

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
AT CHATTANOOGA

CARD-MONROE CORP.,) Case No. 1:14-cv-292
Plaintiff,) Judge Travis R. McDonough
v.) Magistrate Judge Christopher H. Steger
TUFTCO CORP.,)
Defendant.)

AMENDED MEMORANDUM AND ORDER¹

Before the Court are: (1) Defendant Tuftco Corp.’s (“Tuftco”) motion to strike and for sanctions (Doc. 317); (2) Tuftco’s motion for summary judgment (Doc. 450); and (3) Plaintiff Card-Monroe Corp.’s (“CMC”) motion for summary judgment (Doc. 289). Having considered the record, the parties’ written submissions, and their oral arguments at the hearing on July 14, 2017, the Court hereby **DENIES** Tuftco’s motion to strike and for sanctions (Doc. 317) and **GRANTS IN PART** and **DENIES IN PART** the parties’ summary judgment motions (Docs. 289, 450).

I. BACKGROUND

1. The Patents

The three patents at issue concern certain carpet-tufting machines and methods. U.S. Patent No. 8,141,505 (the “‘505 Patent”), entitled “Yarn Color Placement System,” was issued

¹ Pursuant to the Order filed contemporaneously herein granting in part a non-party's motion to amend the Court's summary judgment memorandum and order, the Court has amended its original Memorandum and Order ruling on the parties' summary judgment motions (Doc. 475) to make only general references to sensitive third-party information.

by the United States Patent and Trademark Office (“PTO”) on March 27, 2012. (Doc. 292-1, at 1–17.)² U.S. Patent No. 8,359,989 (the “‘989 Patent”), entitled “Stitch Distribution Control System for Tufting Machines,” was issued on January 29, 2013. (*Id.* at 18–51.) Finally, U.S. Patent No. 8,776,703 (the “‘703 Patent”) (collectively, the “Asserted Patents”), entitled “Yarn Color Placement System,” was issued on July 15, 2014. (*Id.* at 52–68.) The ‘989 Patent and ‘703 Patent are continuations of the ‘505 Patent and, as such, contain similar specifications. (*Id.* at 12, 40, 63.) CMC is the owner by assignment of all rights, title, and interest to the Asserted Patents.

The invention, marketed as “ColorPoint,” “generally relates to tufting machines, and in particular, to a system for coordinating the feeding and placement of yarns of different colors within a backing material passing through a tufting machine to enable formations of free-flowing patterns within a tufted article.” (*Id.* at 12, col. 1:11–15.)³ According to the Asserted Patents’ specifications, before ColorPoint, the carpet tufting industry sought “new, more eye-catching” patterns that “replicate the look and feel of fabrics formed on a loom.” (*Id.*, col. 1:20–25.) Though manufacturers could produce more vibrant patterns with specialty machines that individually placed yarns with a single needle, they could not produce those patterns on a commercial scale. (*Id.*, col. 1:35–54.) CMC presented ColorPoint as the solution to this industry limitation. By coordinating yarn feed, needle bar shifts, and the feeding of backing material through the tufting machine, multiple colors of yarns are inserted at the same stitch location. (*Id.* at 12–16.) Unwanted yarns (those not called for in a design) are then pulled low or out of the backing so they cannot be seen in the carpet’s face. (*Id.*) CMC’s new method inserts a higher

² Hereafter, such page number references indicate the CM/ECF page number.

³ References to specific column and line numbers in the Asserted Patents will be made in the format of col. XX:YY.

number of yarns into the backing than traditional tufting methods, while avoiding gaps between visible tufts in the face of the carpet. (*Id.*) The resulting products accommodate more intricate pattern designs while preserving sharpness and definition. (*Id.*)

2. *The Claims*

On February 8, 2016, the parties identified twelve claims to be severed for ongoing proceedings: Claims 8, 10, and 12 of the ‘505 Patent; Claims 21, 22, 24, 27, 28, and 30 of the ‘989 Patent; and Claims 1, 28, and 29 of the ‘703 Patent (together, the “Severed Claims”). (Doc. 169.) Claim 1 of the ‘703 Patent is the only machine claim at issue herein (the “Machine Claim”); the rest are method claims (the “Method Claims”).

i. *Claims 8, 10, and 12 of the ‘505 Patent*

Claim 8 recites:

A method of operating a tufting machine to form patterned tufted articles having multiple colors, comprising:

feeding a backing material through the tufting machine;

feeding a plurality of yarns to a series of needles carried by a shiftable needle bar;

shifting the needle bar transversely according to a programmed shift profile for the pattern of the tufted article;

controlling the feeding of the yarns to the needles in accordance with programmed pattern instructions so as to feed desired amounts of the yarns to the needles as needed to form rows of high and low tufts of yarns in the backing materials;

forming the tufts of yarns at an increased effective stitch rate determined by multiplying the number of colors being formed in the patterned tufted article by a desired fabric stitch rate that comprises a number of stitches per inch desired for the patterned tufted articles; and

wherein the feeding of the yarns to form the high and low tufts tracks the shifting of the needles so as to substantially maintain density of the tufts of yarns being formed in the backing material in a direction of the rows of

tufts and location of the high tufts of yarns at desired positions across the backing to form the patterned tufted articles.

(Doc. 292-1, at 16, col. 10:39–61.)

Claim 10, which is dependent on Claim 8, recites:

The method of claim 9⁴ and wherein feeding a second, lesser amount of yarn comprises back-robbing the yarns fed to each needle to an extent sufficient to substantially hide or remove the low tufts from the backing.

(*Id.* at 16–17, cols. 10:66–11:2.)

Claim 12, also dependent on Claim 8, recites:

The method of claim 8 and wherein the tufting machine is a 1/10th gauge tufting machine and the desired fabric stitch rate is approximately ten stitches per inch.

(*Id.* at 17, col. 11:6–8.)

ii. Claims 21, 22, 24, 27, 28, and 30 of the ‘989 Patent

Claim 21 recites:

A method of operating a tufting machine to form a patterned article including a series of different yarns, comprising:

receiving a pattern including a series of pattern steps for forming the patterned article;

determining an effective process stitch rate for the patterned article;

feeding a backing material through the tufting machine at the effective process stitch rate;

as the backing material is fed through the tufting machine, reciprocating a series of needles to deliver the yarns into the backing material; and

⁴ Claim 9 provides: “The method of claim 8 and wherein controlling the feeding of the yarns comprises feeding a first amount of yarn to each needle forming a high tuft, while feeding a second, lesser amount of yarn to each needle forming a low tuft.” (Doc. 292-1, at 16, col. 10:62–65.)

controlling feeding of the yarns to the needles in accordance with programmed pattern instructions to retain a tuft of a desired yarn for each stitch being formed in the backing material

wherein determining the effective process stitch rate for the patterned article comprises increasing the desired stitch rate for the pattern by a multiple approximately corresponding to a number of colors of yarns used to form the patterned article.

(*Id.* at 50, col. 21:28–49.)

Claim 22 recites:

A method of tufting a patterned article, comprising:

determining a desired fabric stitch rate for the patterned article;

feeding a series of yarns to a series of spaced needles;

feeding a backing material through a tufting zone;

as the backing material is fed through the tufting zone, reciprocating the needles carrying the yarns into and out of the backing material;

shifting at least some of the needles transversely with respect to the backing material; and

at selected stitch locations, presenting a number of different yarns for insertion into the backing material and controlling the yarn feed to the needles so as to retain at least one desired yarn of the different yarns presented for each selected stitch location;

wherein feeding the backing material comprises moving the backing material through the tufting zone at an effective stitch rate approximately equivalent to the desired fabric stitch rate increased by an amount based upon a number of different yarns presented at a stitch location being tufted.

(*Id.*, cols. 21:50–22:3.)

Claim 24 recites:

The method of Claim 22 and wherein presenting a number of different yarns and controlling the yarn feed to the needles comprises presenting a yarn of each color that could be tufted at a particular selected stitch location and feeding the yarn for a color corresponding to the selected stitch location to form a tuft, while

controlling feeding of the yarns of remaining colors to pull such yarns low or remove them from the selected stitch location.

(*Id.*, col. 22:9–16.)

Claim 27 recites:

A method of tufting a patterned article comprising:

 determining a desired fabric stitch rate for the patterned article;

 feeding a series of yarns to series of spaced needles;

 determining an effective process stitch rate for the patterned article, comprising increasing the desired stitch rate for the pattern by a multiple approximately corresponding to a number of colors of yarns used to form the patterned article;

 feeding a backing material through a tufting zone;

 as the backing material is fed through the tufting zone, reciprocating the needles carrying the yarns into and out of the backing material;

 shifting at least some of the needles transversely with respect to the backing material; and

 at selected stitch locations, presenting a number of yarns for insertion into the backing material and controlling the yarn feed to the needles so as to retain at least one desired yarn of the yarns presented for each selected stitch location.

(*Id.*, col. 22:25–45.)

Claim 28 recites:

A method of forming tufted patterns in a backing, comprising:

 determining a desired fabric stitch rate for a pattern to be formed;

 feeding the backing material through a tufting machine;

 as the backing is fed through the tufting machine, reciprocating a series of spaced needles carrying a series of yarns into and out of the backing to form a series of tufts in the backing; and

at selected stitch locations of the pattern being formed in the backing, presenting a desired number of yarns for insertion into the backing and selectively withholding non-retained yarns from such stitch locations;

wherein selectively withholding the non-retained yarns comprises controlling at one or more yarn feed mechanisms feeding the non-retained yarns to the needles so as to pull back such yarns; and

wherein feeding the backing through the tufting machine comprises feeding the backing at an effective process stitch rate approximately equivalent to the desired fabric stitch rate increased by a number of different yarns being used to form the pattern.

(*Id.*, col. 22:46–67.)

Claim 30 recites:

A method of tufting a patterned article including a series of tufts of different color yarns, arranged according to pattern instructions for the article, comprising:

determining a desired fabric stitch rate for the patterned article;

moving a backing through a tufting zone at an effective process stitch rate based upon the desired fabric stitch rate increased in view of a number of colors of yarns of the patterned article;

as the backing moves through the tufting zone, reciprocating a series of spaced needles to present a selected series of yarns to stitch locations in the backing; and

at each stitch location, controlling feeding of the series of yarns presented at each stitch location and selectively retaining a desired yarn of the series of yarns presented at each stitch location based upon the pattern instructions.

(*Id.* at 51, cols. 23:5–24:5.)

iii. Claims 1, 28, and 29 of the ‘703 Patent

Claim 1 recites:

A tufting machine for forming patterned tufted articles including different color yarns therein, comprising:

at least one needle bar having a series of needles mounted at a spacing based on a gauge of the tufting machine therealong;

backing feed rolls for feeding a backing material through a tufting zone of the tufting machine;

a pattern yarn feed mechanism for feeding a series of yarns to said needles;

at least one needle bar shifter for shifting said at least one needle bar transversely across the tufting zone;

a series of gauge parts mounted below the tufting zone in a position to engage said needles of said at least one needle bar as said needles are reciprocated into and out of the backing material to form tufts of yarns in the backing material; and

a control system for controlling said yarn feed mechanism in cooperating with said at least one needle bar shifter shifting the at least one needle bar in accordance with a series of transverse pattern shift steps received by the control system, to control feeding of the yarns to said needles as the needles are reciprocated and as the needle bar is shifted in accordance with the transverse pattern shift steps as needed to form selected tufts of yarns of a desired height and to pull non-selected ones of the yarns low or out of the backing material for each pattern step;

wherein the control system is linked to and controls the backing feed rolls for feeding the backing material such that the tufts of yarns are formed in the backing material at an effective stitch rate that is determined by increasing a prescribed stitch rate of the patterned tufted article that is based on the gauge of the tufting machine by a selected amount so as to form the patterned articles with the selected tufts of yarns having an appearance of being formed at the desired stitch rate.

(*Id.* at 67, col. 9:17–51.) The ‘703 Patent’s specification expands on the “control system” software recited in Claim 1. It provides:

The tufting machine control system 25 generally will comprise a tufting machine control such as a “Command Performance™” tufting machine control system as manufactured by Card-Monroe Corp. The control system also typically includes a computer/processor or controller 26 that can be programmed with various pattern information and which monitors and controls the operative elements of the tufting machines The tufting machine control system . . . further can receive and execute or store pattern information directly from a design center . . . that can be separate and apart from the tufting machine control system, or which can be included as part of the tufting machine control system.

(*Id.* at 64, col. 4:8–24.)

Claim 28 recites:

A method of forming tufted articles including tufts of multiple different color yarns, comprising:

feeding a backing material through a tufting machine;

reciprocating a series of needles to deliver the yarns into the backing material to form tufts of yarns therein;

engaging the yarns delivered into the backing material by the needles with a series of gauge parts to pull loops of yarns from the needles for forming the tufts of yarns in the backing material;

shifting at least some of the needles transversely, wherein the needles are shifted by single shift steps, double shift steps, or a combination of single and/or double shift steps according to a shift profile based upon a number of colors of yarns of the pattern for the tufted article;

controlling feeding of the yarns to the needles in accordance with the shift profile of the pattern for the article to selectively form tufts of yarns of a desired pile height and to selectively pull back loops of yarns to form the pattern;

wherein the tufts of yarns are formed in the backing material at an increased effective stitch rate that is at least two times a prescribed stitch rate based upon a gauge of the tufting machine, for the feeding of the backing material for the pattern of the tufted article so as to form the patterned article with an appearance of an increased density.

(*Id.* at 68, col. 12:4–30.)

Claim 29 recites:

A method of forming tufted articles including tufts of multiple different color yarns, comprising:

feeding a backing material through a tufting machine at an effective stitch rate that is increased over a desired stitch rate for the tufted article that is based on a gauge of the tufting machine;

reciprocating a series of needles to deliver the yarns into the backing material to form tufts of yarns therein;

engaging the yarns delivered into the backing material by the needles with a series of gauge parts to pull loops of yarns from the needles for forming the tufts of yarns in the backing material;

shifting at least some of the needles transversely according to a desired shift profile based upon a number of colors of yarns of the pattern for the tufted article;

controlling feeding of the yarns to the needles in accordance with the shift profile of the pattern for the article to selectively form a number of high tufts of yarns and to selectively pull back loops of yarns to form the pattern;

wherein the tufts of yarns are formed in the backing material at an effective stitch rate, so as to form the patterned article with the number of high tufts formed substantially matching the desired stitch rate of the tufting machine and with the loops of yarns selectively pulled back being substantially hidden by the high tufts of yarns.

(*Id.*, col. 12:31–56.)

3. *The Accused Products*

CMC accuses Tuftco of directly and indirectly infringing the Asserted Patents.

Specifically, CMC alleges Tuftco created a competing—but infringing—technology, and then manufactured and sold products that perform that technology. According to CMC, Tuftco refers to this competing technology in multiple ways, including “Colortuft,” “iTuft,” “iTuft c,” “Easy Pattern,” and “Easy Mode.”⁵ (Doc. 442, at 11–12.) For simplicity, the Court will refer to the allegedly infringing technology as “Colortuft/iTuft c.” At issue are twenty-nine tufting machines made by Tuftco (the “Accused Products”), including twenty-eight single- and double-needle-bar machines sold by Tuftco (Doc. 457, at 1) and one in-house sample machine (Doc. 454-9, at 61). Though ColorPoint fabrics are typically made with single-needle-bar machines (*Id.* at 105; Doc. 292-1, at 14, col. 5:10–30), CMC alleges that the double-needle-bar Accused Products also

⁵ Tuftco did not include a statement of facts with its summary judgment papers, so the Court understands Tuftco does not dispute that these names all reference the same technology.

infringe the Severed Claims.⁶ Double-needle-bar machines operate similarly to single-needle-bar machines, but with some differences. The “gauge” of a single-needle-bar machine refers to the spacing between the needles on the needle bar. (Doc. 292-1, at 13, col. 4:43–46; Doc. 454-9 at 91.) A 1/10th gauge machine, for example, will have needles spaced at 1/10th of an inch, or ten needles per inch, on its needle bar. (*Id.*) Double-needle-bar machines have a “composite gauge,” which consists of the combined gauge of both of its needle bars. (Doc. 454-11, at 133.) For example, a 1/10th gauge composite double-needle-bar machine will have two 1/5th gauge needle bars. (*Id.*) Each needle bar of the double-needle-bar Accused Products can carry all colors of the pattern being tufted. (*Id.*) The needle bars typically run parallel to each other. (*Id.*, at 133–34; Doc. 292-1, at 104, ¶ 12.) The needle bars can either shift with one another or against each other. (Doc. 454-11, at 134.) The needle bars are offset and do not stitch in the same longitudinal path. (*Id.* at 135.) In other words, if the front needle bar is stitching the odd rows, the rear needle bar would be stitching only the even rows. (*Id.*) Of course, with a single-needle-bar tufting machine, the needle bar would tuft every longitudinal row.

During discovery, CMC’s expert, Steven Berger, conducted inspections on five of the Accused Products, including: (1) a 1/10th gauge single-needle-bar machine sold to Lexmark; (2) a 1/10th gauge single-needle-bar machine sold to Signature; (3) a 1/12th composite gauge double-needle-bar machine with two staggered 1/6th gauge needle bars sold to J&J Industries; (4) a 1/10th gauge single-needle-bar machine sold to Shaw; and (5) a 1/10th composite gauge double-needle-bar machine with two staggered 1/5th needle bars, which Tuftco keeps in house as

⁶ Tuftco refers to its 1/12th gauge double-needle-bar machines as “iTuft 6c” machines and its 1/10th gauge double-needle-bar machines as “iTuft 5c” machines. (Doc. 454-11, at 190.)

a sample machine (together, the “Inspected Machines”).⁷ (Doc. 454-9, at 60–61.) CMC alleges that Tuftco directly infringed the Machine Claim—Claim 1 of the ‘703 Patent—by manufacturing and selling the Accused Products. (Doc. 442, at 31.) Additionally, CMC alleges Tuftco directly infringed the Method Claims by producing in-house samples to market Colortuft/iTuft c.⁸ (*Id.* at 31–32.) Finally, CMC asserts Tuftco indirectly infringed the Method Claims by inducing its customers to directly infringe them. (*Id.* at 32–33.)

4. Procedural History

CMC initiated this action on October 7, 2014, alleging infringement of the Asserted Patents. (Docs. 1, 127.) As is relevant here, Tuftco asserted affirmative defenses of non-infringement, invalidity, inequitable conduct, and patent misuse. (Doc. 128.) Tuftco also asserted counterclaims for: (1) non-infringement, invalidity, and unenforceability; (2) tortious interference with business relationships; (3) unfair trade practices; and (4) unfair competition. (*Id.*) Pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), the Court held a claim-construction hearing on April 19, 2016 (the “*Markman* hearing”), and thereafter issued an order construing ten disputed terms in the Asserted Patents. (Doc. 220.) On October 20, 2016, the Court issued an order directing each party to file one comprehensive summary judgment motion supported by a forty-page memorandum, in lieu of serial motions and memoranda. (Doc. 280.)

⁷ At the summary judgment hearing, Tuftco conceded that “the machines that . . . were in the inspection are typical of the other machines, not inspected, that have been made by Tuftco.” (Doc. 474, at 81.)

⁸ CMC alleges direct and indirect infringement of all of the Method Claims in its Complaint (Doc. 127), but it only moves for summary judgment of infringement on the following Method Claims: Claims 8, 10, and 12 of the ‘505 Patent; Claims 21 and 27 of the ‘989 Patent; and Claim 28 of the ‘703 Patent.

On November 4, 2016, the parties filed their motions for summary judgment. (Docs. 288, 289, 450.) On November 28, 2016, each party responded in opposition to the other's motion. (Docs. 319, 325, 445, 452.) Also on November 28, 2016, Tuftco filed a motion to strike and for sanctions. (Doc. 317.) On December 8, 2016, each party filed a reply in support of its motion. (Docs. 334, 336, 447, 453.) On December 15, 2016, CMC responded in opposition to Tuftco's motion to strike (Doc. 345), and Tuftco replied on December 22, 2016 (Doc. 352). These motions are now ripe for the Court's review.

II. MOTION TO STRIKE AND FOR SANCTIONS

The Court will first address Tuftco's motion to strike. Tuftco moves to strike the portions of CMC's summary judgment brief that exceed the Court's page limitation on memoranda accompanying summary judgment motions. (Doc. 317.) Specifically, Tuftco argues that CMC improperly incorporated into its brief over fifty pages from its expert's infringement report in contravention of the Court's order imposing a forty-page limit. (*Id.*) Tuftco cites a number of cases in support, including two from this district and one from the Sixth Circuit.

Unlike the cases cited by Tuftco, however, the document CMC "incorporates" is not argument or submissions by an attorney, but portions of an expert report. *Cf., e.g., Cross v. Sbarro Am., Inc.*, No. 1:09-cv-275, 2011 WL 572415, at *4 (E.D. Tenn. Feb. 15, 2011) (sustaining an objection to a party's incorporation of an attached statement of undisputed facts). Under the Federal Rules of Civil Procedure, a party may support its motion for summary judgment by "citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials . . ." Fed. R. Civ. P. 56(c)(1)(A). Moreover, the importance of expert opinion at the

summary judgment stage in patent litigation must not be ignored. *See, e.g., Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1183 (Fed. Cir. 2009) (“To satisfy the summary judgment standard, a patentee’s expert must set forth the factual foundation for his infringement opinion in sufficient detail for the court to be certain that features of the accused product would support a finding of infringement . . .”). CMC’s memorandum simply points to other portions of the record, in context, without unnecessarily burdening the Court with in-bulk reproductions of such content. There is nothing inappropriate—much less sanctionable—about CMC’s conduct. Accordingly, the Court finds that CMC has not improperly exceeded the page limitation and will **DENY** Tuftco’s motion to strike and for sanctions (Doc. 317).

III. MOTIONS FOR SUMMARY JUDGMENT

Tuftco moves for summary judgment that the Asserted Patents are invalid due to indefiniteness and anticipation. In the alternative, Tuftco seeks summary judgment that the “invention” in the Asserted Patents is limited to software CMC uses to run ColorPoint. (Doc. 450.) Tuftco also moves for summary judgment of non-infringement and on a number of damages issues. (*Id.*)

CMC moves for summary judgment: (1) that the Severed Claims are valid with respect to anticipation, obviousness, indefiniteness, and ineligibility under 35 U.S.C. § 101; (2) that the Inspected Machines are representative of all Accused Products; (3) that Tuftco has directly infringed the Machine Claim and the Method Claims; (4) that Tuftco has indirectly infringed the Method Claims; and (5) on Tuftco’s counterclaims and affirmative defenses of inequitable conduct, tortious interference, unfair competition, unfair trade practices, and patent misuse. (Doc. 289.)

1. Standard of Review

Summary judgment is proper when “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). The Court views the evidence in the light most favorable to the nonmoving party and makes all reasonable inferences in favor of the nonmoving party. *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986); *Nat'l Satellite Sports, Inc. v. Eliadis Inc.*, 253 F.3d 900, 907 (6th Cir. 2001).

The moving party bears the burden of demonstrating that there is no genuine dispute as to any material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986); *Leary v. Daeschner*, 349 F.3d 888, 897 (6th Cir. 2003). The moving party may meet this burden either by affirmatively producing evidence establishing that there is no genuine issue of material fact or by pointing out the absence of support in the record for the nonmoving party’s case. *Celotex Corp.*, 477 U.S. at 325. Once the movant has discharged this burden, the nonmoving party can no longer rest upon the allegations in the pleadings; rather, it must point to specific facts supported by evidence in the record demonstrating that there is a genuine issue for trial. *Chao v. Hall Holding Co., Inc.*, 285 F.3d 415, 424 (6th Cir. 2002).

At summary judgment, the Court may not weigh the evidence; its role is limited to determining whether the record contains sufficient evidence from which a jury could reasonably find for the non-movant. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248–49 (1986). A mere scintilla of evidence is not enough; the Court must determine whether a fair-minded jury could return a verdict in favor of the non-movant based on the record. *Id.* at 251–52; *Lansing Dairy, Inc. v. Espy*, 39 F.3d 1339, 1347 (6th Cir. 1994). If not, the Court must grant summary judgment. *Celotex*, 477 U.S. at 323.

The standard of review when parties file cross-motions for summary judgment is the same as when only one party moves for summary judgment. *Taft Broad. Co. v. United States*, 929 F.2d 240, 248 (6th Cir. 1991). When there are cross-motions for summary judgment, the court must “evaluate each party’s motion on its own merits, taking care in each instance to draw all reasonable inferences against the party whose motion is under consideration.” *Id.* In considering cross motions for summary judgment, the court is “not require[d] . . . to rule that no fact issue exists.” *Begnaud v. White*, 170 F.2d 323, 327 (6th Cir. 1948).

2. *Invalidity*

Generally, patents are presumed valid, and the party challenging validity bears the burden of proving invalidity by clear and convincing evidence. 35 U.S.C. § 282(a); *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 95 (2011). “Clear and convincing evidence is such evidence that produces ‘an abiding conviction that the truth of [the] factual contentions are highly probable.’” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012) (quoting *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984)).

Tuftco moves for summary judgment that: (1) Claim 1 of the ‘703 Patent is invalid for indefiniteness under 35 U.S.C. § 112, ¶ 6; and (2) the Severed Claims are invalid as anticipated. CMC moves for summary judgment on Tuftco’s invalidity defenses and counterclaims, asserting that insufficient evidence exists to support: (1) indefiniteness under § 112, ¶ 2 and ¶ 6; (2) anticipation; (3) obviousness; and (4) ineligible under § 101.

i. *Indefiniteness*

Tuftco counterclaims that all three Asserted Patents are invalid under 35 U.S.C. § 112. (Doc. 128, at 9.) Tuftco now moves for summary judgment specifically on Claim 1 of the ‘703

Patent, based on invalidity due to indefiniteness under 35 U.S.C. § 112, ¶ 6.⁹ CMC cross-moves for summary judgment on Tuftco’s invalidity counterclaim generally, arguing that Tuftco cannot establish that the Asserted Patents are invalid under 35 U.S.C. § 112, ¶ 2 or ¶ 6.

1. 35 U.S.C. § 112, ¶ 6

Both parties move for partial summary judgment under 35 U.S.C. § 112, ¶ 6. Whether a claim is subject to § 112, ¶ 6, is a matter of claim construction and, therefore, a question of law. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015). However, in construing a claim, the Court may make underlying findings of fact based on extrinsic evidence, such as expert testimony. *Id.* Pursuant to § 112, ¶ 6, a patent applicant may express an element of a claim “as a means or step for performing a specified function . . . and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6. Though paragraph six allows means-plus-function language, those claims are “still subject to the [§ 112, ¶ 2] requirement that a claim ‘particularly point out and distinctly claim’ the invention.” *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (quoting § 112, ¶ 2). Accordingly, if a patentee uses generic language to claim function under § 112, ¶ 6, it must clearly identify and describe a corresponding structure in the specification for performing the claimed function. *Williamson*, 792 F.3d at 1351. If the patentee does not specify such structure, the claim is considered purely functional and invalid for indefiniteness. *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1363 (Fed. Cir. 2012).

⁹ Under the America Invents Act (“AIA”), paragraphs 2 and 6 of 35 U.S.C. § 112 were recodified as 35 U.S.C. § 112(b) and § 112(f), respectively. Because the application resulting in the Asserted Patents was filed before the AIA took effect, the Court will refer to the pre-AIA version of § 112. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2125 n.1 (2014).

Tuftco argues that Claim 1 of the ‘703 Patent is properly construed as a means-plus-function claim under § 112, ¶ 6, because it uses generic language—“control system”—to claim function. (Doc. 450, at 10–13.) According to Tuftco, because the patent specification fails to disclose sufficient structure as required of means-plus-function claims, Claim 1 is invalid for indefiniteness. (*Id.* at 13–15.)

The first inquiry under § 112, ¶ 6, is whether Claim 1 of the ‘703 Patent should be construed as a means-plus-function claim. In determining whether a means-plus-function construction applies, the Court analyzes “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson*, 792 F.3d at 1349. A claim that does not include the word “means” carries a rebuttable presumption that the limitation is not subject to § 112, ¶ 6.¹⁰ *Id.* The presumption is overcome if “the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)). In other words, the Court asks whether “the claim language, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6.” *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (quoting *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014)). In *Williamson*, for example, the Federal Circuit held that a limitation claiming a “distributed learning control module” and three functions it performed was subject to a means-plus-function construction. 792 F.3d at 1350–51. Though the limitation did not contain the term “means,” the court noted that “[g]eneric terms such as ‘mechanism,’ ‘element,’ [and] ‘device’ . . .

¹⁰ *Williamson*, however, explicitly overruled Federal Circuit precedent characterizing the presumption as “strong.” 792 F.3d at 1349.

. that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word ‘means’” *Id.* at 1350. “[M]odule,” the court found, “is a well-known ‘nonce word’ that can operate as a substitute for ‘means’” *Id.* Moreover, the prefix “distributed learning control” did not add structure to the phrase. *Id.* at 1351. The court also noted that the claim language did not describe how the ““distributed learning control module’ interacts with other components . . . in a way that might inform the structural character of the limitation in question” and that nothing in the specification or prosecution history imparted structure into the phrase. *Id.*

Here, Claim 1 provides in pertinent part: “A tufting machine for forming pattern tufted articles including different color yarns therein, comprising: . . .

a **control system** for controlling said yard feed mechanism in cooperation with said at least one needle bar shifter shifting the at least one needle bar in accordance with a series of transverse pattern shift steps received by the **control system**, to control feeding of the yarns to said needles as the needles are reciprocated and as the needle bar is shifted in accordance with the transverse pattern shift steps as needed to form selected tufts of yarns of a desired height and to pull non-selected ones of the yarns low or out of the backing material for each pattern step;

wherein the **control system** is linked to and controls the backing feed rolls for feeding the backing material such that the tufts of yarns are formed in the backing material at an effective stitch rate that is determined by increasing a prescribed stitch rate of the patterned tufted article that is based on the gauge of the tufting machine by a selected amount so as to form the patterned articles with the selected tufts of yarns having an appearance of being formed at the desired stitch rate.”

(Doc. 292-1, at 67, col. 9:17–18, 33–51 (emphasis added).) As the limitation in question lacks the word “means,” it carries a rebuttal presumption that § 112, ¶ 6, does not apply.

The presumption is not overcome, because the language of Claim 1, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6. Turning first to the term itself, Tuftco argues that, like the terms “mechanism,” “element,” or “device,” “system” is a

generic substitute for “means.” In support, Tuftco cites *Automotive Technologies International, Inc. v. Delphi Corp.*, a district court case from the Eastern District of Michigan which found that the phrase “a measurement system” indicates a means-plus-function limitation. No. 08-11048, 2009 WL 2960698, at *12–13 (E.D. Mich. Sept. 11, 2009). Although the *Automotive Technologies* court found that “[s]ystem” is the same sort of generic term as ‘means,’ ‘mechanism’ and ‘device,’ other district courts, including courts with a heavy patent docket, have disagreed. *See, e.g., Blitzsafe Tex., LLC v. Honda Motor Co.*, No. 2:15-cv-1274-JRG-RSP, 2016 WL 4762083, at *14 (E.D. Tex. Sept. 13, 2016) (finding “integration subsystem” to denote structure); *Perdiem Co, LLC v. IndusTrack LLC*, No. 2:15-cv-727-JRG-RSP, 2016 WL 3633627, at *37 (E.D. Tex. July 7, 2016) (“The term ‘system’ as used here is different from the word ‘module’ in *Williamson*.”). Accordingly, *Automotive Technologies* does not persuade the Court that it should treat the phrase “control system” as a mere means-plus-function limitation.¹¹

Moreover, the language of Claim 1, viewed in light of the specification, imparts structure to the term. Claim 1 specifies that the “control system” works “in cooperation with said at least one needle bar shifter” which receives a “series of transverse pattern shift steps” from the “control system.” (Doc. 292-1, at 67, col. 9:34–37.) The “control system” is also “linked to and controls the backing feed rolls.” (*Id.* at col. 9:43–44.) This claim language structurally connects the control system and other components of the claimed tufting machine. Moreover, the ‘703 Patent’s specification goes so far as to provide a specific example of a “control system” (“The tufting machine control system 25 generally will comprise a tufting machine control such as a ‘Command Performance™’ tufting machine control system as manufactured by Card-Monroe

¹¹ As noted below, Claim 1 is further distinguished from the claim in *Automotive Technologies* because it contains language that structurally ties the “control system” to other components of the tufting machine. *See* 2009 WL 2960698, at *13.

Corp.”)¹² and further explains the structural components of a “control system” (“The control system also typically includes a computer/processor or controller 26 that can be programmed with various pattern information and which monitors and controls the operative elements of the tufting machines . . .”; “The tufting machine control system . . . further can receive and execute or store pattern information directly from a design center . . . that can be separate and apart from the tufting machine control system, or which can be included as part of the tufting machine control system.”). (Doc. 292-1, at 64, col. 4:8–24.) Therefore, a person of ordinary skill in the art would understand the necessary structure of a “control system” as contemplated by Claim 1.

Notably, Tuftco does not offer any testimony or evidence to demonstrate that one of ordinary skill in the art would not understand the term “control system” to denote structure. (Doc. 450, at 10–13.) Meanwhile, there is evidence in the record that an ordinarily skilled artisan would understand “control system” as a name for structure. For example, CMC’s expert concluded that “control system” is a common industry term that requires no construction. (Doc. 113-12, at ¶¶ 24–27.) Moreover, Tuftco itself appears to understand the structure of a “control system.” In another section of its brief, Tuftco states “the type of ‘control system’ that is referenced in [Claim 1] is the same type of ‘control system’ that existed in conventional tufting machines that predated the Asserted Patents.” (Doc. 450, at 22.) Finally, during a deposition, one of Tuftco’s experts appeared to understand that CMC’s “Command Performance” and Tuftco’s “Encore” are “control systems” that are used for tufting machines. (Doc. 454-12, at 7.)

¹² Tuftco argues that if the Command Performance software constitutes the “control system,” then Claim 1 “is anticipated because Command Performance was offered years earlier, and all other elements of the claim are conventional.” (Doc. 450, at 13 n.3.) However, as the Court notes below in Part III(b)(ii)(2)(c), “a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.” *Diamond v. Diehr*, 450 U.S. 175, 188 (1981).

In short, Claim 1 provides far more description of the structure of the “control system” than a mere means-plus-function claim. For the foregoing reasons, the Court finds that Claim 1 of the ‘703 Patent is not a means-plus-function claim subject to 35 U.S.C. § 112, ¶ 6. Because Claim 1’s use of the term “control system” does not render it a means-plus-function claim, Tuftco’s motion for summary judgment that Claim 1 of the ‘703 Patent is invalid for indefiniteness under 35 U.S.C. § 112, ¶ 6, is **DENIED**, and CMC’s cross-motion for summary judgment on this ground is **GRANTED**.

2. 35 U.S.C. § 112, ¶ 2

CMC moves for summary judgment on Tuftco’s invalidity counterclaim that the Severed Claims are indefinite under 35 U.S.C. § 112, ¶ 2. Tuftco did not respond to CMC’s motion with respect to § 112, ¶ 2. Tuftco did, however, argue that Claim 1 of the ‘703 Patent is indefinite with respect to the term “selected amount” in its own motion for summary judgment, though it did not move for summary judgment of invalidity under §112, ¶ 2. (Doc. 450, 15–16.) Additionally, Tuftco’s expert, Ian Slattery, opines that the Severed Claims are indefinite based on the following terms: (a) “desired stitch rate”; (b) “a gauge of the tufting machine”; (c) “by a selected amount”; (d) “a shift profile based upon a number of colors of yarn of the pattern” or “a number of colors” or “a number of different yarns” or “a desired number of yarns”; and (e) “an appearance of increased density.” (Doc. 292-2, at 17–18.)

“Indefiniteness is a question of law” *Eli Lilly & Co. v. Teva Parenteral Meds., Inc.*, 845 F.3d 1357, 1370 (Fed. Cir. 2017). In determining whether a claim is indefinite, “general principles of claim construction apply” *Id.* As such, the Court may make underlying findings of fact based on extrinsic evidence. *Id.* Because patents are presumed valid, “any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and

convincing evidence.” *One-E-Way, Inc. v. Int’l Trade Comm’n*, 859 F.3d 1059, 1062 (Fed. Cir. 2017) (internal quotation omitted). To be definite under 35 U.S.C. § 112, a claim must “point[] out and distinctly claim[]” the invention. § 112, ¶ 2. “A lack of definiteness renders invalid ‘the patent or any claim in suit.’” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2125 (2014) (quoting § 282, ¶ 2(3)). As the Supreme Court has explained, § 112, ¶ 2, requires “that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.”¹³ *Id.* at 2129. This requirement “strikes a ‘delicate balance’ between ‘the inherent limitations of language’ and providing ‘clear notice of what is claimed.’” *Sonix Tech. Co., Ltd. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017) (quoting *Nautilus*, 134 S. Ct. at 2129). After *Nautilus*, the Federal Circuit clarified the standard further, holding that, to satisfy § 112, ¶ 2, a claim “must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Nautilus*, 134 S. Ct. at 2130 & n.8).

a. “by a selected amount”

Claim 1 of the ‘703 Patent provides for forming tufts of yarns in the backing material:

at an effective stitch rate that is determined by increasing a prescribed stitch rate of the patterned tufted article that is based on the gauge of the tufting machine *by a selected amount* so as to form the patterned articles with the selected tufts of yarns having an appearance of being formed at the desired stitch rate.

(Doc. 292-1, at 67, col. 9:45–51 (emphasis added).) Slattery opines that the term is indefinite because it “provides no technique for determining the ‘selected amount[.]’” (Doc. 292-2, at 17.)

¹³ Although the Supreme Court modified the prior “insoluble ambiguity” indefiniteness standard used by lower courts before *Nautilus*, the Federal Circuit noted on remand that most lower court precedent is still applicable as “all that is required is that the patent apprise [ordinary-skilled artisans] of the scope of the invention.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1381 (Fed. Cir. 2015) (citation omitted). Accordingly, this Court will “now steer by the bright star of ‘reasonable certainty,’ rather than the unreliable compass of ‘insoluble ambiguity.’” *Id.* at 1380.

Tuftco argues that because both CMC and its expert Steven Berger cannot define the term, it is indefinite. (Doc. 450, 15–16.) After a claim construction hearing the Court construed the term “selected” to mean “chosen in accordance with the pattern.” (Doc. 220, at 19.) Though the Court was cautious to read a limitation into the Severed Claims, it found that this construction was not only consistent with the dictionary definition of “selected,” but also supported by the claim language itself. (*Id.* at 18–19.)

Construing the term “by a selected amount” to mean “by an amount in accordance with the pattern” provides a technique for determining the “selected amount,” *i.e.*, the pattern. Moreover, the ‘703 Patent’s specification makes clear that “a selected amount” is approximate to the number of colors in the pattern. For example, the specification provides that “[t]ypically, the operative or effective stitch rate run . . . will be approximately equivalent to a desired or prescribed number of stitches per inch . . . , multiplied by *the number of colors being run in the programmed pattern.*” (Doc. 292-1, at 64, col. 3:2–6 (emphasis added); *see also id.* at 65, col. 5:31–34.) Further, it provides that the “effective stitch rate is substantially faster than conventional stitch rates (*i.e.*, by a factor approximately equivalent to *the number of colors being tufted*) in order to provide sufficient density for the tufts being formed in the pattern fields to hide those color yarns not to be shown.” (*Id.* at 66, col. 8:6–10 (emphasis added).) The specification, therefore, makes clear that the term “by a selected amount” should be a number approximating the number of colors in the pattern, adjusted to achieve the characteristics the customer ultimately wants to see in the finished patterned article. The term “by a selected amount” does not fail to inform those skilled in the art about the scope of the invention.

b. “desired stitch rate”

The term “desired stitch rate,” or its synonyms “desired fabric stitch rate” and “prescribed stitch rate,”¹⁴ appears in Claim 8 of the ‘505 Patent, in Claims 21, 22, 27, 28, 29, and 30 of the ‘989 Patent, and in Claims 1, 28, and 29 of the ‘703 Patent. After the claim-construction hearing, the Court construed the term “desired stitch rate” to mean “the number of tufts of yarn per linear inch dictated by the pattern design to be visible in the face of the pattern.” (Doc. 220, at 4–9.) Despite the Court’s construction, Slattery opines that, unless the term “desired stitch rate” is construed to mean “equal to the gauge of the tufting machine,”¹⁵ the term is indefinite, because “the actual stitch rate applied is a result of several factors including the appearance and weight of samples.” (Doc. 292-2, at 17.) Slattery provides an example:

So, if a 10th gauge sample is tufted at 10 stitches per inch and results in a weight of 20 ounces when the manufacturer was looking for a 24 ounce product, the stitch rate may be increased by 20%. This adjustment results in a stitch rate of 12 stitches per inch, but the desired result might not be the particular stitch rate, but the weight of the face yarn.

(*Id.*)

The Court concludes that the term “desired stitch rate” does not have to be construed as “equal to the gauge of the tufting machine” to satisfy § 112, ¶ 2. The claim language and specifications clearly indicate that the term “desired stitch rate” is equivalent to the number of yarns per linear inch the designer wishes to be visible in the face of the pattern. For example, Claim 8 of the ‘505 Patent provides that the “desired fabric stitch rate . . . comprises a number of stitches per inch desired for the patterned tufted article.” (Doc. 291-1, at 16, col. 10:53–55.) The

¹⁴ The parties agree these terms are synonymous. (See Doc. 220, at 4.)

¹⁵ The Court addresses whether “based on the gauge of the tufting machine” should be construed as “equal to the gauge of the tufting machine” below in Parts III(d)(ii)(2) and III(d)(iii)(3).

‘505 Patent’s specification confirms that “the number of high tufts (the colors that are visible in the finished tufted article), generally can be matched to the desired stitch rate for the tufting machine . . .” (*Id.* at 16, col. 9:26–29.)

Where a claim term is subjective, claim language and specifications can provide sufficient guidance to satisfy the definiteness requirement. *Sonix Tech.*, 844 F.3d at 1378; *Interval Licensing*, 766 F.3d at 1371. Here, the language of the Severed Claims and their specifications provide objective boundaries for those skilled in the art. The specifications clarify that the end goal of the patented methods is a pattern with a full, consistent density across its face. For example, Claim 8 of the ‘505 Patent provides that high and low tufts are formed in the patterned tufted article “so as to substantially maintain density of the tufts of yarns being formed in the backing material . . .” (*Id.* at 16, col. 10:57–59.) The ‘505 Patent’s specification provides that “the increased number of stitches per inch will provide sufficient enhanced density between the high and low tufts of the finished patterned tufted article to avoid a missing color or gap being shown or otherwise appearing in the patterned tufted article.” (*Id.* at 13, col. 3:6–10.) Accordingly, the above language instructs one skilled in the art to avoid gaps in the face of the pattern. Moreover, the claim language and specifications make clear that the desired stitch rate is necessarily a fraction of the effective stitch rate. Claim 21 of the ‘989 Patent, for example, provides that the effective stitch rate “comprises increasing the desired stitch rate for the pattern by a multiple approximately corresponding to a number of colors of yarns used to form the patterned articles.” (*Id.* at 50, col. 21:45–49.) Accordingly, if the pattern has two colors, the desired stitch rate will be approximately half the effective stitch rate, with three colors, it will be approximately a third, and so on. The ‘989 Patent’s specification confirms this: “the operative or effective process stitch rate run by the stitch distribution control system will be substantially

higher than such typical conventional desired fabric stitch rates.” (*Id.* at 44, col. 9:8–11.) The specification even provides examples: “for a tenth gauge machine generally run to achieve a desired fabric stitch rate of approximately ten stitches per inch . . . if there are three colors in the pattern, the operative or effective stitch rate . . . [will be] approximately thirty stitches per inch . . .” (*Id.*, col. 9:19–27.) The fact that the “desired stitch rate” may vary based on customer weight preference does not render the term indefinite. Finally, Tuftco uses synonyms for the term “desired stitch rate,” such as “desired stitches per inch,” in its own user manuals, suggesting that the term does not fail to inform those skilled in the art about the scope of the invention. (*See, e.g.*, Doc. 454-4, at 18.) Accordingly, a person of skill in the art considering the term “desired stitch rate” is provided an objective baseline through which to interpret the Severed Claims and would understand their scope with reasonable certainty.

c. “*a gauge of the tufting machine*”

This term appears in Claims 1, 28, and 29 of the ‘703 Patent. Claim 1 provides for a machine with “at least one needle bar having a series of needles mounted at a spacing based on a gauge of the tufting machine” (Doc. 292-1, at 67, col. 9:19–20.)¹⁶ Claims 28 and 29 provide for methods with a “prescribed” or “desired stitch rate” that is “based upon a gauge of the tufting machine” (*Id.* at 68, col. 12:26–27, 35–37.) Tuftco did not propose the term “a gauge of the tufting machine” as a disputed claim term before the claim construction hearing (Doc. 169), so the Court did not construe it. Slattery opines that this term is indefinite with regard to double-needle-bar machines because those machines have multiple “gauges.” (Doc. 292-2, at 17.) For example, a double-needle-bar machine may be “called a 10th gauge machine,” but it also has two 1/5th gauge needle bars. (*Id.*) Because Tuftco did not respond to CMC’s

¹⁶ Claim 1 also provides that the “prescribed stitch rate” is “based on *the* gauge of the tufting machine” (Doc. 292-1, at 67, col. 9:47–48 (emphasis added).)

motion for summary judgment on indefiniteness with respect to § 112, ¶ 2, or move for summary judgment on § 112, ¶ 2, in its own summary judgment motion, Slattery’s opinion is the only basis that Tuftco provides for a determination that the term “a gauge of the tufting machine” is indefinite.

As a fact critical to a holding on indefiniteness, Tuftco must prove by clear and convincing evidence that those skilled in the art of tufting consider the gauge of each needle bar to be “a gauge of the tufting machine.” *See One-E-Way*, 859 F.3d at 1062. Other evidence of record, including evidence intrinsic to the ‘703 Patent, establishes that no reasonable jury could conclude based on Slattery’s opinion alone that there is more than one “gauge of the tufting machine.” The ‘703 Patent’s specification notes that a “typical desired stitch rate” in a conventional tufting system “generally has been matched to the gauge of the tufting machine, i.e., for a tenth gauge tufting machine, the stitch rate typically will be approximately ten stitches per inch” (Doc. 292-1, at 65, col. 5:22–26.) Further, it states “for a tenth gauge machine generally run using a desired stitch rate of approximately ten stitches per inch,” the effective stitch rate for a three-color pattern will be “approximately thirty stitches per inch” (*Id.*, col. 5:35–42.) Accordingly, it is clear that the specification does not contemplate a desired stitch rate based on the gauge of a needle bar. Additionally, extrinsic evidence contradicts Slattery’s assertion that there is more than one “gauge of the tufting machine.” For example, in a deposition, Tuftco’s expert Lynne Paige referred to one double-needle-bar machine as “a 12 gauge. . . . That was two needle bars.” (Doc. 435, at 166, 167–68.) Steve Frost, Tuftco’s CEO, testified that how much the needle bars of a double-needle-bar machine are offset “will depend upon *the gauge of the tufting machine*. . . . [For a tenth-gauge machine] [i]t would be offset . . . by a tenth.” (Doc. 454-11, at 134 (emphasis added).) This evidence confirms that, although a

double-needle-bar machine may have two needle bars with their own gauges, those skilled in the art understand there is only one “gauge of the tufting machine.”¹⁷ For this reason, the Court concludes that the term “a gauge of the tufting machine” does not fail to inform those skilled in the art about the scope of Claims 1, 28, and 29 of the ‘703 Patent with reasonable certainty.

- d. “*a shift profile based upon a number of colors of yarn of the pattern*” or “*a number of colors*” or “*a number of different yarns*” or “*a desired number of yarns*”

The term “a shift profile based upon a number of colors of yarn of the pattern” appears in Claims 28 and 29 of the ‘703 Patent. The term “a number of colors” appears in Claims 21, 27, and 30 of the ‘989 Patent. The term “a number of different yarns” appears in Claims 22 and 28 of the ‘989 Patent. The term “a desired number of yarns” also appears in Claim 28 of the ‘989 Patent. Tuftco did not propose these terms as disputed claim terms before the claim construction hearing (Doc. 169), so the Court did not construe them. Slattery opines that these terms are indefinite because they “do[] not define whether it is the total number of different colors or yarns in the pattern or whether it is a number that does not exceed the number in the pattern.” (Doc. 292-2, at 17.)

The claim language and specifications, however, demonstrate that these terms refer to the number of colors in the pattern being tufted. For example, Claim 21 of the ‘989 Patent provides for increasing the desired stitch rate by a multiple corresponding to “a number of colors of yarns used to form the patterned article.” (Doc. 292-1, at 50, col. 21:47–49.) The ‘703 Patent specification states that the effective stitch rate is faster “by a factor approximately equivalent to

¹⁷ Even as applied to Claim 1 of the ‘703 Patent, which provides for needle-bar spacing “based on a gauge of the tufting machine,” the term is not indefinite. Taking Slattery’s example, the gauge of each needle bar would be exactly half of the gauge of the machine, or 1/5th. Accordingly, needle-bar spacing would still be “based on a gauge of the tufting machine.”

the number of colors being tufted” (*Id.* at 66, col. 8:6–8.) Accordingly, the terms “a shift profile based upon a number of colors of yarn of the pattern,” “a number of colors,” “a number of different yarns,” and “a desired number of yarns” do not fail to inform those skilled in the art about the scope of the invention with reasonable certainty.

e. “*an appearance of increased density*”

This term appears in Claim 28 of the ‘703 Patent, which provides:

wherein the tufts of yarns are formed in the backing material at an increased effective stitch rate that is at least two times a prescribed stitch rate based upon a gauge of the tufting machine, for the feeding of the backing material for the pattern of the tufted article so as to form the patterned article with *an appearance of an increased density*.

(*Id.* at 68, col. 12:24–30 (emphasis added).) Slattery opines that the term “does not have a reference point, and the method described in the patents appears to be to create square density, i.e., 10 stitches per inch on a 10th gauge tufting machine, which is a standard density” (Doc. 292-2, at 18.)

In light of the specifications, the term “*an appearance of increased density*” does not fail to inform those skilled in the art about the scope of the invention with reasonable certainty. The 703 Patent’s specification makes clear that the term refers to a face density that does not have missing colors or gaps as compared to patterns tufted with conventional methods—not to have a face density that is necessarily higher than standard density. For example, the specification provides that “the increased number of stitches per inch will provide sufficient enhanced density to the finished pattern tufted article to avoid a missing color or gap being shown or otherwise appearing in the patterned tufted article.” (*Id.* at 64, col. 3:10–13.) Accordingly, the term “*an appearance of increased density*” informs those skilled in the art about the scope of Claim 28 of the ‘703 Patent with reasonable certainty.

The Court, therefore, concludes that the Severed Claims are not invalid for indefiniteness and will **GRANT** CMC’s motion for summary judgment that the Severed Claims are not indefinite under 35 U.S.C. § 112, ¶ 2.

ii. Anticipation

Tuftco moves for summary judgment that: (1) the Severed Claims are invalid as anticipated by graphics tufting machines; (2) Claim 12 of the ‘505 Patent is invalid as anticipated by the Silhouette Carpet and the Thorn Carpet; and (3) Claim 1 of the ‘703 Patent is invalid as anticipated by conventional tufting machines. CMC cross-moves for summary judgment that the Severed Claims are not anticipated.

1. Standard

Whether a claim has been anticipated under 35 U.S.C. § 102 is a question of fact. *ActiveVideo Networks, Inc. v. Verizon Commc’ns*, 694 F.3d 1312, 1327 (Fed. Cir. 2012). A claim is invalid as anticipated under § 102 if a single prior art reference contains every claim limitation. *Id.*

2. Tuftco’s Motion for Summary Judgment

Tuftco makes three arguments in regard to anticipation. First, Tuftco argues that the operation of a single needle bar on a graphics machine, as reflected in the “Medallion” rug, anticipates the Severed Claims. (Doc. 450, at 23–24.) Second, Tuftco argues that both the Silhouette Carpet, sold by Dixie Home, and the Thorn Carpet, produced by Tuftco, anticipated Claim 12 of the ‘505 Patent. (*Id.* at 16–19.) Finally, Tuftco insists that conventional tufting machines anticipate Claim 1 of the ‘703 Patent. (*Id.* at 19–22.) Tuftco is required to prove by clear and convincing evidence that every limitation of a claim was contained in a single prior art reference in order to prove anticipation. *Zenith Elecs. Corp. v. PDI Commc’n Sys., Inc.*, 522

F.3d 1348, 1363 (Fed. Cir. 2008). To succeed on its motion, Tuftco must show that no reasonable jury would have a legally sufficient basis to find for CMC on Tuftco's anticipation defense.

a. Graphics Tufting Machines' Anticipation of the Severed Claims

Tuftco argues that the action of a one needle bar of a graphics machine,¹⁸ which operates with two shifting needle bars and has existed in the tufting industry for thirty-five years, anticipated the Severed Claims. Tuftco relies specifically on the Medallion rug, which was tufted by a graphics machine, described in the 2002 International Carpet Yearbook, and displayed at the 2003 Domotex International Floor Covering and Carpet Show in Hanover, Germany.¹⁹ According to Tuftco:

One needle bar of the graphics tufting machine creating the Medallion design had needles spaced at 5/32nds gauge (6.4 per inch), backing feed rolls feeding a backing material through a tufting zone; a single end scroll yarn feed attachment for feeding yarns to the needles; a needle bar shifter for shifting the needle bar; series of loopers (gauge parts) mounted below the tufting zone to form tufts of yarn in the backing material; and Tuftco's Win PCCI Operating System to control the yarn feed mechanism and pull selected yarns low. This 5/32nds needle bar carried two different color yarns, was shifting, and made 12.8 penetrations per longitudinal inch as the backing was fed through the machine (twice the gauge of the needle bar). Furthermore, in the areas of the pattern where one of the two yarns carried by the needle bar was pulled low, it produced an appearance of having been tufted at a 5/32nds (6.4 per inch) stitch rate because the low stitches are hidden. Thus the 5/32nds gauge needle bar tufted at a desired stitch rate equal to the gauge of the needle bar and at an effective stitch rate of 12.8 stitches per inch while tufting two colors of yarn—or exactly twice the desired stitch rate.

¹⁸ The parties do not dispute that graphics machines and double-needle-bar machines are the same. (See Doc. 442, at 42; Doc. 452, at 15.)

¹⁹ Tuftco also mentions another pattern: "As illustrated in the monkey design, one needle bar, threaded with black yarns, tufts a black background while the monkey image is tufted with the two green and beige yarns on the other needle bar." (Doc. 450, at 24.) Tuftco neither expands on this statement nor provides any citations to the record. Accordingly, the Court focuses on Tuftco's argument concerning the Medallion rug.

(Doc. 450, at 24.) In support, Tuftco cites only to deposition testimony by Steve Frost, Tuftco's CEO, in which he describes the Medallion rug and the method used to produce it in response to a question about when Tuftco began experimenting with compressing stitch rates and displacing color. (Doc. 454-11, at 150-51, 155-57.) Frost's testimony regarding the Medallion rug states in its entirety:

Q. Do you recall the first sample or experimentation Tuftco made with compressing stitch rates and displacing color?

A. Yes.

Q. Tell me about that one.

A. Well, we have samples, that I think we've produced to you, that are dated in 2001 that—we have some two-color samples that are tenth-gauge samples with fifteen stitches per inch. We produced this medallion rug, that was in a magazine in 2001 or 2002, that was four colors. It was five-sixty-fourth-gauge composite gauge. Each of the needlebars was five-thirty-second gauge, or six-point-four needles per inch. We were tufting twelve-point-eight stitches per inch, which was twice the gauge of each needlebar at that time; but it was certainly not twice the composite gauge. But, again, it was a tradeoff between getting multicolor images into a fabric versus significantly lower output with a higher stitch rate, as well as, the more colors, the more yarn you're putting on the back when you're not showing those colors.

Q. That Two—that 2001 sample, how many colors?

A. Well, one of these was the medallion rug that was four colors, and then we had some two-color samples.

...

A. That particular sample was made in our design center on a two-meter Moog-based PCCI machines sometime in 2001, and it was depicted in a—I believe—my best recollection is in a 2002 International Carpet Yearbook and described in that article as a four-color rug manufactured on Tuftco's single-end Servo Scroll machine.

Q. How many colors?

A. Four colors.

Q. Do you know what the effective stitch rate was per longitudinal inch?

A. Well, it will vary in that sample, because we—the sample was twelve-point-four stitches per inch, but there are some areas where there is this tweeding or double density of that. So, in those areas, there are twelve stitches, twelve-point-four stitches, per longitudinal inch. In other areas, there's only six-point—excuse me—twelve-point-eight, I should have said. Six-point-four in some other areas, where it's more the single color. But, in that particular sample, we were trying to create so many different looks, in terms of the combination of those four colors, we weren't always totally burying or trying to hide one end. We were actually trying to show a whole variation of combinations of colors.

Q. Okay. So your effective stitch rate is in the area of twelve-point-eight, you said?

A. Yes. In some areas. In some areas, it's only six-point-four in terms of what's really totally at the high pile, but not necessarily only seen.

Q. Gotcha. Was—and that was a shifting needlebar?

A. There was two shifting needlebars.

Q. Double-needlebar machine?

A. Double needlebar. It was five-thirty-second gauge on each needlebar.

Q. Were those needlebars in line with one another, or were they offset laterally?

A. They were offset, but I think the backstitch of that would show that they were basically tufting in the same general direction most of the time.

Q. But not in the same stitch location?

A. No. I mean, not in the way that we described that previously in terms of every stitch location. There were stitch locations for the front bar and stitch locations for the back bar.

(*Id.*)

Tuftco has not produced clear and convincing evidence that every limitation of the Severed Claims was contained in the actions of one needle bar of a graphics machine. “Typically, testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, state the witnesses’ interpretation of the claim element, and

explain in detail how each claim element is contained in the prior art reference.”²⁰ *Schumer v. Lab. Comput. Sys., Inc.*, 308 F.3d 1304, 1315 (Fed. Cir. 2002). In *Schumer*, in support of its anticipation argument, the alleged infringer, LCS, submitted a declaration from its president that described “his understanding of the operation and steps performed” by the alleged prior art reference. *Id.* at 1309, 1316. The prior art reference was developed by LCS and, more specifically, programmed by LCS’s president. *Id.* at 1309. Relying on the president’s declaration, the district court granted LCS summary judgment of invalidity by anticipation. *Id.* The Federal Circuit reversed, finding that LCS did not prove by clear and convincing evidence that the prior art anticipated the claim at issue, because the declaration “[did] not clearly describe the operative steps of the method recited in [the claim at issue], nor how those operative steps [were] performed by the [alleged prior art].” *Id.*; see also *Creative Compounds, LLC v. Starmark Labs.*, 651 F.3d 1303, 1313 (Fed. Cir. 2011) (affirming a finding that patent was not invalid where movant “failed to provide any testimony from one skilled in the art identifying each claim element and explaining how each claim element is disclosed in the prior art reference”); *Koito Mfg. Co., Ltd. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1152 (Fed. Cir. 2004) (holding that where an alleged infringer failed to articulate how a prior art reference anticipates the patent, it has not presented sufficient evidence for a jury to find anticipation “even when the reference has been submitted into evidence”).

²⁰ An element-by-element analysis, however, may not be necessary where the technology is easily understood. Compare *Centricut, LLC v. Esab Grp., Inc.*, 390 F.3d 1361, 1369 (Fed. Cir. 2004) (finding expert element-by-element analysis necessary to establish infringement where the patents concerned electrodes for plasma arc torches) with *Prima Tek II, LLC v. Polypap, S.A.R.L.*, 412 F.3d 1284, 1290 n.7 (Fed. Cir. 2005) (finding such analysis unnecessary for a disposable device for holding floral arrangements). Here, there is no suggestion that carpet tufting machines and methods are within the knowledge of a layperson and, therefore, an element-by-element analysis is required.

Here, Tuftco has failed to provide testimony from one skilled in the art that identifies each claim element of the Severed Claims and explains how each element is contained in the operation of one needle bar of a graphics machine. Similar to the alleged infringer in *Schumer*, in support of its anticipation argument, Tuftco merely cites deposition testimony from Steve Frost, its CEO, that describes the Medallion rug and how it was produced.²¹ Although Tuftco attempts to articulate how a graphics machine needle bar has anticipated the Severed Claims in its brief—albeit without identifying each claim element—“arguments of counsel cannot take the place of evidence lacking in the record.” *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 23 (Fed. Cir. 2012) (internal quotation omitted).

Even if Tuftco’s argument were supported by sufficient evidence, it would still fail. First, Tuftco errs by calculating the effective stitch rate by multiplying the “desired stitch rate” for the pattern by the number of colors one needle bar tufted during the creation of the Medallion rug, *i.e.*, two. The Severed Claims, with the exception of Claims 28 and 29 of the ’703 Patent, determine the effective stitch rate by multiplying the number of colors *in the pattern*, not the number of colors one needle bar carries. For example, Claim 8 of the ’505 Patent provides that the effective stitch rate is determined by multiplying the desired stitch rate by “the number of

²¹ Though not presented in its briefs, Tuftco presented additional evidence at the summary judgment hearing in the form of Ian Slattery’s expert report. (Doc. 292-2, at 11–12.) Slattery describes the components of the Medallion rug, but, like Frost’s testimony, he does not identify each claim element of the Severed Claims or explain how each element is contained in the operation of one needle bar of a graphics machine. (*Id.*) In fact, Slattery never explicitly opines that the operation of one needle bar of a graphics machine anticipates the Severed Claims. (*Id.* at 15–16.) Moreover, Slattery’s report is not sufficient to raise a material issue of fact, because: (1) he does not provide any relevant information about the Medallion rug that is not provided by Frost’s testimony (*id.* at 11–12); and (2) below the Court concludes that even if it considers the evidence presented by Tuftco, the Medallion rug did not anticipate the Severed Claims. Accordingly, even if the Court considered Tuftco’s late-presented evidence, it would still fail to meet its burden.

colors being formed in the patterned tufted article” (Doc. 292-1, at 16, col. 10:51–53.)

Frost testified that the Medallion rug contained four colors. (Doc. 454-9, at 150.) Accordingly, to anticipate the Severed Claims, the Medallion rug would have to have been tufted at an effective stitch rate that is *four* times the purported desired stitch rate (25.6 stitches per inch, not 12.8), regardless of how many colors each needle bar carries. To hold otherwise would be to ignore the full four-color pattern reflected in the Medallion rug and to pretend that only a portion of that pattern existed.

As noted, this conclusion does not apply to Claims 28 and 29 of the ‘703 Patent, which do not calculate an effective stitch rate by the number of colors in the pattern. Claim 28 provides that the effective stitch rate is “at least two times a prescribed stitch rate based upon a gauge of the tufting machine” (Doc. 292-1, at 69, col. 12:25–27.) Claim 29 provides for an effective stitch rate “that is increased over a desired stitch rate . . . that is based on a gauge of the tufting machine.” (*Id.* col. 12:35–36.) Tuftco argues that one bar of a graphics machine tufting the Medallion rug accomplished the increased effective stitch rate required by these claims, because the needle bar stitched 12.8 stitches per inch, or twice the “desired stitch rate,” which is based upon the gauge of the needle bar at 6.4 per inch.

However, the record reflects that the tufting industry considers the gauge of a graphics machine to be the composite gauge of *both* needle bars. For example, in a deposition, Tuftco’s expert Lynne Paige referred to Tuftco’s double-needle-bar machine as a “twelfth gauge.” (Doc. 435, at 166, 167–68.) When asked whether the Medallion rug used an “enhanced stitch rate,” she responded: “No. It had a twelve-point-eight stitch rate.” (Doc. 454-11, at 263.) Further, Frost acknowledged “twelve-point-eight stitches per inch . . . was twice the gauge of each needle bar at that time; but it was certainly not twice the composite gauge.” (*Id.* at 150–51.) Tuftco

does not provide any evidence that the gauge of one needle bar is considered a gauge of the tufting machine by those skilled in the art. *See also supra* Part III(b)(i)(2)(b). Accordingly, the “desired stitch rate” of Claims 28 and 29 of the ‘703 Patent would be based on the gauge of the *machine*, or approximately 12.8. An effective stitch rate of 12.8 in the Medallion rug is, therefore, not an “increased effective stitch rate” as contemplated by Claims 28 and 29.

The Medallion rug did not anticipate the Severed Claims. Accordingly, the Court will **DENY** Tuftco’s motion for summary judgment that one needle bar of a graphics machine anticipated the Severed Claims.

b. Claim 12 of the ‘505 Patent

Claim 12 of the ‘505 Patent provides: “The method of claim 8 and wherein the tufting machine is a 1/10th gauge tufting machine and the desired fabric stitch rate is **approximately** ten stitches per inch.” (Doc. 292-1, at 17, col. 11:3–5 (emphasis added).) Tuftco relies on two prior art references to argue Claim 12 is anticipated: (1) the Silhouette Carpet; and (2) the Thorn Carpet.²²

i. The Silhouette Carpet

Tuftco argues that the Silhouette Carpet, sold by Dixie Home in 2004, anticipated Claim 12. Relying heavily on a selection of deposition testimony of CMC expert Steven Berger, Tuftco construes Claim 12’s “approximately ten stitches per inch” as “eight to twelve” stitches per

²² Tuftco also cites deposition testimony from Wilton Hall, a named inventor of the Asserted Patents, who stated that he had created fabrics with a stitch rate “as high as eighteen stitches” for many years prior to ColorPoint. (Doc. 454-11, at 420.) Tuftco does not explain the relevance of this testimony and, thus, fails to demonstrate that any fabrics allegedly created by Hall contained every limitation in Claim 12.

inch.²³ Based on this construction, Tuftco concludes that a two-color carpet created on a 1/10th gauge machine would anticipate Claim 12 if it has an effective stitch rate between sixteen and twenty-four stitches per inch. The Silhouette Carpet, Tuftco argues, contains all such elements: it is a two-color fabric that was created on a 1/10th gauge machine with an effective stitch rate of sixteen stitches per inch.

Tuftco has not demonstrated that a reasonable jury would have no legally sufficient basis to find that the Silhouette Carpet did not anticipate Claim 12. First, Tuftco relies on a definition of “approximately” that is inconsistent with this Court’s claim-construction ruling. A court’s construction of a claim defines the scope of a limitation and guides anticipation analysis. *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1319 (Fed. Cir. 2004). Following a *Markman* hearing, this Court declined to construe “approximately” when modifying a numeric value, finding that the term should take its ordinary meaning. (Doc. 220, at 13–14.) Accordingly, Tuftco’s premise that “approximately ten” equates to “eight to twelve” is inconsistent with the Court’s construction ruling and should not be relied upon when considering an anticipation defense.

Second, as already noted, “testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, state the witnesses’ interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference.” *Schumer*, 308 F.3d at 1315; *see also ActiveVideo*, 694 F.3d at 1329 (finding that where an expert fails to explain how a prior-art reference describes every limitation in a claim,

²³ Tuftco takes Berger’s testimony out of context. When asked what “approximately” means to him, Berger stated: “Approximately, to me, means the general definition of approximately, close, plus or minus.” (Doc. 454-11, at 394.) When pressed and asked what “approximately ten” means, Berger then stated: “Eight to twelve.” (*Id.*) When later asked whether “eight would be approximately ten,” Berger declined to definitively confirm, opining that a designer’s desired stitch rate depends on a number of variables, such as the weight of the finished carpet. (Doc. 320, at 21.)

no reasonable jury could conclude that the reference anticipates the claim). Tuftco’s expert Ian Slattery’s report neither identifies each element of Claim 12 nor explains how each element is contained in the Silhouette Carpet. (Doc. 292-2, at 12, 15–16.) When deposed, Slattery acknowledged that his report fails to explain how “every element is met by a single prior-art reference.” (Doc. 454-11, at 288.) Though he opines broadly that the Severed Claims are “invalid due to anticipation” and that “[t]he Silhouette carpet . . . anticipates Claims 21 and 28 of the ‘989 Patent,” his report never affirmatively states that the Silhouette Carpet anticipated Claim 12 in particular, much less explains in detail how each element of Claim 12 was contained in the Silhouette Carpet. (Doc. 292-2, at 15–16; *see also* Doc. 454-11, at 285 (Slattery’s deposition testimony confirming that this section of his report contains the entirety of his opinions regarding anticipation).)

Finally, it is undisputed that the Silhouette Carpet does not contain every limitation of Claim 12. Claim 12 incorporates Claim 8 of the ‘505 Patent, which requires “shifting the needle bar transversely according to a programmed shift profile for the pattern of the tufted article” (Doc. 292-1, at 16, col. 10:44–45.) Tuftco does not claim to have evidence that a needle bar shifted to create the Silhouette Carpet. (*See* Doc. 450, at 18.) It merely argues, without the support of any legal authority, that the absence of needle bar shifting is “virtually meaningless” because the machine at issue had the capability to shift the needle bar.²⁴ (*Id.*) But Federal

²⁴ CMC offered evidence suggesting that a higher effective stitch rate in a pattern with multiple colors is not possible without a shifting needle bar. (*See, e.g.*, Doc. 292-1, at 16 (‘505 Patent specification stating that “[t]he running of the enhanced, effective stitch rate being run by the yarn color placement system of the present invention in conjunction with the shift profile helps provide for a denser field of stitches or tufts”); Doc. 454-9, at 157 (CMC’s expert Steven Berger’s rebuttal report describing the method used to make the Silhouette Carpet and noting that “[i]n such a method, there is no way to tuft a free flowing pattern that has solid areas of color with increased surface density”).)

Circuit precedent requires a prior-art reference to contain each and every claim limitation, without exception, in order to support the defense of anticipation. *See, e.g., ActiveVideo*, 694 F.3d at 1327; *In re Montgomery*, 677 F.3d 1375, 1379 (Fed. Cir. 2012); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Accordingly, because the Silhouette Carpet was not made by shifting the needle bar, as required by Claim 12, it did not anticipate Claim 12.

ii. The Thorn Carpet

Tuftco next argues that its Thorn Carpet, made in 2001, anticipates Claim 12. According to Tuftco, the Thorn Carpet was made on a 1/10th gauge machine, was created using a shiftable needle bar, and had an effective stitch rate of fifteen stitches per inch. (Doc. 450, at 19.) Even ignoring that an effective stitch rate of fifteen does not fall within the range of sixteen to twenty-four Tuftco identifies as the breadth of Claim 12, Tuftco fails to meet its burden of demonstrating that a reasonable jury would not have a legally sufficient basis to find for CMC. Tuftco relies exclusively on Slattery's report for facts underlying its argument. (*Id.*) As with the Silhouette Carpet, Slattery does not explain how the Thorn Carpet contains every limitation in Claim 12.²⁵ (*See* Doc. 292-2, at 16.)

Moreover, there is evidence that the Thorn Carpet does not contain every limitation of Claim 12. First, the design file associated with the Thorn Carpet indicates an effective stitch rate of just twelve.²⁶ (Doc. 454-12, at 31.) Second, Slattery acknowledged that “[i]n areas of solid

²⁵ The closest Slattery comes is opining that “the operation of automated tufting machines to manufacture the . . . Thorn carpets . . . accomplish[ed] all of the underlying substance of the claims.” (Doc. 292-2, at 16.)

²⁶ The record presents conflicting evidence on Thorn's stitch rate. While the design file indicated a stitch rate of twelve, the specification tag on the back of the sample indicated a stitch rate of fifteen. (Doc. 454-9, at 160.) Lynne Paige, Tuftco's expert and former employee,

color, [the Thorn Carpet] would be half density,” which is inconsistent with the increased effective stitch rate required by Claim 12. (Doc. 454-11, at 306.) Finally, CMC’s expert Berger opined that the Thorn carpet “represents nothing more than a traditional scroll pattern that used a slightly higher stitch rate than normal while leaving all of the yarns, including unwanted yarns, in the face.” (Doc. 454-9, at 160.) This is inconsistent with Claim 12’s limitation that requires feeding the yarns so as to leave only “high tufts of yarns at desired positions.” (Doc. 292-1, at 16, col. 10:56–60.) Accordingly, there exists a genuine issue of material fact as to whether the Thorn Carpet anticipated Claim 12. The Court will, therefore, **DENY** Tuftco’s motion for summary judgment that Claim 12 was anticipated.

c. Claim 1 of the ‘703 Patent

Tuftco again asks the Court to find anticipation even though it cannot meet its burden under binding precedent. Tuftco argues that Claim 1’s first six limitations are contained in machines predating the Asserted Patents, leaving only the seventh limitation as the unanticipated “invention.” According to Tuftco, because the seventh limitation contains elements that “are merely rudimentary software changes designed to slow down the backing speed in order to increase the stitch rate,” Claim 1 of the ‘703 Patent is invalid as anticipated. (Doc. 450, at 22.)

Yet again, Tuftco cites no legal authority for its proposition that a prior-art reference need not contain every limitation of a claim in order to anticipate that claim. In contrast, Supreme Court and Federal Circuit precedent suggests that claims should not be separated into novel and non-novel elements and that a new combination of old components is patentable. *See, e.g., Diamond v. Diehr*, 450 U.S. 175, 188 (1981) (“It is inappropriate to dissect the claims into old

suggested in deposition testimony that, although the design file shows twelve, “[i]t could have been tufted at a different stitch rate.” (Doc. 454-11, at 258.) At this stage, the Court must view the evidence in the light most favorable to CMC.

and new elements and then to ignore the presence of old elements in the analysis. . . . [A] new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.”); *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1378 (Fed. Cir. 2005) (“New uses of old products or processes are indeed patentable subject matter.”). Tuftco has failed to establish an issue of material fact in support of its motion, much less to establish by clear and convincing evidence that every limitation of Claim 1 was contained in a single prior-art reference. *Zenith Elecs. Corp.*, 522 F.3d at 1363. Accordingly, the Court will **DENY** Tuftco’s motion for summary judgment that Claim 1 of the ‘703 Patent was anticipated.

3. CMC’s Motion for Summary Judgment

CMC cross-moves for summary judgment of validity as to Tuftco’s anticipation defense and counterclaim as to the Severed Claims. To be granted summary judgment that its patents are not invalid due to anticipation, CMC must show that Tuftco “failed to produce clear and convincing evidence on an essential element of [anticipation] upon which a reasonable jury could invalidate the patent.” *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 962 (Fed. Cir. 2001).

CMC asserts Tuftco has not provided clear and convincing evidence of anticipation. Tuftco first responds that every Severed Claim was anticipated by the operation of one needle bar on its graphics machines. Even viewing the evidence in the light most favorable to Tuftco, for the same reasons explained above in Part III(b)(ii)(2)(a), Tuftco has not created a disputed issue of material fact that any single prior-art reference anticipated all the limitations of any of the Severed Claims. No reasonable jury could find clear and convincing evidence that one needle bar in a graphics machine anticipated all Severed Claims. Specifically, Tuftco has not

provided testimony from one skilled in the art that identifies each Severed Claim element and explains how each element was contained in the operation of one needle bar of a double-needle-bar machine, as required to prove anticipation. *See Schumer*, 308 F.3d at 1315. Moreover, Tuftco improperly: (1) calculates the “effective stitch rate” required by the Severed Claims by multiplying the “desired stitch rate” by the *number of colors on one needle bar*, when the Severed Claims, other than Claims 28 and 29 of the ‘703 Patent, require that the “effective stitch rate” be calculated by the *number of colors in the entire pattern*; and (2) uses the gauge of one needle bar to determine the “desired stitch rate,” instead of the gauge of the entire tufting machine, as required by Claims 28 and 29 of the ‘703 Patent.

Tuftco next argues that Claims 21 and 27 of the ‘989 Patent are invalid as anticipated by the Colortec and Tufted Weaver machines.²⁷ According to Tuftco, as Claims 21 and 27 of the ‘989 Patent “merely require the presentation of yarns, rather than seizing tufts of yarn,” the novelty of these Claims amounts to “determining an effective process stitch rate increased over the desired stitch rate for the pattern.”²⁸ (Doc. 452, at 25–26.) Tuftco’s expert, Ian Slattery, opines that both the Colortec and Tufted Weaver machines “form the tufts of yarn at an increased effective stitch rate determined by multiplying the number of colors being formed in the patterned tufted article by a desired fabric stitch rate that comprises a number of stitches per inch desired for the pattern[ed] tufted article.” (Doc. 320, at 50.) As such, Tuftco concludes, Claims 21 and 27 were anticipated by the Colortec and Tufted Weaver machines.

²⁷ Tuftco also asserts the Tapistron machine anticipated Claims 21 and 27 of the ‘989 Patent. As this machine operates in a manner similar to the Colortec machine, the Court will subsume the analysis of Tapistron with its analysis of Colortec. (Doc. 454-11, at 294.)

²⁸ Both Claims 21 and 27 determine an effective stitch rate by “increasing the desired stitch rate for the pattern by a multiple approximately corresponding to a number of colors of yarns used to form the patterned article.” (Doc. 292-1, at 50.)

Even viewing the evidence in the light most favorable to Tuftco, no reasonable jury could find anticipation of Claims 21 and 27 of the ‘989 Patent.²⁹ Slattery’s opinion is based on a construction of “effective stitch rate” that is inconsistent with not only the Court’s prior ruling, but also Tuftco’s own argument at the *Markman* hearing (Doc. 219, at 82). After the *Markman* hearing, and by agreement of the parties, the Court defined “effective stitch rate” and “effective process stitch rate” as “the number of tufts of yarn *inserted into the backing* per linear inch in the longitudinal direction.” (Doc. 220, at 3–4 (emphasis added).) Slattery ignores this ruling and uses a definition of “effective stitch rate” that includes not only the actual insertion of yarn, but also the number of needle bar strokes. According to Slattery, in the Colortec and Tufted Weaver machines, “a 10th gauge tufting machine with six colors tufting ten visible stitches per inch would require ten stitches per inch multiplied by six colors or sixty yarn *presentations* corresponding to the ‘effective stitch rate of 60.’” (Doc. 320, at 50 (emphasis added).) Because the ‘989 Patent Claims “merely require the presentation of yarns,” he concludes that they were anticipated by the Colortec and Tufted Weaver machines. (*Id.* at 52.) Slattery confirms this construction of “effective stitch rate” in deposition testimony:

A: Well, in our Color Tech machine, every color of yarn is presented in every stitch location.

Q: And, when you say “presented,” what do you mean?

²⁹ Slattery’s report fails to identify each claim element and to explain how each element is contained in the Colortec and Tufted Weaver machines. As Tuftco bears the ultimate burden at trial, the Court questions whether Slattery’s report raises a genuine issue of material fact. *See Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1353 (Fed. Cir. 2001) (“It is well established that conclusory statements of counsel or a witness that a patent is invalid do not raise a genuine issue of fact.”). After all, it is not the task of the trial court “to attempt to interpret confusing or general testimony to determine whether a case of invalidity has been made out, particularly at the summary judgment stage.” *Schumer*, 308 F.3d at 1316. Nonetheless, as Slattery’s analysis of these prior art references is more detailed than his analysis of the Medallion, Silhouette, and Thorn carpets, the Court will overlook this evidentiary shortcoming and consider Tuftco’s argument.

A: It indexes over the looper that will pick it up if you engage the needle.

Q: Okay. What if the needle's not engaged?

A: It's still being presented.

Q: Is it stitched?

A: No. But it's presented.

Q: So it's presented, but it never actually pierces the backing?

A: That's right. Yeah.

...

Q: Unwanted stitches aren't even tufted, are they?

A: No.

(Doc. 454-11, at 290–92.)

A court's construction of a claim guides anticipation analysis and defines the precise scope of a limitation. *Toro Co.*, 355 F.3d at 1319. The Court's construction of "effective stitch rate" requires that the needles actually insert the yarns into the backing, not just "present" them. (Doc. 220, at 4.) Indeed, this requirement is implied in the term "stitch" itself. (*Id.*) Therefore, Slattery's report does not establish that the Colortec and Tufted Weaver machines use an "effective stitch rate" as the Court has interpreted that term in Claims 21 and 27. Because Tuftco presents no other evidence in support of its argument, no reasonable jury could find anticipation of Claims 21 and 27 of the '989 Patent. Accordingly, the Court will **GRANT** CMC summary judgment that the Severed Claims are not invalid by anticipation.

iii. Obviousness

Next, CMC moves for summary judgment of validity, asserting that there is no genuine issue of material fact and that the Severed Claims are not invalid for obviousness under 35 U.S.C. § 103.

1. Standard

Under 35 U.S.C. § 103, a patent is invalid if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” “To invalidate a patent claim based on obviousness, a challenger must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *ActiveVideo*, 694 F.3d at 1327 (internal quotation marks omitted).

Obviousness under § 103 is a question of law based on determinations of underlying facts. *Id.* The underlying factual determinations, often referred to as the *Graham* factors, include: 1) “the scope and content of the prior art[;]” 2) differences between the prior art and the claims at issue[;]” 3) “the level of ordinary skill in the pertinent art[;]” and 4) relevant secondary considerations, such as “commercial success, long felt but unsolved needs, failure of others, etc.” *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). All four *Graham* factors bear weight on the obviousness analysis. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016).

2. Analysis

CMC asserts that it is entitled to summary judgment on the Severed Claims because Tuftco cannot prove obviousness by clear and convincing evidence based on the record. Tuftco responds that: (1) secondary considerations of non-obviousness should prevent summary judgment for CMC on all of the Severed Claims; and (2) Claims 21 and 27 of the ‘989 Patent are invalid as obvious.

a. All Severed Claims

Tuftco first argues that CMC should be denied summary judgment of validity on all Severed Claims. (Doc. 452, at 35–38.) However, Tuftco does not discuss the first three *Graham* factors of obviousness. (*Id.*) Instead, Tuftco’s only explicit argument in favor of obviousness of all of the Severed Claims relies exclusively on the fourth *Graham* factor—secondary considerations. (*Id.*) Secondary considerations of non-obviousness involve objective indicia, such as commercial success, long-felt need, industry praise, failure of others, unexpected results, licensing, skepticism, and copying. *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012). Tuftco argues that CMC should be denied summary judgment because these secondary considerations alone preclude a finding of non-obviousness. Tuftco points to record evidence that, over a period of three and a half years, the total amount of ColorPoint and ColorTuft fabrics produced by a large carpet manufacturer, a customer of the parties, amounted to less than .5% of its total carpet production. (Doc. 435, at 190–91.) Additionally, Tuftco cites evidence suggesting that two of CMC’s customers rarely make ColorPoint fabrics with their ColorPoint machines and have had some technical issues with the machines. (*See, e.g., id.* at 188–89, 291.) Tuftco contends these facts establish ColorPoint is not a commercial success and that there was no long-felt need for the product, as contemplated in the fourth *Graham* factor.

The Federal Circuit has made clear that “objective considerations of non-obviousness must be considered in *every* case.” *WBIP*, 829 F.3d at 1328 (emphasis in original). This precedent, however, requires analysis of secondary considerations before holding a patent invalid. *See, e.g., TriMed, Inc. v. Stryker Corp.*, 608 F.3d 1333, 1343 (Fed. Cir. 2010). Tuftco does not cite, and the Court is unaware of, any case law suggesting the inverse: that secondary

considerations alone can defeat a motion for summary judgment that a patent is *valid*. Tuftco simply does not argue that all the *Graham* factors—properly weighed—could result in a factual finding supporting a legal ruling of obviousness. Given that “the strength of *each* of the *Graham* factors must be weighed in every case and must be weighted en route to the final determination of obviousness or non-obviousness,” the Court finds that secondary considerations of non-obviousness, alone, cannot support a finding of obviousness.³⁰ *WBIP*, 829 F.3d at 1328; *see also Otsuka Pharm. Co. v. Sandoz, Inc.*, 678 F.3d 1280, 1299 (Fed. Cir. 2012) (declining to consider evidence of secondary considerations of non-obviousness after the court concluded that the prior art would not have provided one of ordinary skill with a reason or motivation to make the claimed invention).

Although Tuftco does not cite its expert’s report in opposing summary judgment (Doc. 432, at 35–38; Doc. 452, at 35–38), the Court will consider it. With regard to obviousness, Slattery’s report states in its entirety:

B. Prior Art Carpets, Industry Design Practices and Software, and Color Placement Techniques Render The Asserted Claims Obvious.

47. In the carpet industry, the stitch rate of the carpet is readily recognized as a variable factor that can be used to alter the weight and stitch density of tufted fabrics. Shifting needlebars has been recognized as a technique to place yarns from different needles in different longitudinal columns of stitches, and particularly to place colors from different needles in the same row of stitches. Shifting patterns such as 0, +1 or 0,0,+1,+1, or 0,0,+1,+1,0,0,-1,-1 can all be used to effectively place two different yarns from adjacent needles in the same longitudinal row so that each yarn penetrates the backing in a group of two needle bar reciprocations.

³⁰ Moreover, the Court is not convinced of the strength of Tuftco’s proffered secondary considerations. The fact that ColorPoint-type fabrics, which are often vividly patterned, constitute a small percentage of customers’ production, or that customers rarely use ColorPoint machines to make ColorPoint fabrics, seems consistent with the demand for more typical carpeting in larger quantities throughout offices and homes. CMC also provided its own compelling evidence of secondary considerations of non-obviousness, including commercial success, copying, industry praise, long-felt need, and failure of others. (Doc. 454-9, at 143–54.)

48. In a more complex situation, Smith, et al., Tufting Machine and Process of Variable Stitch Rate Tufting, U.S. Patent No. 7,426,895, teaches the use of the backing feed drive to maintain a relatively uniform yarn tuft density. While Smith was primarily directed at a method of tufting involving changing the backing feed rates throughout the course of tufting a pattern, it is also noted at Col. 5, line 53:

The backing may be fed at a variable rate when tufting rows of high and low yarn bights so that the backing is advanced in smaller increments when rows of low pile height bights are tufted and the backing is advanced at a relatively greater distance when rows of high pile bights of yarns are tufted. In this fashion the resulting fabric maintains a somewhat uniform density of face yarns even though high and low pile heights are being tufted.

49. Once precision yarn feed control was available, it became obvious to persons of ordinary skill that ColorTec-type or Axminster type patterns could be manufactured on tufting machines with servo controlled yarn feed mechanisms and backing feeds with high/low yarn feeds, and compensating for yarn tuft density by adjusting the backing fabric feed rates.

(Doc. 292-2, at 16–17.) Slattery fails to consider the *Graham* factors relevant to an obviousness inquiry. His report does not fully consider the scope and content of the Smith patent or any other prior art, explain the differences between prior art and the Severed Claims, expound the level of ordinary skill in the tufting industry, or consider relevant secondary considerations. *See KSR*, 550 U.S. at 406. The Federal Circuit has repeatedly noted that conclusory statements that a patent is invalid do not raise a genuine issue of material fact, even if they mention alleged prior art. *See, e.g., Creative Compounds*, 651 F.3d at 1313; *Koito*, 381 F.3d at 1152; *Schumer*, 308 F.3d at 1315–16; *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1353 (Fed. Cir. 2001).³¹ In fact, “to accept confusing or generalized testimony as

³¹ While many of these Federal Circuit cases consider conclusory statements in connection with an anticipation analysis, the considerations for anticipation and obviousness are so similar that the same evidentiary considerations should apply. *See Koito*, 381 F.3d at 1151–52 (using the same analysis to consider whether sufficient evidence supported the jury’s findings of anticipation and obviousness).

evidence of invalidity is improper.” *Schumer*, 308 F.3d at 1316. Because Slattery’s report fails to articulate how alleged prior-art references make the claims at issue obvious, it fails to create a genuine issue of material fact.

b. Claims 21 and 27 of the ‘989 Patent

Finally, with regard to Tuftco’s assertion that Claims 21 and 27 of the ‘989 Patent are obvious, its evidentiary basis is unclear. Tuftco’s argument regarding these claims is tacked onto its argument that Claims 21 and 27 are anticipated. (Doc. 452, at 26 (“If for any reason these claims are not deemed to be anticipated, they are nonetheless obvious under Section 103 . . .”).) Tuftco cites the text of the statute, 35 U.S.C. § 103, and states the four *Graham* factors, but offers no other argument. The Court will assume Tuftco is relying on the same evidence cited in its anticipation argument, *i.e.*, Slattery’s invalidity report. (Doc. 320, at 48–53.) As already noted, Slattery’s report is insufficient to raise a genuine issue of material fact on the issue of obviousness, and, as such, Tuftco’s argument that Claims 21 and 27 of the ‘989 Patent are obvious fails.

CMC has met its burden of demonstrating that it is entitled to summary judgment as a matter of law on validity of the Severed Claims with respect to obviousness, and Tuftco has not provided sufficient evidence of obviousness to prevent summary judgment. Accordingly, the Court will **GRANT** summary judgment in favor of CMC that the Severed Claims are not invalid due to obviousness.

iv. Ineligibility Under § 101

Next, CMC moves for summary judgment that the Severed Claims are not invalid as ineligible under 35 U.S.C. § 101. Tuftco responds that the Severed Claims are invalid under §

101 because they attempt to patent the abstract idea of high-stitch-rate tufting, rendering them ineligible for patent protection.

1. Standard

Invalidity under 35 U.S.C. § 101 is a question of law. *In re Comiskey*, 554 F.3d 967, 975 (Fed. Cir. 2009). A patent may be obtained under § 101 for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court and the Federal Circuit, however, have long recognized § 101’s implicit exception that “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). A two-step inquiry resolves whether a patent is ineligible under § 101. First the Court should “determine whether the claims at issue are directed to a patent-ineligible concept.” *Id.* (quoting *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014)). If the claims are directed toward such a concept, the Court should then “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Alice*, 134 S. Ct. at 2355).

As for the first inquiry, neither the Supreme Court nor the Federal Circuit has established a definitive rule governing whether a claim is directed toward an “abstract idea.” *Id.* Instead, a court should compare the claims at issue with claims found to be directed to an abstract idea in other cases. *Id.* For example, “fundamental economic and conventional business practices are often found to be abstract ideas” *Id.* at 1335. A claim that merely *involves* an abstract idea, however, does not necessarily fail step one “because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural

phenomenon” *Id.* (emphasis in original). Rather, the Court should consider “whether the claims . . . focus on a specific means or method . . . or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). In other words, “claims that amount to nothing significantly more than *instruction to apply* an abstract idea are not patent eligible.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282, 1285 (Fed. Cir. 2015) (emphasis in original).

2. Analysis

Tuftco argues that the Severed Claims attempt to patent the abstract idea of high-stitch rate-tufting, rendering them ineligible for patent protection under § 101. (Doc. 452, at 29–35.) According to Tuftco, CMC’s patents claim the idea of carpets manufactured with increased stitch rates and use conventional tufting methods to accomplish an increased stitch rate. In support, Tuftco relies heavily on *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014). In *Alice*, the Supreme Court held that “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” 134 S. Ct. at 2358. Similarly, Tuftco argues, the use of a conventional tufting machine to achieve higher stitch rates cannot transform the abstract idea of higher stitch rates into a patent-eligible invention. In other words, attempting to claim the abstract idea of high-stitch-rate tufting “while adding the words ‘apply it with a [conventional tufting machine]’” is not sufficient for patent eligibility. *See id.*

Tuftco’s position stretches *Alice*’s holding too far. The Supreme Court’s holding in *Alice* was directed at step two of the § 101 inquiry and, therefore, necessarily requires that the claim at issue be directed at an abstract idea. Tuftco takes step one for granted and assumes that the Claims are directed to the idea of high-rate stitching, then focuses almost entirely on step two:

whether the Claims contain an inventive concept sufficient to transform the idea of high-rate stitching into an eligible claim. Tuftco devotes substantial argument to discussing established methods for achieving relatively high stitch rates, but never bothers to establish step one of the § 101 inquiry.

Before considering step two, the Court must first determine whether the focus of the Severed Claims as a whole is directed to the idea of high-rate stitching. The Federal Circuit’s decision in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), is helpful to the determination. In *Enfish*, the court considered whether patents claiming a logical model for a computer database were directed to an abstract idea. 822 F.3d at 1335–38. The Federal Circuit found that the claims were directed to “a specific improvement to the way computers operate, embodied in the self-referential table,” not to the abstract idea of “organizing information using tabular formats.” *Id.* at 1336–37. In other words, the claims in *Enfish* were patent-eligible because they were not directed to just any form of storing data, but to a specific way of storing data. Additionally, the court emphasized that the claimed tables “function[ed] differently than conventional database structures.” *Id.* at 1337.

Applying the Federal Circuit’s principles here demonstrates that the Severed Claims are not directed toward the abstract idea of high-stitch-rate tufting. They do not claim the production of all carpets with relatively high stitch rates. Instead, they claim a specific way of achieving a high stitch rate—a manner of stitching far more yarns per longitudinal inch than in conventional tufting systems, then pulling yarns not wanted in the face of the pattern out of the backing or so low they cannot be seen. This results in a fabric where only the desired stitches in the face of the pattern can be seen and allows for greater precision in creating patterns. Moreover, like the claimed tables in *Enfish*, a tufting machine performing the Severed Claims “functions differently

than conventional [tufting machines].” *Id.* Traditional techniques for achieving higher stitch rates are not coupled with the technique of pulling low or completely removing yarns that are not desired to be shown in the face of the pattern, while maintaining an increased surface density. Even if Tuftco correctly asserts that the Claims use conventional tufting machines,³² it has presented no evidence to suggest that these tufting machines perform purely conventional steps. And, though the Claims unquestionably involve increased stitch rates, “an invention is not rendered ineligible for patent simply because it involves an abstract concept.” *Alice*, 134 S. Ct. at 2354.³³

Because the Claims are not directed to an abstract idea under step one of the § 101 analysis, the Court does not need to proceed to step two. *Enfish*, 822 F.3d at 1349. Accordingly, the Court will **GRANT** CMC summary judgment of eligibility under 35 U.S.C. § 101.

v. Lack of Enablement

In its response to CMC’s motion for summary judgment, Tuftco argues that the Severed Claims are invalid due to a lack of enablement. In reply, CMC argues that the Court should not consider this argument because it is being raised for the first time in Tuftco’s response brief. CMC notes that Tuftco did not raise this defense in its response to CMC’s interrogatories (Doc.

³² CMC provides ample record evidence suggesting tufting machines were modified in order to achieve the claimed invention. (Doc. 445, at 22.)

³³ For these same reasons, Tuftco’s suggestion that the Claims’ effective-stitch-rate calculation is an unpatentable mathematical relationship fails. A mathematical formula is not itself patent-eligible subject matter. *Diamond v. Diehr*, 450 U.S. 175, 191 (1981). A claim that contains a mathematical formula may be patent-eligible, however, if the claim is directed to a specific means or method instead of being directed to the mathematical formula itself. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348 (Fed. Cir. 2017). The Severed Claims are not directed to the mathematical formula of multiplying the number of colors of yarn by the desired stitch rate to determine an effective stitch rate; instead this calculation is just one step in a patent-eligible process of achieving a ColorPoint fabric.

292-4, at 4–6), its invalidity contentions (*id.* at 32–91), its expert reports (Doc. 292-2; Doc. 292-3, at 1–17), or its opening brief in support of its motion for summary judgment (Doc. 450).

Many district courts refuse to consider summary judgment arguments not made in a party’s invalidity contentions. *See, e.g., WCM Indus., Inc. v. IPS Corp.*, No. 2:13-cv-02019, 2015 WL 5821639, at *10 (W.D. Tenn. Oct. 5, 2016). Those districts, however, typically have a local patent rule requiring that disclosure of invalidity contentions be served on the opposing party. *See id.* (citing W.D. Tenn. Local Patent Rule 3.5(d)). The Eastern District of Tennessee has no such rule. Nonetheless, Tuftco had an obligation under Federal Rule of Civil Procedure 26(e) to supplement both its expert reports and its interrogatory responses in a timely manner if they were incomplete or incorrect. Under Rule 37(c)(1) of the Federal Rules of Civil Procedure, a party who fails to supplement under Rule 26(e) “is not allowed to use that information . . . to supply evidence on a motion . . . unless the failure was substantially justified or is harmless.” Moreover, the Sixth Circuit³⁴ has recognized that a district court’s ability to strike a document under Rule 37(c)(1) due to failure to comply with Rule 26(e) “does not require a showing of bad faith by the offending party.” *Emanuel v. Cty. of Wayne*, 652 F. App’x 417, 424 (6th Cir. 2016) (citing *Youn v. Track, Inc.*, 324 F.3d 409, 421 (6th Cir. 2003)).

Tuftco has not shown that its failure to comply with Rule 26(e) “was substantially justified or is harmless.” While this matter has been pending since October 2014, Tuftco’s deadline to disclose expert testimony for its invalidity claims was August 19, 2016, and the discovery period ended on October 10, 2016. (Doc. 228.) Despite these deadlines, Tuftco raised its enablement argument for the first time in its response to CMC’s motion for summary

³⁴ Because imposing a discovery sanction is not unique to Federal Circuit jurisdiction, the Court will apply Sixth Circuit law. *See Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 172 F.3d 836, 845 (Fed. Cir. 1999).

judgment, filed on November 28, 2016. (Doc. 319.) And it has offered no justification for this delay, either in its filings (Doc. 452, at 38–40) or in response to the Court’s in-person questioning (Doc. 474, at 40–43). Indeed, Tuftco’s enablement argument relies on deposition testimony taken before the end of the discovery period, so it is difficult to imagine a justification for the failure to supplement interrogatory responses or invalidity contentions. Moreover, Tuftco’s untimely argument is not harmless. CMC had no notice that Tuftco would assert that CMC’s patents were invalid due to lack of enablement until after not only the close of the discovery period but also the deadline for filing dispositive motions. Accordingly, the Court will not consider Tuftco’s argument that the Asserted Patents are invalid due to a lack of enablement.

Even if the Court were to consider Tuftco’s argument, it would still fail. “Enablement is a question of law . . . based on underlying factual inquiries.” *Cephalon, Inc. v. Watson Pharm., Inc.*, 707 F.3d 1330, 1336 (Fed. Cir. 2013). To meet the enablement standard, a person of ordinary skill in the art, having read the specification, must be able to practice the invention without “undue experimentation.” *Id.* Determining whether experimentation is undue involves weighing factual considerations such as:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Id. (quoting *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). However, “a reasonable amount of routine experimentation required to practice a claimed invention does not violate the enablement requirement.” *Id.*; *cf. White Consol. Indus., Inc. v. Vega Servo-Control, Inc.*, 713 F.2d 788, 791 (Fed. Cir. 1983) (finding experimentation undue where an expert testified it would take from eighteen months to two years to practice the invention). Moreover, “[b]ecause we

must presume a patent enabled, the challenger bears the burden, throughout the litigation, of proving lack of enablement by clear and convincing evidence.” *Cephalon*, 707 F.3d at 1337.

In support of its lack of enablement argument, Tuftco notes that some Severed Claims require that tufts of yarn either be pulled low or removed from the backing. For example, Claim 24 of the ‘989 Patent provides for “controlling feeding of the yarns . . . to pull such yarns low or remove them from the selected stitch locations.” (Doc. 292-1, at 50, col. 22:14–16.) CMC’s expert Steven Berger, however, testified that the “goal” of ColorPoint is to pull unwanted or unused yarns all the way out of the backing. (Doc. 320, at 56–57.) Wilton Hall, a named inventor of the Asserted Patents, similarly testified that “[i]f you’re trying to pull something down really low, essentially, to not see it, it’s basically pulling it out.” (Doc. 454-12, at 98.) Charles Monroe, CMC’s CEO, testified that with the ColorPoint method, “[f]or the most part, you’re going to have to pull [the tufts] out of the backing or not leave them in the backing.” (Doc. 320, at 43.) According to Tuftco, this deposition testimony “reveal[s] that pulling yarns low is not a viable option when creating ColorPoint-type fabrics under the Asserted Patents.” (Doc. 452, at 39.)

Tuftco fails to raise a genuine issue of material fact concerning enablement. First, much of the testimony cited by Tuftco concerns ColorPoint, the commercial embodiment of the Severed Claims. The Federal Circuit has “repeatedly warned” against confining claims to their commercial embodiments. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005). Moreover, the ‘505 Patent’s specification provides that:

for each color to be taken out or back-robbed and thus hidden in the finished patterned article, the increased number of stitches per inch will provide sufficient enhanced density between the high and low tufts of the finished patterned tufted article to avoid a missing color or gap being shown or otherwise appearing in the patterned article.

(Doc. 292-1, at 64, col. 3:8–13.) Thus, the specification clarifies that the goal of the Severed Claims is to avoid a missing color or gap in the finished patterned tufted article, not necessarily to completely remove yarns from selected stitch locations. While avoiding a missing color or gap in the finished pattern may involve some amount of experimentation, Tuftco does not present any evidence—much less clear and convincing evidence—to show that the experimentation is “undue.” As such, Tuftco’s enablement argument fails.³⁵

3. Limiting “Invention” to ColorPoint Software

In the alternative to summary judgment of invalidity, Tuftco moves for partial summary judgment “limiting the ‘invention’ in the Asserted Patents to the ColorPoint software.” (Doc. 450, at 25–27.) Tuftco argues that, because the first six subsections and parts of the seventh subsection of Claim 1 of the ‘703 Patent claim preexisting technology,³⁶ the Court should enter an order limiting the “invention” in the Asserted Patents to the portion of Claim 1 that is “new”—the software that converts a “prescribed stitch rate” into an “effective stitch rate.” (*Id.*)

Tuftco fails to demonstrate that it is entitled to summary judgment. First, Tuftco does not cite any legal authority for the proposition that the Court may enter an order limiting the “invention” in a patent or set of patents to a certain claim element. (*Id.*; Doc. 474, at 86–88.) Second, the Court has already noted that: 1) claims should not be separated into old and new elements; and 2) a new combination of old components is patentable. *See supra* Part III(b)(ii)(2)(c). Indeed, “inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in

³⁵ There is also evidence in the record that consumers will in fact pull yarns low in order to practice the invention. For example, Monroe also testified that a tuft “[c]an be pulled all the way out” or “[i]t can be extremely low, a little nub at the bottom” so as not to occupy a stitch location. (Doc. 320, at 38.)

³⁶ Tuftco makes a similar argument in connection with its motion for summary judgment on anticipation of Claim 1 of the ‘703 Patent. *See supra* Part III(b)(ii)(3)(c).

some sense, is already known.” *KSR*, 550 U.S. at 418–19. Accordingly, the Court will **DENY** Tuftco summary judgment limiting the “invention” in the Asserted Patents to the ColorPoint software.

4. *Infringement*

Tuftco seeks summary judgment of non-infringement of all of the Severed Claims. Additionally, Tuftco independently seeks summary judgment of non-infringement on Claims 1, 28, and 29 of the ‘703 Patent. CMC seeks summary judgment of infringement of the Machine Claim (Claim 1 of the ‘703 Patent) and the following Method Claims: (1) Claims 8, 10, and 12 of the ‘505 Patent; (2) Claim 28 of the ‘703 Patent; and (3) Claims 21 and 27 of the ‘989 Patent.

i. Standard

Under 35 U.S.C. §271(a), “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.” An infringement analysis involves two steps. “First, the court determines the scope and meaning of the asserted patent claims.” *Innovention Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1318 (Fed. Cir. 2011). Better known as claim construction, the first step is a question of law. *Id.* at 1319. Next, the court “compares the properly construed claims to the allegedly infringing device to determine whether all of the claim limitations are present, either literally or by a substantial equivalent.” *Id.* at 1318–19. “[I]nfringement, whether literal or under the doctrine of equivalents, is a question of fact.” *Id.* at 1319. Summary judgment is proper “when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device.” *Id.* (internal quotation marks omitted).

ii. Tuftco's Motion for Summary Judgment of Non-Infringement

An accused infringer is entitled to summary judgment if it shows “that the patentee failed to put forth evidence to support a finding that a limitation of the asserted claim was met by the structure in the accused devices.” *Johnson v. IVAC Corp.*, 885 F.2d 1574, 1578 (Fed. Cir. 1989).

1. All Claims

Tuftco argues it is entitled to summary judgment of non-infringement on all Severed Claims because the Accused Products do not convert a programmed desired stitch rate to determine an effective stitch rate.³⁷ Tuftco’s argument requires that the Court reconsider its claim-construction ruling refusing to limit the term “desired stitch rate”³⁸ to a particular numerical value entered into the control system. (See Doc. 220, at 4–9.) In its ruling, the Court construed the term to be defined as “the number of tufts of yarn per linear inch dictated by the pattern design to be visible in the face of the pattern.” (*Id.*) Tuftco requests reconsideration on three bases: (1) “subsequently developed evidence,” (2) “the prohibition of patenting mental processes,” and (3) “the prosecution history of the Patents-In-Issue.” (Doc. 450, at 35.)

A district court may reconsider an interlocutory order where “there is (1) an intervening change of controlling law; (2) new evidence available; or (3) a need to correct clear error or prevent manifest injustice.” *Louisville, Jefferson Cty. Metro Gov’t v. Hotels.com, L.P.*, 590 F.3d 381, 389 (6th Cir. 2009) (internal quotation omitted); *see also Flexsys Am. LP v. Kumho Tire U.S.A., Inc.*, 726 F. Supp. 2d 778, 786–87 (N.D. Ohio 2010) (construing a request to revisit a

³⁷ A Tuftco user manual directs its user to “[e]nter your stitches per inch. This is calculated by multiplying the desired stitches per inch times the number of colors in the pattern.” (Doc. 454-4, at 18.) In other words, with Tuftco’s products, the user, not the machine, makes the “effective stitch rate” calculation.

³⁸ The parties agree that the terms “desired fabric stitch rate,” “desired stitch rate,” and “prescribed stitch rate” are all synonymous. (Doc. 220, at 4.)

claim-construction ruling as a motion for reconsideration under Sixth Circuit law and applying the foregoing three factors). Further, “parties cannot use a motion for reconsideration to raise new legal arguments that could have been raised before [the order] was issued.” *Roger Miller Music, Inc. v. Sony/ATV Publ’g, LLC*, 477 F.3d 383, 395 (6th Cir. 2007) (citation omitted). Accordingly, the Court will not consider Tuftco’s arguments pertaining to the prohibition of patenting mental processes and prosecution history because they: (1) are not contemplated by the three situations in which a district court may reconsider an interlocutory order; and (2) were raised for the first time in Tuftco’s motion for reconsideration (see Doc. 174, at 11–14; Doc. 182, at 4–6).³⁹ The Court will, however, consider Tuftco’s “subsequently developed evidence,” which consists of a number of admissions made by CMC during the course of discovery.

Tuftco’s “new” evidence, being external to the patent and prosecution history, is extrinsic. *See Phillips*, 415 F.3d at 1317. Where the analysis of intrinsic evidence alone resolves ambiguity about a term, it is improper for the Court to consider evidence outside the patent and prosecution history. *Kara Tech., Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009). Because the Court relied on claim language in construing the term “desired stitch rate” (Doc. 220, at 7), it is improper to reconsider that ruling based on the evidence Tuftco now provides. *See id.* (“While helpful, extrinsic sources . . . cannot overcome more persuasive intrinsic evidence.”); *see also Chien-Lu Lin v. Twins Enter., Inc.*, No. CV 01-07390, 2002 WL 34455514,

³⁹ Moreover, given that prosecution history represents a discussion between the PTO and the patent applicant, courts have found it “less useful for claim construction purposes” than other intrinsic evidence. *Phillips*, 415 F.3d at 1317 (citing multiple Federal Circuit cases finding prosecution history less relevant). In construing the term “desired stitch rate,” the Court focused primarily on the language of the Claims, and accordingly, prosecution history is less compelling here.

at *15 n.48 (C.D. Cal. Nov. 12, 2002) (considering admissions in a party’s claim-construction chart as extrinsic evidence and refusing to consider it where claim terms were unambiguous).

Second, each piece of subsequently developed evidence Tuftco presents is an admission based on the operation of CMC’s ColorPoint tufting machine. For example, CMC admitted that “ColorPoint machines determine and operate at an effective stitch rate.” (Doc. 292-4, at 29.) In accordance with Federal Circuit precedent, the Court will not construe terms so as to confine the Claims to their commercial embodiment—here, ColorPoint tufting machines. *Phillips*, 415 F.3d at 1323; *Int’l Visual Corp. v. Crown Metal Mfg. Co.*, 991 F.2d 768, 771–72 (Fed. Cir. 1993). Accordingly, admissions as to the operation of ColorPoint tufting machines are not compelling enough evidence for the Court to reconsider its claim-construction ruling. The Court will therefore **DENY** Tuftco summary judgment of non-infringement on all the Severed Claims.

2. Claims 1, 28, and 29 of the ‘703 Patent

Next, Tuftco seeks summary judgment on Claims 1, 28, and 29 of the ‘703 Patent, arguing that its machines do not perform critical elements of the ‘703 claims. Tuftco asserts that, given the prosecution history of the ‘703 Patent, the term “based on the gauge of the tufting machine” should be construed as “equal to the gauge of the tufting machine.” (Doc. 450, at 27–34.)

Tuftco’s argument fails for a number of reasons. First and foremost, Tuftco does not cite any evidence indicating that its products do not perform the elements of the ‘703 claims. In eight pages of argument, Tuftco does not make one evidentiary citation to the Accused Products. (*Id.*) As noted, to be entitled to summary judgment, Tuftco must show “that [CMC] failed to put forth evidence to support a finding that a limitation of the asserted claim was met by the structure in

the accused devices.” *Johnson*, 885 F.2d at 1578. Without any mention of the “accused devices,” Tuftco fails to meet its burden on summary judgment.

Moreover, Tuftco’s reading of the prosecution history is unconvincing. For example, Tuftco notes that the PTO rejected as indefinite a limitation that read: “the tufts of yarns are formed in the backing material at an increased effective process stitch rate *based upon a desired stitch rate* of the pattern tufted article multiplied by the number of different color yarns of the pattern” (Doc. 292-4, at 113 (emphasis altered).) Tuftco argues the December 22, 2011 Office Action demonstrates that the PTO believed that “based upon” was indefinite “relative terminology.” However, the PTO’s issue with the original claim language was not necessarily the term “based upon,” but that “desired stitch rate”—and by extension “effective process stitch rate”—was undefined and could be interpreted as *any* stitch rate, subjecting the claim to anticipation and indefiniteness concerns.⁴⁰ (See *id.* at 113–14.) Additionally, the PTO noted that if the “number of different color yarns of the pattern” was one, the effective process stitch rate would be the same as the desired stitch rate. (*Id.* at 114.)

The amended language in Claim 1 of the ‘703 Patent provides that the effective stitch rate “is determined by increasing a prescribed stitch rate of the patterned tufted article that is *based on the gauge of the tufting machine* by a selected amount” (Doc. 292-1, at 67, col. 9:46–49 (emphasis added).) The amended claim language ties the prescribed stitch rate to a numerical value—*i.e.*, the gauge of the tufting machine. Further, it defines “prescribed stitch rate,” and by

⁴⁰ The same PTO Office Action allowed Claims 8, 10, and 12 of the ‘505 Patent which provide for an “increased effective stitch rate determined by multiplying the number of colors being formed in the patterned tufted article by a desired fabric stitch rate that comprises a number of stitches per inch desired for the patterned tufted articles” (See Doc. 292-4, at 112.) The PTO noted that other claims in the application were being “interpreted differently” because they were “method” and not “structure” claims. (*Id.* at 114.)

extension “effective stitch rate.” Additionally, Claim 1 specifies that it forms patterned tufted articles with multiple colors, *i.e.*, patterns “including different color yarns therein,” ensuring that the prescribed stitch rate and effective stitch rate will not be equivalent. (*Id.*, col. 9:17–18.) Accordingly, the Court finds that the prosecution history of the ‘703 Patent does not compel a construction of “based upon the gauge of the tufting machine” as “equal to the gauge of the tufting machine.”⁴¹ The Court will, therefore, **DENY** Tuftco summary judgment of non-infringement of Claims 1, 28, and 29 of the ‘703 Patent.

iii. CMC’s Motion for Summary Judgment of Infringement

CMC moves for summary judgment of infringement on: (1) Claims 8, 10, and 12 of the ‘505 Patent; (2) Claims 1 and 28 of the ‘703 Patent; and (3) Claims 21 and 27 of the ‘989 Patent.⁴² A patentee may be granted summary judgment of infringement if it can show that it is “more likely than not” that the accused product possesses all of the elements of the asserted claim. *Warner-Lambert Co. v. Teva Pharm. USA, Inc.*, 418 F.3d 1326, 1341 (Fed. Cir. 2005) (citing *Liberty Lobby*, 477 U.S. at 252). Once a patentee has made this *prima facie* showing that all claim limitations are met, the accused infringer must present more than a scintilla of evidence to create a genuine issue of material fact. *Id.*

⁴¹ Additionally, the Federal Circuit has found prosecution history “less useful for claim construction purposes” than other intrinsic evidence. *Phillips*, 415 F.3d at 1317. The Court considers more relevant intrinsic evidence, such as claim language and the patent specification, in connection with CMC’s motion for summary judgment of infringement on Claim 1 of the ‘703 Patent. *See infra* Part III(d)(iii)(3).

⁴² CMC reserves the right to pursue infringement of the remaining Severed Claims—Claim 29 of the ‘703 Patent and Claims 22, 24, 28, and 30 of the ‘989 Patent—at trial.

1. Inspected Machines Representative of All Accused Products

Before the Court turns to the infringement analysis, it will consider CMC’s argument that the Inspected Machines, inspected by its expert Steven Berger in preparation of his expert report, are representative of all of the Accused Products. Tuftco does not respond (*see* Doc. 452) and acknowledged at the summary judgment hearing that the Inspected Machines are “typical” of the Accused Products (Doc. 474, at 80–81).⁴³ Berger based his opinions on five machines either sold or owned by Tuftco: three 1/10th gauge single-needle-bar machines, one 1/12th composite gauge double-needle-bar machine with two staggered 1/6th gauge needle bars, and one 1/10th composite gauge machine with two staggered 1/5th gauge needle bars. (Doc. 454-9, at 60–61.) Steve Martin, Tuftco’s Director of Marketing, confirmed in deposition testimony that all the single-needle-bar Accused Products operate in the same manner and all the double-needle-bar Accused Products operate in the same manner. (Doc. 441, at 117.) Accordingly, the Court finds that the Inspected Machines are representative of the Accused Products. The Court will, therefore, proceed with its analysis on the basis that all Accused Products are capable of operating in the same manner as the Inspected Machines. *See Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1350–51 (Fed. Cir. 2010) (accepting administrative law judge’s determination that an expert’s chosen models were representative of all accused products where the expert chose products that span a range of values and where respondents’ expert acknowledged that the accused products were similar in structure); *TiVo, Inc. v. EchoStar*

⁴³ Tuftco seemed to take issue with assuming that the Inspected Machines are representative of all Accused Products insofar as CMC requests the Court to assume infringement by the third parties that now own the Accused Products. (Doc. 474, at 78.) The Court understands CMC’s request to be limited to a finding that all Accused Products are capable of operating like the Inspected Machines. The Court analyzes third-party infringement below with its discussion of induced infringement in Part III(d)(iii)(4)(b).

Comm’ns Corp., 516 F.3d 1290, 1308 (Fed. Cir. 2008) (“[T]here is nothing improper about an expert testifying in detail about a particular device and then stating that the same analysis applies to other allegedly infringing devices that operate similarly, without discussing each type of device in detail.”).

2. Double-Needle-Bar Machines

Next, the Court turns to Tuftco’s double-needle-bar-machine argument, which is responsive to all claims at issue. Tuftco argues that the Severed Claims “require[] that a machine be capable of placing any color of yarn in any single pixel of the carpet.” (Doc. 452, at 16.) Because double-needle-bar machines are incapable of placing each color of yarn in the pattern into any stitch location,⁴⁴ according to Tuftco, the fifteen double-needle-bar Accused Products are incapable of infringement. (*Id.* at 15–17.) In support, Tuftco cites: (1) Rule 30(b)(6) deposition testimony from Tuftco’s CEO Steve Frost that Tuftco’s double-needle-bar machines “can only do a two-pixel . . . not a single-pixel design” (Doc. 454-12, at 67–69); (2) deposition testimony from Wilton Hall, a named inventor of the Asserted Patents, that “it’s not feasible” and “doesn’t make sense” to use graphics machines to practice ColorPoint (*Id.* at 105); (3) deposition testimony from CMC employee Brian Lovelady that double-needle-bar machines cannot make ColorPoint-type fabrics because they cannot achieve single-pixel resolution and, therefore, “[y]ou can’t get the same look” (Doc. 320, at 27–33); and (4) deposition testimony from a customer representative that his company does not have any CMC double-needle-bar machines that “run ColorPoint” or which are equipped with the ColorPoint software (Doc. 435, at 194–95). Tuftco appears to be arguing that, because (1) each needle bar of a double-needle

⁴⁴ The Court construed the term “stitch location” to mean “a location in which one or more tufts of yarn can be presented into the backing based on the pattern instructions.” (Doc. 220, at 21.)

bar-machine cannot stitch in the same longitudinal row as the other and (2) the needles of each bar are offset (*i.e.*, spaced longitudinally in-between the needles of the other needle bar), a double-needle-bar machine cannot produce a linear pattern similar to a pattern produced by a single-needle-bar machine running ColorPoint. (See Doc. 454-11, at 133–35.)

Tuftco’s argument against infringement requires that each needle bar’s ability to place each color of yarn in *any* stitch location be a limitation in the Severed Claims. *See Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 909 (Fed. Cir. 2005) (“For infringement to be found, the court must determine that *every claim limitation* is found in the accused device.” (emphasis added)). None of the claims on which CMC has moved for summary judgment of infringement contains such a limitation. Though Claim 27 of the ‘989 Patent provides for multiple stitches “at selected stitch locations” (Doc. 292-1, at 50, col. 22:41–45), none of the evidence provided by Tuftco refutes that the double-needle-bar Accused Products make multiple stitches at certain stitch locations.⁴⁵

Moreover, Tuftco’s argument improperly attempts to limit the Severed Claims to their commercial embodiment, ColorPoint. In support of its proposition that the Severed Claims require that a machine be capable of placing any color of yarn in any single pixel of carpet, Tuftco cites only testimony from CMC representatives discussing ColorPoint. (Doc. 452, at 16.) Tuftco cites no claim language whatsoever. Federal Circuit precedent clearly holds that “a court may not predicate an infringement determination on a comparison of an accused product with a

⁴⁵ Additionally, Tuftco’s CEO, Steve Frost, testified that each needle bar of the double-needle-bar Accused Products, when threaded up with multiple colors, does in fact stitch multiple colors to each stitch location along that needle bar’s longitudinal row. (Doc. 454-11, at 136–38; Doc. 454-12, at 146.) Consistent with Frost’s testimony, CMC’s expert Steven Berger noted in his report that, during the inspections of the double-needle-bar Inspected Machines, all colors in the pattern were: (1) threaded to both needle bars; and (2) presented to each stitch location. (Doc. 454-9, at 60–61.)

patentee's commercial embodiment of his claimed invention." *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1381 (Fed. Cir. 1998). As such, the Court disagrees that double-needle-bar machines are incapable of infringing the Severed Claims.⁴⁶ The Court will now turn to whether CMC is entitled to summary judgment of infringement on each Severed Claim on which it moves.

3. Claim 1 of the '703 Patent (Machine Claim)

CMC first moves for summary judgment of infringement of Claim 1 of the '703 Patent. In its summary judgment motion, CMC appears to argue that all Accused Products infringe. (Doc. 442, at 28–29, 31–32.) However, at the summary judgement hearing, CMC clarified that it was not seeking summary judgment that the machine inspected at Lexmark (the "Lexmark Machine") infringes Claim 1.⁴⁷ (Doc. 474, at 25.) Accordingly, the Court will determine if CMC is entitled to summary judgment on the remaining four Inspected Machines.

⁴⁶ The Court has already found that the operation of one needle bar of a double-needle-bar machine tufting the Medallion rug does not anticipate the Severed Claims. *See supra* Part III(b)(ii)(2)(a). "A century-old axiom of patent law holds that a product which would literally infringe if later in time anticipates if earlier." *Upsher-Smith Labs., Inc. v. Pamlab, L.L.C.*, 412 F.3d 1319, 1322 (Fed. Cir. 2005) (internal quotation omitted). The needle bars of the double-needle-bar Accused Products, however, operate differently from the needle bars of the Medallion rug's double-needle-bar machine. For example, the double-needle-bar Accused Products utilize an increased effective stitch rate contemplated by the Severed Claims whereas a needle bar tufting the Medallion pattern does not. (*Compare* Doc. 454-9, at 90 (four-color sample made by a 1/10th composite gauge Accused Product run at *forty-two stitches* per inch) *with* Doc. 454-11, at 150 (four-color Medallion rug made by a 5/64th composite gauge double-needle bar machine run at *twelve-point-eight stitches* per inch)).

⁴⁷ At the hearing, CMC asserted that "[i]f you study our summary judgment briefs very clearly, CMC is not asserting that those Lexmark machines infringe Claim 1 of the '703 Patent, based on the inspections that were conducted." (Doc. 474, at 25.) The Court has studied CMC's brief very clearly and found no indication that CMC was not asserting that the Lexmark Machine infringes Claim 1. But the Court will take CMC's word for it and ignore the Lexmark Machine.

CMC submits expert Steven Berger’s infringement report in support of its motion, which conducts an element-by-element infringement analysis. (Doc. 454-9, at 60–61, 91–96.) Tuftco disputes infringement of the last limitation of Claim 1, which reads:

wherein the control system is linked to and controls the backing feed rolls for feeding the backing material such that the tufts of yarns are formed in the backing material at **an effective stitch rate that is determined by increasing a prescribed stitch rate of the patterned tufted article that is based on the gauge of the tufting machine by a selected amount** so as to form the patterned articles with the selected tufts of yarns having an appearance of being formed at the desired stitch rate.

(Doc. 292-1, at 67, col. 9:43–51 (emphasis added).) First, Tuftco argues that, because the user makes the effective-stitch-rate calculation required by Claim 1, the Accused Products do not infringe. This argument requires that the Court construe Claim 1 to require that the effective-stitch-rate calculation be performed by the tufting machine.⁴⁸ However, nothing in the claim language indicates that this particular calculation must be performed internally by the machine. *See Kara Tech. Inc.*, 582 F.3d at 1348 (suggesting that a court should not read limitations into claims that are not supported by the claim language). Tuftco, moreover, does not provide any intrinsic evidence suggesting this is a claim limitation or any legal authority to support its proposition that “[i]t is improper to have a machine claim unless the machine in question actually performs some function” (Doc. 452, at 9.) Tuftco even failed to provide legal authority at the summary judgment hearing when specifically asked if it could “give [the Court] any precedent that says that the machine has to do everything that has to be done in order for there to be a machine claim[.]” (Doc. 474, at 83–88.) Accordingly, the Court will not read Claim 1 to

⁴⁸ The Court has already declined to reconsider a similar argument made by Tuftco at the *Markman* hearing, *i.e.*, that the Claims require that the desired stitch rate be entered into the tufting machine. *See supra* Part III(d)(ii)(1).

require that the tufting machine perform the effective-stitch-rate calculation, and Tuftco’s first argument in regard to Claim 1 fails.

Next, Tuftco argues that the Accused Products do not infringe Claim 1 because Tuftco does not instruct its customers that the desired or prescribed stitch rate—*i.e.*, the number of tufts to be visible in the face of the pattern—must equal the gauge of the machine. Tuftco’s argument requires that the Court construe the term “based on the gauge of the tufting machine” to mean “equal to the gauge of the tufting machine.”⁴⁹ In other words, Claim 1 would require a carpet tufted on a 1/10th gauge machine to have a desired stitch rate of exactly ten. In support of this construction, Tuftco cites deposition testimony from CMC’s expert Steven Berger:

Q . . . Do you have any reason to believe that [Claim 1], when it says, “based on the gauge of the machine,” doesn’t mean “equal to the gauge of the machine”?

A No.

(Doc. 320, at 24.) Additionally, Tuftco notes that, unlike other claims at issue, the modifier “approximately” is not used, suggesting that the prescribed stitch rate is not approximate to the gauge, but equal to it.

When construing patent terms, the words of a claim “are generally given their ordinary and customary meaning” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). But “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313. In determining the meaning of claim terms, all sources of evidence are not equal. Intrinsic evidence—the patent claims, the specification, and the prosecution

⁴⁹ Tuftco did not propose that the term “based on the gauge of the tufting machine” be construed at the *Markman* hearing, and accordingly, the Court did not include the term in its construction ruling. (See Docs. 169, 220.)

history—is given preference over extrinsic evidence—dictionaries, treatises, and inventor and expert testimony. *See id.* at 1315–18.

The claim language, read in the context of the specification, does not require that the desired stitch rate be equal to the gauge of the tufting machine. *See Kara Tech. Inc.*, 582 F.3d at 1347. For example, the ‘703 Patent’s specification notes that a “typical desired stitch rate” in a conventional tufting system “generally has been matched to the gauge of the tufting machine, *i.e.*, for a tenth gauge tufting machine, the stitch rate typically will be approximately ten stitches per inch” (Doc. 292-1, at 65, col. 5:22–26.) Further, with regard to the present invention, it states that “for a tenth gauge machine generally run using a desired stitch rate of approximately ten stitches per inch,” the effective stitch rate for a three-color pattern will be “approximately thirty stitches per inch” (*Id.*, col. 5:35–42.) The above language from the specification clarifies that the desired stitch rate, though “based on the gauge of the tufting machine,” does not have to be equal to the gauge of the machine, just approximate to it. When the intrinsic evidence alone resolves ambiguity about a disputed claim term, as it does here, it is improper to consider extrinsic evidence, such as expert testimony. *Id.* at 1348; *Vitronics*, 90 F.3d at 1583. Accordingly, Berger’s testimony does not overcome the claim language and specification.

Tuftco’s argument regarding the absence of the modifier “approximately” is equally unavailing. While the other Severed Claims use “approximately” to define how the gauge of a tufting machine relates to the desired stitch rate, none uses “approximately” to modify the term “based upon.” For example, Claim 12 of the ‘505 Patent provides: “wherein the tufting machine is a 1/10th gauge tufting machine and the desired fabric stitch rate is approximately ten stitches per inch.” (Doc. 292-1, at 17, col. 11:6–8.) Moreover, the ‘703 Patent’s specification makes clear that Claim 1 covers a machine tufting carpets at “desired stich rate” that is consistent with

conventional tufting systems, where “for a tenth gauge tufting machine, [for example], the stitch rate typically will be approximately ten stitches per inch” (Doc. 292-1, at 65, col. 5:24–26.)

The fact that Claim 1 claims something broader than an exact number does not create a question about the scope of Claim 1. A person of ordinary skill in the art at the time of the invention would not construe “based on” as “equal to.”⁵⁰

Having construed Claim 1, the Court now turns to whether the Accused Products infringe. Tuftco asserts that the evidence cited by CMC fails to prove that the Accused Products base the prescribed stitch rate on the gauge of the machine. For example, Tuftco argues, one e-mail between Tuftco’s Director of Marketing, Steve Martin, and one of its customers (Doc. 454-4, at 12) does not even mention the gauge of any machine, let alone instruct the customer to base the prescribed stitch rate upon it. Although the term “gauge” does not appear in the document, Martin clearly bases his stitches-per-inch calculation on the gauge of the machine. Martin informs the customer that the “[a]ctual, compressed stitch rate is typically 4X (4-colors), 5X (5-colors): 4-colors means 40 [stitches per inch] (160/ 10-cm) & 5-colors means 50 [stitches per inch] (200/ 10-cm).” (Doc. 454-4, at 12.) Martin’s stitch-rate calculation takes the number of colors and multiplies them by ten, *i.e.*, the gauge. Tuftco provides no alternative explanation for this calculation. And Martin confirms in deposition testimony regarding another customer e-mail that “10-cm” refers to a 1/10th machine gauge. In the e-mail Martin stated: “Stitch rate is programmed as about 40 [stitches per inch] (156 per 10-cm) so this 4-color Colortuft pattern has a stitch rate about **4X** normal.” (Doc. 454-1, at 1 (emphasis in original).) When deposed, Martin

⁵⁰ Though not re-asserted in its response to CMC’s summary judgment motion, in its own summary judgment motion Tuftco also argues that “based on” should be construed as “equal to,” citing prosecution history of the ‘703 Patent. (Doc. 450, at 21–28.) The Court rejected this argument in Part III(d)(ii)(2).

confirmed that in this e-mail he was “talking about a four-color Colortuft pattern on a tenth-gauge machine where your stitch rate is going to be around forty stitches per inch.” (Doc. 454-11, at 203–04.) Again, Tuftco offers no other explanation for arriving at forty stitches per inch other than multiplying the number of colors by the gauge of the machine. And the same goes for the other evidence cited by Tuftco. (See Doc. 454-1, at 1–2; *id.* at 11; Doc. 454-2, at 1; Doc. 454-4, at 1; *id.* at 10.)

Finally, Tuftco argues that the Accused Products’ prescribed stitch rate is not based on the gauge, but is up to customer discretion. Tuftco cites testimony from a number of its employees indicating that the number of yarns to display in the face of the carpet is decided by the customer. For example, Martin testified that stitch rate is at “customer discretion . . . they can use whatever stitch rate they want to do.” (Doc. 454-12, at 115.) Tuftco fails, however, to cite any evidence demonstrating that its customers actually use a prescribed stitch rate that is not either equivalent to the gauge of the machine or based on it. In an e-mail from Martin to Steve Frost, Tuftco’s CEO, Martin states:

The actual stitch rate is determined by: a. # of colors[,] b. Yarn size[.] Rule of Thumb, as we know it, is the stitch rate is compressed in direct proportion with # of colors, E.g. 4-color Colortuft=40 [stitches per inch], but this is [n]ot necessarily true, since a larger or more ‘blooming’ yarn may require a [stitches per inch] of maybe only 32 or 36 [stitches per inch].

(Doc. 454-2, at 1.) Again, Tuftco offers no other explanation for arriving at forty stitches per inch—then thirty-two or thirty-six for a larger yarn size—other than multiplying the number of colors by a desired stitch rate that is based on the gauge of the machine. Though the prescribed stitch rate will vary based on yarn size and customer preference—just like with ColorPoint—this variance does not negate the relationship between the Accused Products’ gauge and prescribed stitch rates. Simply asserting that the desired stitch rate of the Accused Products is not “based on

the gauge of the tufting machine” as required by Claim 1 is insufficient to raise a genuine issue of material fact.

The Court now turns to whether CMC has met its burden on summary judgment. As already noted, CMC moves for summary judgment that four of the five Inspected Machines infringe Claim 1—specifically, the machines inspected at: (1) Signature Hospitality Carpets; (2) J&J Industries; (3) Shaw Industries; and (4) Tuftco. CMC submits Steven Berger’s expert report in support, which conducts an element-by-element analysis. (Doc. 454-9, at 60–61, 91–96.) Again, Claim 1 requires that the desired stitch rate be “based on the gauge of the tufting machine.” The Court has already concluded that a person of ordinary skill in the art at the time of the invention would not construe “based on” as “equal to” when viewing the claim language in light of the ‘703 Patent’s specification. Accordingly, a machine will infringe Claim 1 if the desired stitch rate of the pattern it produces is approximate to the gauge of the tufting machine.⁵¹ The Court will now compare the properly construed Claim 1 to the allegedly infringing Inspected Machines to determine whether this claim limitation is present. *Innovention*, 637 F.3d at 1318–19.

No reasonable jury could conclude that the desired stitch rate of patterns made by three of the Inspected Machines was not based on the gauge of the machine. With respect to the 1/10th gauge single-needle-bar machine inspected at Signature, CMC’s expert Steven Berger noted that, as required by Claim 1, the machine made a six-color pattern at an effective stitch rate of seventy-two stitches per inch and a desired stitch rate of twelve. (Doc. 454-9, at 60.) The resulting pattern displayed a face density of approximately twelve stitches per inch. (*Id.*) With

⁵¹ In its claim-construction ruling, the Court declined to construe “approximately,” finding that the term should take its ordinary meaning. (Doc. 220, at 14.)

respect to the 1/10th gauge single-needle-bar machine inspected at Shaw, Berger noted that, as required by Claim 1, the machine made a four-color pattern at an effective stitch rate of forty stitches per inch and a desired stitch rate of ten. (*Id.* at 61.) The resulting pattern displayed a face density of approximately ten stitches per inch. (*Id.*) With respect to the 1/10th composite gauge double-needle-bar machine inspected at Tuftco, Berger noted that, as required by Claim 1, the machine made a four-color pattern at an effective stitch rate of thirty-six stitches per inch and a desired stitch rate of approximately nine. (*Id.*) The resulting pattern displayed a face density of approximately nine stitches per inch. (*Id.*) Accordingly, CMC has met its burden with regard to these three machines.

However, a genuine issue of material fact exists with regard to the machine inspected at J&J (the “J&J Machine”). Berger noted that the 1/12th composite gauge double-needle-bar J&J Machine made a three-color pattern at an effective stitch rate of twenty-six stitches per inch and a desired stitch rate of approximately 8.66 stitches per inch. (*Id.* at 60–61.) The resulting pattern displayed a face density of approximately 8.5 stitches per inch. (*Id.* at 60.) Viewing this evidence in the light most favorable to Tuftco, a reasonable jury could conclude that a desired stitch rate of approximately 8.66 stitches per inch is not based on the J&J Machine’s 1/12th gauge. This conclusion is consistent with the range of “based on the gauge of the machine” CMC provided at the summary judgment hearing. At the hearing, CMC clarified that it was not moving for summary judgment that the Lexmark Machine infringed Claim 1, because “[t]he desired stitch rate . . . was, like, 7 1/2 on a tenth-gauge machine, and we’re not claiming you can go that far.” (Doc. 474, at 26.) If a desired stitch rate of 7.5 stitches per inch is not “based on” the gauge of a 1/10th gauge machine (a proportion of 0.75), then CMC is not entitled to

summary judgment that a 8.66 desired stitch rate is based on the gauge of a 1/12th gauge machine (a proportion of 0.72).

Accordingly, the Court will **GRANT** summary judgment that the Inspected Machines at Signature, Shaw, and Tuftco infringed Claim 1 of the ‘703 Patent, but **DENY** summary judgment that the J&J Machine infringed Claim 1.⁵²

4. Method Claims

Next, CMC moves for summary judgment of infringement on six of the method claims—Claims 8, 10, and 12 of the ‘505 Patent, Claim 28 of the ‘703 Patent, and Claims 21 and 27 of the ‘989 Patent—asserting theories of direct infringement and induced infringement.

a. *Direct Infringement*

Direct infringement of method claims, like machine claims, is governed by 35 U.S.C. § 271(a), which states “whoever without authority makes, uses, offers to sell, or sells any patented invention . . . infringes the patent.” Sale of an accused product capable of performing the method, however, is not sufficient to prove infringement. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1317 (Fed. Cir. 2009). Instead, the patentee must present evidence that the alleged infringer, or someone under its control, performed all of the steps of the claimed method. *Id.* A finding of direct infringement “can rest on as little as one instance of the claimed method being performed during the pertinent time period.” *Id.*

i. **Claims 8, 10, and 12 of the ‘505 Patent**

CMC argues that the Accused Products perform every element of Claim 8 of the ‘505 Patent, as well as dependent Claims 10 and 12. In support, CMC submits Steven Berger’s expert report on infringement, which compares the claims, element by element, to the operation of the

⁵² That Tuftco made and sold each of the Accused Products listed appears to be undisputed. (See Doc. 457, at 1; Doc. 454-11, at 120–21.)

Accused Products. Additionally, CMC cites photographs of samples made by Tuftco on its Colortuft/iTuft c, iTuft 5c, and iTuft 6c machines. (See Doc. 454-3 (single-needle-bar samples); Doc. 454-5, at 3–39 (double-needle-bar samples).) CMC cites these samples as evidence of direct infringement by Tuftco of all the method claims for which it seeks summary judgment. Tuftco does not dispute that it made these samples or maintain that they were produced in a manner inconsistent with how the Accused Products were made to operate. (See Doc. 452.) Accordingly, if CMC meets its burden of providing evidence that the Accused Products operate in a way that infringes the method claims, Tuftco is liable for direct infringement of the method claims for producing these samples. *See Ricoh Co., Ltd. v. Quanta Comput. Inc.*, 550 F.3d 1325, 1336 (Fed. Cir. 2008) (upholding district court’s decision to grant summary judgment of non-infringement where patentee did not present evidence that alleged infringer tested any accused products).

Tuftco does not dispute the first six limitations of Claim 8, but it does dispute that the Accused Products perform the seventh limitation, which provides:

wherein *the feeding of the yarns to form the high and low tufts tracks the shifting of the needles* so as to substantially maintain density of the tufts of yarns being formed in the backing material in a direction of the rows of tufts and location of the high tufts of yarns at desired positions across the backing to form the patterned tufted articles.

(Doc. 292-1, at 16, col. 10:56–61 (emphasis added).) Specifically, Tuftco asserts that CMC failed to provide any evidence that the Accused Products feed the yarns in a fashion that tracks the shifting of the needles.⁵³ To the contrary, Berger’s report states that “[v]ideos of Tuftco’s

⁵³ Additionally, Tuftco suggests that, because tracking appears to be a key feature in the Severed Claims, the fact that the term “track” is not included elsewhere in the ‘505 Patent “rais[es] questions as to the adequate enablement and written description of the invention, or at least indefiniteness.” (Doc. 452, at 10.) Because Tuftco does nothing to develop the theory in this comment, the Court will disregard it.

single and double-needle-bar machines confirm that the yarn feed and shifting needle bars *work together* to insert a higher number of yarns at each location” (Doc. 454-9, at 80 (emphasis added); *see also* videos attached to Doc. 292-3, at 29, 34, 36.) Thus, CMC has submitted evidence indicating that the Accused Products feed yarns in a fashion that tracks the shifting of the needles, and Tuftco fails to raise a material question of fact. *See TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1375 (Fed. Cir. 2002) (finding “wholly conclusory allegations” insufficient to raise a genuine issue of material fact as to infringement); *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1578 (Fed. Cir. 1989) (“General assertions of fact issues, general denials, and conclusory statements are insufficient to shoulder the non-movant’s burden.” (internal quotation mark omitted)). Accordingly, Tuftco has failed to raise a genuine issue of material fact.

However, the Court concludes that CMC is not entitled to summary judgment on the double-needle-bar Accused Products. To find infringement, the Court “compares the properly construed claims to the allegedly infringing device to determine whether all of the claim limitations are present, either literally or by a substantial equivalent.” *Innovention*, 637 F.3d at 1318–19. Claim 8 the ‘505 Patent limits itself to *one* needle bar: “*a* shiftable needle bar” and “shifting *the* needle bar”⁵⁴ (Doc. 292-1, at 16, col. 10:43, 44 (emphasis added).) While the ‘505 Patent’s specification refers, at times, to multiple needle bars (*see, e.g.*, Doc. 292-1, at 12, col. 2:9), Federal Circuit precedent is clear that the Court should not import limitations from the specifications into the claims. *Kara Tech. Inc.*, 582 F.3d at 1348. Accordingly, double-needle-bar machines do not literally infringe Claim 8.

⁵⁴ The rest of the Severed Claims do not specify a number of needle bars. For example, Claim 1 of the ‘703 Patent provides for “at least one needle bar” (Doc. 292-1, at 67, col. 9:19.)

“A device that does not literally infringe a claim may nonetheless infringe under the doctrine of equivalents if every element in the claim is literally or equivalently present in the accused device.” *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1423 (Fed. Cir. 1997). “A claim element is equivalently present in an accused device if only ‘insubstantial differences’ distinguish the missing claim element from the corresponding aspects of the accused device.” *Id.* (citation omitted). As an issue of fact, equivalence should be reserved for the fact finder unless no reasonable jury could find equivalence. *Id.* Tuftco noted some of the differences between single- and double-needle-bar machines in connection with its argument that double-needle-bar machines are incapable of infringing the Severed Claims. *See supra* Part III(d)(iii)(2). For example, Steve Frost testified in a Rule 30(b)(6) deposition that double-needle bars are not capable of tufting “a single pixel of color in any longitudinal line of tufting” and, therefore, are incapable of the pinpoint accuracy of single-needle-bar machines. (Doc. 454-12, at 67–69.) Viewing the evidence in a light most favorable to Tuftco, a reasonable jury could find that using two needle bars is not substantially equivalent to using one based upon these differences. As such, the Court will **GRANT** CMC summary judgment of infringement of Claim 8 of the ‘505 Patent by the single-needle-bar Accused Products of Claim 8 of the ‘505 Patent, but **DENY** summary judgment of infringement by the double-needle-bar Accused Products.

Turning to Claims 10 and 12 of the ‘505 Patent, which are dependent on Claim 8, CMC also submits Berger’s report in support of its motion for summary judgment of Claims 10 and 12. Tuftco’s only response revolves around its argument as to Claim 8, which the Court has rejected. Because CMC bears the burden at trial, however, CMC must make a *prima facie* showing of infringement to be entitled to summary judgment. *Warner-Lambert*, 418 F.3d at 1341 (citing *Liberty Lobby*, 477 U.S. at 252); *L & W, Inc. v. Shertech, Inc.*, 471 F.3d 1311, 1318 (Fed. Cir.

2006). Berger's report conducts an element-by-element infringement analysis on Claims 10 and 12. (Doc. 454-9, at 83–90.) The report “set[s] forth the factual foundation for his infringement opinion in sufficient detail for the court to be certain that features of the accused product would support a finding of infringement” *Intellectual Sci.*, 589 F.3d at 1183. Specifically, to show that the Accused Products use yarn-feed control to either pull unwanted tufts very low or completely out of the backing, *i.e.*, backrobbed, as required by Claim 10, Berger provided: (1) testimony from Tuftco's Director of Marketing, Steven Martin, confirming that Tuftco machines use yarn-feed control to backrob unwanted tufts very low or out of the backing; (2) excerpts from Tuftco's user manuals that instruct users to enter “Unsew” or “No Sew” rates for yarns that are not supposed to appear in the face of the pattern; and (3) photographs and videos from inspections of the Inspected Machines showing that colors not supposed to be shown in the face of the carpet are backrobbed. (Doc. 454-9, at 83–85.) Regarding Claim 12, which requires a 1/10th gauge tufting machine and a desired stitch rate of approximately ten stitches per inch, Berger provided: (1) e-mails from Tuftco employees instructing customers to use a desired stitch rate (or “surface density”) of ten on a 1/10th gauge machine; (2) photographs of Colortuft/iTuft c samples made on a 1/10th gauge machine and having a desired stitch rate of approximately ten; and (3) a summary of his inspection of a 1/10th gauge machine at Shaw Industries, where he made a four-color pattern with an effective stitch rate of forty stitches per inch. (*Id.* at 85–90.)

Given that Claims 10 and 12 are dependent on Claim 8 of the '505 Patent, however, they are also explicitly limited to one needle bar. The Court has already determined that there exists a genuine issue of material fact as to whether double-needle-bar machines infringe Claim 8. Accordingly, the Court will **GRANT** CMC summary judgment of infringement by the single-needle-bar Accused Products on Claims 10 and 12 of the '505 Patent and **DENY** summary

judgment of infringement as to the double-needle-bar Accused Products. Given that Claim 12 applies only to 1/10th gauge tufting machines, the Court limits summary judgment on Claim 12 to the Accused Products that are single-needle-bar 1/10th gauge machines.⁵⁵

ii. Claim 28 of the ‘703 Patent

Next, CMC moves for summary judgment that the Accused Products operate to infringe Claim 28 of the ‘703 Patent and submits Steven Berger’s expert report in support. Tuftco responds only that, “[b]ecause Claim 28 of the ‘703 [Patent] is dependent upon Claim 1,” CMC should be denied summary judgment for the reasons stated in connection with Claim 1. (Doc. 452, at 15 n.3.) A dependent claim is one that “contain[s] a reference to a claim previously set forth and then specif[ies] a further limitation of the subject matter claimed.” 35 U.S.C. § 112(d). Claim 28 does not contain a reference to Claim 1 and, therefore, is not dependent on Claim 1. Accordingly, Tuftco has failed to respond to CMC’s motion for summary judgment as to Claim 28. Because CMC bears the burden at trial, however, it must make a *prima facie* showing of infringement. *Warner-Lambert*, 418 F.3d at 1341; *L & W, Inc.*, 471 F.3d at 1318. Berger’s report conducts an element-by-element infringement analysis on Claim 28. (Doc. 454-9, at 96–105.) Specifically, to prove the Accused Products operate with “an increased effective stitch rate that is at least two times a prescribed stitch rate based upon a gauge of the tufting machine” while “form[ing] the patterned article with an appearance of increased density,” as required by Claim 28, Berger provides photographs and details of his inspections of the Inspected Machines.

⁵⁵ To protect certain third-party information and because a listing of those products is not essential to the public’s understanding of this summary judgment order, the Court will not list those machines here. (See Doc. 381); *see also Flexsys Am. LP v. Kumho Tire U.S.A., Inc.*, No. 5:05cv156, 2010 WL 2813423, at *3 (E.D. Ohio July 15, 2010) (revising a summary judgment ruling to make indirect references to proprietary information where public’s interest in information “is limited inasmuch as it is not necessary for an understanding of the Court’s ruling on summary judgment”).

For example, the Accused Product at Signature, a 1/10th gauge machine, tufted a six-color pattern at an effective stitch rate of seventy-two stitches per inch and a desired stitch rate of twelve. (*Id.* at 98.) Additionally, Berger provides Tuftco user manuals that instruct customers to input an effective stitch rate based on the desired stitch rate, multiplied by the number of colors in the pattern, as well as samples made by Tuftco that follow this method. (*Id.* at 104–05.) Therefore, the Court finds that Berger’s report “set[s] forth the factual foundation for his infringement opinion in sufficient detail for the court to be certain that features of the accused product would support a finding of infringement” *Intellectual Sci.*, 589 F.3d at 1183.

However, Claim 28 contemplates that the prescribed or desired stitch rate be “based upon a gauge of the tufting machine.” In connection with its analysis of Claim 1 of the ‘703 Patent, the Court has already noted that there exists a genuine issue of material fact with regard to the Lexmark and J&J Machines. *See supra* Part III(d)(iii)(3). Specifically, the 1/10th gauge single-needle-bar Lexmark Machine tufted a pattern with a desired stitch rate of seven. (Doc. 454-9, at 60.) The 1/12th composite gauge double-needle-bar J&J Machine tufted a pattern with a desired stitch rate of approximately 8.66 stitches per inch. (*Id.*) A reasonable jury could find that these desired stitch rates are not “based upon a gauge of the tufting machine” as required by Claim 28.

Accordingly, the Court will **DENY** summary judgment that the Lexmark and J&J Machines operate to infringe Claim 28 of the ‘703 Patent, and will **GRANT** CMC summary judgment that the Inspected Machines at Signature, Shaw, and Tuftco operate to infringe Claim 28.

iii. Claims 21 and 27 of the ‘989 Patent

Next, CMC moves for summary judgment that the Accused Products operate to infringe Claims 21 and 27 of the ‘989 Patent. Other than its double-needle-bar argument, see *supra* Part

III(d)(iii)(2), Tuftco does not respond. Still, CMC must make a *prima facie* showing of infringement to be entitled to summary judgment. *Warner-Lambert*, 418 F.3d at 1341; *L & W, Inc.*, 471 F.3d at 1318.

The Court finds that, based on element-by-element analysis submitted in Berger's report (Doc. 454-9, at 107–08, 111–12), CMC has established it is entitled to summary judgment that the Accused Products infringe Claims 21 and 27 of the '989 Patent. *See Intellectual Sci.*, 589 F.3d at 1183. Specifically, to show the Accused Products control the yarn feed to retain a desired yarn tuft in the face of the pattern, as required by Claim 21, and stitch multiple stitches at selected stitch locations, as required by Claim 27, Berger provides: (1) an e-mail from Steve Martin, Tuftco's Director of Marketing, stating that one out of the four colors in a pattern is “tufted into the carpet face whilst the other colors are hidden (burden) beneath the surface or may be pulled all the way out of the primary backing, dependent upon the programmed yarn feed rates” (Doc. 454-9, at 50); and (2) deposition testimony from Martin confirming that this e-mail accurately describes the Colortuft/iTuft c method (Doc. 454-11, at 202–05). Berger also noted that the videos of the Inspected Machines confirm this fact. (Doc. 454-9, at 108.) The same e-mail and deposition testimony from Martin show that, as required by Claims 21 and 27, the effective stitch rate is determined by multiplying the desired stitch rate by approximately the number of colors: “To make the surface density nearly 1/10th Gauge . . . , the stitch rate is compressed in conjunction with the # of colors: *E.g.* 4-color Colortuft[;] Thread-up A-B-C-D[;]
Shifting 4 over x 4 back[;] Stitch rate is programmed as about 40 [stitches per inch]” (*Id.* at 50.) Additionally, the samples provided by Tuftco, made with both single- and double-needle bar-machines, present this effective stitch rate formula. (*Id.* at 88–90.) Accordingly, the Court

will **GRANT** CMC summary judgment of infringement of Claims 21 and 27 of the Accused Products.

b. Induced Infringement

Induced infringement is governed under 35 U.S.C. § 271(b), which provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” To prevail on an inducement claim, “the patentee must show direct infringement, and that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement.” *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1363 (Fed. Cir. 2012) (internal quotation marks omitted). Therefore, liability for induced infringement may arise only where there is direct infringement by a third party. *Id.* at 1364; *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111, 2117 (2014). “To satisfy the direct infringement requirement, the patentee must either point to specific instances of direct infringement or show that the accused device necessarily infringes the patent in suit.” *Toshiba*, 681 F.3d at 1364. If an accused product can be used in a non-infringing manner, the product does not necessarily infringe the method claim. *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007).

CMC moves for summary judgment that Tuftco has indirectly infringed the method claims by inducing its customers to directly infringe them. In support, CMC provides evidence that: (1) “[t]he Accused Products were specifically configured to run the infringing Colortuft/iTuft c method”; (2) “Tuftco actually developed ‘Colortuft software’ for its machines to facilitate the process of using the infringing method”; (3) “Tuftco trained customers regarding how to run the infringing Colortuft/iTuft c method”; (4) “Tuftco created user’s manuals that provided detailed instructions for using the infringing Colortuft/iTuft c method”; and (5) “Tuftco

sent numerous other documents to customers describing how the infringing Colortuft/iTuft c method works.” (Doc. 442, at 33.)

CMC fails to show there is no issue of material fact as to whether the patent was directly infringed by Tuftco’s customers. First, CMC does not assert that the Accused Products cannot be used in a non-infringing manner, precluding a finding that the Accused Products necessarily infringe. *Id.* Second, CMC does not “point to specific instances of direct infringement” by customers. *Toshiba*, 681 F.3d at 1364. Instead, CMC cites only circumstantial evidence indicating that Tuftco’s customers *likely* infringed. For example, although Tuftco’s user manuals instructed its customers to use the Accused Products in an infringing manner, those manuals do not provide direct evidence that those customers did in fact use the Accused Products in an infringing manner. As noted by CMC, infringement by third parties may be proved by circumstantial evidence at trial. *See id.* None of the cases cited by CMC, however, stands for the proposition that summary judgment of induced infringement may be granted on circumstantial evidence alone. *See id.* at 1366 (vacating summary judgment of non-infringement where the alleged infringer designed and instructed customers to use the products in an infringing way); *Lucent Techs.*, 580 F.3d at 1317–19 (finding that substantial evidence supported jury’s finding of direct infringement where expert performed steps of the method claim on the accused products and accused infringer designed and instructed customers to use the products in an infringing way); *Moleculon Res. Corp. v. CBS, Inc.*, 793 F.2d 1261, 1272 (Fed. Cir. 1986) (upholding a trial court’s finding of fact after a bench trial law that patentee had met its burden of showing § 271(b) infringement with circumstantial evidence of extensive product sales and distributed instructions teaching the method), *abrogated on other grounds by Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed. Cir. 2008) (en banc); *Parkervision, Inc. v. Qualcomm Inc.*,

27 F. Supp. 3d 1266, 1279–80 (M.D. Fla. 2014) (denying alleged infringer’s argument that it is entitled to judgment as a matter of law where patentee proved its case with representative products), *rev’d on other grounds*, 621 F. App’x 1009 (Fed. Cir. 2015).

Moreover, Tuftco provides evidence that raises a material question of fact as to infringement of at least six of the Accused Products. A representative from a Tuftco customer testified in a deposition that the company only used one of the seven machines it purchased from Tuftco to make “Colortuft carpet.” (Doc. 435, at 196.) Based on this evidence, a reasonably jury could conclude that this customer never directly infringed with the other six machines. Accordingly, the Court will **DENY** CMC summary judgment of induced infringement of the method claims.

5. *Damages*

Tuftco seeks summary judgment on the following damages issues: (1) whether CMC is entitled to lost profits related to Tuftco’s double-needle-bar machine sales; (2) whether CMC is entitled to damages for infringement of the ‘703 Patent related to foreign sales; (3) whether CMC is entitled to damages for infringement of the ‘703 Patent related to sales Tuftco made before the ‘703 Patent issued; and (4) whether CMC’s damages for induced infringement, if any, must be restricted if CMC fails to establish direct infringement for any given sale.

i. *Lost Profits on Tuftco’s Double-Needle-Bar Machine Sales*

First, Tuftco moves for summary judgment that CMC is not entitled to lost-profits damages on the double-needle-bar Accused Products, arguing that CMC cannot establish the requisite “but for” causation to obtain lost profits. The availability of lost profits is a question of law. *Siemens Med. Sols. USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1287 (Fed. Cir. 2011). “To recover lost profits a patentee must show that ‘but for’ infringement

it reasonably would have made the additional profits enjoyed by the infringer.” *Micro Chem., Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1122 (Fed. Cir. 2003). There are multiple methods by which a patentee may show “but for” causation. *Id.* One of which is the *Panduit* method, whereby “the patent owner must prove (1) a demand for the patented product, (2) an absence of acceptable noninfringing substitutes, (3) the manufacturing and marketing capability to exploit the demand, and (4) the amount of profit the patent owner would have made.” *Siemens*, 637 F.3d at 1287 (internal quotation marks omitted); *see also Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978). A showing under *Panduit* establishes a patentee’s *prima facie* case of “but for” causation. *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1545 (Fed. Cir. 1995). “The burden then shifts to the infringer to show that the inference is unreasonable for some or all of the lost sales.” *Id.*

CMC makes a *prima facie* case of “but for” causation in its expert report of David A. Kennedy. (Doc. 435, at 44–66.) With regard to the first *Panduit* factor, “demand for the patented product” contemplates not only products covered by the asserted patent, but also similar products that are in direct competition. *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 702 F.3d 1351, 1360 (Fed. Cir. 2012). Additionally, as demand for the patented and infringing products are interchangeable, “evidence of sales of the infringing product may suffice to show *Panduit*’s first factor.” *BIC Leisure Prods., Inc. v. Windsurfing Int’l, Inc.*, 1 F.3d 1214, 1218 (Fed. Cir. 1993). The Court has already determined that the single- and double-needle-bar Accused Products infringe Claims 21 and 27 of the ‘989 Patent and that at least some Accused Products infringe Claims 1 and 28 of the ‘703 Patent. *See supra* Parts III(d)(iii)(3), III(d)(iii)(4)(ii)–(iii). Accordingly, those Accused Products are covered by the Asserted Patents. As for Claims 8, 10, and 12 of the ‘505 Patent, CMC has submitted evidence that the double-

needle-bar Accused Products are sufficiently similar to the single-needle-bar Accused Products to be in direct competition. *Presidio*, 702 F.3d at 1360. For example, Jeff Smith, a Tuftco employee, testified that double-needle-bar Accused Products use the same “Colortuft technique” as the single-needle-bar Accused Products. (Doc. 454-12, at 124.) As such, demand under the first *Panduit* factor includes demand for double-needle-bar machines. Kennedy outlines the sales of not only ColorPoint machines, but also the infringing Accused Products in his report (Doc. 435, at 45–50), satisfying the first factor under *Panduit*.

The second *Panduit* factor requires demonstrating an absence of acceptable noninfringing substitutes. “[I]f purchasers are motivated to purchase because of particular features available only from the patented product, products without such features—even if otherwise competing in the marketplace—would not be acceptable noninfringing substitutes.” *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1991). Kennedy’s report outlines the differences between the infringing Accused Products and non-infringing alternative substitute products, namely Tuftco’s Colortron and Colortec machines. (Doc. 435, at 60–63.) Specifically, Kennedy provides evidence that: (1) Colortron machines are more expensive to operate and are typically limited to making “high end/price oriental style rugs and similar specialty tufted fabrics” (*id.* at 61); (2) Colortec machines are only capable of tufting cut-pile carpets, cannot create patterns with single-pixel precision, and have gauge limitations, unlike the Accused Products (*id.* at 62); and (3) Tuftco has had more success in selling the Accused Products than the Colortron and Colortec machines (*id.* at 60–61, 63). As such, CMC has provided sufficient evidence of a lack of acceptable noninfringing substitutes.

The third factor requires a showing of manufacturing and marketing capability to exploit demand. Kennedy provides a detailed analysis of CMC’s production levels, facilities, and

manufacturing processes during the infringement period. (*Id.* at 52–60.) Based on this analysis, he concludes that CMC had the capability to produce and sell enough tufting machines to replace Tuftco’s sales of the Accused Products. (*Id.*) Tuftco does not dispute CMC’s production capabilities. Instead, Tuftco argues that CMC fails the third *Panduit* factor because CMC did not offer any double-needle-bar machines that practiced the ColorPoint method during the relevant time period. (Doc. 450, at 39–42; Doc. 453, at 7–8.) In support, Tuftco cites a May 2015 e-mail from a customer claiming he contacted CMC in the hopes of converting his company’s double-needle-bar machine to ColorPoint, “and their answer was they would not do Color Point on a graphics or stagger type needle bar at this time or in the near future.” (Doc. 435, at 170.) According to Tuftco, because CMC did not have the capability to exploit demand for double-needle-bar machines, CMC is not entitled to lost-profit damages on the double-needle-bar Accused Products. Tuftco relies primarily on two Federal Circuit cases for its proposition that a patentee cannot obtain lost-profits damages on a product it is not selling itself: *Poly-America, L.P. v. GSE Lining Technology, Inc.*, 383 F.3d 1303 (Fed. Cir. 2004), and *Wechsler v. Macke International Trade, Inc.*, 486 F.3d 1286 (Fed. Cir. 2007).

Tuftco mischaracterizes Federal Circuit precedent. *Poly-America* and *Wechsler* recognized the general rule that “if the patentee is not selling a product, by definition there can be no lost profits.” *Wechsler*, 486 F.3d at 1293; *Poly-America*, 383 F.3d at 1311; *see also Rite-Hite*, 56 F.3d at 1548. However, where a patentee sells its own patented products, this rule does not apply. *Rite-Hite*, 56 F.3d at 1548 (finding that the general rule did not apply because “Rite-Hite did sell its own patented products”). In *Poly-America*, the patent owner attempted to claim lost profits of products sold by its sister corporation and licensee. 383 F.3d at 1310–11. The court concluded that lost profits were unavailable because the patent owner itself did not sell any

patented products—all sales were made by its sister corporation, a separate entity. *Id.* Similarly, in *Wechsler*, it was undisputed that the patentee did not produce or sell any product until after the period of infringement ended. 486 F.3d at 1293. Tuftco does not dispute that CMC sold single-needle-bar machines during the relevant infringement period. Accordingly, because CMC sold its own patented products, *Poly-America* and *Wechsler* are inapposite.

Moreover, Tuftco mischaracterizes the third *Panduit* factor. CMC is not required to show it can meet demand for the allegedly infringing product; instead, CMC must establish its capability to exploit demand for the patented product. *Siemens*, 637 F.3d at 1287. Moreover, the Court has already noted that “demand for the patented product” contemplates not only products covered by the asserted patents, but also similar products in direct competition. *Presidio*, 702 F.3d at 1360. In other words, demand under *Panduit* is not confined to one specific product. In connection with its analysis of the first *Panduit* factor, the Court has already concluded that the double-needle-bar Accused Products either: (1) infringe the Severed Claims; or (2) are sufficiently similar to the patented product to be in direct competition. In any case, CMC presents evidence that it did in fact offer ColorPoint double-needle-bar machines for sale during the relevant time period. For example, one May 2016 invoice to a customer from CMC itemizes a double-needle-bar tufting machine—a 1/12th composite gauge with two 1/6th gauge needle bars—“with ColorPoint capability.” (Doc. 435, at 5.) Accordingly, the Court finds that CMC has satisfied the third *Panduit* factor.

Finally, under the fourth factor, CMC must establish the amount of profit it would have made but for the infringing product. Tuftco does not dispute the fourth *Panduit* factor in its summary judgment motion. (See Doc. 450, at 39–42.) In his expert report, Kennedy calculates CMC’s lost profits based on the number and amount of Tuftco’s infringing sales, compared with

CMC's reported profitability levels. (Doc. 435, at 63–66.) Accordingly, CMC has provided evidence of lost profits sufficient to satisfy the fourth *Panduit* factor.

For the foregoing reasons, CMC has established a *prima facie* case of “but for” causation.⁵⁶ *Rite-Hite*, 56 F.3d at 1545. The actual amount of CMC’s lost-profit damages is a question of fact which will be reserved for the jury at trial. *Minco, Inc. v. Combustion Eng’g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996). The Court will, therefore, **DENY** Tuftco summary judgment limiting CMC’s lost-profits damages on the double-needle-bar Accused Products.

ii. Foreign Sales

Next, Tuftco moves for summary judgment excluding damages from Tuftco’s foreign sales of Accused Products in the event CMC is awarded damages for infringement of the ‘703 Patent. Under 35 U.S.C. § 271(a), “whoever without authority *makes*, uses, offers to sell, or sells any patented invention within the United States . . . infringes the patent.” (Emphasis added). Assuming the jury finds that the Accused Products infringe, Tuftco’s activities in the United States, *i.e.*, making the Accused Products, would be sufficient to support a finding of infringement and consequently an award of damages.

Tuftco argues that a recent Federal Circuit case, *Power Integrations, Inc. v. Fairchild Semiconductor International, Inc.*, compels a different result. 711 F.3d 1348 (Fed. Cir. 2013). In *Power Integrations*, the Federal Circuit rejected a patentee’s argument that they were entitled

⁵⁶ Moreover, CMC may also establish “but for” causation by the “two-supplier market” test. *Micro Chem.*, 318 F.3d at 1122. Under this test, CMC must demonstrate: “1) the relevant market contains only two suppliers, 2) its own manufacturing and marketing capability to make the sales that were diverted to the infringer, and 3) the amount of profit it would have made from these diverted sales.” *Id.* at 1124. CMC presented evidence that the carpet-tufting-machine market is a two-supplier market. For example, Mark Gallagher, Tuftco’s expert, noted that CMC’s market share of the “tufting machine manufacturing industry” is estimated at 65%, while Tuftco’s market share is estimated at 30%, for a combined total of 95%. (Doc. 441, at 64.)

to compensation for the accused infringer’s foreign sales, based on the presumption against extraterritorial reach of U.S. patent law. *Id.* at 1370–72. *Power Integrations*, however, is distinguishable from the case at hand. There, the accused infringer’s actions within the United States included, at most, “direct sales or offers to sell infringing parts in the United States, the manufacturing of infringing parts in the United States and offers for sale from the United States that result in actual sales abroad” *Power Integrations*, 589 F. Supp. 2d 505, 509 (D. Del. 2008), *vacated on other grounds*, 711 F.3d 1348 (Fed. Cir. 2013). After trial, the district court found that the jury had “clearly adopted” the measure of damages provided by the patentee’s damages expert, who admitted on cross-examination “that he did not quantify an amount of damages based on any offer for sale by [the alleged infringer] in the United States.” 711 F.3d at 1372. Accordingly, the district court determined that the jury’s damages award was based not on the accused infringer’s domestic activities, *i.e.*, the offers for sale, but instead on their worldwide sales, and granted remittitur. *Id.* at 1370–71.

On appeal, the patentee argued that it was “foreseeable” that the accused infringer’s activities in the United States would cause the patentee to lose foreign market sales and that, therefore, it was entitled to “full compensation” for those damages. *Id.* at 1370. The Federal Circuit rejected this argument. *Id.* at 1372. The court noted that U.S. patent laws “do not provide compensation for a defendant’s foreign exploitation of a patented invention, which is not infringement at all,” and that “[e]ven indirect infringement, which can encompass conduct occurring elsewhere, requires underlying direct infringement in the United States.” *Id.* at 1371 (internal citation omitted). Accordingly, the *Power Integrations* court agreed with the district court’s determination that a damages award based on non-infringing activity (*i.e.*, foreign sales) is contrary to law. *Id.* at 1372. The obvious implication is that, if the *Power Integrations*

damages award had been based on the accused infringer’s domestic activities, such as its manufacture or offers for sale in the United States, it would have been upheld. And, here, assuming the jury finds infringement of the ’703 Patent and awards damages, Tuftco’s domestic manufacture of the Accused Products would constitute infringement under § 271(a), even if Tuftco ultimately sold those products outside the United States.

Federal Circuit precedent before and after *Power Integrations* supports this conclusion. For example, the Federal Circuit in *Railroad Dynamics, Inc. v. A. Stuki Co.* approved a damages award that included royalties for foreign sales of accused products. 727 F.2d 1506, 1519 (Fed. Cir. 1984). The court reasoned that “[w]hen [the accused infringer] made the [accused products] in this country, it infringed [the claim at issue]. Whether those [accused products] were sold in the U.S. or elsewhere is therefore irrelevant” *Id.*; see also *Goulds’ Mfg. Co. v. Cowing*, 105 U.S. 253, 254–58 (1881) (calculating lost profits to include infringing products sold in Canada but manufactured in the United States); *Dowagiac Mfg. Co. v. Minn. Moline Plow Co.*, 235 U.S. 641, 650 (1915) (distinguishing *Goulds’* on the basis that “while [the accused products] were made in the United States, they were not made by the defendants”); *Brown v. Duchesne*, 60 U.S. 183, 196 (1856) (“If [the accused product sold at sea] had been manufactured on [a ship’s] deck while she was lying in the port of Boston . . . [the defendant] would undoubtedly have trespassed upon the rights of the plaintiff, and would have been justly answerable for the profit and advantage he thereby obtained.”).

In *WesternGeco L.L.C. v. ION Geophysical Corp.*, decided after *Power Integrations*, the Federal Circuit noted that Supreme Court case law suggests “that profits for foreign sales of the patented items themselves are recoverable when the items in question were manufactured in the United States and sold to foreign buyers by the U.S. manufacturer.” 791 F.3d 1340, 1352 (Fed.

Cir. 2015) (citing *Goulds*', 105 U.S. at 254; *Dowagiac*, 235 U.S. at 642–43; *Duchesne*, 60 U.S. at 196), *vacated on other grounds*, 136 S. Ct. 2486 (2016).⁵⁷ Next, in *Carnegie Mellon University v. Marvell Technology Group, Ltd.*, the Federal Circuit considered a damages award that rested in part on foreign sales of semiconductor chips that were manufactured, sold, and used abroad. 807 F.3d 1283, 1305 (Fed. Cir. 2015). The court noted that in enacting § 271(a), Congress intended to reach “making *or* using *or* selling in the United States *or* importing into the United States, even if one or more of those activities also occur abroad.” *Id.* at 1306. It then concluded that “[w]here a physical product is being employed to measure damages for the infringing use of patented methods, . . . territoriality is satisfied when and only when any one of those domestic actions for that unit (e.g., sale) is proved to be present, even if others of the listed activities for that unit (e.g., making, using) take place abroad.” *Id.* Accordingly, the Federal Circuit “[saw] no extraterritoriality bar to including with the royalty base those chips which were imported into the United States for use in the United States” and affirmed the judgment insofar as it rested on imported chips. *Id.* at 1308. It went on to note that the jury was properly “told that it ‘may consider’ any sales that resulted from the [domestic] infringing use in order to value that use,” but that the instruction lacked a requirement that the jury “find a domestic location of sale as to those chips not made or used in, or imported into, the United States.” *Id.* at 1310.

Though *Carnegie* concerned method claims, the principle also applies to machine claims. With § 271(a), Congress intended to reach “making *or* using *or* selling in the United States . . .” *Id.* at 1306. Case law does not support the proposition that Tuftco must make *and* sell the Accused Products in the United States to be liable for infringement damages. Accordingly, the

⁵⁷ The *WesternGeco* court, however, found that precedent inapplicable to the facts therein. 791 F.3d at 1352.

Court will **DENY** Tuftco summary judgment excluding damages for infringement of the ‘703 Patent related to foreign sales from any damages award.

iii. Pre-Issuance Damages

Next, Tuftco moves for summary judgment excluding damages for sales that occurred prior to the issuance of the ‘703 Patent in the event CMC is awarded damages. Generally, a patent does not have retroactive effect, and damages are available only for infringement “during the term of the patent.” 35 U.S.C. § 271(a). Under 35 U.S.C. § 154, however, a patentee may recover reasonable royalties from anyone who infringes the patent “beginning on the date of publication of the application for such patent . . .” § 154(d)(1). This provisional right only applies when “the invention as claimed in the patent is substantially identical to the invention as claimed in the published patent application.” § 154(d)(2). Whether the patent and published application are substantially identical is a question of law and requires a comparison of the scope of the claims in light of the issued claim language, prosecution history, and prior art. *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1346–47 (Fed. Cir. 1998). “[I]n determining whether substantive changes have been made, we must discern whether the *scope* of the claims are identical, not merely whether different words are used.” *Id.* at 1346. Where an amendment narrows a claim in order to distinguish prior art, the change is substantive. *Id.* at 1348; *Bloom Eng’g Co. v. N. Am. Mfg. Co.*, 129 F.3d 1247, 1251 (Fed. Cir. 1997).

Considering Claim 1 of the ‘703 Patent in light of the prosecution history, the Court finds that the application language was amended to distinguish the patented machine from prior art.⁵⁸

⁵⁸ Though Tuftco requests a limitation on damages “for alleged infringement of the ‘703 Patent,” it fails to provide any argument related to the prosecution history of Claims 28 and 29. (See Doc. 450, at 29–34, 44.) As such, the Court will limit its analysis and conclusions to Claim 1 of the ‘703 Patent.

The claim language in the March 2012 application⁵⁹ (“the ‘703 Application”) provided that tufts of yarn are formed in the backing material “at an increased effective stitch rate **of** the prescribed stitch rate of the patterned tufted article multiplied by a number of different color yarns of the pattern to maintain a density of the patterned articles.” (Doc. 292-4, at 165 (emphasis in original).) The PTO Office Action noted that:

The use of the term “of” between effective stitch rate and the prescribed stitch rate renders the claim indefinite because it is unclear if the effective stitch rate “is a portion of” or “equivalent” to the prescribed stitch rate multiplied by the number of colored yarns.

(*Id.*) Because the effective-stitch-rate calculation in Claim 1 of the ‘703 Application was indefinite, it “contain[ed] no further limiting structure.” (*Id.* at 167.) The PTO concluded that the Burgess et al. Patent (U.S. Patent 5,566,630) (the “Burgess Patent”) in combination with another reference rendered Claim 1 of the ‘703 Application obvious, because the Burgess Patent “discloses all the structure as claimed” and “is considered fully capable of providing” the effective stitch rate as written. (*Id.* at 167–68.)

Comparatively, Claim 1 of the ‘703 Patent provides that the effective stitch rate “**is determined** by increasing a prescribed stitch rate of the patterned tufted article that is based on the gauge of the tufting machine by a selected amount” (Doc. 292-1, at 67, col. 9:46–49 (emphasis added).) The amended language makes “effective stitch rate” equivalent to the prescribed stitch rate multiplied by the number of yarns, narrows the claim, and distinguishes the Burgess Patent. Accordingly, the invention as claimed in the ‘703 Application is not substantially identical to the invention as claimed in the ‘703 Patent, and CMC does not retain

⁵⁹ At the summary judgment hearing on July 14, 2017, the parties agreed that the relevant application to pre-issuance damages on Claim 1 of the ‘703 Patent is the application filed in March 2012. (Doc. 474, at 74–78.)

provisional rights arising out of Claim 1. The Court will **GRANT** Tuftco summary judgment that pre-issuance damages on Claim 1 of the ‘703 Patent are not recoverable.

The Court notes, however, that Tuftco has not provided any argument as to pre-issuance damages of the other Severed Claims, and, therefore, summary judgment is limited to the extent pre-issuance damages arise from Claim 1 of the ‘703 Patent. *See Innovention Toys, LLC v. MGA Entm’t, Inc.*, 611 F. App’x 693, 700 (Fed. Cir. 2015), *vacated on other grounds*, 136 S. Ct. 2483 (2016).

iv. Damages for Induced Infringement

Next, Tuftco seeks summary judgment limiting CMC’s damages for induced infringement, if any, to Accused Products for which CMC can establish direct infringement by the customer. The grounds for Tuftco’s motion are unclear. To the extent that Tuftco seeks to restrict a summary judgment grant of damages, the Court has already determined that summary judgment of induced infringement should be denied. If this is the case, Tuftco’s motion will be **DENIED AS MOOT**. If, however, Tuftco seeks to limit CMC’s damages related to machines for which CMC has proven a direct relationship between a sale and an infringing act, the Federal Circuit has repeatedly held that a patentee may rely on circumstantial evidence at trial to prove inducement. *See, e.g., Toshiba*, 681 F.3d at 1364; *Lucent Techs.*, 580 F.3d at 1317–19; *see also Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 1 F. App’x 879, 884 (Fed. Cir. 2001) (noting that the patentee is not “required to demonstrate a one-to-one correspondence between units sold and directly infringing customers”). Tuftco also argues that, because the Accused Products are capable of substantial non-infringing uses, CMC is not entitled to a finding of indirect infringement. The case cited by Tuftco, however, states *in dicta* that it agrees with district courts who have concluded that even if an accused device is capable of substantial non-

infringing use, liability may be established under § 271(b) if “active steps are taken to encourage direct infringement.” *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1276 n.6 (Fed. Cir. 2004). Here, CMC provides evidence that: (1) Tuftco trained customers how to use the infringing Colortuft/iTuft c method (*see, e.g.*, Doc. 454-11, at 148); and (2) Tuftco’s user manuals instructed customers how to use the infringing Colortuft/iTuft c method (*see, e.g.*, Doc. 454-4, at 18). As such, the Court will **DENY** Tuftco’s motion for summary judgment to the extent it seeks to limit CMC’s damages for induced infringement at trial.

6. *Inequitable Conduct*

CMC moves for summary judgment on Tuftco’s affirmative defense and counterclaim that the Asserted Patents are unenforceable due to inequitable conduct. A successful claim of inequitable conduct “renders the entire patent unenforceable.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1288 (Fed. Cir. 2011). To prevail, an accused infringer must prove by clear and convincing evidence that the patent applicant: (1) “misrepresented or omitted material information” (2) “with the specific intent to deceive the PTO.” *Id.* at 1287. Given the consequences of a low burden to prove inequitable conduct, among them “increased adjudication cost and complexity, reduced likelihood of settlement, burdened courts, strained PTO resources, increased PTO backlog, and impaired patent quality,” the Federal Circuit has recently raised the burden for both prongs. *Id.* at 1290. Materiality is generally established by “but-for materiality”—in other words, “the court must determine whether the PTO would have allowed the claim if it had been aware of the undisclosed reference.” *Id.* at 1291. As for intent, the Federal Circuit has stressed that negligence or even gross negligence is not sufficient. *Id.* at 1290. Instead, an accused infringer must “prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to

withhold it.” *Id.* Though intent may be inferred from circumstantial evidence, “to meet the clear and convincing evidence standard, the specific intent to deceive must be the single most reasonable inference able to be drawn from the evidence.” *Id.* (internal quotation marks omitted). “[W]hen there are multiple reasonable inferences that may be drawn, intent to deceive cannot be found.” *Id.* at 1290–91.

Tuftco alleges that the Asserted Patents are unenforceable due to CMC’s inequitable conduct in three respects. First, Tuftco asserts CMC diverted the PTO’s attention from two prior art references—U.S. Patent Nos. 6,244,203 and 6,502,521 (together “Morgante 203/521”), and U.S. Patent No. 7,426,895 (“Smith 895”—by burying them among a large number of references. (Doc. 128, at 10–14.) Second, Tuftco asserts CMC improperly failed to disclose U.S. Patent No. 5,392,723 (“Kaju 723”) and the operation of machines covered by Kaju 723, specifically Colortec tufting machines. (*Id.*) Finally, Tuftco argues—for the first time in its response to CMC’s motion for summary judgment—that CMC’s disclosure of a “long-outdated version of a NedGraphics manual” establishes inequitable conduct. (Doc. 452, at 41.)

Tuftco’s first argument that CMC deliberately buried the Morgante 203/521 and Smith 895 references fails. It is well established that “[a]n applicant cannot be guilty of inequitable conduct if the reference was cited to the examiner” *Fiskars, Inc. v. Hunt Mfg. Co.*, 221 F.3d 1318, 1327 (Fed. Cir. 2000). CMC cited both references during prosecution (Doc. 29-1, at 6–7) and, accordingly, cannot be guilty of inequitable conduct on this basis.

Tuftco’s argument regarding Kaju 723 fails as well. Tuftco presents evidence that: (1) CMC did not disclose Kaju 723; (2) that disclosure of Kaju 723 was material given the similarities between the patents; and (3) that one of the named inventors of the Asserted Patents worked at Cobble, the company that obtained the Kaju 723 Patent, and therefore knew or should

have known about the reference. (Doc. 452, at 41.) Even viewing this evidence in the light most favorable to Tuftco, it has failed to present clear and convincing evidence to allow a reasonable jury to conclude that the Asserted Patents' inventors intended to deceive the PTO.⁶⁰ A specific intent to deceive by CMC is not "the single most reasonable inference" to be drawn from the fact that CMC knew of Kaju 723 and did not disclose it. *Therasense*, 649 F.3d at 1290. It is just as likely, if not more so, that CMC chose to omit Kaju 723 because CMC believed it was not relevant. Therefore, a jury may not find intent to deceive. *Id.*; see also *Optium Corp. v. Emcore Corp.*, 603 F.3d 1313, 1321 (Fed. Cir. 2010) (noting that "[i]ntent to deceive can not be inferred solely from the fact that information was not disclosed; there must be a factual basis for finding of deceptive intent" (internal quotation marks omitted)). Allowing Tuftco to present its inequitable-conduct claim to the jury would improperly shift the burden to CMC to assert a credible explanation for its nondisclosure of Kaju 723. See *Optium*, 603 F.3d at 1322.

For the same reasons, Tuftco's argument with regard to the older version of the NedGraphics manual fails. Setting aside the problems with Tuftco raising this argument for the first time in its summary judgment response, Tuftco asserts only that "[b]y intentionally submitting an older version of the NedGraphics manual to the PTO, CMC avoided any possibility that the PTO would realize that the capabilities of newer versions of that software would have rendered the ColorPoint 'invention' unpatentable." (Doc. 452, at 41.) Citing its 35 U.S.C. § 101 argument, Tuftco appears to assert that, but-for CMC's nondisclosure, the PTO would have realized that the Asserted Patents attempt to patent the abstract idea of high-rate stitching. (*Id.*) First, given that the Court has rejected Tuftco's § 101 argument, see *supra* Part

⁶⁰ Moreover, given that the PTO rejected Tuftco's petition for *inter partes* review, which was based in part on Kaju 723, the Court questions whether Tuftco can prove that, but-for CMC's nondisclosure of Kaju 723, the PTO would not have issued the Patents.

III(b)(iv), Tuftco’s ability to establish that the PTO would not have issued the Patents if it had been aware of the updated manuals is questionable. Moreover, Tuftco produces no evidence of intent, and, as the Court already noted, the fact finder may not infer intent “solely from the fact that information was not disclosed” *Optium*, 603 F.3d at 1321. Accordingly, the Court will **GRANT** CMC summary judgment on Tuftco’s inequitable-conduct claim.

7. *State-Law Claims*

Next, CMC moves for summary judgment on Tuftco’s affirmative defense and counterclaims of tortious interference, unfair competition, and unfair trade practices. Tuftco’s claims for tortious interference, unfair competition, and unfair trade practices arise under Tennessee law. The Federal Circuit has recognized, however, that “federal patent law preempts state-law tort liability for a patentholder’s good faith conduct in communications asserting infringement of its patent and warning about potential litigation.” *Globetrotter Software, Inc. v. Elan Comput. Grp., Inc.*, 362 F.3d 1367, 1374 (Fed. Cir. 2004). As such, Tuftco’s state-law claims can survive preemption only if they are “based on a showing of ‘bad faith’ action in asserting infringement,” even if bad faith is not an element of the state-law tort claim. *Id.* A patentee will act in bad faith only if its claims are “objectively baseless, either because those patents were obviously invalid or plainly not infringed.” *Id.* at 1375, 1377.

Tuftco asserts that it will be significantly prejudiced if CMC is allowed to raise the defense of federal preemption for the first time in its summary judgment motion. (Doc. 452, at 45.) CMC, however, raised the defense multiple times before its summary judgment motion, including in various motions to dismiss (Doc. 16, at 14–15; Doc. 29, at 18–19; Doc. 33, at 18–19) and in its affirmative defenses to Tuftco’s counterclaims (Doc. 129, at 8). Accordingly, there is no good reason to preclude CMC from moving for summary judgment on this defense.

Next, Tuftco argues that whether CMC threatened one or more of Tuftco's customers in order to interfere with Tuftco's sales is a genuine issue of material fact precluding summary judgment. (Doc. 452, at 42–44.) In support, Tuftco cites deposition testimony from Steve Frost regarding an e-mail from a representative from Atlas Carpet Mills, Inc., a former customer of Tuftco. (Doc. 454-12, at 77–79.) Frost testified that the Atlas representative stated “he was very fearful of being involved in litigation if he purchased a machine from Tuftco” after having a conversation about “the CMC patent on ColorPoint.” (*Id.* at 78.) Though Frost’s deposition testimony could establish that CMC was indeed “asserting infringement of its patent and warning about potential litigation,” it fails to create an issue of material fact as to whether CMC was communicating in bad faith. *See Globetrotter*, 362 F.3d at 1374. Moreover, Tuftco points to nothing to indicate that CMC’s alleged infringement allegations were so unreasonable as to be objectively baseless. And, for the same reasons the Court will grant CMC summary judgment of validity and will deny Tuftco summary judgment of non-infringement, any argument that CMC’s claims are objectively baseless is suspect. *See id.* at 1375. Accordingly, the Court will **GRANT** CMC summary judgment on Tuftco’s claims for tortious interference, unfair competition, and unfair trade practices.

8. Patent Misuse

Finally, CMC moves for summary judgment on Tuftco’s patent-misuse claim. Patent misuse, an equitable defense to patent infringement, bars a patentee from leveraging its patent in a manner that has anti-competitive effects—in other words “[using] patent power to impose overbroad conditions . . . that are ‘not within the reach of the monopoly granted by the Government.’” *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318, 1331 (Fed. Cir. 2010) (quoting *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 136–38 (1969)). The

doctrine typically encompasses practices such as requiring purchase of an unpatented product as a licensing condition or demanding royalty fees after a patent has expired. *Id.* at 1327. Where the patentee claims rights that are reasonably within the patent grant, however, a patent-misuse claim fails. *Id.* at 1328. Moreover, though a judicially created defense, Congress chose to cabin the defense in enacting 35 U.S.C. § 271(d). *Id.* at 1329–30. Section 271(d) provides that “[n]o patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse . . . by reason of his having . . . sought to enforce his patent rights against infringement . . .”

Here, CMC’s conduct falls squarely within its rights under its patents. Even if CMC “threatened litigation” as Tuftco claims, CMC has the statutory right to seek to enforce its patent rights against infringement. *See* § 271(d). As already noted, Tuftco has failed to raise a genuine issue of material fact as to whether this action was done in bad faith. *See supra* Part III(g). Accordingly, the Court will **GRANT** CMC summary judgment on Tuftco’s patent misuse claim.

IV. CONCLUSION

For the foregoing reasons, the Court hereby **DENIES** Tuftco’s motion to strike and for sanctions (Doc. 317) and **GRANTS IN PART** and **DENIES IN PART** the parties’ summary judgment motions (Docs. 289, 450). Specifically, Tuftco’s motion for summary judgment (Doc. 450) is **GRANTED IN PART** and **DENIED IN PART** as follows:

1. Summary judgment that the Severed Claims are invalid for indefiniteness under 35 U.S.C. § 112, ¶ 6, is **DENIED**;
2. Summary judgment that all the Severed Claims are invalid as anticipated is **DENIED**;
3. Summary judgment that Claim 12 of the ‘505 Patent is invalid as anticipated is **DENIED**;

4. Summary judgment that Claim 1 of the ‘703 Patent is invalid as anticipated is **DENIED**;
5. Summary judgment limiting the “invention” in the Asserted Patents to the ColorPoint software is **DENIED**;
6. Summary judgment that Tuftco has not infringed any of the Severed Claims is **DENIED**;
7. Summary judgment that Tuftco has not infringed Claims 1, 28, and 29 of the ‘703 Patent is **DENIED**;
8. Summary judgment that CMC is not entitled to lost-profits damages on sales of double-needle-bar Accused Products is **DENIED**;
9. Summary judgment that CMC is not entitled to damages for foreign sales resulting from infringement of the ‘703 Patent is **DENIED**;
10. Summary judgment that CMC is not entitled to pre-issuance damages on Claim 1 of the ‘703 Patent is **GRANTED**; and
11. Summary judgment limiting damages for induced infringement is **DENIED**.

CMC’s motion for summary judgment (Doc. 289) is **GRANTED IN PART** and **DENIED IN PART** as follows:

1. Summary judgment that the Severed Claims are not indefinite under 35 U.S.C. § 112, ¶ 6, is **GRANTED**;
2. Summary judgment that the Severed Claims are not indefinite under 35 U.S.C. § 112, ¶ 2, is **GRANTED**;
3. Summary judgment that the Severed Claims are not invalid as anticipated is **GRANTED**;

4. Summary judgment that the Severed Claims are not invalid due to obviousness is **GRANTED**;
5. Summary judgment that the Severed Claims are eligible under 35 U.S.C. § 101 is **GRANTED**;
6. With respect to Claims 8, 10, and 12 of the ‘505 Patent, summary judgment that the single-needle-bar Accused Products directly infringe is **GRANTED**, and summary judgment that the double-needle-bar Accused Products infringe is **DENIED**;
7. With respect to Claims 21 and 27 of the ‘989 Patent, summary judgment that the Accused Products directly infringe is **GRANTED**;
8. With respect to Claims 1 and 28 of the ‘703 Patent, summary judgment that the Accused Products, except the Lexmark and J&J Machines, directly infringe is **GRANTED**;
9. Summary judgment that Tuftco induced infringement of Claims 8, 10, and 12 of the ‘505 Patent; Claims 21 and 27 of the ‘989 Patent; and Claim 28 of the ‘703 Patent is **DENIED**;
10. Summary judgment on Tuftco’s affirmative defense and counterclaim of inequitable conduct is **GRANTED**;
11. Summary judgment on Tuftco’s affirmative defenses and counterclaims of tortious interference, unfair competition, and unfair trade practices is **GRANTED**; and
12. Summary judgment on Tuftco’s affirmative defense and counterclaim of patent misuse is **GRANTED**.

SO ORDERED.

/s/ Travis R. McDonough

TRAVIS R. MCDONOUGH

UNITED STATES DISTRICT JUDGE