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Paper 9
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHAW INDUSTRIES GROUP, INC.
Petitioner

v.

AUTOMATED CREEL SYSTEMS, INC.
Patent Owner

Case IPR2013-00132 (JTA)
Patent 7,806,360 B2

Before JOSIAH C. COCKS, JUSTIN T. ARBES, and BRIAN J. McNAMARA, *Administrative Patent Judges.*

ARBES, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Shaw Industries Group, Inc. filed a Petition ("Pet.") to institute an *inter partes* review of claims 1-21 of Patent 7,806,360 B2 (the "'360 patent") pursuant to 35 U.S.C. § 311 *et seq*. Patent Owner Automated Creel Systems, Inc. filed a preliminary response ("Prelim. Resp.") to the Petition. We have jurisdiction under 35 U.S.C. § 314. For the reasons that follow, the Board has determined to institute an *inter partes* review.

I. BACKGROUND

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a):

> THRESHOLD – The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Petitioner challenges claims 1-10 and 12-21 of the '360 patent as anticipated under 35 U.S.C. § 102 and claims 2-7, 9-11, 13, 15-18, and 21 as obvious under 35 U.S.C. § 103(a). Pet. 3, 9-52. We grant the Petition as to claims 1-3 and 5-21 on certain grounds as discussed below.

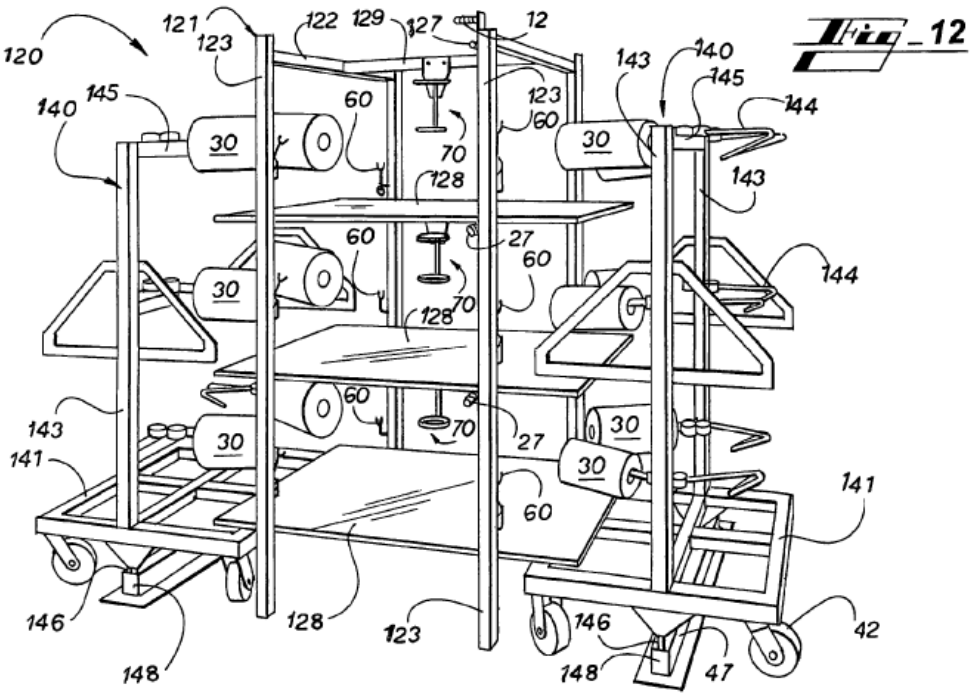
A. The '360 Patent (Ex. 1002)

The '360 patent, entitled "Creel Magazine Supply System and Method," issued on October 5, 2010 based on Application 12/253,398, filed October 17, 2008. The '360 patent is a continuation-in-part of Application 11/875,254, filed October 19, 2007 and issued as Patent 7,802,749.

The '360 patent relates to "creels used for supplying stranded materials" (e.g., yarn used for making textiles) to a machine for "subsequent

treatment" or the "fabrication of articles" from the stranded materials. Col. 1, ll. 14-17. The patent describes how high-speed processing systems require a continuous, uninterrupted stream of stranded material fed from multiple yarn packages throughout a creel, but loading and maintaining a full creel "remains an extremely labor intensive operation" and can cause breaks in the material, particularly at the point where material from successive packages is joined. Col. 1, ll. 30-44. The patent describes a mechanism of providing a "pre-configured supply of materials, carried on movable carts, or cartridges," for loading into a creel. Col. 2, ll. 36-46.

Figure 12 of the '360 patent is reproduced below:



Two carts 140 on either side of creel magazine frame 121 are loaded with three levels of stranded material packages 30 (two packages on each level). Col. 8, ll. 32-52. Packages 30 are supported on support arms 144. Col. 8, ll. 55-67. One continuous feed of stranded material is provided at a particular level by connecting the end of the material in one package to the beginning

of the material in the next package and drawing material from the four packages at the level sequentially. Col. 9, l. 64-col. 10, l. 16; Fig. 13 (depicting stranded material portions a-f from packages 30a-d used in sequence). The patent also describes a method of replacement whereby the empty packages in one cart are replaced while the packages in the opposite cart are being used, and then alternating roles when the opposite packages in turn are depleted. Col. 7, l. 45-col. 8, l. 52; col. 11, l. 1-col. 12, l. 16. In other words, a cart or package is either "active" (when it is being used) or "ready" (when it has been replenished and is awaiting use). Col. 11, l. 65-col. 12, l. 9. Carts 40 have wheels 42 and are positioned at the appropriate distance from creel magazine 120 via a pin 146 placed in track 148. Col. 4, ll. 22-25; col. 9, ll. 1-13.

As shown in Figure 12, creel magazine 120 includes on each level a ring guide 70 for routing the stranded material as it is drawn from packages 30. Col. 9, ll. 14-63. Figure 19A depicts ring guide 70 in further detail and is reproduced below:

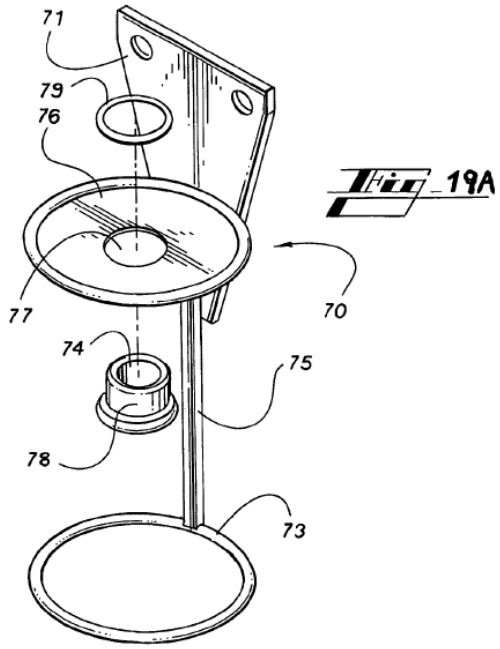


Fig. 19A

Ring guide 70 comprises a lower ring having an annular turning surface 73 and an upper ring having an upper turning surface 74. Col. 9, ll. 22-37. The ring shape of annular turning surface 73 allows the surface to receive stranded material from any direction (i.e., any of the four packages at that level) and control "ballooning"[1] when "the strands transfer across the magazine frame 121 from one cart to the other." Col. 5, ll. 51-61; col. 9, ll. 49-59. As stranded material is drawn out of a package, annular turning surface 73 changes the orientation of the material from horizontal to vertical, upper turning surface 74 changes it back to horizontal, secondary guide 27 (shown in Figure 12) changes it to vertical, and guide board 12 (shown in Figure 12) changes it to horizontal so that it can be processed along with the material from other magazines. Col. 6, ll. 59-63; col. 9, l. 49-col. 10, l. 16; Figs. 16A-B.

B. Exemplary Claim

Claim 1 of the '360 patent is exemplary of the claims at issue:

> 1. A creel magazine for feeding stranded material to a manufacturing process comprising:
>
> a magazine having a stationary magazine frame comprising a common guide for said stranded material;
>
> a first and a second removable cartridge positioned adjacent said magazine frame on respective opposite sides of said frame, said first removable cartridge having at least one

[1] The '360 patent describes the problem of "ballooning" as follows: "As will be recognized by those skilled in the art, particularly with respect to stranded materials such as yarns utilized in textiles, as the yarn is pulled from the package 30, it will unwind from package 30 and form a balloon around and at the end of the package 30." Col. 5, ll. 51-55.

support arm supporting an active package of stranded material thereon;

said second removable cartridge having at least one support arm supporting a ready package of stranded material thereon;

wherein a trailing end of said active package is connected to a leading end of said ready package such that said stranded material is sequentially and continuously fed to said common guide from said active package then from said ready package.

C. The Prior Art

Petitioner relies on the following prior art:

1. German Patent Application Publication No. DE 3429153 A1, published Feb. 28, 1985 ("Münnekehoff") (Ex. 1005);

2. German Patent DE 7413531, published July 31, 1975 ("Barmag") (Ex. 1007);[2]

3. Patent 4,515,328, issued May 7, 1985 ("Payne") (Ex. 1008);

4. Patent 4,836,468, issued June 6, 1989 ("Singer") (Ex. 1009);

5. Patent 5,624,082, issued Apr. 29, 1997 ("Ligon '082") (Ex. 1010);

6. Patent 5,323,982, issued June 28, 1994 ("Ligon '982") (Ex. 1011); and

7. Patent 3,102,702, issued Sept. 3, 1963 ("Miller") (Ex. 1012).

[2] We refer to "Münnekehoff" as the English translation (Ex. 1005) of the original reference (Ex. 1004), and likewise refer to "Barmag" as the English translation (Ex. 1007) of the original reference (Ex. 1006). Petitioner provided affidavits attesting to the accuracy of the translations. *See* Exs. 1005, 1007; 37 C.F.R. § 42.63(b).

D. The Asserted Grounds

Petitioner challenges claims 1-21 of the ’360 patent on the following grounds:

Claims 1-5, 8-10, 12, 14, 19, and 20 under 35 U.S.C. § 102(b) as anticipated by Münnekehoff;

Claims 6, 7, 13, 15-18, and 21 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Ligon ’082;

Claim 11 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Miller;

Claims 2, 3, and 5 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Singer;

Claims 9 and 10 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Ligon ’982;

Claims 1-5, 8-10, 12, 14, 19, and 20 under 35 U.S.C. § 102(b) as anticipated by Barmag;

Claims 6, 7, 13, 15-18, and 21 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Ligon ’082;

Claim 11 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Miller;

Claims 2, 3, and 5 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Singer;

Claims 9 and 10 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Ligon ’982;

Claims 1, 2, 5-8, and 12-21 under 35 U.S.C. § 102(b) as anticipated by Payne;

Claims 3, 4, 9, and 10 under 35 U.S.C. § 103(a) as unpatentable over Payne and Münnekehoff;

Claim 11 under 35 U.S.C. § 103(a) as unpatentable over Payne and Miller;

Claims 2, 3, and 5 under 35 U.S.C. § 103(a) as unpatentable over Payne and Singer; and

Claims 9 and 10 under 35 U.S.C. § 103(a) as unpatentable over Payne and Ligon '982.

E. Claim Interpretation

Consistent with the statute and legislative history of the America Invents Act (AIA), the Board will interpret claims using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012).

There is a "heavy presumption" that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). However, a "claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history." *Id.* "Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Also, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*,

988 F.2d 1181, 1184 (Fed. Cir. 1993) ("[L]imitations are not to be read into the claims from the specification.").

For purposes of this decision, we construe certain claim limitations as follows:

1. "Cart" and "Cartridge" (Claims 1, 5, 8, 12, and 14)

Claim 1 recites "a first and a second removable cartridge positioned adjacent said magazine frame on respective opposite sides of said frame." Claim 5 recites similar first and second "removable cartridge[s]," and claims 8 and 12 recite first and second "movable cartridge[s]." Claim 14 recites a "removable active cart" and "removable ready cart."

Patent Owner equates the term "cartridge" with "cart," and argues that "cartridge" is defined explicitly in the Specification of the '360 patent to be a small wheeled vehicle that has "a platform, a post or vertical frame mounted to and extending from the platform, and wheels that have the ability and are configured to contact the ground floor of the facility to which the cart is placed." Prelim. Resp. 6-7. As support, Patent Owner cites column 4, lines 22-25 of the Specification, which disclose that "replaceable cartridge or cart 40, is comprised of a platform 41 supported by ground wheels 42 and a post or vertical frame 43 mounted to and extending from platform 41." *Id*. at 6. According to Patent Owner, ground wheels that can maneuver freely about a facility are advantageous over the prior art because a cartridge can be removed and replaced quickly. *Id*. (citing col. 8, ll. 12-16 of the Specification). Petitioner does not propose an interpretation for "cart" and "cartridge."

We agree with Patent Owner that the terms "cart" and "cartridge" appear to be used synonymously in the Specification. *See, e.g.*, Ex. 1002, col. 4, ll. 22-25 ("replaceable cartridge or cart 40"); col. 4, ll. 41-44 ("cartridge 40"); col. 6, ll. 63-66 ("cart 40"). We do not agree, however, that the terms are defined explicitly in the Specification to require a platform, post or vertical frame, and ground wheels. While the portions of the Specification cited by Patent Owner describe a particular "replaceable cartridge or cart 40" having those features, those portions describe merely exemplary embodiments. *See id.*, col. 4, ll. 22-27 ("[i]n the embodiment depicted"); col. 12, ll. 43-47. They do not amount to an explicit definition of "cart" and "cartridge" or an express and clear disclaimer of a broader definition. *See In re Bigio*, 381 F.3d 1320, 1325-26 (Fed. Cir. 2004) ("Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when those sources expressly disclaim the broader definition.").

In addition, while the claims recite that the cart or cartridge is either "removable" or "movable," they do not recite any "wheels" or describe any particular way of moving. We also do not see (and Patent Owner does not point to) language in the claims requiring the purported advantage of quick replacement described in the Specification. We therefore decline to import Patent Owner's proposed limitations into the definition of "cart" and "cartridge," and conclude that a person of ordinary skill would have understood the terms to have their ordinary and customary meaning. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, UNABRIDGED (1993) (Ex. 3001) (defining "cart" as a "small wheeled vehicle"); Prelim. Resp. 6 (citing an online dictionary with the same definition). Applying the broadest

reasonable interpretation of the claims in light of the Specification, we interpret "cart" and "cartridge" to mean a small wheeled vehicle.

2. "Removable" (Claims 1, 5, and 14)

Patent Owner argues that "removable" is defined explicitly in the Specification to mean "capable of removing unencumbered to a remote location." Prelim. Resp. 5-6. Patent Owner points to the Specification's description of "cartridges 40 to be loaded at a remote location," and the associated advantages of "saving labor costs and increasing efficiency by eliminating double handling [of] the packages 30." *Id*. at 6 (citing Ex. 1002, col. 8, ll. 16-19, 26-31). Patent Owner contrasts a "movable" cartridge with a "removable" cartridge, asserting that moving a cartridge a small distance from a magazine would not save labor costs and increase efficiency. *Id*. Petitioner does not propose an interpretation for "removable."

For similar reasons as explained above with respect to "cart" and "cartridge," we do not agree with Patent Owner that the Specification defines explicitly the term "removable." The portions of the Specification cited by Patent Owner do not tie the term "removable" to the described features or indicate that the term should be understood as requiring in all circumstances unencumbered removal and removal to a remote location. *See* Ex. 1002, col. 8, ll. 16-31. Indeed, the cited portions do not even use the term "removable." *Id*. Further, the claims do not recite any location, whether "remote" or not, to which carts and cartridges can be removed. We do not import Patent Owner's proposed limitations from the Specification into the claims, and conclude that the ordinary and customary meaning of "removable" applies. Applying the broadest reasonable interpretation of the

claims in light of the Specification, we interpret "removable" to mean capable of being removed.

3. "Annular Turning Surface" (Claims 2 and 5)

Claim 2 recites that "said common guide is an annular turning surface positioned to receive stranded material fed from said active package." Claim 5 recites similarly that "said common guide is an annular turning surface and said stranded material is sequentially fed to said common guide from said active package then from said ready package." Petitioner argues that "annular turning surface" means "a ring or circular surface that changes the direction of stranded material," and includes "common guide structures such as rings, eyelets, and tubes, among others," citing the Declaration of Dr. Youjiang Wang (Ex. 1001) as support. Pet. 4-5 (citing Ex. 1001 ¶¶ 95-98). Patent Owner does not dispute Petitioner's proposed interpretation in its preliminary response.

As recited in the claims, the "annular turning surface" receives stranded material. Further, an "annular" surface is one that is "shaped like a ring." *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, UNABRIDGED (1993) (Ex. 3001). This is consistent with the Specification, which discloses annular turning surface 73 having a ring shape and "turn[ing] the running length of stranded material from a generally horizontal travel to a vertical travel as it is drawn upwards towards upper turning surface 74." Ex. 1002, col. 9, ll. 49-55; Figs. 19A-B. Applying the broadest reasonable interpretation of the claims in light of the Specification, we interpret "annular turning surface" to mean a ring-shaped surface that changes the direction of stranded material.

4. "Upper Turning Surface" (Claim 3)

Claim 3 recites that "said common guide further comprises an upper turning surface supported above said annular turning surface." Petitioner argues that "upper turning surface" means "a surface, located above another, that changes the direction of stranded material," and includes "common guide structures such as rings, eyelets, and tubes, among others." Pet. 5 (citing Ex. 1001 ¶¶ 99-102). Patent Owner does not dispute Petitioner's proposed interpretation in its preliminary response.

As recited in claim 3, the "upper turning surface" is "above" the "annular turning surface." The Specification discloses upper turning surface 74 positioned above annular turning surface 73. Ex. 1002, col. 9, ll. 22-26; Figs. 19A-B. Also, "[w]hen the running length of stranded material passes through the upper turning surface 74, it turns the stranded material to a generally horizontal travel so that the stranded material may be carried outwardly to the lateral aspects of the magazine 120." *Id.*, col. 9, ll. 59-63. Applying the broadest reasonable interpretation of the claims in light of the Specification, we interpret "upper turning surface" to mean a surface, located above another surface, that changes the direction of stranded material.

5. "Distance Corresponding to the Diameter of Said Packages" (Claim 4)

Claim 4 recites that "said annular turning surface and said upper turning surface are separated by a distance corresponding to the diameter of said packages." Petitioner argues that "distance corresponding to the diameter of said packages" means "a distance that is related to, or is a

function of, the diameter of a package." Pet. 5 (citing Ex. 1001 ¶¶ 103-10). Patent Owner does not dispute Petitioner's proposed interpretation in its preliminary response, but argues that the distances between the annular turning surface and upper turning surface in two of the cited prior art references, Münnekehoff and Barmag, do not "correspond[]" to the diameters of their packages because they "greatly exceed[]" those diameters. Prelim. Resp. 10-12, 31.

As it is used ordinarily, "corresponding" can have a number of different meanings, including "agreeing in kind, degree, position, function, or other respects." *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, UNABRIDGED (1993) (Ex. 3001). It can also mean "related, derived, [or] accompanying." *Id*. The term is used in the Specification as follows:

> Best results may be achieved where turning surfaces 73 and 74 are separated from one another by a *distance h corresponding to the diameter of the stranded material package 30*, such that the plane of the lower annular turning surface 73 is *generally aligned with, and preferably slightly elevated from the center axis of the package 30, or the support arm 144*. The upper turning surface 74 is positioned so that it is *generally aligned with, and more preferably, slightly elevated above the outer diameter of a fully loaded package 30* so as to provide clearance between ballooning around package 30 and the running length of material as it is routed to the secondary guides 127. . . .

Col. 9, ll. 27-38 (emphasis added); Fig. 19B. Distance h, therefore, is approximately the distance from the center axis of a package (where the support arm supports the package) to the outer boundary of a fully loaded package. This amounts to the radius (i.e., one half the diameter) of a fully loaded package. Thus, "corresponding to the diameter" of a package, at

least as the phrase is used in the Specification, encompasses one half of the diameter of a fully loaded package. "Corresponding" is not used to mean that the distance is equal to or approximately the diameter of a fully loaded package, but rather that the distance is in some way dependent on, or "derived" from, the diameter of a fully loaded package.

Petitioner's position is that the claim phrase means a distance that is "related to" or is a "function of" the diameter of a package. Pet. 5; Ex. 1001 ¶ 109. However, every unit of length can be considered a "function of" another unit of length (e.g., 5 feet is 2.5 times a distance of 2 feet), which would mean that the limitation is not really a limitation on the claim at all. *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."); *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) ("interpretations that render some portion of the claim language superfluous are disfavored"). Our function is to determine the broadest reasonable interpretation of the claim in light of the Specification. Based on how the term "corresponding" is used in claim 4 and the Specification of the '360 patent, we interpret "distance corresponding to the diameter of said packages" to mean a distance that is derived from the diameter of a fully loaded package.

6. "Ring Guide" (Claim 9)

Claim 9 recites "a ring guide defining a lower vertically opening aperture supported at substantially the same height as said at least one support arm." Petitioner argues that "ring guide" means "a guide structure having a circular shape." Pet. 5 (citing Ex. 1001 ¶¶ 115-17). Patent Owner

appears to argue that a "ring guide" cannot be a "tube" because the Specification describes various advantages of ring guides, such as allowing an operator to "easily re-thread the stranded material and fix [a] breakout without the assistance of additional equipment to blow the stranded material through the system," which are not achieved by a tube according to Patent Owner. Prelim. Resp. 14-15 (citing Ex. 1002, col. 1, ll. 36-48, 51-55, and col. 9, ll. 22-26).

Again, we disagree with Patent Owner that the Specification defines explicitly the term "ring guide" as requiring the fulfillment of any particular advantages. Nor does the claim recite any process for re-threading or fixing breakouts. Petitioner's proposed interpretation is consistent with the ordinary and customary meanings of "ring" and "aperture," as well as the usage of "ring guide" in the Specification. *See*, *e.g.*, Ex. 1002, col. 9, ll. 14-63; Figs. 19A-B. Applying the broadest reasonable interpretation of the claim in light of the Specification, we interpret "ring guide" to mean a guide structure having a circular shape.

7. Other Terms

All other terms in claims 1-21 are given their ordinary and customary meaning and need not be further construed at this time.

II. ANALYSIS

We turn now to Petitioner's asserted grounds of unpatentability and Patent Owner's arguments in its preliminary response to determine whether Petitioner has met the threshold standard of 35 U.S.C. § 314(a).

A. Whether Sanctions Should be Entered Because Petitioner Violated the Font Requirements

As an initial matter, Patent Owner argues that Petitioner violated the Board's rules regarding fonts. Prelim. Resp. 48-49. Specifically, 37 C.F.R. § 42.6(a)(2)(ii)(A) provides that "[i]n documents, including affidavits, created for the proceeding: [e]ither a proportional or monospaced font may be used" and "[t]he proportional font must be 14-point or larger." The term "affidavit" means an "affidavit or declaration." 37 C.F.R. § 42.2. Patent Owner contends that the declaration of Dr. Wang (Ex. 1001) submitted with the Petition violates the font requirements because it is written in proportional "Times New Roman 11-point font." Prelim. Resp. 48-49. Patent Owner also takes issue with Petitioner's use of a "non-traditional" 14-point proportional font in the Petition. *Id*. at 48. Patent Owner requests that "[b]ecause Petitioner intentionally circumvented the rules at the Patent Owner's expense," the Board should sanction Petitioner by excluding the declaration and awarding attorney's fees under 37 C.F.R. § 42.12. *Id*. at 49.

We agree with Patent Owner that the use of 11-point Times New Roman font in the declaration violates 37 C.F.R. § 42.6(a)(2)(ii)(A) requiring 14-point or larger proportional fonts. We conclude, however, that sanctions should not be entered because the error is harmless. While there is a 60 page limit for petitions requesting *inter partes* review, there is no page limit for declarations filed as exhibits to a petition. *See* 37 C.F.R. § 42.24(a)(1)(i). Thus, had Petitioner's declaration complied with the rules, it would be more than its current 48 pages but its substance (to which Patent Owner was responding in its preliminary response) would be the same. Nevertheless, to avoid any confusion, and as the parties appear to be unable to agree on what fonts are appropriate and what are not, we will require all

future documents, including affidavits, created for and filed in this proceeding to use the same font the Board uses for its own decisions: 14-point Times New Roman.[3]

B. Grounds Based on Münnekehoff (Ex. 1005)

Petitioner contends that claims 1-5, 8-10, 12, 14, 19, and 20 are anticipated by Münnekehoff under 35 U.S.C. § 102(b); claims 6, 7, 13, 15-18, and 21 are unpatentable over Münnekehoff and Ligon '082 under 35 U.S.C. § 103(a); and claim 11 is unpatentable over Münnekehoff and Miller under 35 U.S.C. § 103(a). Pet. 9-16, 18-21, 22-23. We are persuaded that Petitioner has established a reasonable likelihood of prevailing on its assertion that claims 1-3, 5, 8-10, 12, 14, 19, and 20 are anticipated and claims 6, 7, 11, 13, 15-18, and 21 are unpatentable for the reasons explained below.

Münnekehoff discloses a "[t]extile machine for the processing of thread" where each creel comprises a "stock section" and "standby section" with bobbins. Münnekehoff, Abstract. A "stock" bobbin supplies thread during operation, and a "standby" bobbin is connected at its "outermost thread end" to the "innermost thread end" of a stock bobbin. *Id*. at p. 5, ll. 3-21.[4] Doing so allows "continuous operation" where the thread runs

[3] In addition, while claim charts may be single-spaced, we will require that any claims charts in future documents, including affidavits, created for and filed in this proceeding be in a dual-column format with claim limitations in one column and prior art teachings or explanations in the other. *See* 37 C.F.R. § 42.6(a)(2)(iii).

[4] When citing Münnekehoff, we refer to the page numbers in the header of the translation (Ex. 1005).

from the standby bobbin once the stock bobbin is depleted and "the standby bobbin [then] becomes the stock bobbin, while the empty sleeve of the previous stock bobbin is removed from the creel and replaced with a new standby bobbin." *Id*. at p. 5, ll. 21-28.

Figure 2 of Münnekehoff is reproduced below:

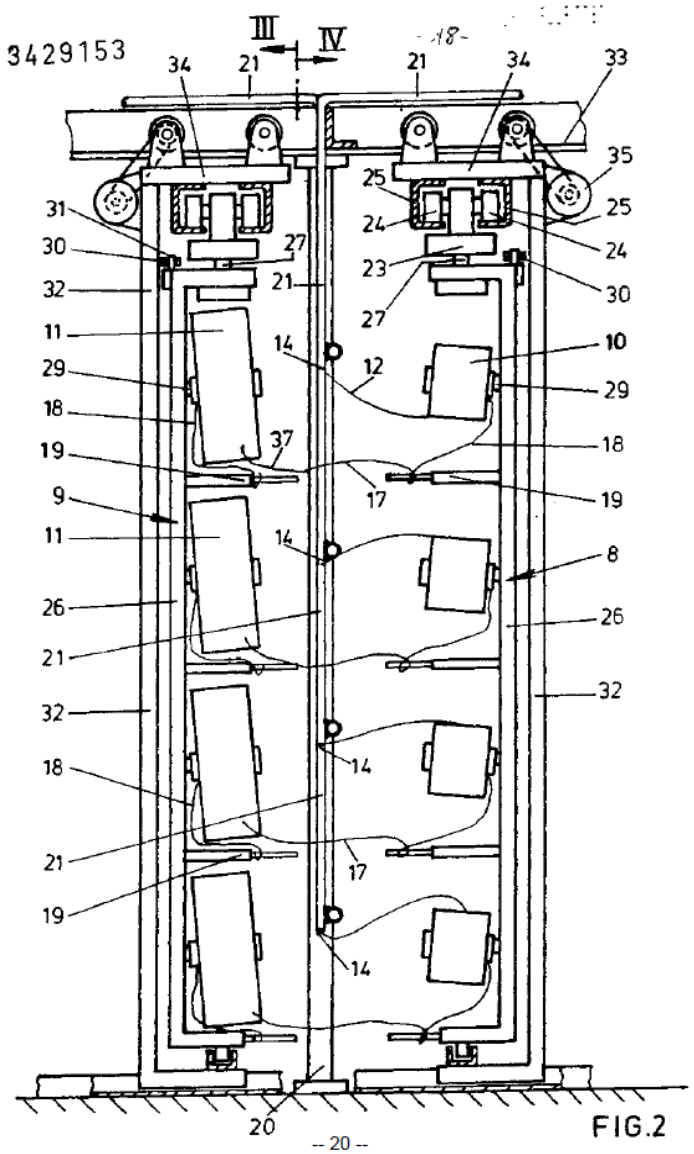


Figure 2 depicts a creel arrangement comprising bobbin holders 29, stock section 8 with stock bobbins 10 providing run-off thread 12, and standby section 9 with standby bobbins 11 providing standby thread 17. *Id*. at p. 11,

l. 7-p. 12, l. 1; pp. 15-16. The arrangement also includes a thread guiding tube 21 for each level of bobbins (four are shown in Figure 2). *Id*. at p. 11, ll. 26-32. Thread guiding tubes 21 each include a balloon thread guide 14 at the "mouth" where the thread enters, and are used to guide the thread from the bobbins up and to the side of the machine. *Id*.; Fig. 2 (depicting a 90-degree turn at the top of the figure). Support frames 32 for each section (stock and standby) have wheels at the top for moving along rails 33. *Id*. at p. 12, l. 29-p. 13, l. 6.

1. Claims 1-5, 8-10, 12, 14, 19, and 20 (Münnekehoff)

Petitioner contends that Münnekehoff discloses all of the limitations of claims 1-5, 8-10, 12, 14, 19, and 20. Pet. 9-16. For example, with respect to independent claim 1, Petitioner argues that Münnekehoff discloses a "stationary magazine frame" (stationary side frame on which balloon thread guides 14 are mounted) comprising a "common guide" (balloon thread guides 14), and first and second "removable cartridge[s]" (stock and standby sections 8/9) having support arms (bobbin holders 29) for "active" and "ready" packages (stock and standby bobbins 10/11). *Id*. at 9-11. With respect to claim 2, which recites that the common guide is an "annular turning surface," Petitioner cites balloon thread guides 14 at the "mouth" of thread guiding tubes 21 that turn the direction of the incoming thread to vertical. *Id*. at 11-12 (citing Ex. 1001 ¶ 21, and Münnekehoff, p. 11, ll. 26-32, Fig. 4). Similarly, with respect to the "upper turning surface" of dependent claim 3, Petitioner cites the top portion of thread guiding tubes 21 that guide the thread "to the side." *Id*. at 12 (citing Ex. 1001 ¶ 22, and Münnekehoff, p. 11, ll. 28-29). Upon review of Petitioner's analysis and

supporting declaration, we are persuaded that Petitioner's asserted ground of anticipation by Münnekehoff as to claims 1-3, 5, 8-10, 12, 14, 19, and 20 has merit. As explained below, however, Petitioner has not demonstrated a reasonable likelihood of prevailing on its anticipation ground as to claim 4.

Patent Owner makes four arguments. First, Patent Owner argues that Münnekehoff does not disclose a "stationary magazine frame comprising a common guide," as recited in claim 1 and recited similarly in claims 5, 8, and 12. Prelim. Resp. 3-4, 12-13, 15. Patent Owner points to Münnekehoff's disclosure that balloon thread guides 14 are "mounted stationary . . . on the side frame 2" (depicted in Figure 1) and contends that Petitioner has not shown how column 20 in Figure 2 equates with side frame 2. *Id*. at 3-4 (citing Münnekehoff, p. 11, ll. 26-29).

Figure 1 is a top view and Figure 2 is a cross-sectional side view of the creel assembly described in Münnekehoff. Münnekehoff, p. 10, ll. 16-19. Both show thread guiding tubes in a stationary, vertical structure (column 20 in the side view; unlabeled in the top view) with openings (balloon thread guides 14 in the side view) into which the thread passes. The vertical structure has stock and standby sections 8/9 on either side. In its Petition, Petitioner relies on the vertical structure shown in Figure 2 between stock and standby sections 8/9, which has balloon thread guides 14, as the claimed "stationary magazine frame." *See* Pet. 10-11 (green arrow pointing to the alleged magazine frame); Ex. 1001 ¶¶ 18-19. Regardless of whether this structure is considered part of side frame 2 shown in Figure 1, we are persuaded that Petitioner has made a threshold showing that it is a "stationary magazine frame comprising a common guide."

Patent Owner also contends that Münnekehoff does not disclose a "plurality" of stationary magazine frames as required by claim 8 because Figure 1 depicts only one side frame 2. Prelim. Resp. 13. We disagree, and are persuaded that Petitioner again has made a threshold showing because the top view of Figure 1 depicts multiple vertical structures between stock and standby sections.

Second, Patent Owner argues that Münnekehoff does not disclose "a first and a second removable cartridge positioned adjacent said magazine frame on respective opposite sides of said frame," as recited in claim 1 and recited similarly in claims 5, 8, 12, and 14. Prelim. Resp. 4-9, 12, 14, 16. Patent Owner contends that stock and standby sections 8/9 in Münnekehoff are not "removable cartridge[s]" because they hang from rails and do not have ground wheels, and they are designed to only be moved a small distance and not moved easily about the facility.[5] *Id*. at 6-9. Patent Owner's arguments are premised on its proposed claim interpretations of "removable" and "cartridge," which we disagree with for the reasons set forth above. Given the terms' broadest reasonable interpretation, a "removable cartridge" is a small wheeled vehicle that is capable of being removed. Münnekehoff discloses that the two sections have wheels and can be inserted and "pulled out" of the creel assembly. *See* Münnekehoff, p. 6, ll. 5-9; p. 7, ll. 12-15, 29-33; p. 12, l. 29-p. 13, l. 20. Petitioner has made a threshold showing that Münnekehoff discloses the claimed removable cartridges.

[5] Claims 8 and 12 recite "movable" (not "removable") cartridges. Patent Owner's arguments regarding the term "removable," therefore, do not apply to those claims.

Patent Owner further argues that Münnekehoff "teaches away from having wheels placed on the floor surface." Prelim. Resp. 7-8. In addition to being based on an incorrect claim interpretation, this argument is unpersuasive because "whether a reference 'teaches away' from [an] invention is inapplicable to an anticipation analysis." *See Celeritas Techs., Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998).

Also, Patent Owner contends that stock and standby sections 8/9 are not positioned adjacent the magazine frame "on respective opposite sides" of the frame, as required by the claims, because Figure 1 does not depict them on opposite sides of side frame 2. Prelim. Resp. 5. Again, Petitioner relies on the vertical structure with balloon thread guides 14 shown in Figure 2 as the claimed "magazine frame." *See* Pet. 10-11. Stock and standby sections 8/9 are shown on opposite sides of the vertical structure in Figure 2.

Third, Patent Owner argues that balloon thread guide 14 in Münnekehoff is not a "ring guide" as recited in claim 9. Prelim. Resp. 14-15. As explained above, we interpret "ring guide" to mean a guide structure having a circular shape, and do not interpret the term as excluding a tube shape. Because balloon thread guide 14 guides incoming thread into thread guiding tube 21 and appears to have a circular shape, *see* Münnekehoff, Fig. 2, Petitioner has shown sufficiently that the "ring guide" limitation is met.

Fourth, Patent Owner argues that Münnekehoff fails to disclose the limitation of claim 4 that the annular turning surface and upper turning surface of the common guide are separated by a "distance corresponding to the diameter of said packages." Prelim. Resp. 10-12. Patent Owner contends that the distance separating balloon thread guides 14 (the "annular

turning surface" according to Petitioner) and the 90-degree turn in thread guiding tubes 21 shown at the top of Figure 2 in Münnekehoff (the "upper turning surface" according to Petitioner) "greatly exceeds" the diameter of the packages. *Id.*; *see* Pet. 11-12. According to Patent Owner, the distance in Münnekehoff corresponds to the *level* of the respective balloon thread guide 14, not the *diameter* of a package. Prelim. Resp. 11. Patent Owner's argument is persuasive.

According to Petitioner, the distance between the annular turning surface and upper turning surface in Münnekehoff is "related to, or corresponds to," the diameter of the package because "the vertical position of the package depends on its initial diameter." Pet. 12. Dr. Wang testifies:

> The distance between this upper turning surface and the lower annular turning surface corresponds to, or is related to, the bobbins' diameter. For example, a large bobbin may require that its axis be lowered/raised vertically in order for the bobbin to stay within the upper/lower boundaries of the removable sections – this would in turn require adjusting the length of the guide tube (21) between its lower annular and upper turning surfaces so that an axial relationship between the repositioned bobbin and the mouth of the tube (21), as shown in Fig. 2 above, is maintained.

Ex. 1001 ¶ 22. Dr. Wang, however, does not cite to the text of Münnekehoff to support this contention. As such, whether there might be *some* scenario in which the length of the thread guiding tube would have to be adjusted for a "large bobbin," and whether it would be adjusted in a particular way, is only speculation.

Moreover, Petitioner's argument is that the limitation is met because the length of the thread guiding tube depends on the position of the package, which in turn depends on the size of the package when a "large bobbin" is

used. Pet. 12; Ex. 1001 ¶ 22. The question is not whether the vertical *position* of a package depends on the diameter, but rather whether the relevant *distance between surfaces* corresponds to the diameter. As explained above, we interpret "distance corresponding to the diameter of said packages" to mean a distance that is derived from the diameter of a fully loaded package. Petitioner does not cite sufficient and credible evidence in Münnekehoff to indicate that the length of a thread guiding tube is derived from the diameter of a fully loaded package (as opposed to, for example, the *level* of the respective package). Thus, Petitioner has not demonstrated a reasonable likelihood of prevailing on its argument that claim 4 is anticipated by Münnekehoff, which is the only ground asserted in the Petition as to claim 4 and Münnekehoff.

2. Claims 6, 7, 13, 15-18, and 21 (Münnekehoff/Ligon '082)

Petitioner relies on Ligon '082 as teaching various limitations of dependent claims 6, 7, 13, 15-18, and 21. Pet. 18-21 (citing Ex. 1001 ¶¶ 28-33). For example, with respect to claim 6, which recites an "additional ready package" that is "selectively interposed between said active package and said ready package on said second removable cartridge to feed said stranded material," Petitioner cites Ligon '082's use of side-by-side packages on a particular level. *Id*. at 19; Ex. 1001 ¶¶ 28-33. Petitioner further explains why a person of ordinary skill in the art would have had reason to combine the teachings of Münnekehoff and Ligon '082, citing the testimony of Dr. Wang in support. Pet. 18-21; Ex. 1001 ¶¶ 30-33. For example, Petitioner asserts that a skilled artisan would have had reason to modify the stock and standby sections in Münnekehoff to have a pair of

bobbins on each level as taught by Ligon ’082 so that “runtime per side is lengthened.” Pet. 19. Upon review of Petitioner’s analysis and supporting declaration, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing as to claims 6, 7, 13, 15-18, and 21.

Patent Owner argues that Münnekehoff cannot be modified to perform a side-by-side transfer and across-frame transfer (in either sequence), as required at least by claims 6 and 7 and shown in Figure 12 of the ’360 patent. Prelim. Resp. 20-25. Patent Owner contends that doing so would cause the thread in Münnekehoff to “wrap around the column 20 and tubes 21” and be damaged, particularly “at the dying process later on, where such damage results in speckling and uneven absorption of dyes.” *Id*. at 21. Patent Owner’s attorney argument regarding alleged inoperability, however, is not supported by evidence in the record. Patent Owner further does not address specifically Dr. Wang’s testimony regarding the combination of Münnekehoff and Ligon ’082 or explain why it is incorrect.

We also note that it is often necessary and within the level of ordinary skill in the art to modify the teachings of two references in order to combine them. *See In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”). We are persuaded that Petitioner’s analysis, supported by the testimony of Dr. Wang, is sufficient at this stage of the proceeding to demonstrate a

reasonable likelihood that the claims are unpatentable based on the combination of Münnekehoff and Ligon ’082.

Patent Owner also contends that Ligon ’082 teaches away from the use of a two-cart across-frame transfer, as required by the claims, because Ligon ’082 has a “unitary creel frame” and, according to Patent Owner, exhibits some of the same loading problems that the invention of the ’360 patent was designed to overcome. Prelim. Resp. 22-23 (citing Ligon, Fig. 4 and col. 3, ll. 64-65).

The fact that Ligon ’082 discloses packages on a single side of a magazine frame does not mean that it teaches away from the use of packages on both sides. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). A reference does not teach away if it expresses merely a general preference for an alternative invention from amongst options available to the ordinarily skilled artisan and the reference does not “criticize, discredit, or otherwise discourage the solution claimed.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Patent Owner does not point to statements in Ligon ’082 criticizing or discrediting the use of a two-cart arrangement or indicating that more than one cart should not be used. We are persuaded that Petitioner’s analysis is sufficient to demonstrate a reasonable likelihood that the claims are unpatentable based on the combination of Münnekehoff and Ligon ’082.

3. Claim 11 (Münnekehoff/Miller)

Petitioner relies on Miller as teaching the additional limitation in claim 11 of a "transfer device" that "releasably receives said stranded material connected between said first package and said second package," and argues that a person of ordinary skill in the art would have had reason to combine the teachings of Miller with Münnekehoff, citing the testimony of Dr. Wang in support. Pet. 22-23 (citing Miler, col. 1, ll. 9-12, 39-43, and Ex. 1001 ¶¶ 40-45). Upon review of Petitioner's analysis and supporting declaration, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing as to claim 11.

Patent Owner argues that Münnekehoff cannot be combined with Miller. Prelim. Resp. 27. According to Patent Owner, Münnekehoff requires changing the distance between the supply section and thread guides periodically, and if Miller's yarn retaining device were mounted on the stationary frame of Münnekehoff, the yarn retaining device would release the yarn prematurely when that distance is changed. *Id*. (citing Münnekehoff, p. 9, ll. 20-25, 27-28).

We do not read Münnekehoff as requiring the distance to be changed in all circumstances, as the reference states only that "a *preferred embodiment may* provide for the distance . . . to be changed." Münnekehoff, p. 9, ll. 18-23 (emphasis added). Moreover, Patent Owner does not point to sufficient evidence in the record to counter the testimony of Dr. Wang and show that a skilled artisan would not be able to combine the two references. Again, a person of ordinary skill may modify the teachings of two references in order to combine them. *See Sneed*, 710 F.2d at 1550; *Keller*, 642 F.2d at 425. On this record, we are persuaded that Petitioner's analysis, supported

by the testimony of Dr. Wang, is sufficient to demonstrate a reasonable likelihood of prevailing.

4. Summary

We are persuaded by the analysis set forth in the Petition and accompanying declaration that there is a reasonable likelihood that Petitioner will prevail on its assertion that claims 1-3, 5, 8-10, 12, 14, 19, and 20 are anticipated by Münnekehoff under 35 U.S.C. § 102(b); claims 6, 7, 13, 15-18, and 21 are unpatentable over Münnekehoff and Ligon '082 under 35 U.S.C. § 103(a); and claim 11 is unpatentable over Münnekehoff and Miller under 35 U.S.C. § 103(a). As explained above, Petitioner has not demonstrated a reasonable likelihood of prevailing on its anticipation ground as to claim 4.

Petitioner also argues that under 35 U.S.C. § 103(a), claims 2, 3, and 5 are unpatentable over Münnekehoff and Singer, and claims 9 and 10 are unpatentable over Münnekehoff and Ligon '982. Pet. 16-18, 21-22. As we are persuaded that Petitioner has demonstrated a reasonable likelihood that these claims are anticipated by Münnekehoff, the additional asserted grounds are denied as redundant. *See* 37 C.F.R. § 42.108.

C. Grounds Based on Barmag (Ex. 1007)

Petitioner contends that claims 1-5, 8-10, 12, 14, 19, and 20 are anticipated by Barmag under 35 U.S.C. § 102(b); claims 6, 7, 13, 15-18, and 21 are unpatentable over Barmag and Ligon '082 under 35 U.S.C. § 103(a); and claim 11 is unpatentable over Barmag and Miller under 35 U.S.C. § 103(a). Pet. 23-31, 33-36, 37-38. We are persuaded that Petitioner has

established a reasonable likelihood of prevailing on its assertion that claims 1-3, 5, 8-10, 12, 14, 19, and 20 are anticipated and claims 6, 7, 11, 13, 15-18, and 21 are unpatentable for the reasons explained below.

Barmag discloses a "feeding bobbin creel for textile machines" that provides "continuous thread take-off" through the use of both active and "reserve" bobbins. Barmag ¶¶ 1-2. Specifically, "the yarn end wound up in a yarn reserve of a presented bobbin is connected to the beginning of the thread of the reserve bobbin that is also mounted on the warping creel. After the presented bobbin is unwound and now the reserve bobbin is presented, the bobbin that became empty is replaced with a full bobbin, which then serves as a reserve bobbin." *Id*. ¶ 2.

Figure 1 of Barmag is reproduced below:

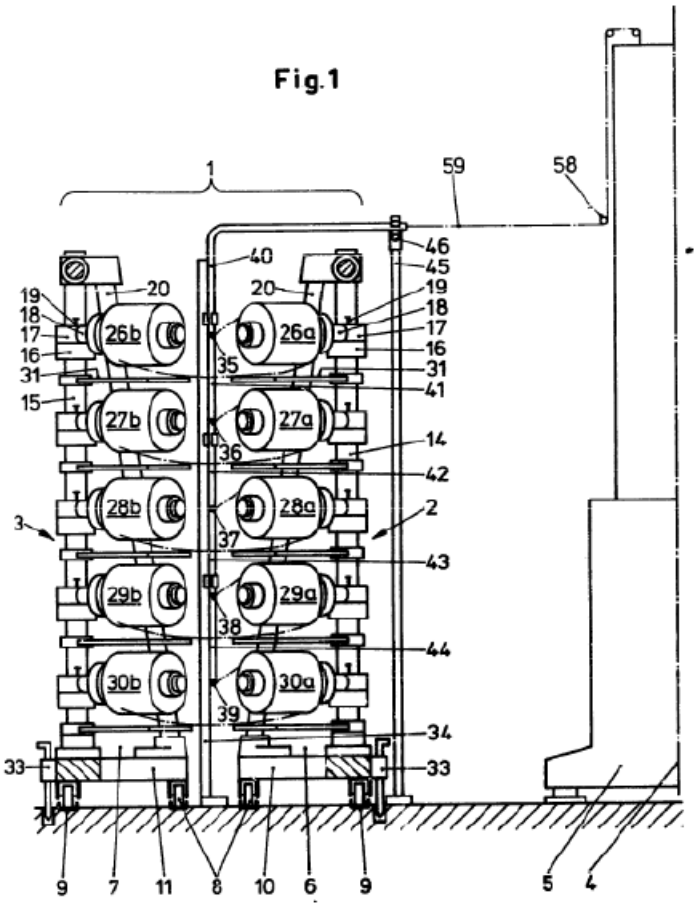


Figure 1 depicts a creel arrangement comprising arbors 18 for holding bobbins, creel carriage 6 with active bobbins 26a-30a, and creel carriage 7 with reserve bobbins 26b-30b. *Id*. ¶¶ 13-14. The arrangement also includes a thread guide support 34 with a "thread guide for each pair of co-operating bobbins" (e.g., thread guide 35 for bobbins 26a and 26b). *Id*. ¶ 15. In the embodiment shown in Figure 1, the thread guides are "inlet openings" of thread guide tubes 40-44, which guide the thread coming from the bobbins. *Id*. Barmag also discloses that "thread guide eyelets" can be used instead of thread guide tubes, and in that scenario, thread guide eyelets would be positioned in the "deflection points of the thread path and on the cross member 46 of the support frame 45, 46." *Id*. Creel carriages 6/7 also have wheels 8 for moving on rails 9 on the floor of a facility. *Id*. ¶¶ 13-14.

1. Claims 1-5, 8-10, 12, 14, 19, and 20 (Barmag)

Petitioner contends that Barmag discloses all of the limitations of claims 1-5, 8-10, 12, 14, 19, and 20. Pet. 23-31. For example, with respect to independent claim 1, Petitioner argues that Barmag discloses a "stationary magazine frame" (thread guide support 34 on which thread guides are mounted) comprising a "common guide" (thread guides), and first and second "removable cartridge[s]" (creel carriages 6/7) having support arms (arbors 18) for "active" and "ready" packages (active bobbins 26a-30a and reserve bobbins 26b-30b). *Id*. at 24-26. With respect to dependent claim 2, which recites that the common guide is an "annular turning surface," Petitioner cites the "inlet openings" in the thread guide tubes of Barmag as well as Barmag's use of "thread guide eyelets." *Id*. at 26 (citing Ex. 1001 ¶ 48 and Barmag ¶ 15, claim 7). Similarly, with respect to the "upper

turning surface" of dependent claim32, Petitioner cites the top portion of thread guide tubes that extend beyond creel 1 as well as Barmag's use of "thread guide eyelets" at "deflection points" of the thread path. *Id*. (citing Ex. 1001 ¶ 49 and Barmag ¶ 15). Upon review of Petitioner's analysis and supporting declaration, we are persuaded that Petitioner's asserted ground of anticipation by Barmag has merit as to claims 1-3, 5, 8-10, 12, 14, 19, and 20, but not as to claim 4, as explained below.

Patent Owner makes three arguments. First, Patent Owner argues that Barmag does not disclose "a first and a second removable cartridge positioned adjacent said magazine frame on respective opposite sides of said frame," as recited in claim 1 and recited similarly in claims 5, 8, 12, and 14. Prelim. Resp. 27-30, 32, 34-35. According to Patent Owner, creel carriages 6/7 in Barmag move on rails on the floor, are transported by a tractor, and do not move freely about a manufacturing plant on ground wheels. *Id*. at 27-30. Patent Owner's arguments are premised on its proposed claim interpretations of "removable" and "cartridge," which we disagree with for the reasons set forth above.

Second, Patent Owner argues that Barmag does not disclose an "upper aperture supported above said lower vertically opening aperture," as recited in claim 10. *Id*. at 33-34. Patent Owner contends that each thread guide tube 40-44 has a single aperture where the thread enters, but not another aperture supported above. *Id*. Patent Owner's argument is not persuasive, as Barmag discloses, for example, "thread guide eyelets" at "deflection points" of the thread path (e.g., at the top of Figure 1 where the thread guide tubes make a 90-degree turn). *See* Barmag ¶ 15, Fig. 1; Pet. 29 (citing Ex. 1001 ¶ 49).

Third, similar to its argument with respect to Münnekehoff, Patent Owner argues that Barmag fails to disclose the limitation of claim 4 of an annular turning surface and upper turning surface separated by a "distance corresponding to the diameter of said packages." Prelim. Resp. 31. Patent Owner's argument is persuasive for reasons similar to those explained above regarding Münnekehoff. *See supra* Section II.B.1.

Petitioner's position is that the distance between the annular turning surface (inlet opening of a thread guide tube or thread guide eyelet) and upper turning surface (top turn of the thread guide tube or thread guide eyelet) in Barmag corresponds to the diameter of the package because "the vertical position of the package depends on its initial diameter." Pet. 26-27. Petitioner points to Barmag's disclosure that the thread guide tubes "can be chosen of sufficient length so that the threads are guided by them over the entire operation line," and cites the testimony of Dr. Wang, which is nearly identical to his testimony regarding Münnekehoff. *See id*. (citing Barmag ¶ 15 and Ex. 1001 ¶ 49).

Dr. Wang does not cite any text in Barmag to support his contention, and the possibility of altering a thread guide tube's length for a "large bobbin" is speculation. Petitioner does not cite sufficient and credible evidence in Barmag to indicate that the length of a guide tube is derived from the diameter of a fully loaded package (as opposed to, for example, the *level* of the respective packages). Thus, Petitioner has not demonstrated a reasonable likelihood of prevailing on its argument that claim 4 is anticipated by Barmag, which is the only ground asserted in the Petition as to claim 4 and Barmag.

2. Claims 6, 7, 13, 15-18, and 21 (Barmag/Ligon '082)

Petitioner relies on Ligon '082 as teaching various limitations of dependent claims 6, 7, 13, 15-18, and 21, and explains why a person of ordinary skill in the art would have had reason to combine the teachings of Barmag and Ligon '082, citing the testimony of Dr. Wang in support. Pet. 33-36 (citing Ex. 1001 ¶¶ 55-59). For example, Petitioner asserts that a skilled artisan would have had reason to modify the creel stands in Barmag, which have one bobbin on each level, to have a pair of bobbins on each level as taught by Ligon '082 so that "runtime per side is lengthened." *Id*. at 33-34. Upon review of Petitioner's analysis and supporting declaration, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing as to claims 6, 7, 13, 15-18, and 21.

Patent Owner makes the same argument as it does for the combination of Münnekehoff and Ligon '082, namely that Barmag cannot be modified to perform a side-by-side transfer and across-frame transfer because the thread would wrap around the tubes and frame in Barmag and be damaged. Prelim. Resp. 36-39. Barmag's vertical thread guide tubes 40-44 are similar to vertical thread guiding tubes 21 in Münnekehoff, and we disagree with Patent Owner's argument for the same reasons explained above. *See supra* Section II.B.2; Barmag ¶ 15; Münnekehoff, p. 11, ll. 26-32. We also note that Patent Owner does not address the embodiment of Barmag using "thread guide eyelets" rather than tubes. Petitioner's analysis, supported by the testimony of Dr. Wang, is sufficient at this stage of the proceeding to demonstrate a reasonable likelihood that the claims are unpatentable based on the combination of Barmag and Ligon '082.

3. Claim 11 (Barmag/Miller)

Petitioner relies on Miller as teaching the additional limitation in claim 11 of a "transfer device" that "releasably receives said stranded material connected between said first package and said second package," and argues that a person of ordinary skill in the art would have had reason to combine the teachings of Miller with Barmag, citing the testimony of Dr. Wang in support. Pet. 37-38 (citing Ex. 1001 ¶¶ 65-68). Patent Owner does not argue the combination separately, but refers to its argument regarding the combination of Münnekehoff and Miller. Prelim. Resp. 39. We disagree for the reasons explained above. *See supra* Section II.B.3. Upon review of Petitioner's analysis and supporting declaration, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing as to claim 11.

4. Summary

We are persuaded by the analysis set forth in the Petition and accompanying declaration that there is a reasonable likelihood that Petitioner will prevail on its assertion that claims 1-3, 5, 8-10, 12, 14, 19, and 20 are anticipated by Barmag under 35 U.S.C. § 102(b); claims 6, 7, 13, 15-18, and 21 are unpatentable over Barmag and Ligon '082 under 35 U.S.C. § 103(a); and claim 11 is unpatentable over Barmag and Miller under 35 U.S.C. § 103(a). As explained above, Petitioner has not demonstrated a reasonable likelihood of prevailing on its anticipation ground as to claim 4.

Petitioner also argues that under 35 U.S.C. § 103(a), claims 2, 3, and 5 are unpatentable over Barmag and Singer, and claims 9 and 10 are unpatentable over Barmag and Ligon '982. Pet. 31-33, 36-37. As we are

persuaded that Petitioner has demonstrated a reasonable likelihood that these claims are anticipated by Barmag, the additional asserted grounds are denied as redundant. *See* 37 C.F.R. § 42.108.

D. Grounds Based on Payne (Ex. 1008)

In addition to the grounds addressed above, Petitioner contends that claims 1, 2, 5-8, and 12-21 are anticipated by Payne; claims 3, 4, 9, and 10 are unpatentable over Payne and Münnekehoff; claim 11 is unpatentable over Payne and Miller; claims 2, 3, and 5 are unpatentable over Payne and Singer; and claims 9 and 10 are unpatentable over Payne and Ligon ’982.

With respect to claims 1-3 and 5-21, the additional asserted grounds are denied as redundant in light of our determination that there is a reasonable likelihood that the challenged claims are unpatentable based on the grounds of unpatentability on which we institute an *inter partes* review. *See* 37 C.F.R. § 42.108.

With respect to claim 4, Petitioner cites Münnekehoff as teaching the limitation that “said annular turning surface and said upper turning surface are separated by a distance corresponding to the diameter of said packages.” Pet. 50-51. As explained above, we do not agree with Petitioner that Münnekehoff teaches the limitation. *See supra* Section II.B.1. Petitioner does not argue that Payne teaches the limitation. Thus, Petitioner has not demonstrated a reasonable likelihood of prevailing on its argument that claim 4 is unpatentable over Payne and Münnekehoff.

E. Summary

We are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on the following grounds of unpatentability asserted in the Petition:

Claims 1-3, 5, 8-10, 12, 14, 19, and 20 under 35 U.S.C. § 102(b) as anticipated by Münnekehoff;

Claims 6, 7, 13, 15-18, and 21 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Ligon ’082;

Claim 11 under 35 U.S.C. § 103(a) as unpatentable over Münnekehoff and Miller;

Claims 1-3, 5, 8-10, 12, 14, 19, and 20 under 35 U.S.C. § 102(b) as anticipated by Barmag;

Claims 6, 7, 13, 15-18, and 21 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Ligon ’082; and

Claim 11 under 35 U.S.C. § 103(a) as unpatentable over Barmag and Miller.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is granted as to claims 1-3 and 5-21 of the ’360 patent;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the ’360 patent is hereby instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial;

FURTHER ORDERED that the trial is limited to the grounds identified above and no other grounds set forth in the Petition as to claims 1-3 and 5-21 are authorized;

FURTHER ORDERED that an initial conference call with the Board is scheduled for 2:00 PM Eastern Time on August 27, 2013. The parties are directed to the Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012), for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial;

FURTHER ORDERED that all documents, including affidavits, created for and filed in this proceeding shall be in Times New Roman 14-point font; and

FURTHER ORDERED that any claim charts in documents, including affidavits, created for and filed in this proceeding shall be in a dual-column format with claim limitations in one column and prior art teachings or explanations in the other.

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