PUBLIC

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC 20436

In the Matter of **CERTAIN PRINTING AND IMAGING DEVICES AND COMPONENTS THEREOF**	**Investigation No. 337-TA-690**

COMMISSION OPINION

On September 23, 2010, the presiding administrative law judge ("ALJ") issued his final initial determination ("ID") in the above-referenced investigation. The ALJ found a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, by the respondents in connection with U.S. Patent No. 5,863,690 ("the '690 patent"). The ALJ found no violation of section 337 by the respondents in connection with the remaining four patents, U.S. Patent Nos. 5,746,866 ("the '866 patent"); 6,388,771 ("the '771 patent"); 6,209,048 ("the '048 patent"); and 6,212,343 ("the '343 patent"). On November, 22, 2010, we adopted the ALJ's finding of no violation with respect to the '866, '771, and '048 patents, but determined to review the findings and conclusions pertaining to the '690 and '343 patents.

On review, we affirm the ALJ's finding that no section 337 violation occurred with respect to the '343 patent, but reverse his finding that a violation occurred with respect to the '690 patent. More particularly, as to both the '343 and '690 patents, we reverse the ALJ's finding that Ricoh satisfied the economic prong of the domestic industry requirement of section 337(a)(3). As to the '343 patent, we have determined to modify the ALJ's construction of "a lower edge" and affirm, on modified grounds, his findings that (1) Oki does not infringe the asserted claims of '343 patent and (2) Ricoh has not satisfied the technical prong of the domestic

industry requirement. Finally, we reverse the ALJ's finding that Oki did not prove that claims 1, 5, 9, and 13 of the '690 patent are anticipated by the prior art, specifically, the prior art OL400e fuser rollers.

I. BACKGROUND

A. Procedural History

This investigation was instituted on October 26, 2009, based on a complaint filed by Ricoh Company, Ltd. of Tokyo, Japan; Ricoh Americas Corporation of West Caldwell, New Jersey; and Ricoh Electronics, Inc. of Tustin, California (collectively, "Ricoh"). 74 *Fed. Reg.* 55065 (Oct. 26, 2009). The complaint alleged, *inter alia,* violations of section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of various claims of the '866, '771, '048, '343, and '690 patents. The complaint named Oki Data Corporation of Tokyo, Japan and Oki Data Americas, Inc. of Mount Laurel, New Jersey (collectively, "Oki") as respondents.

The ALJ held an evidentiary hearing from May 17, 2010, to May 25, 2010, and thereafter received post-hearing briefing from the parties. On September 23, 2010, the ALJ issued his final ID. The ALJ found a violation of section 337 by reason of infringement of claims 1, 2, 5, 6, 9, 10, 13, and 14 of the '690 patent. ID at 459. The ALJ found no violation with respect to the other asserted patents. ID at 457-58. In particular, the ALJ found no infringement by Oki and that no domestic industry exists for the '866, '343, '771, and '048 patents. *Id.* The ALJ also found some of the asserted claims of the '771 and '048 patents invalid. *Id.* The ALJ

recommended that the Commission issue a limited exclusion order for the '690 patent and a cease-and-desist order against Oki, but recommended that no bond be set during the period of Presidential Review. ID at 450-56.

On October 6, 2010, Ricoh, Oki, and the Commission investigative attorney ("IA") filed petitions for review of the ID.[1] On October 14, 2010, Ricoh, Oki, and the IA each filed responses to each others' petitions for review.[2] On October 15, 2010, the Commission issued a notice requesting comments from the parties regarding any potential public interest issues. On October 25, 2010, Ricoh, Oki, and the IA filed their respective statements regarding whether the public interest would preclude issuance of a remedy.

On November 22, 2010, the Commission determined to review the issues pertaining to the '690 and '343 patents. The Commission asked for briefing on selected issues and on remedy, the public interest, and bonding. On December 9, 2010, Ricoh, Oki, and the IA filed initial submissions addressing questions set forth in the Commission's review notice.[3] On December 17, 2010, Ricoh, Oki, and the IA each filed reply submissions regarding the violation issues on

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[1] *See generally* Petition for Commission Review By Complainants Ricoh Company, Ltd., Ricoh Americas Corporation, and Ricoh Electronics, Inc. ("Ricoh Pet."); Respondents' Petition for Review ("Oki Pet."); Office of Unfair Imports Investigations Petition for Review of Final Initial Determination.

[2] *See generally* Complainants' Response to Petitions for Commission Review by Respondents and OUII ("Ricoh Resp."); Response of Respondents to Complainants' Petition for Review; Response of the Office of Unfair Imports Investigations to Petitions for Review of Final Initial Determination of Complainants Ricoh and Respondents Oki Data.

[3] *See* Oki Data's Response to Commission's Determination to Review-In-Part a Final Determination Finding a Violation of Section 337 ("Oki Sub."); Complainants' Submission on Questions 1 Through 5 Raised in the Commission's Notice of Commission Determination to Review-In-Part ("Ricoh Sub."); Brief of OUII on Issues Under Review ("IA Sub.").

review and opening submissions regarding remedy, the public interest, and bonding.[4] Based on a request made by Oki's counsel, the Commission granted all parties an extension of time to file their reply submissions on the issues of remedy, the public interest, and bonding until December 23, 2010. On December 23, 2010, Ricoh, Oki, and the IA each filed reply submissions on the issues of remedy, the public interest, and bonding.[5] Also on December 23, 2010, Oki filed a motion with the Commission requesting oral argument on the issue of remedy and the public interest should the Commission determine that a violation of section 337 exists.

B. Patents and Products at Issue

The technology at issue relates generally to electrophotographic multifunction printers ("MFPs"). These devices are copier machines that typically have scanning, printing, copying, and networking capabilities. The '343 patent and the '690 patent involve different aspects of the subject printers. The disclosure of the '343 patent is directed to a toner process cartridge with a specific configuration that prevents toner from leaking from the cartridge. The '343 patent,

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[4] *See* Complainants' Reply to Oki Data's and OUII's Submissions on Questions 1 Through 5 Raised in the Commission's Notice of Commission Determination To Review-In-Part; Complainants' Opening Submission on Remedy, Public Interest and Bonding Requested in the Commission's Notice of Commission Determination to Review-In-Part; Reply Brief of Respondents Oki Data Corp. and Oki Data Americas, Inc. In Response to Notice of Commission Determination to Review-In-Part a Final Determination Finding a Violation of Section 337; Respondents Oki Data Corp. and Oki Data Americas, Inc.'s Brief on Remedy, Public Interest, and Bonding ("Oki Rem. Sub."); Reply Brief of OUII on Issues Under Review; Brief of OUII on Remedy, Public Interest and Bonding.

[5] *See* Complainants' Reply Submission on Remedy, Public Interest and Bonding Requested in the Commission Notice of Commission Determination to Review-In-Part; Respondents Oki Data Corporation and Oki Data Americas, Inc.'s Reply Brief on Remedy, Public Interest, and Bonding; Reply Brief of OUII on Remedy, the Public Interest, and Bonding.

which issued on April 3, 2001, is entitled "Developing device, process cartridge and image forming apparatus that prevent toner leakage." JX-4 ('343 patent). The application that matured into the '343 patent was filed on October 22, 1999, and claims priority to numerous Japanese applications, the earliest of which is dated October 22, 1998. *Id.* The named inventors are Hiroshi Hosokawa, Tetsuo Yamanaka, Kenetsu Osanai, and Kenichiroh Nagai, all of Japan, and the assignee is listed as Ricoh Company, Ltd. *Id.* Claims 18-21 of the '343 patent are asserted by Ricoh. Claim 18, for example, recites:

> 18. A developing device, comprising:
>
> a developing case in which a toner exit opposed to a photoconductor is formed;
>
> a developing roller including an axial part rotatably supported by supporting walls provided at sides of the developing case and a roller part disposed at the toner exit;
>
> side seals arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller; and
>
> a blade that is formed with a thin metal plate having elasticity and that is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller,
>
> wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

JX-4 ('343 patent), col. 24, l. 25 - col. 25, l. 29.

The '690 patent is directed to the surface characteristics of fuser rollers, how these surface characteristics are measured, and how the fuser rollers interact with toner. The '690 patent, which issued on January 26, 1999, is entitled "Toner image fixing method." JX-5 ('690 patent). The application that matured into the '690 patent was filed on February 5, 1997, and claims priority to two Japanese applications, the earliest of which was filed on February 9, 1996. *Id.* The named inventor is Masahide Yamashita of Numazu, Japan, and the assignee is listed as Ricoh Company, Ltd. *Id.* Claims 1, 2, 5, 6, 9, 10, 13, and 14 of the '690 patent are asserted. Claim 1 (the only asserted independent claim) states:

> 1. A toner image fixing method comprising the steps of:
>
> providing a thermofusible toner image on an image supporting material;
>
> providing two fixing members with a nipped section thereof;
>
> heating the nipped section of the two fixing members; and
>
> fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members, wherein an adhesion constant $\mu_{s\text{-}b}(n)$ is represented by:
>
> $$\mu_{s\text{-}b}(n) = (\cos \theta_b - \cos \theta_s)/\sin \theta_b,$$
>
> where n is 1 or 2, θ_b is a receding constant angle of a surface of at least one of the fixing members that contacts the thermofusible toner image on the image supporting material, and θ_s is a static contact angle of the surface, the receding and static contact angles determined using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and using another liquid having a dipole moment of 0.0 debye when n is 2, and
>
> a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s\text{-}b}(1)/\mu_{s\text{-}b}(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0.

JX-5 ('690 patent), col. 11, ll. 21-48.

Ricoh contends that Oki's process cartridges (also called "image drums") and Oki MFPs that use these cartridges infringe the asserted claims of the '343 patent. *See* Complainants Ricoh Company, Ltd., Ricoh Americas Corporation and Ricoh Electronics, Inc.'s Pre-trial Brief at 31-32. Ricoh contends that Oki's fuser rollers, fuser kits, and devices that use these components infringe the asserted claims of the '690 patent. *Id.* at 33-34.

Also at issue are Ricoh's domestic C200 series products relied on by Ricoh to satisfy the domestic industry requirement for both the '343 and '690 patents. ID at 416. These products were manufactured abroad until sometime in 2008, when Ricoh stopped manufacturing these products altogether. *Id.* Ricoh stopped selling these products in the United States at least as early as April 2009. *Id.* Ricoh nevertheless continues to service and maintain these products for its customers. *Id.*

II. ISSUES PERTAINING TO THE '343 PATENT

A. Construction of "a direction orthogonal to a longitudinal direction of the developing roller"

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *See Phillips v. AWH Corp.,* 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In many cases, claim terms have a specialized meaning, and it is necessary to determine what a person of skill in the art would have understood disputed claim language to mean, by analyzing the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific

principles, as well as the meaning of technical terms, and the state of the art. *Id.* at 1116. In some instances, claim terms do not have particular meaning in a field of art, and claim construction involves little more than the application of the widely accepted meaning of commonly understood words. *Id.*

The asserted independent claims 18, 20, and 21 recite, among other things, "a blade . . . having . . . a narrow-width part . . . configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller." JX-4 ('343 patent), cols. 25-26. The ALJ construed "a direction orthogonal to a longitudinal direction of the developing roller" language to mean "a direction that is at a right angle to a lengthwise direction of the developing roller." ID at 235. In denying summary determination that the "orthogonal" limitation renders the asserted claims indefinite, the ALJ indicated:

> Ricoh states that "a direction orthogonal to a longitudinal direction of the developing roller" is a direction "along a line running perpendicular or radial to a line running parallel to the central length-wise axis of the developing roller." (Ricoh Resp. at 4.) I understand this description to be substantively identical to my explanation of the claim language.

Order No. 25 at 9 n.2 (Apr. 22, 2010).

We agree with the ALJ's interpretation of this language. Because there any number of places where a reference longitudinal direction can be positioned within the developing roller, we find that an orthogonal direction is any direction that is perpendicular to any reference longitudinal direction. Put another way, these orthogonal directions lie in planes that are perpendicular to the reference longitudinal direction; these planes are parallel to the circular ends of the roller.

We find the claim language not to be indefinite, however, because the meaning of the

claim language is clear, and one of ordinary skill in the art would understand that this language refers to any direction that is perpendicular to a reference longitudinal direction, which coincides with any line that extends through the roller parallel to the central axis thereof. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325 (Fed. Cir. 2010) ("Indefiniteness requires a determination whether those skilled in the art would understand what is claimed.") (internal quotations omitted). Simply put, the planar blade is required to bend from the surface of the roller. Nothing in the specification or prosecution history suggests that this claim language takes on anything other than its ordinary meaning. That this language adds little (if any) substance to the requirements of the claim does not make this limitation indefinite. Moreover, there is no textual nexus in the claim language that would support a more restrictive interpretation of this claim requiring, for example, that the longitudinal direction coincide with the central axis or "a direction orthogonal" be perpendicular to the surface of the roller, as the IA suggests.

B. Construction of "a lower edge"

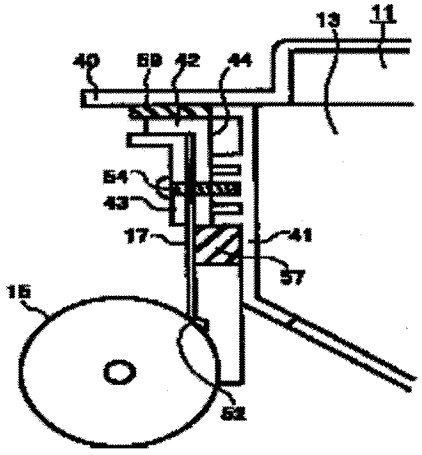
Asserted claims 18, 19, and 21 require, among other things, "a blade . . . configured such that a lower edge thereof contacts the roller part of the developing roller." The ALJ construed the term "a lower edge" to mean "the furthermost point on the blade at its lower end." ID at 85. The ALJ relied on the only use of the term "lower edge" in the '343 detailed description to refer to the furthermost point on the blade 17 at the lower end in figures 8A and 8B such that the contact point of the blade and the roller is above the "lower edge" of the blade 17. ID at 86-87. This description states:

> As illustrated in FIGS. 8 and 9, the blade 17 is configured such that the part extending downward beyond the blade holder 42 bents [sic] toward the rear side of the developing case 13 by being pressed with the roller part

> 34 of the developing roller 15 and the bent piece 52 contacts the roller part 34. Therefore, as indicated by a one-dot chain line in FIG. 12, the contact position C of the roller part 34 and the blade 17 is located in a position slightly above the lower edge of the blade 17.

JX-4 at 15:12-20. Ricoh sought review of the ALJ's determination because the embodiment shown in Figures 8A and 8B, which is being described in the passage the ALJ relied on to construe this term, is not covered by the ALJ's construction. As shown below in Figure 8A, the "furthermost point on the blade [17] at its lower end" is not in contact with the developing roller 15, contrary to the express requirement of the asserted claims.

FIG. 8A



The Commission determined to review.

Here, we agree with Ricoh that "a lower edge" should not be read narrowly to mean "the lower edge" described in the specification. It was error for the ALJ to limit the scope of the term "a lower edge" using an embodiment which his construction does not cover. Furthermore, the ALJ's construction excludes the preferred embodiment of the '343 patent, which we know to be

"rarely, if ever, correct." *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (internal quotation omitted). We give "a lower edge" its ordinary meaning, which does not preclude the existence of more than one lower edge. There are a variety of dictionary definitions for the word "edge," including, for example, "a terminating border" or "a line that is the intersection of two plane faces of a solid object." *See* MERRIAM WEBSTER'S NEW INTERNATIONAL DICTIONARY (3d. ed. 2002) at 722.[6] As it pertains to the '343 patent, the first "terminating border" definition describes the lowermost tip of the blade, while the second "intersection of two planes" definition describes the sharp intersection between the bent potion 52 and the main portion 17 of the blade.

In other words, the blade 17, 52 of the '343 patent has more than one "lower edge." Thus, we find that "a lower edge" should not be construed to refer only to the furthermost tip of the blade, as the ALJ construed it. This construction would effectively limit the claimed blade to a single "lower edge," requiring the language "a lower edge" to mean "the lowest edge." *See* Ricoh Pet. at 13-14. Nothing in the claim language, however, suggests that there must only be a single lower edge. To the contrary, "'a' or 'an' in patent parlance carries the meaning of one or more in open-ended claims containing the transitional phrase 'comprising.'" *Free Motion Fitness, Inc. v. Cybex Int'l Inc.*, 423 F.3d 1343, 1350 (Fed. Cir. 2005) (internal quotation omitted).

C. Infringement

The ALJ found that none of the Oki products except for the 9600 model infringe the

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[6] These are just two of the various definitions of "edge" that we find to be appropriate in the context of the '343 patent.

asserted claims of the '343 patent. ID at 356-68. In particular, the ALJ found that the accused products do not have a blade that is (1) "configured such that a lower edge thereof contacts the roller part of the developing roller" and (2) "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit," as required by asserted claims 18-21 of the '343 patent. ID at 357-60.

Above, we construed "a lower edge" to take on its ordinary meaning rather than limiting this term to the furthermost tip of the blade. We found that an edge can occur at the tip of the blade, or at a sharp intersection of planes in the blade. Under this construction, we find that "a lower edge" of the blade in the accused products contacts the developing roller. CX-122 at 5, 14, 16, and 19. Although the furthermost tip of the blade does not contact the roller, the "elbow" of the L-shaped permanent bend in the accused products, *i.e.*, an edge, undoubtedly does. *Id.* Therefore, we reverse the ALJ's finding to the contrary. *See* CX-122 at 18.

As discussed *supra*, we find that the orthogonal direction of the narrow-width part of the blade need not be perpendicular to the surface of the roller. We find that "a direction orthogonal" refers to a planar bend of the blade at any angle with respect to the roller as long as the direction of the bend is in a place that is perpendicular to the longitudinal direction. Accordingly, we reverse the ALJ's determination that the accused products do not meet the "direction orthogonal" limitation. *See* CX-122 at 19.

There are two different types of bending that occur in the accused products. There is a permanent, L-shaped bend in the narrow part of the blade, not caused by the developing roller (*i.e.*, perpendicular to the tangent at the surface point in question). CX-122 at 9. A gradual curve

in the wide part of the blade is caused by the force applied by the developing roller. CX-122 at 14. We find that neither meets the claim language "configured to have a length that enables the narrow-width part to be bent . . . between the side seals," as recited by the asserted claims. Although the L-shaped permanent bend occurs in the narrow-width part, this bend does not make the blade capable of being bent between the side seals, nor does this bend occur because of the length of the narrow-width part of the blade, as required by the claims. The gradual curve in the blade does not meet the claim language either because it does not occur in the narrow-width part of the blade. Rather, the gradual curve occurs in the wide-width part. *See* CX-122 at 5, 9, 19. The side cross-sectional view of the accused products shows the gradual curve is distant from the bottom end of the blade where the narrow width part is located. CX-122 at 5, 19. Thus, this bending occurs in the wide-width part, not the narrow-width part. Because the accused products do not have a "narrow-width part configured to have a length that enables the ***narrow-width part*** to be bent," there is no infringement. We therefore affirm the ALJ's determination of no infringement on these modified grounds. As to the 9600 model, we do not find clear error in the ALJ's determination that these products infringe the asserted claims of the '343 patent. ID at 358-59.

D. Domestic Industry: Technical Prong

The ALJ found that Ricoh failed to prove that it satisfies the technical prong of the domestic industry requirement because its C200 series products do not practice independent claim 20 of the '343 patent. ID at 440 (citing RX-85C at Q. 97-103, RX-354, RX-355, and RX-356). In particular, the ALJ found that the Ricoh products do not meet the "a narrow-width part . . . configured to have a length that enables the narrow-width part to be bent . . . between the side

seals arranged at sides of the toner exit" in claim 19 of the '343 patent. *Id.*

For the same reasons set forth above with respect to the accused products in our infringement discussion, we find that the C200 series domestic products meet the "a lower edge" and "a direction orthogonal" limitations, and we reverse the ALJ's findings to the contrary. *See* CX-122 at 18, 29.

As to the remaining factual questions, we agree with the ALJ that Ricoh's evidence falls short. Ricoh has not shown that the narrow-width portion of the blade in the C200 series is bent between the side seals or will bend between the side seals when the developing roller is assembled. We find that the photographic evidence relied on by the ALJ, the testimony of Oki's expert, Dr. Fraser, and the physical exhibits support the ALJ's finding that the domestic products do not meet this claim limitation. *See* RX-354; RX-355; RX-356; RX-368C at Q/A 101-03; CPX-53. We reject Ricoh's argument that, for the blade to operate, the narrow-width part of the blade in the C200 product must bend between the side seals as shown in Figure 12 of the '343 patent. Even if the blade in the '343 patent does in fact bend between the side seals, the '343 patent does not show how the domestic industry product works. Contrary to Ricoh's argument, we find that the blade in the domestic industry product, C200, need not necessarily bend between the side seals. Rather than bend between the resilient side seals as Ricoh contends, it is possible that the blade remains on top of the side seals so as to compress them without actually bending between them when forced by the developing roller. Indeed, the side seals of the C200 product are resilient fabric strips that are easily compressed. *See* CPX-53.

Moreover, for the same reasons set forth above with respect to the accused products in our infringement discussion, we find that any bending that occurs by contact with the developing

roller occurs in the wide-width part of the blade rather than the narrow-width part where the claim requires it. CX-122 at 29, 32, 33; *see also* CDX-102. Accordingly, we affirm the ALJ's finding that Ricoh does not satisfy the technical prong of the domestic industry requirement.

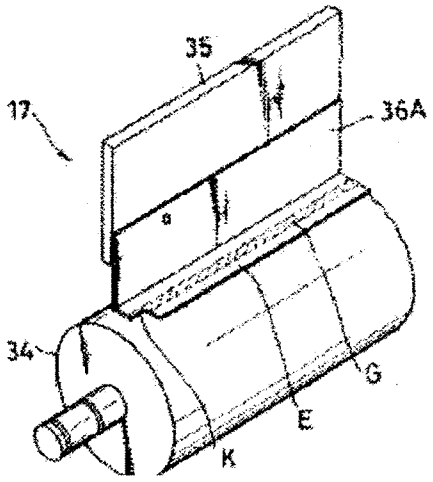
E. Anticipation—Japanese Patent Application No. 61-185772

The ALJ found that Oki failed to prove that Japanese Patent Application No. 61-185772 ("the '772 application") anticipates the asserted claims. ID at 206. The ALJ found that the '772 application does not teach (1) bending in "a direction orthogonal" to the longitudinal direction of the roller and (2) a "step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part," as required by the asserted claims. *Id.*

As discussed above, "a direction orthogonal" can refer to any direction in a plane perpendicular to the longitudinal direction of the developing roller. Thus, a planar blade bent in any direction from the roller such as the one shown in the '772 application meets this limitation. We reverse the ALJ's finding that the '772 application does not disclose a blade bent in "a direction orthogonal." We agree with the ALJ, however, that the contact between the blade and the roller occurs in the same area where the step part occurs. Thus, the "step part" in the '772 application is not "downstream of a contact point of the blade and the roller part."

Moreover, the '772 application does not teach "a lower edge . . . contacts the roller part" as shown in Figures 2, 3, 5, 6, and 8. *See* RX-52C at OKI 8381587-90. In particular, the '772 application is clear that the nip portion G is the contact area between the blade and the roller, as shown below.

FIG. 5



Id. at OKI 8381579. Because no "lower edge" of the blade contacts the roller of the '772 application in the nip portion G, this reference does not anticipate the asserted claims of the '343 patent. *See* RX-52C at OKI 8381587-90. We therefore affirm the ALJ's finding that the '772 application does not anticipate the asserted claims of the '343 patent.

III. ISSUES PERTAINING TO THE '690 PATENT[7]

A. Level of Ordinary Skill in the Art

The ALJ found that one of ordinary skill in the art of the '690 patent would have specialized knowledge and experience in the field of electrostatic printing:

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[7] The Commission takes no action with respect to contributory infringement of the '690 patent. Chairman Okun, Commissioner Lane, and Commissioner Pinkert would have found no contributory infringement based on the evidence in the record. Vice Chairman Williamson, Commissioner Pearson, and Commissioner Aranoff would have the Commission take no position on this issue. *Beloit Corp. v. Valmet Oy*, 742 F.2d 1421 (Fed. Cir. 1984) (noting that the Commission may at its discretion review only certain dispositive issues resolved in the ID).

> would be one who has at least a Bachelor's Degree in materials science, rheology, physics, chemistry, chemical engineering, or mechanical engineering and at least three years of experience in electrophotography, electrostatic recording, or electrostatic printing or like fields. The PHOSITA would also be familiar with heat transfer, fuser roller design and technology, toner rheology, toner adhesion, release agent management, nip geometry, image fixing, paper path geometry, contact angle and surface roughness characteristics and testing of xerographic fuser rollers.

ID at 99. Nevertheless, the ALJ relied on Dr. Giacomin, an expert in the field of rheology, which is the study of the flow and deformation of matter, including elastic liquids such as toner. ID at 3 (citing Giacomin Tr. 358:3-7). Because we find an inconsistency between the ALJ's definition of one of ordinary skill in the art in the '690 patent and his acceptance of Dr. Giacomin's expert testimony on critical issues for the '690 patent, we determined to review.

Upon review, we find the ALJ's definition of one of ordinary skill in the art for the '690 patent to be slightly out of focus. In determining the relevant art of a particular invention, the Federal Circuit has indicated that some factors to consider include the following: (1) the type of skill required to understand the disclosure of the patent, (2) the type of prior art applied against the claims during prosecution by the U.S. Patent and Trademark Office ("PTO"), and (3) the nature of the problem confronting the inventor. *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1008-09 (Fed. Cir. 1983). The '690 patent specification discloses, among other things, a rheological method of reliably calculating the adhesion constant between toner and fuser rollers to determine whether these surface properties are met. JX-5 ('690 patent), col. 4, ll. 46-53 ("By measuring the adhesion constant with two kinds of liquid having respective dipole moments of greater than 3.0 debye and 0.0 debye, factors relating to surface conditions . . . are eliminated"). In fact, the only drawings in the '690 patent are rheological contact angle measurements between

the fuser roller and the toner. *Id.* at Figures 1 and 2. Although the '690 patent also discloses a method of manufacturing fuser rollers that meet specific surface properties, none of the claims of the '690 patent are directed to the manufacture of these rollers. *Compare Id.* col. 6, ll. 1-60 (discussing material and manufacture of fuser rollers) *with* col. 11, l. 21 to col. 12, l. 49.

The'690 patent does not disclose a new "toner image fixing method," as the preamble in claim 1 suggests. Indeed, the "providing" steps in the body of independent claim 1 are well-known electrophotographic process steps. On the other hand, the claimed mathematical relationships are directed to the specified surface characteristics of the desired fuser, and all claims require certain rheological measurements to be made to determine whether the claim is met. Thus, we find that the development of the '690 invention was in the field of toner and fuser rheology. *See Orthopedic Equip. Co.*, 702 F.2d at 1008.

Moreover, during prosecution, the '690 applicant submitted a number of Japanese patent references that the PTO considered but never applied in a prior art rejection. The only references applied in a prior art rejection were U.S. Patent Nos. 5,582,917 ("the '917 reference") and 5,716,714 ("the '714 reference"). JX-10 at RITC0002188-2210. Both the '917 and '714 references are directed to material and manufacture of fusers as well as toner rheology. *See id.* at RITC0002192-2210. This also indicates that the relevant art is fuser design and manufacture as well as toner/polymer rheology. *See Orthopedic Equip. Co.*, 702 F.2d at 1009.

Although the '690 patent indicates that it deals with electrophotography, there is virtually no discussion of any specific electrophotographic device or process in the detailed description of the invention. Indeed, the only part of the '690 patent that mentions electrophotography is the "Background of the Invention" and, even then, it is only used as a general introduction to the

problem of "hot-offset," which the '690 patent sets out to solve. JX-5 ('690 patent), col. 1, l. 5 to col. 3, l. 8. Based on the scope of the problem to be solved, the scope of the claims, the scope of the disclosure, and the scope of the prior art applied by the PTO, we conclude that knowledge of rheology and/or fuser design and manufacture is more important than knowledge of the overall electrophotographic printing process with respect to the '690 patent.

In light of what we view to be the relevant art, we find that one of ordinary skill in the art would have at least a bachelor's degree in materials science, rheology, physics, chemistry, chemical engineering, or mechanical engineering and either (1) at least three years of experience in xerographic fuser design and toner or polymer rheology, (2) at least three years of experience in rheology in industry or a graduate institution, or (3) a graduate degree in rheology or a like field. This person would also be generally familiar with electrophotographic printing and one or more of the following areas: heat transfer, fuser roller design and technology, toner or polymer rheology, toner adhesion, release agent management, or contact angle and surface roughness characteristics, and testing of xerographic fuser rollers. We find a general familiarity with electrophotographic printing to be sufficient given the '690 patent's focus on fuser design and toner and polymer rheology and lack of emphasis on other parts of the printing process. *See* JX-5 ('690 patent), col. 11, ll. 21-49. Moreover, our definition of the required level of skill omits certain areas that are only tangentially related to the '690 patent, including nip geometry, image fixing, and paper path geometry, because knowledge in these areas would not help one understand the claimed invention. Finally, we conclude that experience in (1) xerographic fuser design and toner or polymer rheology, (2) rheology in industry or a graduate institution, or (3) a graduate degree in rheology would allow one to understand the invention of the '690 patent.

Based upon these conclusions, we find Dr. Giacomin, Ricoh's expert, to be a person of ordinary skill in the relevant art. In particular, Dr. Giacomin is "generally familiar" with electrophotography, and he has the other requisite qualifications set forth above. CX-268C at Q/A 11, 52-71; CX-129. The ALJ found Dr. Giacomin credible because he was knowledgeable about the areas of dispute for the '690 patent. Although it is difficult to quantify credibility of a witness along with other credentials, the ALJ's assessment of Dr. Giacomin as a knowledgeable expert witness strongly suggests that he is at least one of ordinary skill in the art of the '690 patent. *See e.g.*, ID at 240, 270-71. Thus, we affirm the ALJ's determination that Dr. Giacomin is qualified as an expert for the '690 patent on the modified grounds set forth above.

B. Validity: Anticipation

The ALJ found that Oki failed to prove that U.S. Patent Nos. 3,291,466 ("the '466 patent") (RX-115) and 4,935,785 ("the '785 patent") (RX-117) anticipate the asserted claims 1, 5, 9, and 13. ID at 269. The ALJ also found that Oki failed to prove that its OL400e roller anticipated the asserted claims because it was not clear that the rollers tested by Ricoh were the same as those OL400e rollers manufactured prior to the critical date of the '690 patent. ID at 258. The ALJ made similar findings for Oki's OL1200 rollers. ID at 264-66.

The only disputed claim limitations (reproduced below) are directed to the surface conditions between the toner and the fuser roller. The ALJ refers to these as the 5th and 6th limitations:

> an adhesion constant $\mu_{s\text{-}b}(n)$ is represented by:
>
> $$\mu_{s\text{-}b}(n) = (\cos \theta_b - \cos \theta_s)/\sin \theta_b,$$

> where n is 1 or 2, θ_b is a receding constant angle of a surface of at least one of the fixing members that contacts the thermofusible toner image on the image supporting material, and θ_s is a static contact angle of the surface, the receding and static contact angles determined using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and using another liquid having a dipole moment of 0.0 debye when n is 2, and
>
> a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s\text{-}b}(1)/\mu_{s\text{-}b}(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0.

JX-5 ('690 patent), col. 11, ll. 34-48. The claimed equation represents the calculation of the adhesion constant ratio based on the static and receding contact angles using two different liquids. It is undisputed that the remaining elements "providing a thermofusible toner image . . . ," "providing two fixing members . . . ," "heating the nipped section . . . ," and "fixing the thermofusible toner image . . . " existed in the prior art, including Oki's OL1200 and OL400e printers and fusers. ID at 269-73.

The '690 patent indicates that PFA coated fuser rollers (like those used in the prior art Oki products) "easily satisfy the above-mentioned surface physical properties." JX-5 ('690 patent), col. 6, ll. 1-19. The '690 patent does not qualify this sweeping statement. The "surface physical properties" with which the '690 patent is concerned include an adhesion contact ratio of less than 8.0 when measured using the liquids set forth in the '690 patent. *Id.* at col. 4, ll. 21-55. The '690 patent explains that measuring the adhesion constant with static contact and receding contact angles using a single liquid is unreliable due to variations in surface conditions of thermofusible rollers. *Id.* According to the '690 patent, using more than one liquid, one with a dipole moment greater than 3.0 debeye and the other with a dipole moment of 0.0, to measure the angles yields more accurate results. The specification states:

> [T]he degree of difficulty in separating melted toner from the surface of a fixing member may be obtained by measuring the static contact angle and the receding contact angle between the melted toner and the surface of the fixing member . . . [A]ccording to the present invention, the adhesion constant . . . was found to be fairly correlative . . .
>
> [S]ince the adhesion constant depends on surface conditions of the fixing member, the adhesion constant measured using only one kind of liquid tends to vary. By measuring the adhesion constant with two kinds of liquid having respective dipole moments of greater than 3.0 debye and 0.0 debye, factors relating to the surface conditions of the fixing member are eliminated and the ratio of the adhesion constants is found to correlate with the degree of difficulty in separating melted toner from the surface of a fixing member.

Id. at col. 4, ll. 21-55. Because hot-offset is a problem with separation between the melted toner from the thermofusible roller, the adhesion constant calculated in this manner is indicative of the degree of hot-offset. Based on this description, we find that the '690 patent admits that a fuser roller made of PFA, such as the prior art Oki rollers, inherently meet the claimed less than 8.0 adhesion constant ratio. The "easily satisf[ies]" language is an admission and we consider this factual evidence in our validity analysis. *See Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed. Cir. 1988) ("A statement in the patent that something is in the prior art is binding on the applicant and patentee for determinations of anticipation and obviousness."); *Sjolund v. Musland*, 847 F.2d 1573, 1577-79 (Fed. Cir. 1988) (the applicant's statements in the specification concerning the prior art must be accepted as "a matter of law").

Even if we were not entitled to rely on the patentee's admission, the remaining detailed description, including Example 2, supports the same conclusion. JX-5 ('690 patent), col. 6, ll. 3-5 and col. 7, ll. 4-30. As can be seen from Tables 1 to 3, the adhesion constant ratio for the

roller was calculated to be 0.43 (Table 3, line 2, column 6) based on static contact and receding contact angles measured (Table 2, line 2) using 2-nitropropane having a dipole moment of 3.73 and n-heptane having a dipole moment of 0.0 (Table 1). *See id.* at col. 7, ll. 32-43.

Although much of the debate about invalidity based on Oki's prior art fuser rollers centered around whether the rollers that were tested by Ricoh's expert were the same as the rollers that existed before the effective date of the '690 patent, we find clear and convincing record evidence that the Oki OL400e rollers that existed before the '690 patent inherently anticipate asserted claims 1, 5, 9, and 13, regardless of whether these rollers are the exact same as those that were tested by Ricoh's expert during the investigation. *See King Pharms., Inc. v. Eon Labs.*, Inc., 616 F.3d 1267 (Fed. Cir. 2010) ("Anticipation by inherent disclosure is appropriate only when the reference discloses prior art that must necessarily include the unstated limitation.") (internal quotations omitted). It is undisputed that Oki's OL400e fuser rollers were coated with PFA since before the effective filing date of the '690 patent. Thus, we conclude that these prior art Oki rollers inherently meet the claimed adhesion constant ratio. Asserted dependent claim 5 requires a receding contact angle of greater than 30 degrees when measured with a liquid having a dipole moment of greater than 3.0 debye. Example 2 shows that when 2-nitropropane—debye 3.73—is used on a PFA-coated roller, the receding contact angle was 39 degrees, which clearly meets this limitation.

As to claims 9 and 13, we find the evidence clear and convincing that the OL400e also anticipates these claims, which require "a center-line average roughness less than about 3.0 um." *See* RX-186C at OKI008381592-94 (certified translation of RX-185C); *see also* RX-182C; RX-

123C Q/A 98-105, 114-119; RX-192C. RX-186C is a document entitled "Design Change Order" dated July 27, 1993. In the section entitled "Substance of Changes" and again on the last page, this document indicates that the surface roughness of the PFA coating is to be changed from 0.7 Ra to 0.7 Ra or less. *See* RX-186C at OKI008381592-94. As the '690 patent recognizes, "Ra" is the unit for center-line average roughness. JX-5 ('690 patent), col. 3, ll. 48-50. Thus, the design change order shows that the center-line average roughness of Oki's OL400e rollers were well below the claimed less than 3.0 um both before and after the design change. Because the OL400e roller met this limitation before the critical date of the '690 patent, Oki's OL400e product anticipates claims 9 and 13.

In light of the foregoing, we find that claims 1, 5, 9, and 13 are anticipated by the prior art OL400e roller, and we reverse the ALJ's finding to the contrary. We decline to reach Oki's contentions that the ALJ erred in finding that neither the '466 patent, the '785 patent, nor the OL1200 Oki rollers anticipates the asserted claims. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421 (Fed. Cir. 1984).

IV. DOMESTIC INDUSTRY: ECONOMIC PRONG FOR THE '343 AND '690 PATENTS

Ricoh relied on its expenses related to its C200 series printers and MFPs to meet the economic prong of the domestic industry requirement for the '343 and '690 patents. The ALJ found that Ricoh satisfied the economic prong of the domestic industry requirement with its service and repair expenses, although he noted that Ricoh's C200 series printers and MFPs are no longer sold and were never manufactured in the United States. ID at 422. The ALJ credited testimony of a Ricoh employee, Mr. Mandernacht, that Ricoh has spent on average [ ]

annually on labor to service and repair C200 series printers and MFPs during its fiscal years 2008 and 2009 (which span from April 2008 to March 2010). *Id.* at 423. The ALJ rejected Oki's argument that complainant's evidence was unreliable and its expenditures were not significant. ID at 424. The Commission determined to review.

As a prerequisite to a finding of violation of section 337, a complainant must establish that "an industry in the United States, relating to the articles protected by the [intellectual property right] . . . concerned, exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). Typically, the domestic industry requirement of section 337 is viewed as consisting of technical and economic prongs. *See e.g.*, *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, USITC Pub. 3003, Comm'n Op. at 14-17 (Nov. 1996). The technical prong concerns whether complainant practices at least one claim of the asserted patents. The economic prong concerns domestic activities with respect to the patent or patented article.

To satisfy the economic prong in cases involving alleged infringement of statutory intellectual property rights, section 337(a)(3) requires a complainant to demonstrate that, "with respect to the articles protected by the [intellectual property right] concerned," it has engaged in one or more of the following activities in the United States:

> (A) significant investment in plant and equipment;
> (B) significant employment of labor or capital; or
> (C) substantial investment in [the intellectual property right's] exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3). Because these three criteria are listed in the disjunctive, a complainant need only establish one factor in order to satisfy the economic prong of the domestic industry requirement. *Wind Turbines,* Inv. No. 337-TA-376, Comm'n Op. at 15.

Although the term "significant" in section 337(a)(3)(A) and (B) is not expressly defined in the statute, "the design of the statute provides substantial guidance" in determining the meaning of this term. *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same,* Inv. No. 337-TA-650, Comm'n Op. at 44 (Mar. 31, 2010). The language of sections 337(a)(2) and 337(a)(3)(A) and (B) taken together indicate the intent of Congress that in order to establish a domestic industry, a complainant's investment in plant and equipment or employment of labor or capital must be shown to be "significant" in relation to the articles protected by the intellectual property right concerned. Thus, under the statute, whether the complainant's investment and/or employment activities are "significant" is not measured in the abstract or in an absolute sense, but rather is assessed with respect to the nature of the activities and how they are "significant" to the articles protected by the intellectual property right. The legislative history of section 337(a)(3) evidences that Congress intended to codify the Commission's practice with respect to the first two factors and to expand the scope of the domestic industry by adding the third factor "substantial investment in [the intellectual property's] exploitation," as set forth in section 337(a)(3)(C). H.R. Rep. No. 40, 100th Cong., 1st Sess. Pt. 1, at 157 (1987).

The Commission's determination as to whether a complainant has established that its investment and/or employment activities are significant with respect to the articles protected by the intellectual property right concerned is not evaluated according to any rigid mathematical formula. *See Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm'n Op. at 39 (Aug. 1, 2007) ("*Male Prophylactics*"). Rather, the Commission's determination entails "an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace." *Id.* The determination takes into account the nature of the investment and/or employment activities, "the industry in question, and the complainant's relative size." *Certain Stringed Musical Instruments and Components Thereof,* Inv. No. 337-TA-586, Comm. Op. at 26 (May 16, 2008).

In ascertaining whether a complainant has established that its activities are significant with respect to the articles protected by the intellectual property right concerned, the Commission has considered, among other things, the value added to the article in the United States by the domestic activities. *See, e.g., Certain Concealed Cabinet Hinges and Mounting Plates*, Inv. No. 337-TA-289, 1990 ITC LEXIS 3, Comm'n Op. at *32 (Jan. 8, 1990) ("*Cabinet Hinges*") ("'significance' as used in the statute denotes an assessment of the relative importance of the domestic activities"). The Commission has also assessed the relative domestic contribution to the protected article by comparing complainant's product-related domestic activities to its product-related foreign activities. *See, e.g., Male Prophylactics,* Inv. No. 337-TA-546, Comm'n Op. at 43 (finding that complainant's undertakings, measured on a comparative basis, created

meaningful value added to the imported product); *Schaper Mfg. Co. v. Int'l Trade Comm'n*, 717 F.2d 1368, 1372 (Fed. Cir. 1983). The Commission has also examined the nature of complainant's activities to determine whether they are directed to the practice of one or more claims of the asserted patent. *See, e.g., Male Prophylactics,* Inv. No. 337-TA-546, Comm'n Op. at 42-43 (noting that complainant's U.S. activities were "directed to the practice of certain patent claims."); *Cabinet Hinges,* Inv. No. 337-TA-289, Comm'n Op. at 23 ("Because of the indirect bearing on the patented features of the [product]," the Commission gave less weight to complainant's investments relating to adding an optional dowel to the imported product).

Ricoh filed its section 337 complaint on September 18, 2009, thus our analysis focuses on its undertakings prior to that date. *See Coaxial Cable Connectors*, Inv. No. 337-TA-650, Comm'n Op. at 51 n.17. Ricoh relies strictly on the service and repair of its C200 series printers and MFPs to meet the economic prong. We find no reason to question the reliability of Ricoh's service and repair figures. *See* ID at 422-23. Ricoh provided evidence that it expended [ ] hours in fiscal year 2008 and [ ] hours in fiscal year 2009 on C200 series-related service and repair. *Id.*; CX-275C; CX-174C; CX-175C. Additionally, Ricoh submitted evidence that through the end of fiscal year 2009, it sold approximately [ ] C200 series printers and MFPs in the United States. CX-277C at 5. Ricoh's evidence supports its claim that its total expenditures for salaries and benefits paid to its U.S. employees for service and maintenance of C200 series printers and MPFs in the United States amounted to approximately [ ] annually in its fiscal years 2008 and 2009. CX-275C at Q/A 39-41. This expenditure represents

approximately the equivalent of the full-time employment of [ ] over this period, approximately 18 months of which occurred prior to the filing of the complaint.[8]

As the IA correctly notes, the Commission has previously recognized that, in appropriate circumstances, a complainant may satisfy the economic prong of the domestic industry by demonstrating that its service and repair activities and investments are significant with respect to the articles protected by its intellectual property rights. For example, in *Toy Vehicles,* the Commission found that complainant's services relating to its patented dual control power pedal units under warranty and as replacement parts was shown to be significant to complainant's U.S. business. *See, e.g., Certain Battery-Powered Ride-on Toy Vehicles and Components Thereof,* Inv. No. 337-TA-314, USITC Pub. 2420, Initial Determination at 20-21 (unreviewed in relevant part) (Aug. 1991). Similarly, in *Cast Iron Stoves,* the Commission found that complainant's repair and testing activities, preparation of brochures and service manuals, and instruction of dealers on the safe installation of wood burning stoves protected by the intellectual property rights concerned satisfied the economic prong because of the relative importance of these activities to the protected articles, and the significant domestic value added resulting from these activities. *Certain Airtight Cast-Iron Stoves,* Inv. No. 337-TA-69, USITC Pub. 1126, Comm'n Op. at 10-11 (Jan. 1981). Likewise, in *Spray Pumps,* the complainant met the economic prong by demonstrating that the frequent warranty servicing required over the lifetime of the pumps protected by the patents added significant value. *Certain Airless Spray Pumps and Components*

[8] We recognize that Ricoh may not dedicate particular employees to the service or repair of particular printers. CX-275C at 7. We merely provide this information to inform our analysis of the magnitude of Ricoh's expenses.

Thereof, Inv. No. 337-TA-90, USITC Pub. 1199, Comm'n Op. at 10-11 (Nov. 1981). More recently, in *Male Prophylactics,* the Commission found complainant's investment and/or employment activities to be significant where complainant's lubrication, foiling, testing, and packaging of unfinished imported condoms transformed the product into saleable merchandise, resulted in 34% domestic value added, and included operations directed to the practice of certain patent claims. Comm'n Op. at 41-45. In *Video Displays,* the Commission found the economic prong met where complainant's post-sale service operations, including warranty repairs and refurbishments, return merchandise authorizations, customer call center operations, and technician activities with respect to the video displays protected by the asserted patents, were significant. *Certain Video Displays, Components Thereof, and Products Containing Same,* Inv. No. 337-TA-687, Order No. 20, Initial Determination (May 20, 2010) (unreviewed).

In this case, however, complainant failed to submit evidence to substantiate the nature and significance of its activities with respect to the articles protected by the patent. For example, complainant submitted no evidence to show how its activities were important to the articles protected by the asserted patents in the context of the company's operations, the marketplace, or the industry in question, or whether complainant's undertakings had a direct bearing on the practice of the patent. Nor did the complainant demonstrate whether and to what extent its domestic activities added value to the imported products. Thus, in analyzing whether Ricoh has demonstrated "significant employment of labor or capital," the ALJ was left to consider only the magnitude of complainant's expenditures in an absolute sense.

As our prior decisions recognize, however, the magnitude of the investment cannot be assessed without consideration of the nature and importance of the complainant's activities to the patented products in the context of the marketplace or industry in question. For example, in *Stringed Musical Instruments,* the Commission considered the inventor's investments in the exploitation of the patent-at-issue in relation to the protected articles "taking into account that [complainant] is an individual and that the market for guitar parts, however defined, is relatively small." *Stringed Musical Instruments*, Inv. No. 337-TA-586, Comm Op. at 26. Although that investigation was decided under subsection (C) of the statute, it illustrates the generally applicable principle that whether an investment is "substantial" or "significant" is context-dependent. Accordingly, the employment of [ ] in the United States over approximately 18 months may represent a significant employment of labor where it contributes significant value to the product, where it is sizeable in relation to a complainant's overall product-related expenses and investments, or in another relevant context. The same employment of labor, however, may not be significant in another context.

We conclude that Ricoh has failed to show that its documented labor costs constitute a "significant employment of labor or capital" as required by section 337(a)(3)(B) in light of the factual circumstances presented in this case and complainant's failure to submit additional evidence to support its domestic industry claim.[9] As noted, Ricoh relies on its employment of

[9]Although Ricoh has focused on section 337(a)(3)(B) dealing with "employment of labor or capital," we cannot conclude, in light of the present circumstances, that Ricoh's C200 series service and repair activities would meet any other prongs of section 337(a)(3). *See Certain Switches and Products Containing Same*, Inv. No. 337-TA-589, Initial Determination at 74 (Nov. 7, 2007) (unreviewed in relevant part) (finding the economic prong satisfied by a "substantial

labor devoted to the service and repair of its C200 series printers and MFPs. Ricoh ceased its foreign manufacturing of the C200 series printers and MFPs in 2008 and stopped selling the C200 series printers and MFPs by April 2009 at the latest, which was five months prior to filing its section 337 complaint. ID at 422. Even when Ricoh sold these products in the United States, they were manufactured entirely abroad and entered the United States as complete products ready for sale and installation. *Id.* Ricoh submitted no evidence to show how its domestic activities add any value to the completed saleable product, or to demonstrate the nature and relative importance of its activities to the articles protected by the patent (in view of the relevant industry or marketplace).[10]

Aside from acknowledging that the C200 series printers and MFPs were manufactured entirely abroad, Ricoh has provided no evidence regarding its foreign product-related investment and/or employment activities. Thus, Ricoh has failed to show that a comparison of its C200 series-related *domestic* activities with its C200 series-related *foreign* activities would support its

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investment" under section 337(a)(3)(C) relating to, inter alia, "customer training and support, the drafting of manuals, a limited amount of testing, minor repairs to returned products, and a small amount of design work" for a complainant whose product was manufactured abroad); *Certain Connecting Devices ("Quick-Clamps") for Use with Modular Compressed Air Conditioning Units*, Inv. No. 337-TA-587, Initial Determination at 63-64 (Feb. 13, 2008) (unreviewed) (finding the economic prong satisfied by a "substantial investment" under section 337(a)(3)(C) relating to "customer support . . ., quality inspection, qualifying vendors, retooling manufacturing equipment, and quality control" for a complainant whose product was manufactured abroad).

[10] We recognize that an analysis of the value added by a complainant's domestic activities is better suited to a situation in which those domestic activities involve at least some production work. *See, e.g., Male Prophylactics*, Inv. No. 337-TA- 546, Comm'n Op. at 42-43 (noting that complainant's domestic activities consisted of lubricating, foiling, and packaging complainant's product). However, we offer this analysis to more fully assess Ricoh's proffered evidence.

claim that its domestic labor expenses are "significant." *See Cabinet Hinges*, Comm'n Op. at *32 ("'significance' as used in the statute denotes an assessment of the relative importance of the domestic activities"); *Male Prophylactics*, Comm'n Op. at 43 (on "a comparative basis, the domestic activities in which [complainant] invested create 'value added' [of 34 percent] to the bulk product imported from China.").[11] We find that the factual circumstances in *Male Prophylactics*, relied on by the ALJ, are clearly distinguishable from the present set of facts. In *Male Prophylactics*, the complainant's domestic production and service activities were shown to add 34% of the value to the completed saleable product, whereas, Ricoh's services and repairs are purely post-sale and there was no evidentiary proof that such activities added value to the imported articles. The *Male Prophylactics* complainant had also leased factory space and

[11] The ALJ declined to compare Ricoh's overall service and repair expenses with its C200-related service and repair expenses because "such a comparison would obviously hurt large, diversified companies that produce a wide range of products." ID at 424. We decline to adopt this rule for all cases because, in our view, such a comparison *could* serve as a means to demonstrate that an employment of labor or capital is significant especially, where as here, complainant has not provided any other evidence. The economic prong of the domestic industry requirement is analyzed on a case-by-case basis in light of all the relevant facts. *See Coaxial Cable Connectors*, Inv. No. 337-TA-650, Comm'n Op. at 51. We note that Ricoh's evidence of its [ ] in total annual expenditures on labor for all of its printers and MFPs, compared to its [ ] in expenses related to its C200 series labor and repair activities, does not support its case because it is not clear from the record how many printers and MFPs Ricoh services over which this total expenditure is distributed. *See* CX-275C at Q/A 11-14. Ricoh *could* have submitted evidence of its service and repair expenses associated with a comparable product, thus allowing the Commission to compare significance of domestic labor expenses related to two different products. Moreover, Ricoh failed to submit evidence to demonstrate how these expenses are significant to the articles protected by the patent.

equipment to produce the domestic product, whereas, Ricoh's repair and maintenance services are administered at customer sites.

Although Ricoh has provided estimates of office space square footage and cost for "Ricoh employees dedicated to service, support, sales, and marketing of the C200 series," ID at 417, Ricoh has explained that its service and repair efforts occur "out in the field." CX-275C at 3.[12] Thus, it is unclear how these expenses relate to Ricoh's service and repair work. We find Ricoh's failure to submit evidence to demonstrate how these expenses are significant to the articles protected by the patent is deficient for the same reasons that complainant's showing was deficient with respect to labor expenses.

Based on these facts, we find that Ricoh has not shown that a domestic industry exists with respect to the articles protected by the '343 and '690 patents. Thus, we reverse the ALJ's finding that Ricoh has satisfied the economic prong for the '343 and '690 patents. We do not reach Oki's patent exhaustion argument or Ricoh's related waiver contention.

V. CONCLUSION

For the foregoing reasons, we affirm the ALJ's finding that no section 337 violation occurred with respect to the '343 patent but reverse his finding that a violation occurred with respect to the '690 patent. Specifically as to both patents, we reverse the ALJ's finding that Ricoh satisfied the economic prong of the domestic industry requirement of section 337(a)(3).

[12] Ricoh derived this figure by multiplying its "total equipment costs . . . for equipment used for the sales, marketing, service, and support for MFPs" by "the percentage of the total revenue from [Ricoh's] MFP sales in the United States that consisted of the revenue from the sale of the [C200 series] product line." CX-274C at 16.

As to the '343 patent, we have determined to modify the ALJ's construction of "a lower edge" and affirm his findings that Oki does not infringe the '343 patent and Ricoh does not satisfy the technical prong of the domestic industry requirement on modified grounds. Finally, we reverse the ALJ's finding that Oki did not prove that claims 1, 5, 9, and 13 of the '690 patent are anticipated by the prior art. We adopt all findings and conclusions in the ID that are not inconsistent with this opinion.

By order of the Commission.

James Holbein
Acting Secretary to the Commission

Issued: February 17, 2011

CERTAIN PRINTING AND IMAGING DEVICES AND COMPONENTS THEREOF **337-TA-690**

CERTIFICATE OF SERVICE

I, James R. Holbein, hereby certify that the attached **COMMISSION OPINION** has been served by hand upon the Commission Investigative Attorney, Juan S. Cockburn, Esq., and the following parties as indicated, on

February 17, 2011.

James R. Holbein, Acting Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

On Behalf of Complainants Ricoh Company, Ltd., Ricoh Americas Corporation, and Ricoh Electronics, Inc.:

Sean C. Cunningham, Esq.
DLA Piper LLP (US)
401 B Street, Suite 1700
San Diego, CA 92101-4297

( ) Via Hand Delivery
( ) Via Overnight Mail
(X) Via First Class Mail
( ) Other: _____

On Behalf of Respondents Oki Data Corporation and Oki Data Americas, Inc.:

V. James Adduci, II, Esq.
ADDUCI, MASTRIANI & SCHAUMBERG, LLP
1200 Seventeenth Street, NW, Fifth Floor
Washington, DC 20036

( ) Via Hand Delivery
( ) Via Overnight Mail
(X) Via First Class Mail
( ) Other: _____