.” Similar language appears in substitute claims 29 and 31. Petitioner contends that the ’444 Application provides no support for amending the mechanical connectors of original claims 1, 12, and 26 to be “non-conductive” mechanical connectors in substitute claims 28, 29, and 31.

Paper 25, 6-7. Specifically, Petitioner contends that the term “non-conductive” appears nowhere in the ’444 Application and that Patent Owner fails to demonstrate that a person of ordinary skill in the art at the time of the filing of the ’444 Application would have recognized that the inventors were in possession of the subject matter of the substitute claims. *Id.*

Patent Owner argues that Figures 1 and 2 of the ’444 Application depict mechanical connectors 40 as distinct from electrical conductors 50, and that the ’444 Application describes body 30, which comprises connectors 40 formed from acrylic or rigid plastic. *Id.* at 6 (quoting Paper 22, 8). From this, Petitioner concludes that the disclosures merely indicate that the connectors can be made from the identified materials, but these disclosures do not teach that the connectors are “non-conductive.” Paper 25, 6.

Petitioner acknowledges, however, that “[a]n element having a non-conductive part may still be electrically conductive as a whole (e.g., an electrical plug having an outer non-conductive housing and electrical wires therein).” *Id.* at 6-7. Patent Owner does not disagree with Petitioner’s description of a “non-conductive” part of an electrically conductive element. In fact, we understand this to be precisely the argument that Patent Owner is attempting to make, namely, that a person of ordinary skill in the art would understand that a “non-conductive” part may still conduct electricity via electrically conductive components housed within it. *See* Paper 28, 1 (“The claimed non-conductive mechanical connectors are non-conductive of the electricity that is conducted by the electrical conductors.”).

Neither party disputes that the term “non-conductive” does not appear in the ’444 Application, nor does either party show evidence that the mechanical connectors of the ’444 Application are limited to those made entirely from conductive materials. Further, neither party contends that a person of ordinary skill in the art would fail to understand that parts *within* a mechanical connector, such as electrical conductors, still may be electrically conductive, even though the mechanical connector is “non-conductive,” as explained by Patent Owner. *See* Paper 25, 6-7; Paper 28, 2 (statement by Patent Owner, in its annotations to Figure 2 of the ’444 Application, that “[t]he presence of these electrical conductors allow the connectors, as a whole, to conduct electricity”).

Patent Owner also argues that, “[i]f the entire mechanical body of the connector were conductive, this would not be possible – as the entirety of the connector body would then be a permanent short circuit between the two claimed conductors, and the LED would never illuminate.” Paper 28, 1. Based on the record before us, and given Petitioner’s example of “an electrical plug,” we are not persuaded that a person of ordinary skill in the art would understand the disclosure to describe non-functional blocks or block sets. Thus, we determine that the “non-conductive” mechanical connector, as recited in claims 28, 29, and 31, is supported adequately by the Specification of the ’444 Application.

b. Cylindrical

Substitute claim 28 recites that “the non-conductive mechanical connectors are cylindrical.” Similar language appears in substitute claims

29-31. Petitioner contends that Patent Owner fails to demonstrate support for this added limitation, other than by reference to the drawings of the '444 Application. Paper 25, 8; *see* Paper 22, 9 (reproducing Figures 1 and 2 of the '444 Application). Petitioner argues that

none of the drawings shows connectors that are, *unambiguously*, cylindrical. That is, because the drawings only illustrate the connectors in perspective views and do not specifically show a circular cross-section of a connector, the drawings simply illustrate that the connectors are provided some round shapes, including elliptical or oval shapes.

Paper 25, 8 (emphasis added); Paper 36, 22 (arguing that the '444 Application does not include the term “cylindrical” or show a cylindrical or circular cross-section). Further, Petitioner argues that, when provided with elliptical or oval-shaped cross-sections, the connectors would not be rotatable relative to one another. *Id.* Consequently, because Figure 8 of the '444 Application depicts blocks oriented “at a couple of different angles,” Petitioner argues that it is reasonable to interpret Figures 1 and 2 as depicting oval, rather than cylindrical, shaped connectors. *Id.* We do not agree.

Initially, we note that, with respect to Figure 1, the '444 Application describes a perspective view of a “*cylindrical* embodiment of a building block.” Ex. 1004, 280 (emphasis added). Thus, although the '444 Application does not describe expressly that the connectors are or may be cylindrical, Figure 1 depicts *cylindrical* body 31 of non-opaque body 30. *Id.* at 284 (“In the embodiment illustrated in [Figure 1], the body 30 is

substantially cylindrical 31 with one of the mechanical connectors at either end 32 thereof.”). A visual comparison of the shape of cylindrical body 31 with the shape of connector 40, as depicted in Figure 1 of the ’444 Application, indicates that both are cylindrical in cross-section. Petitioner’s expert, Dr. Ronald Barrett, testified that, despite the depiction in Figure 1, it is his “opinion that a person skilled in the art would not reasonably conclude that the inventor had possession of connectors that are cylindrical in shape (i.e., in circular cross-sections) or having cylindrical portions (i.e., in circular cross-sections).” Ex. 1028 ¶ 30.

Nevertheless, in his analysis, Dr. Barrett fails to explain his opinion in view of the apparent similarity between the shape of the *cylindrical* body 31 and connector 40 in Figure 1 of the ’558 Patent. *Id.* Further, Dr. Barrett bases his opinion regarding a person of ordinary skill in the art’s interpretation of the shape of the connector, at least in part, on the depiction of discrete angles of orientation in Figure 8 of the ’444 Application. *Id.* However, Dr. Barrett does not explain sufficiently why the depicted discrete angles cannot be achieved by a cylindrical-shaped connector, instead of an oval-shaped connector. Because we are persuaded that at least Figures 1, 2, and 8 of the ’444 Application depict a cylindrical connector, and, because we are not persuaded by Dr. Barrett’s testimony to the contrary, we conclude that the ’444 Application provides adequate support for the cylindrical connector, as recited in substitute claims 28-31.

c. At Any Degree of Rotation

Substitute claim 28 recites that “the conductors are arranged such that at least two of the building blocks are mechanically and electrically connectable thereby *at any degree of rotation* about a connection axis therebetween” (emphasis added). Similar language appears in substitute claims 29-31.

Patent Owner argues that corresponding, cylindrical, male and female connectors are depicted in Figures 1 and 2 of the '444 Application and that, given the shape of the connectors and the ring-shaped structure of the conductors, the blocks may be connected mechanically and electrically “at any degree of rotation.” Paper 22, 9. Further, although Patent Owner acknowledges that a “connection axis” is not depicted or described expressly in the Specification of the '444 Application, Patent Owner maintains that this limitation merely refers to the frame of reference created by the insertion of a cylindrical male connector into a cylindrical female connector. *Id.* Consequently, Patent Owner argues that the male and female connectors each have a “connection axis” frame of reference, whether or not such an axis is mentioned explicitly in the written description. *Id.*; *see also id.* at 10 (Figure 8 of the '444 Application annotated to depict connection axes by broken lines).

In addition, referring to Figure 8 of the '444 Application, blocks are depicted as connected at various angles. *Id.* at 10. Although Figure 8 does not depict connected blocks oriented at every possible degree of rotation, Patent Owner argues that the wide variety of angles depicted in this figure

discloses that the blocks may be oriented “at any degree of rotation.” *Id.*; *see* Paper 28, 2-4. Moreover, referring to Figure 4 of the ’444 Application, Patent Owner notes that wheel 38 is depicted, which has connector 40 on either side 39 along a “rotational axis I_r .” Paper 28, 2-3. As depicted in Figure 7 of the ’444 Application, wheel 38 may be used to construct a wheeled vehicle. *Id.* at 3.

As noted above, the limitation “at any degree of rotation” does not appear anywhere in the Specification of the ’444 Application. Paper 25, 8-9. Further, Petitioner contends that Patent Owner’s reliance on what a person of ordinary skill in the art allegedly would understand from the drawings is insufficient to demonstrate support for the introduction of this limitation in the substitute claims. *Id.* at 9. Moreover, relying on the testimony of Dr. Barrett, Petitioner contends that, even accepting that connectors 40 are cylindrical, a person of ordinary skill in the art would not understand that the blocks depicted in the ’444 Application could be connected to each other, mechanically and electrically, at any degree of rotation. *Id.* at 10 (citing Ex. 1028 ¶¶ 32-38). We are not persuaded by Petitioner’s contentions that this limitation lacks sufficient support in the Specification of the ’444 Application.

Patent Owner argues that, if a block having a cylindrical male connector is connected to a block having a cylindrical female connector, absent some other teaching, a person of ordinary skill in the art would understand that the blocks may be rotated with respect to each other and may remain connected mechanically to each other “at any degree of rotation.”

See Paper 22, 9-10. During the hearing, we noted this argument to Petitioner's counsel. Paper 36, 21-22. Petitioner did not disagree that the resulting structure would disclose mechanically rotatable blocks, but argued instead that the Specification of the '444 Application failed to disclose cylindrical connectors. For the reasons set forth above, we are persuaded that the figures of the '444 Application disclose cylindrical connectors.

With respect to whether the Specification of the '444 Application discloses that such blocks also may be connected electrically "at any degree of rotation," we note that, in Figures 1 and 2 of the '444 Application, ring-shaped portions of conductors 50 are within connectors 40 and that, "[a]s each additional building block 10 is connected, the electrical current from power source 70 is transferred from building block 10 to building block 10 via the conductors 50." Ex. 1001, col. 4, ll. 45-48. Petitioner's expert, Dr. Barrett, noted that the Specification of the '444 Application discloses that conductive rings 52 are used to make these inter-block electrical connections. Ex. 1028 ¶ 33 (citing Ex. 1004, 11; fig. 5D). Dr. Barrett concluded that, despite corresponding conductive rings 52 on male and female connectors 40, electrical current would not be conducted at any degree of rotation between joined connectors. *Id.* In particular, Dr. Barrett concluded that the build-up of an oxide layer on the metal of conductive rings 52 (*see* Ex. 1028 ¶¶ 34-35), imprecise manufacturing tolerances in conductive rings 52 (*see id.* at ¶¶ 36-37), or the lack of wipers, such as those taught by Dunfee and Pawloski (*see id.* at ¶ 34), would prevent electrical connections at any degree of rotation. Nevertheless, as noted during the

hearing, the Specification of the '444 Application does not specify the type of metal used in conductive rings 52, and not all conductive metals would suffer from the oxidation problems described by Dr. Barrett. Paper 36, 27-29; *see* Ex. 1028 ¶ 42; Paper 36, 28 (statement by Petitioner's counsel that "I believe the expert said that only if [the conductive ring] was made of gold that may provide some electrical connectability"). Moreover, wipers, taught by Dunfee and Pawloski, would not be required if an oxide layer was not formed on conductive rings 52. *See* Paper 36, 28-29. Finally, the deficient tolerances described by Dr. Barrett are not disclosed in the Specification of the '444 Application, and Petitioner fails to demonstrate that they necessarily would affect all blocks made in accordance with the substitute claims. *Id.* at 30 (rebuttal by Patent Owner's counsel). Consequently, in view of the depiction of the male and female connectors and the associated conductors in Figures 1, 2, and 8 of the '444 Application, we are persuaded that the Specification of the '444 Application adequately supports the language added to original claims 1, 12, 18, and 26 in substitute claims 28-31.

d. At Least Two Bodies

Substitute claim 31 recites that "[a]n illuminated building block compris[es] *at least two* non-opaque *bodies*, each comprising two nonconductive mechanical connectors" (emphases added). Petitioner contends that "[t]here is no written support in the original disclosure of the '558 Patent for a **single** building block having **multiple** bodies." Paper 25, 10. For the reasons set forth below, we are not persuaded that the

amendments to original claim 26 lack sufficient support in the '444 Application.

Initially, we note that original claim 26 recited that “[a]n illuminated building block compris[es] a non-opaque body” (emphasis added). As the U.S. Court of Appeals for the Federal Circuit has explained, “an indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising.’” *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (citations omitted); *see also Harari v. Lee*, 656 F.3d 1331, 1341 (Fed. Cir. 2011). As the Federal Circuit also has explained, “[t]he original claims as filed are part of the patent specification.” *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 938 (Fed. Cir. 1990). Because claim 1 of the '444 Application, as filed, recites “[a] building block comprising: a non-opaque body,” we conclude that the '444 Application discloses a block comprising *one or more* non-opaque bodies. *See* Ex. 1004, figs. 3, 7, 8 (depicting L-shaped blocks, each formed of two bodies at right angles to each other). Moreover, we find nothing in the disclosure of the '444 Application that would cause us to limit the interpretation of the language of claim 1 of the '444 Application, as filed, to a block comprising only a single, non-opaque body. *See Baldwin Graphic Sys.*, 512 F.3d at 1342-43. Consequently, we conclude that substitute claim 31 merely narrows the recitation of original claim 26 to exclude blocks comprising only a single non-opaque body and that blocks comprising at least two, i.e., two or more, bodies are supported by the disclosure of the '444 Application.

e. Conclusion

Pursuant to 37 C.F.R. § 42.121(b)(1), a motion to amend in an *inter partes* review must set forth “[t]he support in the original disclosure of the patent for each claim that is added or amended.” We conclude that Patent Owner has made a sufficient showing that proposed substitute claims 28-31 as a whole, including the new limitations added to the proposed substitute claims as explained above, have written description support in the disclosure of the ’444 Application, as filed. *See* Paper 22, 7-10.

3. Definiteness of Substitute Claims

Under 35 U.S.C. § 112, ¶ 2, “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” In *Nautilus, Inc. v. BioSig Instruments, Inc.*, No. 13-369, 2014 WL 2440536, at *7 (U.S. June 2, 2014), the U.S. Supreme Court read “§112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” We apply this standard in our review in the context of our use of the broadest reasonable interpretation standard for claim construction (37 C.F.R. § 42.100(b))⁶ and, given that the challenged claim

⁶ *See SAP Am., Inc. v. Versata Dev. Grp., Inc.*, Case CBM2012-00001, slip. op. 7-8 (PTAB June 11, 2013) (Paper 70, Final Written Decision) (“Through the use of the broadest reasonable interpretation standard, the Office is able to encourage inventors to amend their claims to remove uncertainties and over breadth of claim scope.”); *see also SAS Institute, Inc. v.*

terms were introduced in a motion to amend, in the absence of prosecution history with respect to the language of the proposed substitute claims.⁷

Petitioner contends that substitute claims 28-31 are indefinite. Paper 25, 3-5. We disagree.

a. Non-Conductive

As noted above, Patent Owner proposes amendments to original claims 1, 12, 18, and 26 to recite that the mechanical connectors are “non-conductive.” Paper 22, 1-7. Petitioner contends that materials may be conductive or non-conductive of multiple types of energy, such as electrical, thermal, or acoustic energy. Paper 25, 4. Petitioner also contends that, because the Specification of the ’558 Patent fails to include the term “non-conductive,” it is not clear what type of non-conductive material is meant by this claim term. *Id.* Further, Petitioner contends that, because substitute claims 28, 29, and 31 also describe that electrical power is transmitted from a connector to each other connector in the body, the claim language requires that the connectors are both conductive and non-conductive. *Id.* Petitioner contends that this requirement is contradictory and, hence, indefinite. *Id.*

Complementsoft, LLC, Case IPR2013-00226 (PTAB Mar. 20, 2014) (Paper 27) (order permitting the filing of a second motion to amend to correct antecedent basis error).

⁷ See *In re Packard*, No. 2013-1204, 2014 WL 1775996, at *16 (Fed. Cir. May 6, 2014) (Plager, J., concurring) (“[U]nlike courts which have a full prosecution record to consider, the prosecution record before the USPTO is in development and not fixed during examination, and the USPTO does not rely on it for interpreting claims.”).

Initially, we note that the Specification of the '558 Patent only describes conducting electrical energy between the blocks. *E.g.*, Ex. 1001, Abstract; col. 4, ll. 43-56. Petitioner fails to identify any reference to any other type of energy and, in particular, to thermal or acoustic energy in the Specification of the '558 Patent. Because the claim language is construed in view of the Specification, we are not persuaded that the term “non-conductive” is construed properly to refer, with reasonable certainty, to any type of energy other than electrical energy. *See supra* Section II.A.4.a. As Patent Owner argues, no other construction makes sense. Paper 28, 1.

Referring to substitute claim 28, the recited body comprises at least two non-conductive, mechanical connectors and “two electrical conductors each traversing the body *from each connector to each other connector*” (emphasis added). Similar language appears in substitute claims 29-31. This quoted claim language appears in original claim 1, upon which substitute claim 28 is based. Paper 22, 2-3. As this quoted claim language makes clear, electrical power is transmitted between the connectors via the “electrical conductors.” As Patent Owner explains, the original claims do not describe expressly the nature of the material from which the mechanical connectors are made, but original claim 1 and substitute claim 28 recite that each connector has a housing that is coupled to the conductors. *See supra* Section I.C.. If the connector itself was entirely conductive, the housing would be superfluous. Thus, it is logical to conclude that those connectors may be made from a non-conductive material in order to avoid short circuits. Paper 28, 1. Consequently, we conclude that a person of ordinary skill in the

relevant art at the time the application was filed would have understood the term “non-conductive” to describe not electrically conductive, with reasonable certainty. Therefore, we are not persuaded that the term “non-conductive” in substitute claims 28-31 is indefinite.

b. At Any Degree of Rotation

As noted above, Patent Owner proposes amendments to original claims 1, 12, 18, and 26 to recite that “the conductors are arranged such that at least two of the building blocks are mechanically and electrically connectable thereby at any degree of rotation about a connection axis therebetween.” Paper 22, 1-7. Petitioner contends that the Specification of the ’558 Patent fails to mention the word “rotation” and, as a result, Petitioner contends that it is not clear what is meant by “rotation” in the added limitation. Paper 25, 5. In particular, Petitioner contends that, because “rotation” is not used in the Specification of the ’558 Patent, the claim language has at least two alternative constructions. *Id.*; see *Ex parte Miyazaki*, 89 USPQ2d 1207, 1211 (BPAI 2008) (precedential). First, the claim may recite that two blocks may be connected at any degree of rotation, i.e., the blocks may be rotated with respect to each other *before* they are connected. *Id.* Second, the blocks may be connected *first* and rotated *thereafter* with respect to each other. *Id.*

Initially, Petitioner is not entirely correct when it contends that the word “rotation” is not mentioned in the Specification of the ’558 Patent. As noted above, the Specification of the ’558 Patent discloses that, “[i]n the embodiment illustrated in FIG. 4, the body takes the form of a *wheel* 38,

with a connector 40 on either side 39 along a *rotational* axis I_r thereof [sic] This embodiment permits a user to create a wheeled structure resembling a vehicle (FIGS. 7 and 8).” Ex. 1001, col. 5, ll. 9-13 (emphases added). Even without the express reference to a “rotational axis,” it is axiomatic that wheels of a vehicle rotate. Moreover, in view of the recited cylindrical structure of the male and female connectors in substitute claims 28-31, we conclude that blocks may be rotated *before or after* they are connected “to any degree of rotation.” As Patent Owner notes, breadth of interpretation does not render the substitute claims indefinite. Paper 28, 3. Thus, we conclude that a person of ordinary skill in the relevant art at the time the application was filed would have understood the recitation that the blocks may be rotated “at any degree of rotation,” with reasonable certainty. Therefore, we are not persuaded that substitute claims 28-31 are indefinite because they recite “at any degree of rotation.”

C. Patentability Over Prior Art

An *inter partes* review is neither a patent examination proceeding nor a patent reexamination proceeding. The substitute claims proposed in a motion to amend are not entered automatically and then subjected to examination. Rather, the proposed substitute claims will be added directly to the patent, without examination, *if* the patent owner’s motion to amend claims is granted. In a motion to amend, the patent owner is not rebutting a rejection in an office action, as though this proceeding were a patent examination or a reexamination. Instead, the patent owner, as the movant,

bears the burden of establishing the patentability of the proposed substitute claims over the prior art of record and also other prior art known to the patent owner. *See* Paper 36, 32-33. We deny the motion to amend here (1) because Patent Owner has not met this burden and (2) because Petitioner has persuaded us that the substitute claims would have been rendered obvious over the teachings of Teller, Rosen I, and Pawloski.

1. Patentability Over Other Art Raised by Petitioner or Known To Patent Owner

In the motion to amend, Patent Owner limits its discussion of the prior art solely to those references upon which we instituted *inter partes* review. Paper 22, 11-21. Although Petitioner presents arguments challenging the patentability of the substitute claims in its opposition to the motion to amend (Paper 25, 11-22), Patent Owner does not respond to any of Petitioner's arguments for unpatentability based on combinations including newly cited references. Instead, in its response to Petitioner's opposition to the motion to amend, Patent Owner contends that

Petitioner argues that other references, either cited but not relied on, or entirely new, might suffice to render the proposed amended claims unpatentable. It is not clear to Patent Owner that the Board has the statutory or regulatory authority *to substitute new grounds of rejection* for those for which review was instituted.

Paper 28, 5 (emphasis added). Thus, Patent Owner misunderstands the nature of Petitioner's opposition to, and our consideration of, the motion to amend.

As explained above, *inter partes* review is an adjudicatory proceeding, not a prosecutorial proceeding, before the Office. H.R. Rep. No. 112-98 Part 1 (2011) at 46–47 (“The [AIA] converts *inter partes* reexamination *from an examinational to an adjudicative proceeding*, and renames the proceeding ‘*inter partes* review.’”; emphasis added); *see also id.* at 75 (“Subsections (a) and (d) [of Section 6 of the AIA] enact new chapters 31 and 32, which create *adjudicative* systems of post-grant and *inter partes* review.”; emphasis added). Thus, when considering a motion to amend, we do not *examine* and *allow* or *reject* the substitute claims. Instead, we determine whether the patent owner, as movant, has met its burden of establishing that it is entitled to the substitute claims that it seeks in its motion to amend. If we grant or deny the patent owner’s motion, we are not *allowing* or *rejecting* claims, as an examiner would when acting on a patent application or a request for reexamination during prosecution; rather, we are entering claims as *relief* to which the patent owner has proven itself entitled.

In its opposition, Petitioner is responding to Patent Owner’s motion for the entry of substitute claims that have not before been considered by Petitioner in this proceeding or by the Office in another proceeding, in lieu of the challenged claims of the ’558 Patent, upon which we instituted *inter partes* review. Consequently, Petitioner is not raising *new* grounds of *rejection*, but is presenting arguments and evidence in opposition to Patent Owner’s request for *relief* in its motion to amend.

Similarly, in considering Patent Owner’s motion to amend, we determine whether Patent Owner has met its burden of demonstrating that it

is entitled to entry of the substitute claims. Neither Patent Owner's motion to amend nor its response to Petitioner's opposition to the motion to amend discusses (1) the level of ordinary skill in the art, explaining the basic knowledge and skill set already possessed by one of ordinary skill in the art, with respect to the new claim limitations or (2) any other prior art known to Patent Owner. Paper 22, 11-21; Paper 28, 4. Moreover, as noted above, Patent Owner limits its arguments largely to the references relied upon in the petition and provides only conclusory remarks with respect to the new references or combinations of references raised in Petitioner's opposition to the motion to amend. Paper 28, 5.

In a prior order, we directed Patent Owner to *Idle Free*, IPR2012-00027, Paper 26, as providing guidance on motions to amend. Paper 21, 2-3. In *Idle Free*, a panel of the Board advised the patent owner that, in a motion to amend:

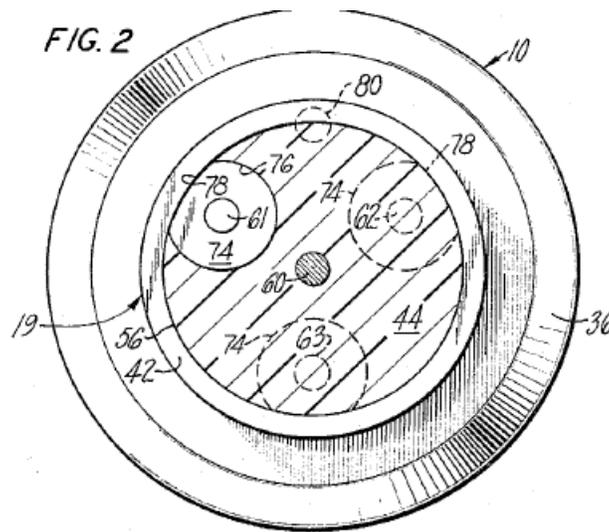
A patent owner should identify specifically the feature or features added to each substitute claim, as compared to the challenged claim it replaces, and come forward with technical facts and reasoning about those feature(s), including construction of new claim terms, sufficient to persuade the Board that the proposed substitute claim is patentable over the prior art of record, and over prior art not of record but known to the patent owner. *The burden is not on the petitioner to show unpatentability, but on the patent owner to show patentable distinction over the prior art of record and also prior art known to the patent owner.* Some representation should be made about the specific technical disclosure of the closest prior art known to the patent owner, and not just a conclusory remark that no prior art known to the patent owner renders obvious the proposed substitute claims.

A showing of patentable distinction can rely on declaration testimony of a technical expert about the significance and usefulness of the feature(s) added by the proposed substitute claim, from the perspective of one with ordinary skill in the art, and also on the level of ordinary skill, in terms of ordinary creativity and the basic skill set. A mere conclusory statement by counsel, in the motion to amend, to the effect that one or more added features are not described in any prior art, and would not have been suggested or rendered obvious by prior art, is on its face inadequate.

Idle Free, IPR2012-00027, Paper 26, 7-8 (emphases added); *see also Idle Free*, IPR2012-00027, Paper 66, 33-38 (denying motion to amend in final written decision). Yet, in its motion to amend, Patent Owner addresses only the references asserted in the petition. Paper 22, 11-21; *see also* Paper 28, 4. As explained in *Idle Free*, “[d]istinguishing the proposed substitute claims only from the prior art references applied to the original patent claims, however, is insufficient to demonstrate general patentability over prior art.” *Idle Free*, IPR2012-00027, Paper 66, 33. Consequently, Patent Owner’s motion to amend is *denied*.

2. *Obviousness over Teller, Rosen I, and Pawloski*

Further, an additional, independent reason for our denial of Patent Owner’s motion to amend, based on the arguments presented by the parties, is that Patent Owner has not met its burden to show that proposed substitute claims 28-31 would not have been obvious over the prior art. As noted above, we instituted *inter partes* review of original, independent claims 1, 12, 18, and 26, because we determined that Petitioner had demonstrated a reasonable likelihood of showing that those claims were rendered obvious



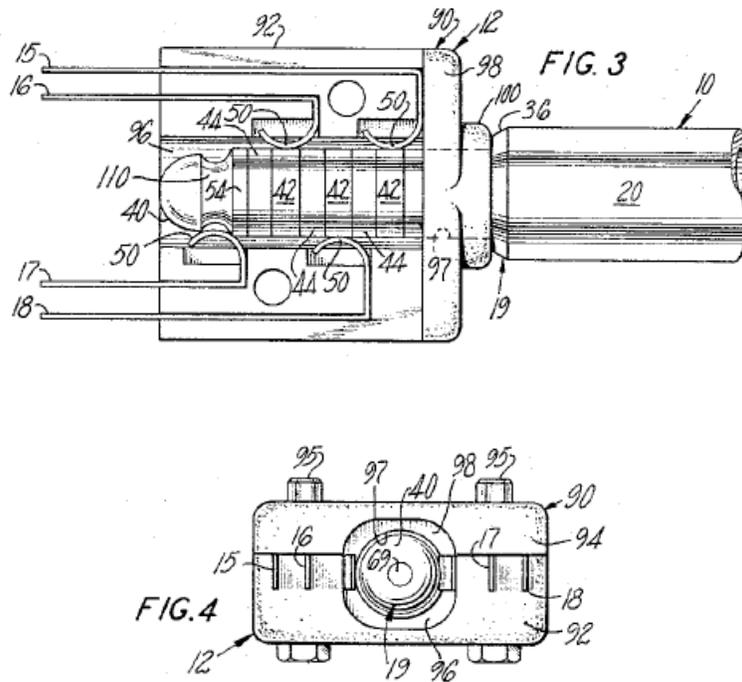
In particular, Pawloski's Figures 1 and 2 depict jack plug element 10 including forward plug element 19 having forward contact 40 and cylindrically-shaped ring contacts 42. Ex. 1029, col. 2, ll. 1-5. Petitioner explains that

[c]ylindrical insulators 44 are included in the plug element 19 for providing axially spacing between the contacts 40, 42. A rear end insulator 46 is also provided. [Ex. 1029, col. 2, ll. 5-10.] The insulators 44, 46 and the contacts 42 have equal diameters, whereby "the external surface of the plug is generally smooth and of generally cylindrical configuration". [id. at col. 2, ll. 25-26.]

Paper 25, 18. Consequently, Petitioner contends Pawloski teaches that insulator 46 is a *non-conductive* and *cylindrical* portion of plug element 19. *Id.*

Referring to Figures 1 and 2, wire conductor leads 60-63 extend through cylindrical insulators 44, 46 to allow electricity to be conducted to contacts 40, 42. *Id.* at 19; Ex. 1029, col. 2, ll. 1-11. Thus, Pawloski teaches equipping jack plug element 10, a male mechanical connector, with a plurality of contacts and conductor leads. *Id.* (citing Ex. 1028 ¶ 61). Therefore, Pawloski teaches or suggests a block comprising a body, which comprises a non-conductive, male, mechanical connector.

Pawloski's Figures 3 and 4 are reproduced below:



Referring to Figures 3 and 4, jack 12 is depicted including housing 90 and a plurality of leads 15-18. Paper 25, 19. Further, housing 90 may be formed preferably of molded plastic. Ex. 1029, col. 3, ll. 32-34. Referring to Figure 4, Pawloski teaches passage 96 for receiving plug element 19. Leads 15-18 are disposed within passage 96, such that an electrical connection is made

between contacts 40, 42 and leads 15-18 when jack plug element 10 is inserted into passage 96. Paper 25, 19; Ex. 1029, col. 3, ll. 50-55. Further, the shape of passage 96 is cylindrical in order to receive cylindrical, jack plug element 10. Thus, Pawloski also teaches or suggests a block comprising a body, which comprises a non-conductive, female, mechanical connector.

Further, Petitioner contends that, because of the *cylindrical* shape of plug element 19 of plug 10, including that of insulator 46, and because of the point contacts made between contact portions 50 of electrical leads 15-18 of jack 12 and contacts 40, 42 of plug element 19, plug 10 is rotatable relative to jack 12. Paper 25, 20. In particular, Petitioner contends that insulator 46 of plug 10 *and non-conductive, cylindrical* portion of housing 90 of jack 12 are interconnectable mechanically *at any degree of rotation* about their common longitudinal axis. *Id.*; see Ex. 1029, col. 3, ll. 15-29 (describing cylindrical ring contacts 42). Consequently, the respective electrical conductors of plug 10, namely contacts 42, and of jack 12, namely contact portions 50, adjoin each other in an electrically conductive manner, regardless of the degree of rotation between plug 10 and jack 12. *Id.* (citing Ex. 1028 ¶ 63).

In its reply, Patent Owner does not challenge Petitioner's assessment of the teachings of these references, or dispute that all of the limitations of the substitute claims are taught in the combined references.

Petitioner contends that Teller and Pawloski address similar problems. See Paper 25, 21 n.3. Teller states that “[m]any different types of electrical

connectors could be used. *For example, instead of using a separate connector for each pole, a single bipolar connector, similar to a telephone jack, could be utilized.*” Ex. 1006, col. 3, ll. 5-8 (emphasis added).

Pawloski discloses “a multiple contact jack assembly of a jack and jack plug having notable utility *in telephone communications systems.*” Ex. 1029, col. 1, ll. 9-11 (emphasis added). Petitioner contends that Pawloski’s plug and jack assembly is the same type of “telephone jack” taught in Teller. Paper 25, 21 n.3. Petitioner contends, therefore, that a person of ordinary skill in the art would have had reason to combine the teachings of these three references to achieve the invention recited in substitute claims 28-31. *Id.* at 21.

Patent Owner argues that “with the exception of Robb, none of the additional references teaches or suggests any particular suitability for connecting *toy* building structures and are largely addressed by Patent Owner’s existing remarks on other references of record.” Paper 28, 5 (emphasis added). As noted in Section II.A.1 above, however, we do not determine that the substitute claims are limited to recitations of *toy* building blocks.⁸ As the U.S. Supreme Court explained,

⁸ Patent Owner argues that Rosen II, which is assigned to Petitioner, is evidence of copying, which is an objective consideration arguing against a determination of obviousness. Paper 28, 4. Patent Owner, however, fails to explain this argument in any detail or show, on a limitation-by-limitation basis, that Petitioner copied Patent Owner’s claimed invention in its blocks disclosed in Rosen II. *See* Paper 14, 8-9. Therefore, we are not persuaded by Patent Owner’s arguments regarding secondary considerations.

[w]hen a 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*. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

KSR Int'l. Co. v. Teleflex, Inc., 550 U.S. 398, 417 (2007) (emphasis added).

Because we are persuaded that Petitioner has demonstrated that Teller, Rosen I, and Pawloski teach or suggest all of the limitations of substitute claims 28-31 and that a person of ordinary skill in the art would have had reason to combine the teachings of these references in the manner proposed by Petitioner to achieve the recited blocks and block sets, we determine that Patent Owner fails to meet its burden of showing that it is entitled to the relief requested in its motion to amend. *See* Paper 36, 32-33. Consequently, in addition to Patent Owner's failure to address references other than those asserted in the Petition, Patent Owner's motion to amend also is *denied* for failing to demonstrate that the substitute claims are patentable over Teller, Rosen I, and Pawloski.

D. Petitioner's Motion to Exclude

On February 18, 2014, Petitioner filed a motion seeking to exclude Rosen II (Ex. 2001), which Patent Owner submitted on September 27, 2013, in support of its motion to amend. Paper 29, 1. Patent Owner argues that

Rosen II discloses a “non-conductive connection” similar to that recited in proposed substitute claims 28-31. Paper 22, 15-16. Petitioner argues that Rosen II is irrelevant to this proceeding, because: (1) Rosen II “discloses and claims an invention that is structurally and functionally different from the ’558 Patent,” (2) the Office held the claims of Rosen II were patentably distinguishable over the disclosure of the ’558 Patent, which was cited during the prosecution of Rosen II, and (3) Rosen II “was based on a December 2011 provisional application, and is thus not relevant to an obviousness analysis of the ’558 Patent, which has an earlier filing date (i.e., August 15, 2007).” Paper 29, 2-3.

As noted above, we do not rely on Rosen II in denying Patent Owner’s motion to amend. *See supra* n.7. Moreover, Patent Owner points to some alleged similarity between the invention claimed in Rosen II and Patent Owner’s invention, as recited in the substitute claims, and makes allegations that Petitioner had access to a product embodying Patent Owner’s claimed invention before the filing date of the Rosen II application. Patent Owner, however, fails to provide persuasive evidence that Petitioner copied Patent Owner’s invention. *See* Paper 22, 15-16 (“Petitioner (now) expressly recognizes the functional advantage achieved by interconnected cylindrical non-conductive components . . . which renders the proposed substitute claims patentable over the prior art.”); Paper 32, 2-4 (“Indeed, part of the relevance of [Rosen II] teaching the same male-female non-conductive block interface that appears in the proposed substitute claims is precisely because it was not filed until well *after* Petitioner learned of Patent Owner’s

invention.”); *see also* Paper 36, 13-14 (Patent Owner alleges that Petitioner saw a product embodying features recited in the substitute claims at the New York Toy Fair *before* the priority date of Rosen II).

Thus, the current situation does not require us to assess the merits of Petitioner’s motion to exclude. Accordingly, Petitioner’s motion to exclude evidence is *dismissed* as moot.

III. CONCLUSION

For the reasons set forth above, we determine that claims 1-27 of the ’558 Patent are unpatentable. In its motion to amend, Patent Owner has not met its burden of establishing the patentability of the substitute claims. Therefore, we deny the motion to amend. This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IV. ORDER

In consideration of the foregoing, it is
ORDERED that claims 1-27 of the ’558 Patent are determined to be *unpatentable*;

FURTHER ORDERED that Patent Owner’s motion to amend is *denied*; and

FURTHER ORDERED that Petitioner’s motion to exclude evidence is *dismissed*.

Case IPR2013-00120
Patent 7,731,558 B2

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

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