UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

Before the Honorable Dee Lord
Administrative Law Judge

In the Matter of **CERTAIN TONER CARTRIDGES AND COMPONENTS THEREOF**	**Investigation No. 337-TA-1106**

COMMISSION INVESTIGATIVE STAFF'S OPENING *MARKMAN* BRIEF

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I. Introduction

Pursuant to Order No. 10, the Commission Investigative Staff ("Staff") hereby respectfully submits its initial *Markman* brief. This brief addresses terms in the claims at issue of U.S. Patent Nos. 9,746,826 ("the '826 patent"), 9,836,021 ("the '021 patent"), 9,841,729 ("the '729 patent"), 9,857,764 ("the '764 patent"), 9,869,960 ("the '960 patent"), and 9,874,846 ("the '846 patent")[1] that Complainants Canon Inc., Canon U.S.A., Inc., and Canon Virginia, Inc. (collectively, "Canon"), Respondents Ninestar Corporation, Ninestar Image Tech Limited, Ninestar Technology Company, Ltd., Apex Microtech Ltd., Static Control Components, Inc., Print-Rite Holdings Ltd., Print-Rite N.A., Inc., Union Technology Int'l (M.C.O.) Co., ACM Technologies, Inc., Print-Rite Unicorn Image Products Co., Aster Graphics Inc., and Jiangxi Yibo E-Tech Co., Ltd. (collectively, "Respondents"), or the Staff have identified as in dispute. *Id.* Should the private parties raise additional claim construction disputes in the future, *e.g.*, as part of their rebuttal *Markman* briefs or as part of the parties' pre-hearing statements and briefs, the Staff may seek to address such disputes if and when appropriate.

As an initial matter, the Staff notes that the parties have engaged in a series of meet and confers to substantially narrow the disputes presented herein. More specifically, the parties generally agree that there is an overarching dispute that likely addresses the majority of the disputed claim terms (*i.e.* disputed terms numbered 1-4). Thus, the Staff's brief below addresses the fundamental dispute as embodied in the first disputed claim term, and more briefly explains the follow-on disputes for terms 2-4. Disputed term number 5 presents a separate construction issue.

[1] Collectively, "the Asserted Patents"

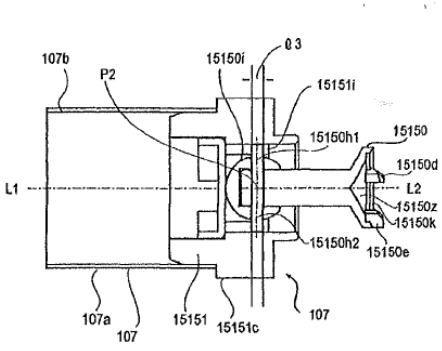
II. Technology Overview

A. Prior Commission Adjudication

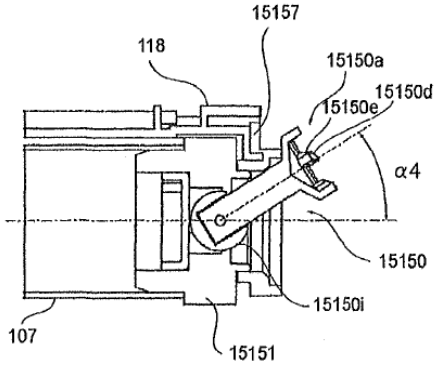
This investigation is related to Inv. No. 337-TA-918, which was instituted in 2014. In the 918 investigation, Complainants asserted the parent patents of the Asserted Patents against some of the Respondents in this investigation, such as Ninestar, Aster Graphics, and Print-Rite. EDIS Doc. No. 558427, Initial Determination ("918 ID") at 2. Several Respondents were terminated from the investigation based on entering into Consent Orders. 918 ID at 7-8.

An ID issued addressing Canon's request for a summary determination of violations by the defaulting and non-participating respondents and entry of a general exclusion order based on infringement claims of *inter alia* U.S. Patent Nos. 8,280,278, 8,630,564, 8,682,215 (collectively, "Parent Patents"). 918 ID at 8-10. The ID described the subject matter of the Parent Patents as follows:

> The patented cartridge and drum unit include a movable coupling member that is maximally inclined just prior to engagement with a drive shaft in the printer, and that pivots to be coaxial with the drive shaft as the coupling member and drive shaft become fully engaged. As shown in Figures 98 and 99 of the '278, '564, and '215 patents, the coupling member 15150 is connected to an end of a photosensitive drum 107 by a drum flange 15151. The coupling member 15150 is movable between a position in which it is coaxial with the photosensitive drum 107 (shown in the left figure below) and a position in which it is inclined with respect to the drum (shown in the right figure below). *See* Lux Decl. ¶ 34.



'278, '564, and '215 patents (Lux Decl., Exs. 1-3), Fig. 98



'278, '564, and '215 patents (Lux Decl., Exs. 1-3), Fig. 99

> … By moving the coupling member between the pre-engagement angular position

> and the rotational force transmitting angular position, the cartridge can be installed and removed from the printer in a direction, denoted by arrow X4, perpendicular to the drive shaft 180 of the printer. *See* Lux Decl. ¶ 35."

918 ID at 23-25. To the Staff's knowledge, there is no dispute that a printer cartridge with a coupling member that solely moves co-axially, and does not incline, is outside the scope of the Parent Patents and any remedial order issued in the 918 investigation.

Subsequently, in 2016, Canon filed the first of a series of continuation patent applications, which issued as the Asserted Patents. *See, e.g.*, U.S. Patent No. 9,746,826 (the first of the continuation applications was filed December 13, 2016). In the claims of the continuation applications, Canon eliminated specific reference in the claims to the cartridge couplers moving into positions by inclining. *Id.* All of the Asserted Patents claim priority to, and have substantially identical specifications and figures to, the Parent Patents addressed in the 918 ID.

As described below, the claim construction disputes in this investigation center on whether the claims in the continuation patents should be interpreted to encompass a coupling member that solely moves co-axially, as opposed to requiring it to incline into claimed positions.

B. The Asserted Patents

1. Person of Ordinary Skill in the Art at the Time of the Invention

In the Staff's view, a person of ordinary skill in the art of the Asserted Patents at the time of the invention, which is 2006, would have had a level of knowledge roughly equivalent to at least a Bachelor's degree in mechanical engineering and/or an equivalent degree, and at least 2 years' experience in the field of designing, replacing, or repairing detachable cartridges for printers or similar apparatus.

Complainants have proposed: "In and around the 2006 time frame, a person of ordinary skill in the art to whom the Asserted Patents are addressed would have had a level of knowledge

roughly equivalent to that of a person holding a bachelor's degree of in mechanical engineering and would have had a general understanding of mechanical design principles. The person also would have had about two years of experience in design work related to toner cartridges for laser printers, or would have had persons with such experience available to work with him."

Respondents have proposed: "In and around the 2006 time frame, a person of ordinary skill in the art to whom the Asserted Patents are addressed would have had either (1) a Bachelors degree in Mechanical Engineering or an equivalent degree, and 1-2 years of experience in design work related to technology involving the transmission of forces between components to maintain a consistent velocity, or (2) at least a Masters degree in Mechanical Engineering or an equivalent degree, and a general understanding of mechanical design principles."

In the Staff's view, none of the claim construction disputes depend upon the specific articulation of the level of skill in the art, and that, in light of the similarities between the parties' proposals, addressing the differences between the parties' proposals is not necessary at this time.

2. Relatedness of the Asserted Patents

As discussed above, the Asserted Patents all claim priority to the same parent patent, the '278 Patent. More specifically, the specifications for all of the Asserted Patents are identical except for the abstract. The specifications each restate the respective first independent claim in the abstract, but otherwise, have identical disclosures and figures. Accordingly, the parties have agreed to cite to the specification for the asserted U.S. Patent No. 9,857,765 for the purposes of the *Markman* briefs.

3. Description of "Conventional Process Cartridges"

The specification describes "conventional process cartridges" as including a photosensitive drum that rotates when the cartridge is mounted and engaged with the printer, and

when the printer's rotatable member exerts a rotational driving force on the drum within the cartridge. '765 patent at Col. 1:45-68. The specification proceeds to describe the mounting methods for two conventional process cartridges, and the disadvantages associated therewith. *Id.* at Col. 2:8-34.

First, the specification identifies a "conventional process cartridge" where horizontal movement is required for the mounting and dismounting of the printer cartridge. In other words, once the cartridge is mounted into place in the printer, then there is horizontal movement to engage the cartridge's drum to the printer. Similarly to dismount this conventional cartridge, there is horizontal movement to separate the cartridge from the printer so that it can be removed from the printer. The specification states that this conventional cartridge is disadvantageous because it requires a separate structure to cause the horizontal movement between the printer and the cartridge's photosensitive drum. *See id.* at Col. 2:10-15 ("That is, the rotatable member is required to be horizontally moved by an opening and closing operation of a main assembly cover provided to the apparatus main assembly.").

The specification also describes a second "conventional process cartridge" that does not employ horizontal movement for the mounting and dismounting of the cartridge to the printer. More specifically, the cartridge has gears that engages with the printer and then rotate the cartridge's photosensitive drum. *Id.* at Col. 2:25-35. The specification states that this configuration of aligning with the cartridge's gears is disadvantageous because "it is difficult to prevent rotation non uniformity of the photosensitive drum." *Id.*

4. Description of the Claimed Invention

All of the asserted claims are directed to a process cartridge having a rotating drum with an axis L1, and having a coupling member with an axis L2, where the coupling member is

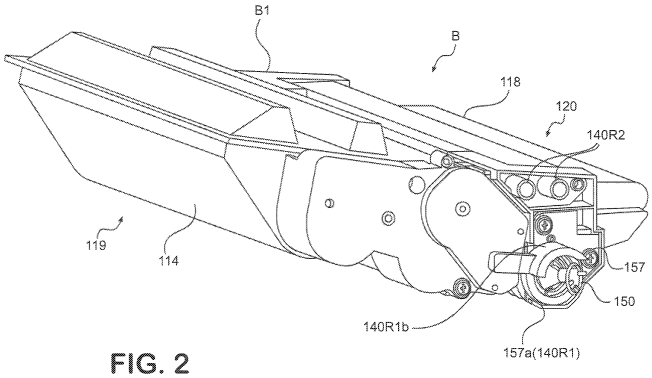


FIG. 2

movable between a first position and a second position. *See* '765 Patent at Col. 14:33-39; *see e.g.* '765 Patent at Claim 1. Figure 2 above depicts the entirety of the cartridge, including the coupling member (150). *Id.*

a) Description of the Claimed Invention's Advantage

The specification describes that the invention's cartridge is advantageous because:

> According to the present invention, a process cartridge is mountable and dismountable in a direction substantially perpendicular to an axis of a drive shaft provided in a main assembly, and simultaneously, the smooth rotation of a photosensitive drum can be carried out.

'765 Patent at Col. 4: 21-26; *see also id.* at Col. 83:1-5. The specification attributes the "smooth rotation" to the cartridge's coupling member's pivotable movement:

> the coupling **150**. The coupling **150** is swingable (pivotable) relative to the photosensitive drum **107**. For this reason, as described above, the coupling **150** can transmit the rotational force smoothly between the drive shaft **180** positioned in the predetermined position and the cartridge (B) positioned in the predetermined position. In other words, even if there is some axial deviation between the drive shaft **180** and the photosensitive drum **107**, the coupling **150** can transmit the rotational force smoothly.

Id. at Col. 29: 29-38.

b) Disclosed Structure of Claimed Invention's Coupling Member

The specification describes the structure for the coupling member that applies to all embodiments of the cartridge:

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Each coupling described above has the following structure.

The coupling (for example, the couplings **150**, **1550**, **1750**, and **1850**, **3150**, **4150**, **5150**, **6150**, **7150**, **8150**, **1350**, **1450**, **11150**, **12150**, **12250**, **12350**, **13150**, **14150**, **15150**, **16150**, **17150**, **20150**, **21150**, and so on) engages with the rotational force applying portion (for example, the pins **182**, **1280**, **1355**, **1382**, **9182** and so on) provided in the apparatus main assembly A. And, the coupling receives the rotational force for rotating the photosensitive drum **107**. In addition, this each coupling is pivotable between the rotational force transmitting angular position for transmitting the rotational force for rotating the photosensitive drum **107** by engaging with the rotational force applying portion to the photosensitive drum **107**, and the disengaging angular position inclined in the direction away from the axis L**1** of the photosensitive drum **107** from the rotational force transmitting angular position. In addition, at the time of demounting the cartridge B from the apparatus main assembly A in the direction substantially perpendicular to the axis L**1**, the coupling is pivoted from the rotational force transmitting angular position to the disengaging angular position.

***

In addition, at the time of mounting the cartridge B to the apparatus main assembly A, the operation is as follows. The coupling is pivoted from the pre-engagement angular position to the rotational force transmitting angular position in response to moving the cartridge B in the direction substantially perpendicular to the axis L**1**, so as to permit the part of the coupling (for example, the portion at the downstream free end position A**1**) positioned in the downstream with respect to the direction in which the cartridge B is mounted to the apparatus main assembly A to circumvent the drive shaft. And, the coupling is positioned at the rotational force transmitting angular position.

'765 Patent at Col. 78:1-38 (describing structure applicable to all cartridge couplers disclosed in the specification) (emphasis added). As seen in the passage above, the specification describes the structure for "each coupling" of the invention based on how the cartridge's coupling member

moves between in relation to the drum's axis L1. *Id.*[2] More specifically, the specification describes the various positions that the coupling member moves between as the following: (i) the "pre-engagement angular position"; (ii) the "rotational force transmitting angular position"; and (iii) the "disengaging angular position." *Id.; see also* '765 Patent at Col. 80:38-52:

> The coupling member is provided to an end of the electrophotographic photosensitive drum and is capable of tilting relative to the axis of the electrophotographic photosensitive drum substantially in all directions. By doing so, the coupling can pivot smoothly between the pre-engagement angular position and the rotational force transmitting angular position and between the rotational force transmitting angular position and the disengaging angular position.
>
> Substantially all directions is intended to mean that coupling can pivot to the rotational force transmitting angular position irrespective of the phase at which the rotating force applying portion stops.
>
> In addition, the coupling can pivot to the disengaging angular position irrespective of the phase at which the rotating force applying portion stops.

Figures 21 and 22 below depict the axis L3 of the drive shaft (180) of the main printer assembly, which rotates the cartridge's coupling member and drum when the cartridge is engaged to the main printer assembly. More specifically, Figures 21 and 22 below depict the various inclined and co-axial alignments of axis L1 of the cartridge's drum and axis L2 of the

[2] Lines 22-25 have been omitted because, in the Staff's view, there appears to be a typographical error that causes undue confusion. The omitted statement is: "As described in the foregoing, the rotational force transmitting angular position and the disengaging angular portion [sic] may be the same or equivalent to each other." However, the passage as written directly contradicts the preceding paragraph, which differentiates the "rotational force transmitting angular position" from the "disengaging angular position." Further, because the statement says "[a]s described in the foregoing," the statement likely meant to equate the "disengaging angular position" to the "pre-engagement angular position," which is discussed in the paragraph immediately *after* the statement in question. While other portions of the specification discuss equating the "disengaging angular position" and "pre-engagement angular position," there is no other reference to equating these to the "rotational force transmitting angular position." *See* '765 Patent at Col. 30:30-35 ("This direction is the same as that of the inclination of the coupling 150 at the time of mounting the cartridge (B)(the pre-engagement angular position)."); *see also id.* at Col. 31:40-50 (discussing "angle theta 2" in the range of 20-60 degrees in reference to both the disengaging and pre-engagement angular positions, whereas "angle theta 1" in the range of 0-15 degrees refers to the rotational force transmitting position).

cartridge's coupling member, required to engage the claimed cartridge to the main printer assembly's drive shaft (i.e. moving from "pre-engagement angular position" and "rotational force transmitting angular position").

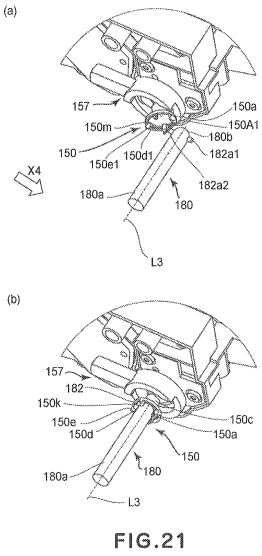

FIG.21

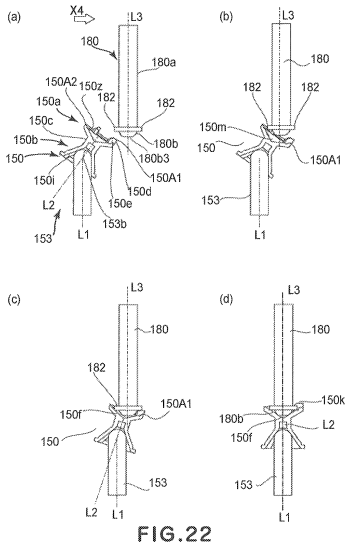

FIG.22

The specification expressly states that the pre-engagement to engagement movement as shown in Figure 22 applies to all embodiments unless otherwise stated. *Id.* at Col. 28:36-44.

Similarly, Figure 25 depicts the various co-axial and inclined alignments of axis L1 of the cartridge's drum and axis L2 of the cartridge's coupling member, required to disengage the claimed cartridge from the main printer assembly's drive shaft (*i.e.* moving from "rotational force transmitting angular position" to "disengaging angular position"). *Id.* at Col. 30: 18-40.

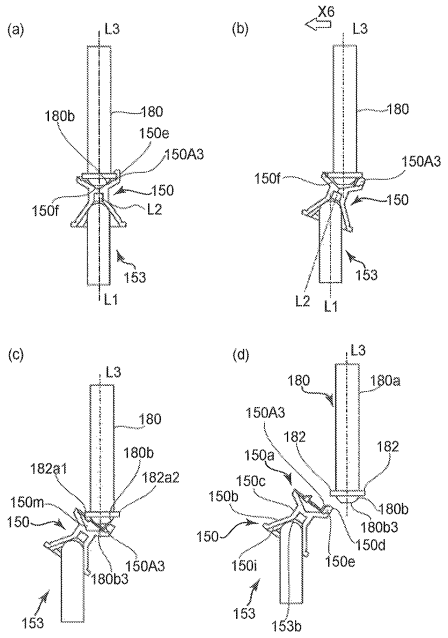

FIG.25

c) Claimed Invention's Coupling Member's Movements

In addition, the specification expressly discusses that the *rotational movement* of the drive shaft, cartridge coupler, and cartridge drum as separate from the coupling member's *pivotable movement* relative to the drum shaft and axis L1 of the cartridge's drum:

> In this manner, the coupling **150** is revolvable or swingable over the full-circumference substantially relative to drum shaft (rotational force receiving member) **153**. More particularly, the coupling **150** is pivotable over the full-circumference thereof substantially relative to the drum shaft **153**.
>
> Furthermore, as will be understood from the foregoing explanation, the coupling **150** is capable of whirling in and substantially over the circumferential direction of the drum shaft **153**. Here, the whirling motion is not a motion with which the coupling itself rotates about the axis L**2**, but the inclined axis L**2** rotates about the axis L**1** of the photosensitive drum, although the whirling here does not preclude the rotation of the coupling per se about the axis L**2** of the coupling **150**.

'765 Patent at Col. 19: 43-58 (emphasis added).

More specifically, the specification defines the various claimed axes, and movements relative to such axes, as follows:

> The axis L**1** is an axis of rotation of the photosensitive drum.
> The axis L**2** is an axis of rotation of the coupling.
> The axis L**3** is an axis of rotation of the driving shaft.
> The whirling motion is not a motion with which the coupling itself rotates about the axis L**2**, but the inclined axis L**2** rotates about the axis L**1** of the photosensitive drum, although the whirling here does not preclude the rotation of the coupling per se about the axis L**2** of the coupling **150**.

'765 Patent at Col. 81:5-60.

d) Various Embodiments of the Claimed Invention

The specification goes on to describe 19 different embodiments of the claimed cartridge, each with its own heading and description of how the embodiment varies from the first described embodiment. The relevant variations for the embodiments are briefly discussed below. More specifically, the specification describes how the coupling member in each of the 19 embodiments moves into the angular positions, in relation to the drum's axis L1, as discussed above.

- Embodiment 1: Describes the general structure of the coupling member inclining into angular positions and co-axial positions, stating that the pre-engagement and disengagement positions are preferably 20-60 degree inclines and the rotational force transmitting position is preferably a 0 degree incline:

> In the pre-engagement angular position or the disengaging angular position, the angle theta **2** which the axis L**2** makes with the axis L**1** is larger than the angle theta **1** which the axis L**2** makes with the axis L**1** in the rotational force transmitting angular position. As for the angle theta **1**, 0 degree is preferable. However, in this embodiment, if the angle theta **1** is less than about 15 degrees, the smooth transmission of the rotational force is accomplished. This is also one of the effects of this embodiment. As for the angle theta **2**, the range of about 20-60 degrees is preferable.

Id. at Col. 31:40-50. As seen, there is no disclosure regarding angle theta 1 being equal to angle theta 2 (i.e., co-axial movement). But, embodiment 1 contemplates co-axial movement in discussing the coupling member's "play" of distance n2, shown in Figure 12:

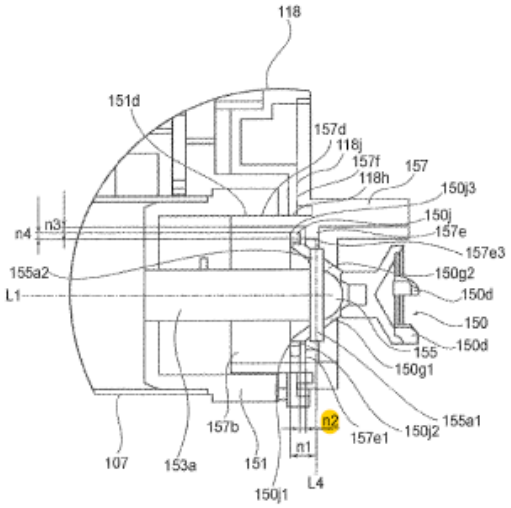

FIG.12

The specification expressly states that pivoting movement is required "even in such a case" and "[f]or this reason, the purpose of the embodiment can be accomplished:"

The coupling **150** has a play (the distance n**2**) in the direction of the axis L**1** relative to the drum shaft **153**. Therefore, the receiving surface **150***i* (the conic surface) may not contact snuggly the drum shaft free end portion **153***b* (the spherical surface). In other words, the center of the pivoting may deviate from the center of curvature P**2** of the spherical surface. However, even in such a case, the axis L**2** is pivotable relative to the axis L**1**. For this reason, the purpose of this embodiment can be accomplished.

Id. at Col. 22: 21-29 (emphasis added).

- Embodiment 2: Describes the coupling member inclining into a co-axial rotational force transmitting angular position, pre-engagement angular position, and disengaging angular

position, and describing the preferred degrees of inclination as 0 degrees, 30 degrees, and 35 degrees respectively:

> 17(*b*)). In addition, the angle relative to the axis L1 in the rotational force transmitting angular position is β1, the angle in the pre-engagement angular position is β2, and the angle in the disengaging angular position is β3. In this example, Z1=8 mm; Z2=2 mm; Z3=12 mm; Z4=15 mm; Z5=10 mm; Z6=19 mm; Z7=8 mm; Z8=2 mm; Z9=14 mm; α1=70 degrees; α2=120 degrees; β1=0 degree; β2=35 degrees; β3=30 degrees.

Id. at Col. 37:15-23.

- Embodiments 3-9: Describes cartridge structures in which the coupling member is set to be inclined into the pre-engagement angular position. *See id.* at 26:65-68 ("In order to incline the coupling toward the pre-engagement angular position beforehand, the structure of the embodiment 3-embodiment 9 as will be described hereinafter is used, for example.").
- Embodiment 10: Describes "another means for inclining the axis L2 relative to axis L1." *Id.* at Col. 57:19-20.
- Embodiment 11: Describes a configuration of the coupling in which "the operation of mounting the cartridge to the apparatus main assembly, and the operation of extracting from the apparatus main assembly are the same as those of Embodiment 1 (FIGS. 22 and 25)...." *Id.* at Col. 59:58-62.
- Embodiment 12: Describes a configuration of the coupling where "[w]ith this structure, even if the coupling 9150 has the cylindrical shape as illustrated, it is pivotable relative to axis L1." *Id.* at Col. 60:59-65.

- Embodiment 13: Describes a different mounting operation and incorporating an "urging member" between the drum and the coupling member. *See id.* at Col. 62:41-44 (referring to Fig. 88 and "urging member" (10634)):

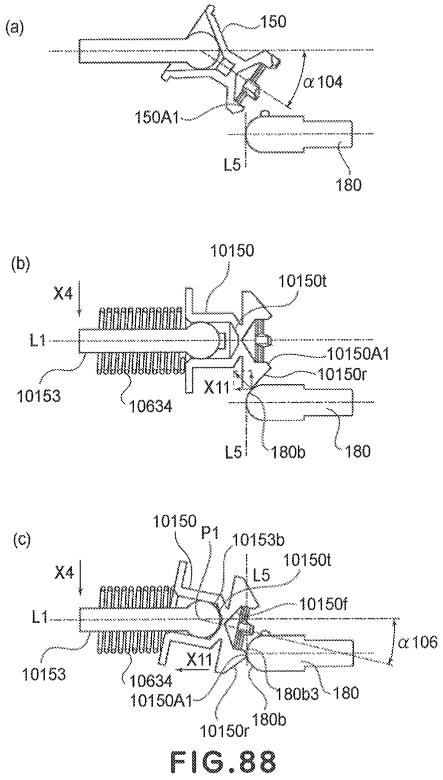

FIG.88

The specification states with respect to the 13th embodiment that: "[w]ith such a structure, the movement in the direction of axis L2 and the pivoting motion (swinging operation) are combined, and the coupling is swung from the pre-engagement angular position to the rotation force transmitting angular position. By this structure, even in the angle α106 (inclination amount of the axis L2) is small, the cartridge can be mounted to the apparatus main assembly A." *Id.* at Col. 63:13-23.

- Embodiment 14: Describes a different engaging operation in which magnets are added to attract the coupler to the drive shaft. *Id.* at Col. 63:45-65; *id.* at 64:9-15 (discussing

coupler pivoting between rotational force transmitting angular position from the pre-engagement angular position).

- Embodiment 15: Describes the addition of a "bearing member" to support the coupling member, where "the axis L2 of the coupling is pivotable only by the drum bearing member." *Id.* at Col. 64:38-40; *see also id.* at Fig. 91 (showing inclined and co-axial positions according to Embodiment 15).
- Embodiment 16: Describes how the retention of the coupling "is effected by a rotational force transmitting pin." *Id.* at Col. 65:19-26. States that "the coupling 13150 mounted to a drum shaft 13153 so that it is pivotable in any direct relative to the axis L1." *Id.* at Col. 65:32-40.
- Embodiment 17: Describes how the coupling member is directly mounted to the drive shaft, "so that, the axis L2 is slantable in any direction relative to axis L1." *Id.* at Col. 66:20-30 (referring to Fig. 93).
- Embodiment 18: Describes a modification of embodiment 17 where "[i]n any case, the coupling is pivotable in a given direction irrespective of the phase of the photosensitive drum." *Id.* at Col. 74:15-25.
- Embodiment 19: Describes the mounting structure of the photosensitive drum where "[b]y doing so, the axis L2 is pivotable in any direction relative to the axis L1." *Id.* at Col. 76:38-40.

Lastly, prior to reciting the claims, the specification further states with respect to the "present invention":

> As has been described hereinbefore, in the present invention, the axis of the drum coupling member can take the different angular positions relative to the axis of the photosensitive drum. The drum coupling member can be engaged 10

‘765 Patent at Col. 83:6-10 (emphasis added).

5. Disputed Terms and Asserted Claims

The five disputed terms and two agreed upon terms are identified in Joint Claim Chart attached as Exhibit A. As shown in Exhibit A, the 1st and 2nd disputed terms appear in all of the asserted independent claims accused of being infringed and/or identified for satisfaction of the technical prong of the domestic industry requirement (“Claims at Issue”).

Similarly, all of the Claims at Issue recite the 3rd disputed term or 4th disputed term, or in some instances both. More specifically, for all Claims at Issue, the claimed coupling element is either “connected to the photosensitive drum” or “positioned within the drum flange,” or both. *See e.g.* ‘021 patent at Claim 1 (“a coupling member having an axis L2 and including (i) a first end portion at least a part of which is positioned within the drum flange, the first end portion being operatively connected to the photosensitive drum and the developing roller”).

The 5th disputed term is a separate issue and appears only in some Claims at Issue.

By way of example, Claim 1 of the ’765 Patent recites:

> A process cartridge comprising:
>
> a casing;
>
> developer contained within the casing;
>
> a photosensitive drum having an axis L1, the photosensitive drum being rotatably supported in the casing to permit rotation about the axis L1;
>
> a developing roller having an axis L1, the developing roller being configured to develop a latent image formed on the photosensitive drum with the developer, and the developing roller being rotatably supported in the casing to permit rotation about the axis L1; and
>
> a coupling member having an **axis L2** and including (i) a first end portion operatively **connected** to the photosensitive drum and the developing roller, (ii) a second end portion having an outermost surface, (iii) an axle portion connecting

the first end portion and the second end portion to each other, and (iv) at least one projection extending from the second end portion,

wherein, for at least part of the outermost surface of the second end portion, a maximum distance from the axis L2 to the outermost surface along a line perpendicular to the axis L2 increases as the distance along the axis L2 from the axle portion increases, and

wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1, with the first distance being greater than the second distance.[3]

See e.g. '765 Patent at Claim 1 (emphasis added to show disputed terms).

Similarly, exemplary asserted claim 1 of the '960 patent recites:

1. A process cartridge comprising:

a casing;

developer contained within the casing;

a photosensitive drum having an axis L1, the photosensitive drum being rotatably supported in the casing about the axis L1;

a drum flange provided at an end of the photosensitive drum, the drum flange being rotatable with the photosensitive drum about the axis L1; and

a coupling member having **an axis L2** and having (i) **a first end at least a part of which is positioned within the drum flange**, and (ii) a second end including at least one projection,

wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1, with the first distance being greater than the second distance,

[3] All Claims at Issue have the disputed "wherein" clause and also the requirement that "the first distance being greater than the second distance."

wherein the coupling member includes a first part, a second part, and a third part, with the second part being between the first part and the third part in a direction of the axis L2, and

wherein, for each of the first part, the second part, and the third part, a maximum distance from the axis L2 to an outermost surface of the coupling member as measured along a line perpendicular to the axis L2 is (i) D1 in the first part of the coupling member, (ii) D2 in the second part of the coupling member, and (iii) D3 in the third part of the coupling member, with the distances D1 and D3 being greater than the distance D2.

See e.g. '960 Patent at Claim 1 (emphasis added to show disputed terms).

Lastly, the following exemplary claim also recites the 5th disputed term, which is unrelated to the "pivoting" issue:

1. A process cartridge comprising:

a casing including an opening and an arc-shaped protrusion on an external portion of the casing adjacent to the opening;

a photosensitive drum having an axis L1, the photosensitive drum being rotatably supported in the casing to permit rotation about the axis L1; and

a coupling member having **an axis L2**, the coupling member having (i) a first end portion **connected** to the photosensitive drum, (ii) a second end portion including **at least one projection that is open to the axis L2**, and (iii) a connecting portion connecting the first end portion and the second end portion, wherein a maximum distance as measured from the axis L2, in a direction perpendicular to the axis L2, of at least part of the connecting portion is shorter than a distance between the at least one projection and the axis L2, and wherein at least part of the second end portion extends beyond the opening in the direction of the axis L1,

wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1, with the first distance being greater than the second distance, and

wherein the arc-shaped protrusion extends only partway around the coupling member.

'826 Patent at Claim 1 (highlighting added to show 5th disputed term).

III. Legal Standard

A patent's claims "define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004). In cases where the "parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). However, only claim terms in controversy need to be construed. *Vanderlande Indus. Nederland BV v.Int'l Trade Comm'n.*, 366 F.3d l311, l323 (Fed. Cir. 2004); *Vivid Tech., Inc.* v. *American Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

In construing claims, the Court should start with intrinsic evidence because it is "the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Intrinsic evidence includes the claims, specification and prosecution history. *Id.* Reliance on extrinsic evidence is "proper only when the claim language remains genuinely ambiguous after consideration of the intrinsic evidence." *Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706 (Fed. Cir. 1997); *Vitronics*, 90 F.3d at 1583-85 (stating that the need to look at extrinsic evidence to construe claim terms "will rarely, if ever, occur"). Thus, if intrinsic evidence alone is sufficient to construe the claim terms, there is no need to consider extrinsic evidence.

To ascertain the meaning of a disputed claim term "the words of a claim 'are generally given their ordinary and customary meaning,'" as would be understood by "a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312-13; *Vitronics Corp.*, 90 F.3d at 1582. "In construing claims, the analytical focus must begin and remain centered on the language of the

claims themselves, for it is that language that the patentee chose to use to 'particularly point…out and distinctly claim…the subject matter which the patentee regards as his invention.'" *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001). "If the claim language is clear on its face, then [the Court's] consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified." *Id.*, 256 F.3d at 1331. "A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *O2 Micro International Ltd.*, 521 F.3d at 1362.

The specification is important in construing claims because "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. The Federal Circuit has emphasized that the specification "is the single best guide to the meaning of a disputed term" and "[u]sually, it is dispositive." *Vitronics*, 90 F.3d at 1582. Accordingly, it is entirely appropriate to "rely heavily on the written description for guidance as to the meaning of the claims" because it provides the context for the interpretation of the claim. *Phillips*, 415 F.3d at 1317.

The Federal Circuit *Thorner* opinion, is often cited for the proposition that a claim entitled to the entire scope of the plain and ordinary meaning unless: (i) the patentee sets out a definition and acts as his own lexicographer, or (ii) the patentee disavows the full scope of a claim term in the specification or during prosecution. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). However, the Federal Circuit has clarified that express definition or express disavowal is not required to narrow the scope of a claim term.

Trustees of Columbia Univ. in City of New York v. Symantec Corp., 811 F.3d 1359, 1364 (Fed. Cir. 2016) ("Thus, we reject Columbia's argument that the presumption of plain and ordinary meaning 'can be overcome in only two circumstances: [when] the patentee has expressly defined a term or has expressly disavowed the full scope of the claim in the specification and the prosecution history.'"). Put another way, the full scope of a plain and ordinary meaning for a term is not available where the explanations in the specification implicate a different scope for such term:

> As our en banc opinion in *Phillips* made clear, "a claim term may be clearly redefined without an explicit statement of redefinition" and "[e]ven when guidance is not provided in explicit definitional format, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents." 415 F.3d at 1320–21 (citing and quoting *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1268 (Fed.Cir. 2001), and *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed.Cir. 2004)).
>
> We have previously followed this approach, for example, holding that the claim term "electrochemical sensor" excluded cables and wires based on critical language in the claims and specification, despite there having been no explicit disclaimer of cables or wires. *See In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1149–50 (Fed. Cir. 2012); *see also AIA Eng'g Ltd. v. Magotteaux Int'l S/A*, 657 F.3d 1264, 1278 (Fed. Cir. 2011) (where "the specification reveals a special meaning for a term that differs from the meaning it might otherwise possess, that special meaning governs"); *Comput. Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) ("Occasionally specification explanations may lead one of ordinary skill to interpret a claim term more narrowly than its plain meaning suggests."); *Astrazeneca AB v. Mut. Pharm. Co.*, 384 F.3d 1333, 1339 (Fed. Cir. 2004) (The patentee "seems to suggest that lexicography requires a statement in the form 'I define _____ to mean _____' such rigid formalism is not required.").
>
> We have also found that a patent applicant need not expressly state "my invention does not include X" to indicate his exclusion of X from the scope of his patent because "the patentee's choice of preferred embodiments can shed light on the intended scope of the claims." *Astrazeneca*, 384 F.3d at 1340; *see also On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) ("[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope."); *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1333 (Fed. Cir. 2009) (finding disavowal

implicitly); *Boss Control, Inc. v. Bombardier Inc.*, 410 F.3d 1372, 1377 (Fed. Cir. 2005) (same).

Trs. of Columbia Univ, 811 F.3d at 1364 (footnote omitted).[4]

In other words, a claim term is not entitled to the full scope of the word's generic meaning where the breadth of the generic meaning is inconsistent with or divorced from the specification. *Ruckus Wireless, Inc. v. Innovative Wireless Sols., LLC*, 824 F.3d 999, 1003-1004 (Fed. Cir. 2016) ("IWS's argument relies on the assumption that 'communications path' has an ordinary meaning which encompasses both wired and wireless communications… Though these [specification] statements do not expressly exclude wireless communications from the meaning of 'communications path,' they do not include it, and they discourage that understanding… We conclude that no intrinsic or extrinsic evidence suggests that 'communications path' encompasses wireless communications. Accordingly, we affirm the district court's claim constructions and final judgment of non-infringement based thereon.").

Thus, where the specification is consistent that invention does not include a particular feature or is clearly limited to a particular form of the invention, the breadth of the claim should

[4] *See also Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) ("For example, we have held that disclaimer applies when the patentee makes statements such as 'the present invention requires ...' or 'the present invention is ...' or 'all embodiments of the present invention are....' [] We have also found disclaimer when the specification indicated that for "successful manufacture" a particular step was 'require[d].' [] ('Those statements are not descriptions of particular embodiments, but are characterizations directed to the invention as a whole.'). We found disclaimer when the specification indicated that the invention operated by 'pushing (as opposed to pulling) forces,' and then characterized the 'pushing forces' as 'an important feature of the present invention.' [] … Likewise, we found disclaimer limiting a claim element to a feature of the preferred embodiment when the specification described that feature as a 'very important feature ... in an aspect of the present invention' and disparaged alternatives to that feature. []") (internal citations omitted).

be limited accordingly. *Trs. of Columbia Univ.*, 811 F.3d at 1363 ("[t]he only meaning that matters in claim construction is the meaning in the context of the patent.").

IV. Discussion

A. Overarching Dispute

The overarching dispute is whether the claims of the patents asserted in this investigation should be interpreted to require that the claimed coupling member move by inclining/pivoting between the claimed first and second positions, as opposed to encompassing couplers that only move horizontally/co-axially between the claimed positions. This dispute is primarily embodied in the following limitation, which is the first disputed claim term, and which appears in all asserted independent claims:

> **…wherein the coupling member is movable between (i) a first position** in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 **and (ii) a second position** in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1, with the first distance being greater than the second distance.

See e.g. '765 Patent at Claim 1.

B. Summary of the Staff's Position Regarding Claim Scope

There is no mandate, nor even a heavy presumption, that the words of a claim be given the full breadth of their ordinary meaning. *Trs. of Columbia Univ.*, 811 F.3d at 1363 ("In *Phillips*, we rejected a line of cases following *Texas Digital Systems, Inc. v. Telegenix, Inc.*, where we held that 'terms used in the claims bear a 'heavy presumption' that they ... have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art [and,] unless compelled otherwise, a court will give a claim term the full range of its ordinary meaning.' 308 F.3d 1193, 1202 (Fed.Cir.2002).").

If anything, the mandate after *Phillips* is that the meanings of words in a claim are the meanings that reflect the context set forth in the specification. *Phillips*, 415 F.3d at 1320 (the specification is "the single best guide to the meaning of a disputed term."); *Id.* at 1315 ("[t]he claims ... do not stand alone. Rather they are part of a fully integrated written instrument, consisting principally of a specification that concludes with the claims.") (internal quotation marks and citations omitted). Thus, it is improper to construe terms of a claim to be so broad that they deviate from the patents' description of the invention. *Profectus Tech. LLC v. Huawei Techs. Co.*, 823 F.3d 1375, 1380–81 (Fed. Cir. 2016) (*citing Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed.Cir.1998)) ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.").

Here, the primary dispute is between whether a person of ordinary skill in the art would understand the limitation "wherein the coupling member is movable between…" to have its generic scope that encompasses movement that is solely co-axial - as proposed by Complainant - or whether a person of ordinary skill in the art would understand the limitation to require a coupling member that moves between inclined and co-axial positions - which the specification describes for all embodiments and which has importance to achieving an objective of the invention[5] – as proposed by the Staff and Respondents. *See* '765 Patent at Col. 80: 38-52:

[5] *See also* 918 ID at 23-25 (summarizing the invention for a patent having the same specification in this manner and citing Complainants' expert's declaration in support).

The coupling member is provided to an end of the electrophotographic photosensitive drum and is capable of tilting relative to the axis of the electrophotographic photosensitive drum substantially in all directions. By doing so, the coupling can pivot smoothly between the pre-engagement angular position and the rotational force transmitting angular position and between the rotational force transmitting angular position and the disengaging angular position.

Substantially all directions is intended to mean that coupling can pivot to the rotational force transmitting angular position irrespective of the phase at which the rotating force applying portion stops.

In addition, the coupling can pivot to the disengaging angular position irrespective of the phase at which the rotating force applying portion stops.

see also id. at Col. 29: 29-38 (discussing how the coupling member's pivoting achieves the invention's objective of "smooth" rotation of the drum "even if there is some axial deviation between the drive shaft 180 and the photosensitive drum 107").

In the Staff's view, interpreting the claim to encompass a coupling member that solely moves co-axially would be contradict express statements in the specification. *See e.g.* '765 Patent at Col. 22:21-30 ("The coupling 150 has a play (the distance n2[6]) in the direction of the axis Ll relative to the drum shaft 153. … **However, even in such a case, the axis L2 is pivotable relative to the axis Ll.** For this reason, the purpose of this embodiment can be accomplished.") (emphasis added). More specifically, there is no disclosure of a coupling member that solely moves co-axially. *Id.* at Col. 63:12-18 ("With such a structure, the movement in the direction of the axis L2 **and the pivoting motion (swinging operation) are combined**, and the coupling is swung from the pre-engagement angular position to the rotational force transmitting angular position.") (emphasis added).

Accordingly, the Staff proposes that the claim limitation "wherein the coupling member is movable between: first position…and second position…" should be interpreted in accordance

[6] *See* '765 Patent at Fig. 12 (showing "distance n2" in relation to a coupling member's co-axial movement (*i.e.* in the direction of L1)).

with how the coupling member moves for all 19 described embodiments, which is the inclined pre-engagement and disengagement positions, and the substantially co-axial rotational force transmitting position. *See* 918 ID at 24-25 ("By moving the coupling member between the pre-engagement angular position and the rotational force transmitting angular position, the cartridge can be installed and removed from the printer in a direction, denoted by arrow X4, perpendicular to the drive shaft 180 of the printer. *See* Lux Decl. ¶ 35.").

As discussed in more detail below, the intrinsic evidence shows that the intent of the claimed invention is to have a coupling member that moves into inclined positions, to the exclusion of a coupling member that only moves co-axially. First, the specification describes the "present invention" in association with a pivoting coupling member and touts the pivotability of the coupling member as an important advantage. '765 Patent at Col. 83:5-10; *Id.* at Col. 29:31-38 (explaining that the coupling member's ability to pivot into position is the reason the invention's objective of "smooth rotation" is achieved). Second, the pivoting movement of the coupling member is required for all of the 19 embodiments described in the specification. *See e.g. id.* at Col. 63:12-22 (describing an Embodiment which contemplates co-axial movement, but still requiring the co-axial movement is combined with pivotal movement (*see* Fig. 88)). Third, there is no disclosure of a coupling member that solely moves co-axially, and in fact, the specification expressly discourages the invention from being interpreted as solely co-axial movement. *Id.* at Col. 22:21-30 ("However, even in such a case, the axis L2 is pivotable relative to the axis Ll.").

Thus, in the Staff's view, the intrinsic evidence requires that the disputed terms be interpreted such that the claimed coupling member moves into the claimed positions by pivoting, and excludes coupling members that only move co-axially. Construing the terms to encompass

coupling members that solely move co-axially would contradict the context provided the patent specification and is not supported by the written description.

C. Disputed Claim Terms

As discussed above, the fundamental dispute regarding the scope of the claims can be resolved by construing disputed term number 1, which appears in all Claims at Issue. Similarly, for disputed terms 2-4[7] the Staff's proposes that the terms be interpreted to have a plain and ordinary meaning that embraces the pivoting movement required by disputed term number 1. In this respect, Respondents' and the Staff's proposals are substantially similar.

1. "wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1"

No.	Claim Term	Claims	Canon's Proposed Construction[8]	Respondents' Proposed Construction	Staff's Proposed Construction
1	"wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the	**'826**: 1, 6 **'021**: 1, 8, 18 **'729**: 1, 9, 18, 27 **'764**: 7, 20 **'765**: 1, 4, 13 **'960**: 1 **'846**: 1	This term has its plain and ordinary meaning and no construction is necessary. The plain and ordinary meaning does not require the coupling member to pivot or incline when moving between the first and	wherein the coupling member is pivotable between (i) a substantially co-axial engaged position in which a tip of the at least one projection is a first distance away from the photosensitive drum (as	Wherein the coupling member is movable between (i) a substantially co-axial engaged position in which a tip of the at least one projection is a first distance away from the photosensitive drum (*e.g.*

[7] Disputed term number 5 is unrelated to this issue.

[8] "At Staff's request, where Canon has proposed plain and ordinary meaning, Canon has identified certain aspects of Respondents' and Staff's constructions that depart from the plain and ordinary meaning."

	direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1"		second positions. The plain and ordinary meaning also does not require the claimed "first position" to be "a substantially co-axial engaged position" and the claimed "second position" to be "an inclined pre-engagement position or disengagement position."	measured along L2 which is substantially in line with L1) and (ii) one of an inclined pre-engagement position or disengagement position in which the tip of the at least one projection is a second distance away from the photosensitive drum (as measured along imaginary extended L1 because L2 is no longer coaxial)	measure along L2 which is substantially in line with L1) and (ii) one of an inclined pre-engagement position or disengagement position, in which a tip of the at least one projection is a second distance away from the photosensitive drum (*e.g.* measure along imaginary extended L1 because L2 no longer co-axial)

a) The Limitation Requires Construction Because Complainants' Alleged "Plain and Ordinary Meaning" Fails to Resolve the Meaning of "First/Second Position" and Fails to Resolve the Overarching Dispute

A generic "plain and ordinary meaning" for this disputed term inadequate. *O2 Micro International Ltd.* 521 F.3d at 1361 ("A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute."). The first disputed term embodies the overarching dispute - whether the claimed invention encompasses a coupling member that only moves co-axially relative to the drum's axis L1, as opposed to requiring a coupling member that moves into positions by pivoting relative to the drum's axis L1.[9] *See e.g.* '765 Patent at Figs. 22 and 25 (showing inclined and co-axial

[9] The word "co-axial" used herein, even where not specified as "relative to axis L1," refers to the coupling member axis L2 being aligned with the drum axis L1. Similarly, the words "incline" or

positions relative to axis L1 during mounting and dismounting of a cartridge). In addition, the words "first position" and "second position" do not have a sufficiently clear meaning simply based on the context of the claim, and as explained below, may be interpreted in at least two separate ways.

Thus, as proposed by the Staff and Respondents, the limitation should be construed to have the meaning that a person of ordinary skill in the art having read the specification would give it in view of the description of "first position" versus "second position." These terms are necessary to ascertain the claimed "first distance" and "second distance," which in turn is necessary for the claim limitation "the first distance being greater than the second distance." *See e.g.* '765 Patent at Claim 1. In sum, unless there is reasonable certainty as to what constitutes the coupling member's "first position" and "second position," the metes and bounds of the claimed invention would be unclear.

(1) The Words "First Position" and "Second Position" are Open to More than One Meaning, and Accordingly, the Terms Should be Construed

In the Staff's view, the set of terms "first position" and "second position" are open to at least two different interpretations. More specifically, the "wherein" clause describes the "first position" and the "second position" in relation to the coupling member's tip's "distance away from the photosensitive drum as measured in the direction of the axis L1." *See, e.g.,* '765 Patent at Claim 1. However, the intrinsic evidence references at least two separate coupling member movements and sets of positions in terms of distance from the drum "in the direction of axis L1."

"pivot," even where not specified as "relative to axis L1," refer to the coupling member axis L2 having an angle relative to the imaginary extension of the drum's axis L1. *See* '765 Patent at Col. 40-50 (discussing angle theta 1 as 0-15 degrees and angle theta 2 as 20-60 degrees); *see also id.* at 81:54-59 (defining "whirling motion" as "the inclined axis L2 rotates about the axis L1 of the photosensitive drum.").

Accordingly, the context of the claims alone is insufficient to interpret the terms "first position" and "second position."

First, it is possible to understand the set of coupling member "positions" as shown in Figure 12, where the specification discusses the coupling member "has a play (the distance n2) in the direction of the axis L1 relative to the drum shaft 153:"

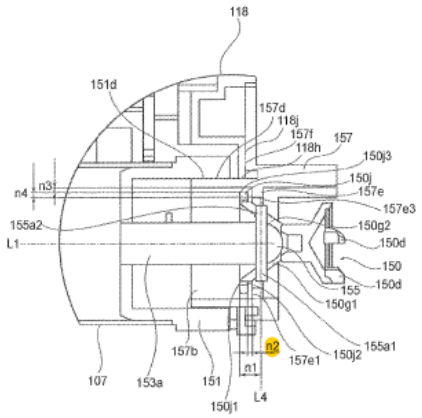

FIG.12

See '765 Patent at 22:21-30; *id.* at Fig. 12 (emphasis added). If this disclosure is used to interpret "first position" and "second position," the claim merely requires that the claimed coupling member have some "play" in the direction of axis L1. As discussed further below, while this interpretation of "first position" and "second position" is possible, it is not reasonable because it ignores the specification's express requirement that a coupling member having "play" in the direction of axis L1 must also pivot into position to accomplish the purpose of the invention. *See* '765 Patent at 22:21-30 ("However, even in such a case, the axis L2 is pivotable relative to the axis Ll. For this reason, the purpose of this embodiment can be accomplished.").

Second, as proposed by the Staff and consistent with the context of the specification,[10] a person of ordinary skill in the art could understand the claimed set of coupling member's "positions" in relation to the patented cartridge's mounting and dismounting (*e.g.* Figures 22 (a) - (d)), which is described to be an objective of the patented invention. *See* '765 Patent at Col. 4: 22-26 ("According to the present invention, a process cartridge is mountable and dismountable in a direction substantially perpendicular to an axis of a drive shaft provided in a main assembly, and simultaneously, the smooth rotation of a photosensitive drum can be carried out.").

By way of example, Figure 22 is described as showing "perspective views which illustrate a process of the engagement between the drive shaft and the coupling according to the embodiment of the present invention":

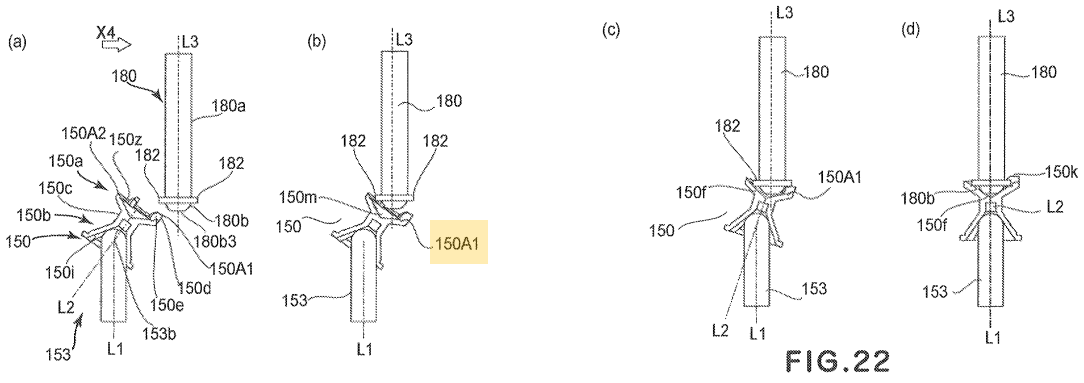

FIG.22

'765 Patent at Fig. 22 (emphasis added to show tip of coupling member 150A1).[11]

More specifically, in association with Figures 22 (a) and (b), the specification states that when the coupling member is in the "pre-engagement angular position" for mounting the

[10] *See* 918 ID at 23-25.

[11] Figure 25 is described as "perspective views which illustrate a process of the disengagement of the coupling from the drive shaft according to the embodiment of the present invention," and is essentially the same drawings in reverse order. Whereas Figure 22 shows the transition from the inclined pre-engaged position first and substantially co-axial engaged position last, Figure 25 shows the transition from the substantially co-axial engaged position first and the inclined disengaged position last.

cartridge to the printer, the distance of a tip of the coupling member 150A1 is closer to the drum[12] "in the direction of the axis L1." '765 Patent at Col. 27:1-5 ("Because of the inclination of the coupling 150, the downstream free end 150A1 with respect to the mounting direction X4 is **closer to the photosensitive drum 107** than the drive shaft free end 180b3 **in the direction of the axis L1**.") (emphasis added): *see also id.* at 28:7-11 ("In addition, the inclination angle of the coupling 150 is set, so that regardless of the phases of the drive shaft 180 and the coupling 150, the free end position 150Al is made closer to the photosensitive drum 107 than the axial free end 180b3 with respect to the direction of the axis Ll.").

Then for Figures 22 (c) and (d), the specification describes the coupling member's substantial co-axial position when reaching the "rotational force transmitting position" or the cartridge's "engaged state" between the coupling and the printer's drive shaft:

> And, corresponding to the mounting operation of the cartridge (B), the axis L**2** is inclined so that it may align substantially with the axis L**1** (FIG. **22**(*c*)). And, when the coupling **150** inclines from said pre-engagement angular position and the axis L**2** thereof aligns substantially with the axis L**1**, the rotational force transmitting angular position is reached. And, finally, the position of the cartridge (B) is determined relative to the apparatus main assembly (A). Here, the drive shaft **180** and the drum shaft **153** are substantially co-axial relative to each other. In addition, the receiving surface **150***f* opposes to the spherical free end portion **180***b* of the drive shaft **180**. This state is the engaged state between the coupling **150** and the drive shaft **180** (FIG. **21**(*b*) and FIG. **22**(*d*)). At this time, the pin **155** (unshown)

'765 Patent at Col. 27:24-35 (emphasis added).

When applying these disclosures to understand the term "first position" and "second position," the claim requires that the coupling member move between a substantially co-axial engaged position and an inclined position for mounting/dismounting to the printer, where the tip

[12] Reference 153 in Figures 22(a)-(d) is the drum shaft. *See* '765 Patent at Col. 26:59-64.

of the coupling member is closer to the drum "in the direction of axis L1" to allow for mounting/dismounting to the printer's drum shaft. *See* '765 Patent at Figures 22 and 25.

As seen, both of the two distinct coupling member movements described above: (i) "play" in distance n2 (Fig. 13); and (ii) the inclination of the coupling member tip such that it is closer to the drum for pre-engagement (Fig. 22 (a)-(b)) than for engagement (Fig. 22(c)-(d)), are measured from the drum "in the direction of axis L1" as required by the claim limitation. Accordingly, the words of the claims alone fail to provide a sufficiently clear meaning for the claimed "first position" and "second position" and distances "in the direction of axis L1;" and accordingly, the limitation must thus be construed.

(2) The Terms Should be Construed Such that the Overarching Dispute Is Resolved

Because there is no single plain and ordinary meaning of "first position" and "second position," Complainants' proposal for a generic "plain and ordinary meaning" is inadequate. In addition, a generic "plain and ordinary meaning" is also inadequate because it fails to address whether the claimed invention requires a coupling member that moves by inclining into positions, or whether the claimed invention encompasses a coupling member that solely moves co-axially into positions.

More specifically, Complainants have not yet provided an example of how a person of ordinary skill in the art would understand the plain and ordinary meaning "movable between: first position… and second position." Instead, they merely state that "[t]he plain and ordinary meaning also does not require the claimed 'first position' to be 'a substantially co-axial engaged position' and the claimed 'second position' to be 'an inclined pre-engagement position or disengagement position.'" *See* Exhibit A. Moreover, Complainants state that "[t]he plain and

ordinary meaning does not require the coupling member to pivot or incline when moving between the first and second positions." *Id.*

As seen, Complainants' claim construction proposals to date do not directly request that the claims be interpreted to encompass a coupling member that only moves co-axially. However, it appears that by asking the disputed terms be interpreted to have generic "plain and ordinary meanings," Complainants seek to have the claims cover a coupling member that solely moves co-axially *sub silentio*. *See* Exhibit A at n. 1.

In the Staff's view, a claim construction that directly addresses the issue raised by the Staff and Respondents - that the specification does not support interpreting the claims to encompass a coupling member that only moves co-axially - is a more efficient use of the *Markman* procedure than adopting Complainants' proposal for a generic plain and ordinary meaning. *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F. 3d 1314, 1319 ("Thus, a district court's duty at the claim construction stage is, simply, the one that we described in *O2 Micro* and many times before: to resolve a dispute about claim scope that has been raised by the parties."); *AFG Indus., Inc. v. Cardinal IG Co., 239 F.3d 1239, 1247* (Fed.Cir. 2001) ("It is critical for trial courts to set forth an express construction of the material claim terms in dispute.").

Thus, the disputed term should be construed as proposed by the Staff. This construction is supported by the intrinsic evidence, and directly addresses the issue that the claims do not encompass coupling members that only move co-axially.

b) The Staff's Proposed Constructions for "First Position" and "Second Position" Reflect How a Person of Ordinary Skill in the Art Would Understand the Invention After Having Read the Specification

The Staff disagrees with the Complainants' position that an unfettered plain and ordinary meaning of the limitation is adequate, and moreover, the Staff disagrees with the Complainants' implicit argument that a plain and ordinary meaning that encompasses a coupling member that solely moves co-axially is supported by the intrinsic evidence. *See* Exhibit A. Instead, as explained below, the intrinsic evidence overwhelmingly supports construing the "first position" and "second position" to mean "a substantially co-axial engaged position" and "one of an inclined pre-engagement position or disengagement position," respectively.

The specification is clear that the invention is a cartridge having a coupling member that inclines while being mounted and dismounted, and that this ability to move by inclining/pivoting achieves the stated objective of the invention. *See* '765 Patent at Col. 83:5-10 (describing "in the present invention…the drum coupling member can take the different angular positions relative to the axis of the photosensitive drum"); *see also id.* 78:1-40 (describing structure applicable to all embodiments of the invention's coupling member as "each coupling is pivotable between [co-axial and inclined positions]"). Accordingly, the coupling member's "first position" and "second position," should mean these co-axial and inclined positions repeatedly described as important for all embodiments of the invention. *Poly-America, L.P. v. API Industries, Inc.*, 839 F.3d 1131, 1137 (Fed. Cir. 2016) ("Ultimately, the only meaning that matters in claim construction is the meaning in the context of the patent.").

More specifically, the specification explains the object of the "present invention" as: "a process cartridge is mountable and dismountable in a direction substantially perpendicular to an axis of a drive shaft provided in a main assembly, and simultaneously, the smooth rotation of a photosensitive drum can be carried out." '765 Patent at Col. 4:22-26. Further, the specification explains that the coupling member's ability to pivot from the pre-engagement/disengagement

inclined position to a substantially co-axial engaged position is how the objective of "smooth rotation" is achieved:

> the coupling **150**. The coupling **150** is swingable (pivotable) relative to the photosensitive drum **107**. For this reason, as described above, the coupling **150** can transmit the rotational force smoothly between the drive shaft **180** positioned in the predetermined position and the cartridge (B) positioned in the predetermined position. In other words, even if there is some axial deviation between the drive shaft **180** and the photosensitive drum **107**, the coupling **150** can transmit the rotational force smoothly.

'765 Patent at Col. 29: 31-39 (emphasis added). Thus, a person of ordinary skill in the art would understand that the invention's cartridge improves on the prior art because the coupling member's ability to incline into and out of the substantially co-axial engaged position enables smooth rotation of the cartridge's drum, even while there is some axial deviation due to mounting/dismounting the cartridge perpendicularly to the printer's drive shaft.

Likewise, a person of ordinary skill in the art would understand that a coupling member that solely moves co-axially would fail to achieve an expressly stated objective of the invention – "even if there is some axial deviation between the drive shaft 180 and the photosensitive drum 107, the coupling 150 can transmit the rotational force smoothly." *See Rivera v. ITC*, 857 F.3d 1315, 1320 (Fed. Cir. 2017) (finding that broad construction of a term was "fundamental to the problem and solution taught in the specification" in lacked written description support); '765 Patent at Col. 29: 31-39. More specifically, as with the prior art described as disadvantageous because it required the printer to align with the engaging gears on the cartridge, a cartridge with a coupler that solely moves co-axially would require co-axial alignment in order to rotate the drum after mounting the cartridge in a direction perpendicular to the printer. *See* '765 Patent at Col.

2:25-34 (describing prior art as "difficult to prevent rotation non-uniformity").[13] Because a coupling member that solely moves co-axially would require alignment for uniform rotation, which was described to be a drawback of prior art, a person of ordinary skill in the art having read the specification would understand the "first position" and "second position" to mean the coupling member's co-axial and inclined positions, as opposed to merely co-axial positions. [14]

Moreover, the specification expressly states that solely co-axial movement of the coupler is insufficient to accomplish the purpose of the invention. While the specification explains that the coupling member may have co-axial movement with respect to "play" in the distance n2 (shown in Fig. 12), the specification proceeds to expressly state that "[h]owever, even in such a case, the axis L2 is pivotable relative to axis L1" and "[f]or this reason, the purpose of the embodiment can be accomplished." '765 Patent at Col. 22:25-30 (emphasis added).

Accordingly, a person of ordinary skill in the art having read the specification's unambiguous statements that pivotability is always required (*i.e.* "even in such a case") would not understand the claim as encompassing a coupling member that solely moves co-axially between the "first position" and "second position." *Id.*; *see id.* at Col. 19:13-14 ("Thus, the axis L2 can be pivoted in any direction relative to axis L1."); *see id.* at Col. 19:29-30 ("Therefore, as

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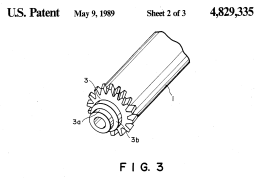
[13] The cited prior art patent U.S. Patent No. 4,829,335 at Fig. 3 (showing engagement gears on prior art cartridge):



[14] Similarly, a coupling member that solely moves co-axially would have to coordinate moving in the axial direction (i.e. retract/extend) with the mounting/dismounting process, which was described as a disadvantage of the cartridge described in U.S. Patent No. 5,903,803. '765 Patent at Col. 2:7-25 (describing the disadvantage of needing a separate "constitution" for moving the rotatable member in a rotational axis direction for mounting/dismounting).

has been described hereinbefore, the coupling 150 is pivotable in all directions."); *see id.* at Col. 19:50-59 (differentiating coupler rotation about axis L2 from "whirling motion" where inclined axis L2 rotates about the axis L1 of the drum).

c) The Staff's Proposed Constructions Should be Adopted Because It Reflects the Meanings In the Specification and Also Resolves the Overarching Dispute Regarding the Scope of the Claims

Because the specification expressly requires pivotability, a person of ordinary skill in the art would understand that the "first position" means when the coupling member is positions such that it will engage with the printer's drum shaft to rotate the drum, which the specification terms "rotational force transmitting angular position" (and states that an "angle of 0 degree is preferable"). *Id.* at Col. 31:40-50. Similarly, a person of ordinary skill in the art would understand that "second position" means when the coupling member is inclined such that it can be mounted/dismounted perpendicularly into the printer, which the specification terms "pre-engagement angular position" and "disengagement angular position" (and states that "the range of about 20-60 degrees is preferable"). *Id.*

Moreover, the Staff's proposed constructions address the context provided in all of the Claims at Issue, which include the limitations:

- "wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1"; and

- "the first distance being greater than the second distance"

In the Staff's view, the "first position" and "second position" of the wherein clause should be construed with reference to how a person of ordinary skill in the art having read the specification would understand measuring "first distance" and "second distance." Only after the "first

position" and "second position," and the counterpart "first distance" and "second distance," are understood with reasonable certainty can the claimed comparison of "the first distance being greater than the second distance" can be performed.

Thus, a person of ordinary skill in the art must understand the meaning of "first position" and "second position" in order to determine with reasonable certainty whether a cartridge falls within or outside the scope of the claims – *i.e.* "with the first distance being greater than the second distance." *See e.g* '765 Patent at Claim 1. As discussed above, the generic "plain and ordinary meaning" is inadequate because "first position" and "second position" are amenable to more than one meaning.

Thus, the Staff believes that the following construction, which is supported by the intrinsic evidence, reflects how a person of ordinary skill in the art would understand the limitation:

Limitation Appearing in All Claims at Issue	**Staff's Proposed Construction**
wherein the coupling member is movable between (i) a first position in which a tip of the at least one projection is a first distance away from the photosensitive drum as measured in the direction of the axis L1 and (ii) a second position in which the tip of the at least one projection is a second distance away from the photosensitive drum as measured in the direction of the axis L1[15]	"Wherein the coupling member is movable between (i) a substantially co-axial engaged position in which a tip of the at least one projection is a first distance away from the photosensitive drum (e.g. measure along L2 which is substantially in line with L1) and (ii) one of an inclined pre-engagement position or disengagement position, in which a tip of the at least one projection is a second distance away from the photosensitive drum (e.g. measure along imaginary extended L1 because L2 no longer co-axial)"

d) The Intrinsic Evidence Supports the Staff's Proposed Construction

[15] The limitation proceeds to recite "with the first distance being greater than the second distance." *See e.g* '765 Patent at Claim 1.

"The only meaning that matters in claim construction is the meaning in the context of the patent." *Trs. of Columbia Univ.*, 811 F.3d at 1363. As shown in the chart of exemplary intrinsic evidence below, the specification repeatedly refers to the importance of the coupler moving pivotally, refers to pivotal movement with respect to the "present invention," and describes a prior art cartridge that used horizontal movement as disadvantageous.

The Federal Circuit maintains that where a specification limits the scope of the invention in this manner, the scope of the claims should be found to be accordingly limited. *Sumitomo Dainippon Pharma Co. v. Emcure Pharm. Ltd.*, 887 F.3d 1153, 1159–60 (Fed. Cir. 2018):

> Our opinion in *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc* where we concluded that the patentee disclaimed a dual lumen configuration for balloon dilation catheters, is instructive. 242 F.3d 1337 (Fed. Cir. 2001). There, the patent described both a dual lumen (side-by-side) and coaxial lumen configuration. The specification, however, disparaged the dual lumen design, described the coaxial lumen design as "the present invention," and explained that the coaxial lumen design was the structure "for all embodiments of the present invention contemplated and disclosed herein." *Id*. at 1342–44. We held that this amounted to a disclaimer of the dual lumen configuration.

In fact, while the specification in *SciMed* disclosed both the claimed and disclaimed configurations, here, the specification only describes the configuration of a coupler that moves by inclining into positions. *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337 (Fed. Cir. 2001); *see* '765 Patent at Col. 78:1-40 (describing structure of coupling for all embodiments). Thus, even under the *SciMed* analysis for finding disclaimer of claim scope, the intrinsic evidence shows that the scope of the claims should not encompass a coupling member that solely moves co-axially.

Exemplary Intrinsic Evidence that Shows Clear Statements of Claim Scope (i.e. Coupler Must Pivot)		
"Present Invention" *Poly-America LP*, 839 F.3d at	"As has been described hereinbefore, in the present invention, the axis of the drum	'765 Patent at Col. 83:5-10

1136 (Fed. Cir. 2016) ("For example, an inventor may disavow claims lacking a particular feature when the specification describes 'the present invention' as having that feature. *See e.g., Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016).").	coupling member can take the different angular positions relative to the axis of the photo sensitive drum."	
"Disparaging Prior Art" "Distinguishing Absence of the Feature" *Poly-America LP*, 839 F.3d at 1136 ("Similarly, an inventor may disavow claims lacking a particular feature when the specification distinguishes or disparages prior art based on the absence of that feature. *See Openwave, 808 F.3d at 513–14; SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1317 (Fed. Cir. 2015).").	"However, in the conventional constitution described in U.S. Pat. No. 5,903,803, the rotatable member is required to be moved in a horizontal direction when the process cartridge is mounted to or demounted from the main assembly by being moved in a direction substantially perpendicular to an axial line of the rotatable member." "The coupling 150 has a play (the distance n2) in the direction of the axis Ll relative to the drum shaft 153. … **However, even in such a case, the axis L2 is pivotable relative to the axis Ll. For this reason, the purpose of this embodiment can be accomplished."**	'765 Patent at Col. 2:6-10; *id.* Col. 22:21-30 (emphasis added).
"Every Embodiment Requires the Feature" and "Importance of the Feature" *Poly-America LP*, 839 F.3d at 1137. ("The district court's analysis does not involve importing limitations from embodiments described in the specification. Every embodiment described	"The rib is not limited to the semi-circular rib. **As long as the coupling 150 is pivotable to the predetermined direction,** and it is possible to mount the coupling 150 to Cartridge B (photosensitive drum 107), any rib is usable." "In the pre-engagement angular position, the axis L2 (FIG. 22a) of the coupling 150	'765 Patent at Col. 22:5-9; *id.* 26:58-27:5 (stating that several embodiments are directed to how to achieve the pre-engagement inclination); *see also id.* Col. 32:25-26 ("As to the structure therefor, the structure of any that will be described in Embodiment 2 et seqq is usable."); *id.* Col. 31:40-49 (disclosing preferred angles for positions); *see also*

in the specification has inwardly extended short seals and every section of the specification indicates the importance of inwardly extended short seals. These two facts provide together a proper reason to limit the claims in this way.").	inclines toward downstream with respect to the mounting direction X4 beforehand relative to the axis L1 (FIG. 22(a) of the drum shaft 153 (FIG. 21a and FIG. 22(a**). In order to incline the coupling toward the pre-engagement angular position beforehand, the structure of the embodiment 3-embodiment 9 as will be described hereinafter is used, for example."** **"Because of the inclination** of the coupling 150, the down Stream free end 150Al with respect to the mounting direction X4 is closer to the photosensitive drum 107 than the drive shaft free end 180b3 in the direction of the axis Ll." "In the pre-engagement angular position or the disengagement angular position, the angle theta 2 which the axis L2 makes with the axis Ll is larger than the angle theta 1 which the axis L2 makes with the axis Ll in the rotational force transmitting angular position. As for the angle theta 1, 0 degree is preferable. However, in this embodiment, if the angle theta 1 is less than about 15 degrees, the smooth transmission of the rotational force is accomplished. This is also one of the effects of this embodiment. As for the angle theta 2, the range of about 20-60 degrees is preferable"	Col. 37:15-24 (describing angles for positions for another embodiment); *Id*. at Col. 63:12-22 (describing an Embodiment which contemplates co-axial movement, but still requires pivotal movement (*see* Fig. 88)).

	"With such a structure [as disclosed in Embodiment 13], **the movement in the direction of the axis L2 and the pivoting motion (swinging operation) are combined**, and the coupling is swung from the pre-engagement angular position to the rotational force transmitting angular position. By this structure, even if the angle a106 (inclination amount of the axis L2) is small, the cartridge can be mounted 20 to the apparatus main assembly A. Therefore, the space required by the pivoting motion of the coupling 10150 is small."	

Thus, the intrinsic evidence supports construing the claims to require a coupler that employs a pivoting motion in order to be mounted/dismounted from the printer. In the Staff's view, interpreting the claims to omit this pivotal movement would require disregarding the context set forth in the specification.

Accordingly, "wherein the coupling member is movable between:…." should be construed to require the coupling member moving into inclined positions, to the exclusion of a coupling member that solely moves co-axially. *Ruckus Wireless, Inc.*, 824 F.3d at 1003-1004 ("IWS's argument relies on the assumption that 'communications path' has an ordinary meaning which encompasses both wired and wireless communications… Though these [specification] statements do not expressly exclude wireless communications from the meaning of 'communications path,' they do not include it, and they discourage that understanding… We conclude that no intrinsic or extrinsic evidence suggests that 'communications path'

encompasses wireless communications. Accordingly, we affirm the district court's claim constructions and final judgment of non-infringement based thereon.").

e) Under the Staff and Respondents' Proposal Where "First Position" and "Second Position" are Construed, it is not Necessary to Construe the Word "Movable"

While the Staff's proposed construction is substantially similar to the Respondents, the Staff does not propose construing the word "movable" as "pivotable." The Staff agrees with Respondents that the movement to achieve the claimed first position and second position includes pivotal movement. However, in the Staff's view, construing "first position" and "second position" as the substantially co-axial and inclined positions construes the ambiguous terms appearing in the limitation, and inherently captures the notion of a pivoting coupling member. Thus, in the Staff's view, construing the word "movable" to mean "pivotable" is not necessary under the Staff's proposal.

2. "Axis L2"

No.	Claim Term	Claims	Canon's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
2	"axis L2"	**'826**: 1, 5, 6 **'021**: 1, 2, 6, 8, 18 **'729**: 1, 9, 18, 27, 31 **'764**: 7, 20, 22 **'765**: 1, 4, 13, 18 **'960**: 1, 4, 8 **'846**: 1, 3, 4	This term has its plain and ordinary meaning and no construction is necessary. The plain and ordinary meaning does not require axis L2 to be inclinable relative to axis L1. Alternatively: an imaginary line about which the coupling member	axis along the center of the coupling member that inclines in relation to L1 during pre-engagement and disengagement	

			is rotatable	

In the Staff's view, the term "Axis L2" should be construed in accordance with how the specification has defined the term. '765 Patent at Col. 81:50-58:

> The axis L**1** is an axis of rotation of the photosensitive drum.
> The axis L**2** is an axis of rotation of the coupling.
> The axis L**3** is an axis of rotation of the driving shaft.
> The whirling motion is not a motion with which the coupling itself rotates about the axis L**2**, but the inclined axis L**2** rotates about the axis L**1** of the photosensitive drum, although the whirling here does not preclude the rotation of the coupling per se about the axis L**2** of the coupling **150**.

As seen, the specification expressly states that axis L2 is the axis of the rotation of the coupling, which would be the center of the coupling. *Id.* However, the specification proceeds to expressly define that in addition to the rotation of the coupling member about the axis L2, "the inclined axis L2 rotates about the axis L1." *Id.* Thus, the term "axis L2" should be construed to encompass both: (i) the axis about which the coupling member rotates, and (ii) that the axis inclines relative to L1.

In the Staff's view, Complainant's position that "[t]he plain and ordinary meaning does not require axis L2 to be inclinable relative to axis L1" lacks support. First, as shown above, the specification expressly defines the term, and accordingly, a plain and ordinary meaning is not proper. Moreover, the specification describes two separate aspects of axis L2, one of which requires that the claimed coupling member incline relative to axis L1. *See infra* Disputed Term 1. Complainant's proposal that the term only implicates the coupling member's rotational movement is an incomplete and inaccurate reflection of the invention disclosed in the specification. Because the specification expressly defines axis L2 as more than merely the axis about which the coupling itself rotates, the term should be construed to reflect its full meaning,

which includes that axis L2 inclines relative to axis L1 during engagement/disengagement to a printer. *Id.*

3. "Connected"

No.	Claim Term	Claims	Canon's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
3	"connected"	**'826**: 1, 6 **'021**: 1, 8, 18 **'729**: 1, 9, 18, 27 **'764**: 7 **'765**: 1, 4, 13	This term has its plain and ordinary meaning and no construction is necessary. The plain and ordinary meaning does not require the coupling member to be connected to the photosensitive drum in a manner that allows the coupling member to incline relative to the drum.	connected [to the drum] in a manner that enables the claimed movement between co-axial and inclined positions	Plain and ordinary meaning, which here is "connected in a manner that enables the claimed movement between co-axial and inclined positions."

In the Staff's view, the term "connected" in relation to the coupling member and the photosensitive drum would be understood by a person of ordinary skill in the art as enabling the claimed movement between first and second positions discussed above in relation to Disputed Term 1. *See e.g.* '765 Patent at Claim 1 ("a coupling member having an axis L2 and including (i) a first end portion operatively **connected** to the photosensitive drum and the developing roller,…") (emphasis added). Accordingly, the Staff proposes that the term be given its plain

and ordinary meaning, which in the context of the specification and claim is "connected in a manner that enables the claimed movement between co-axial and inclined positions."[16]

For the same reasons explained above with respect to Disputed Term 1, the claim requires that the coupling member move between inclined and co-axial positions. Thus, as with Disputed Term 1, Complainant's proposal that the term "does not require the coupling member to be connected to the photosensitive drum in a manner that allows the coupling member to incline relative to the drum." directly contradicts statements in the specification that require the coupling member to be pivotable. *See* '765 Patent at Col. 22:21-30 ("However, even in such a case, the axis L2 is pivotable relative to the axis Ll.").

Thus, the intrinsic evidence does not support Complainant's proposal for a generic plain and ordinary meaning in which "connected" allows for a connection that inhibits the coupling members ability to pivot relative to axis L1.

4. "[a coupling member having/including] a first end [portion] at least a part of which is positioned within the drum flange"

No.	Claim Term	Claims	Canon's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
4	"[a coupling member having/including] a first end [portion] at least a part of which is positioned within the drum flange"	**'021**: 1 **'729**: 27 **'764**: 20 **'960**: 1 **'846**: 1	This term has its plain and ordinary meaning and no construction is necessary. The reference to "axis L2" in Respondents' and Staff's proposed	[a coupling member having/including] a first end [portion] where at least a part of the first end portion of the coupling member, which	plain and ordinary meaning (*e.g.* [a coupling member having/including] a first end [portion] where at least a part of the first end portion of the

[16] While the Respondents and Staff agree as to this terminology, the Staff is of the view that this terminology reflects the plain and ordinary meaning of the term in the context of the claim, which including Staff's proposed construction for Disputed Term 1. Thus, the Staff does not believe that the word "connected" requires a construction.

			constructions is not appropriate.	has an axis L2 (as defined above), is positioned within the drum flange	coupling member, which has an axis L2 (as defined above), is positioned within the drum flange)

The Staff does not fully understand Complainants' arguments regarding the scope of this term because it is clear from the context of the claims that the coupling member, which includes the first end of the coupling member, has axis L2. The portion of the claims in which the disputed term appears is as follows:

> **a coupling member having** an axis L2 and having (i) **a first end at least a part of which is positioned within the drum flange**, and (ii) a second end including at least one projection,…

See e.g. '960 Patent at Claim 1 (emphasis added).

With respect to Disputed Term 2 – "Axis L2" – Complainants did not propose that axis L2 be limited to certain portions of the coupling member. Thus, it is unclear why Complainants argue that a person of ordinary skill in the art would not understand a term describing the "first end" of the same coupling member in relation to axis L2. The Staff proposes that under the plain and ordinary meaning that a person of ordinary skill in the art would ascribe to this limitation, the limitation is satisfied if it can be shown that a portion of axis L2, which is the axis of the entirety of the coupling member, is "positioned within the drum flange." Complainant's proposal of a generic plain and ordinary meaning, in which the first end portion of the coupling member does not also have the coupling member's axis L2, is not supported by the specification and introduces ambiguity.

Thus, in the Staff's view, a plain and ordinary meaning of the term is a coupling member having/including a first end [portion] where at least a part of the first end portion of the coupling member, which has an axis L2 (as defined above), is positioned within the drum flange.[17]

5. "at least one projection that is open to the axis L2"

No.	Claim Term	Claims	Canon's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
5	"at least one projection that is open to the axis L2"	**'826**: 1, 6 **'729**: 1, 9, 18 **'764**: 7 **'765**: 13	This term has its plain and ordinary meaning and no construction is necessary. The plain and ordinary meaning does not require that an inner surface of the projection be a uniform distance from L2 and extend parallel to L2. Alternatively: no portion of the coupling member lies between the at least one projection and the axis L2	at least one projection that has an inner surface that is a uniform distance from L2 and extends parallel to L2	At least one projection that has an inner surface that is a uniform distance from L2 and extends parallel to L2 Note: distinct from "rotational force receiving surface 150e" as described with Fig. 15

The portion of the claims in which the disputed term appears is as follows:

> a coupling member having an axis L2, the coupling member including (i) a first end portion operatively connected to the photosensitive drum and the developing

[17] While the Respondents and Staff agree as to this terminology, the Staff is of the view that this terminology reflects the plain and ordinary meaning of the term in the context of the claim, which including Staff's proposed construction for Disputed Term 1 and 2. Thus, the Staff does not believe that the term requires a construction.

> roller, (ii) a second end portion including **at least one projection that is open to the axis L2**,…

See e.g. '765 Patent at Claim 13 (emphasis added). In the Staff's view, the context of the claims does not provide sufficient guidance as to the meaning "open to the axis L2." In addition, as shown by the varying understandings set forth in the Complainants' alternate proposal versus the Staff's proposed construction, the words "open to the axis L2" does not have a single plain and ordinary meaning. Accordingly, the term should be construed as opposed to being given a "plain and ordinary meaning" as proposed by Complainant.

The Staff submits that a person of ordinary skill in the art would understand the term as limiting the structure of the claimed projection. In the Staff's view, the words "at least one projection that is open to the axis L2" would be understood to mean that the projection has an inner surface that is a uniform distance from L2 that extends parallel to L2. More specifically, the limitation requires the projection have an inner surface facing the center of the coupling member, such as the structure of battlements on a castle turret. In comparison, Complainants propose that "open to the axis L2" does not limit the structure of the projection, and instead, is a negative limitation prohibiting structure between the projection and axis L2.

There is no additional guidance provided in the specification regarding how to interpret "open to the axis L2" because the words "open to" only appear in the claims of the patent. Thus, in the Staff's view, the term should be construed to mean the structure for the projection that a person of ordinary skill in the art would understand by the words "open to the axis L2."

Dated: July 27, 2018

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Monisha Deka, hereby certify that on July 27, 2018 copies of the **STAFF'S INITIAL CLAIM CONSTRUCTION BRIEF** were served on the following:

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