United States District Court,
E.D. Wisconsin.

METSO PAPER, INC,
Plaintiff.
v.
ENERQUIN AIR INC,
Defendant.

July 23, 2008.

DECISION AND ORDER ON CLAIM CONSTRUCTION

CALLAHAN**, Magistrate J.**

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I. BACKGROUND

This patent infringement action was commenced on November 13, 2006, when the plaintiff, Metso Paper, Inc. ("Metso"), filed a complaint against the defendant, Enerquin Air Inc. ("Enerquin"), alleging that Enerquin is infringing on Metso's U.S. Patent Nos. 4,905,380 ("the '380 patent"), 5,163,236 ("the '236 patent"), and 6,105,277 ("the '277 patent"). In accordance with the scheduling order that was issued in this action, the parties have each filed memoranda, together with affidavits and exhibits, in support of their respective positions regarding how the court should construe the claims of the patents at issue. Similarly, both parties have filed responsive memoranda. Thus, the question of claim construction has now been fully briefed and is ready for resolution.

II. CLAIM CONSTRUCTION LEGAL STANDARDS

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed.Cir.1995). "In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention." Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1201-02 (Fed.Cir.2002) (internal quotation marks omitted). Generally, the words of a claim are "given their ordinary and customary meaning." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). "[T]he 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, i.e., as of the effective filing date of the patent application. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed.Cir.2005). "The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Id.*

"[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* In some instances, "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314. In those cases, general purpose dictionaries may be useful. *Id.*

However, in many instances "determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art." *Id.* "Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." ' *Id.* (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc., 381 F.3d 1111, 1116 (Fed.Cir.2004)). Those sources include both intrinsic and extrinsic evidence. *Id.*

"It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.,* the patent itself, including the claims, the specification and, if in evidence, the prosecution history." Vitronics, 90 F.3d at 1582. "Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Id.*

The court first looks "to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention." *Id*. "[T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms." ACTV, Inc. v. Walt Disney Co., 346 F.3d 1082, 1088 (Fed.Cir.2003). Moreover, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term." Phillips, 415 F.3d at 1314. Given that "claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims." *Id*.

However, claims "do not stand alone." *Id*. at 1315. Claims "are part of 'a fully integrated written instrument,' consisting principally of a specification that concludes with the claims." *Id*. (quoting Markman, 52 F.3d at 978). As such, claims "must be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979; *see also* Vitronics, 90 F.3d at 1582 ("it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning."). The specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." Vitronics, 90 F.3d at 1582; *see also* Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1477 (Fed.Cir.1998) ("the best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.").

"[C]laims must be construed so as to be consistent with the specification, of which they are a part." Merck & Co., Inc. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed.Cir.2003). "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim." Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed.Cir.1998). "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id*.

In some cases, "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess," in which case "the inventor's lexicography governs." Phillips, 415 F.3d at 1316. "In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Id*. In those instances, "the inventor has dictated the correct claim scope, and the inventon's intention, as expressed in the specification, is regarded as dispositive." *Id*. (citing SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343-44 (Fed.Cir.2001)).

In addition to looking to the words of the claims and the specification, a court "should also consider the patent's prosecution history, if it is in evidence." Markman, 52 F.3d at 980. The patent's prosecution history "consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent." Phillips, 415 F.3d at 1317. However, the prosecution history, because it lacks the clarity of the specification, "is less useful for claim construction purposes." *Id*.

The court may also utilize extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." Markman, 52 F.3d at 980. Although extrinsic evidence "can shed useful light on the relevant art," it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language." ' C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed.Cir.2004) (quoting Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n, 366 F.3d 1311, 1318 (Fed.Cir.2004)).

III. DISCUSSION

The three patents at issue relate to commercial paper-making machines. The making of paper through the use of these machines involves various steps. The process begins by mixing paper fiber (finely shredded wood or shredded recyclable paper products) with water to form a watery solution known as "pulp." The pulp is then placed on a long, moving wide screen referred to as the "wire." While on the wire, the pulp begins to bond together to form a thin mat, which is commonly referred to as a "web." The wire prevents the web from falling apart during processing, and ensures that the web travels in a desired path from one section of the machine to another. At this point, much of the web is comprised of water, and most of the remainder of the paper-making process involves the removal of the water through a series of steps. (Pl.'s Br. at 1-2; Def.'s Br. at 8.)

The first step involves carrying the web by the wire through a series of press rollers to mechanically remove water from the web. This section of the paper-making machine is commonly referred to as the "press section." The next step involves carrying the web by the wire through a series of heated metal cylinders. This section is commonly referred to as the "dryer section." The three patents in question relate to a "single-wire" dryer section.

In a single-wire dryer section, the web and wire travel together in a serpentine fashion over a series of upper and lower tier heated cylinders, with the wire only providing lower support for the web. The web is in direct contact with the upper tier of heated cylinders, but the web is not in direct contact with the lower tier of heated cylinders. Rather, the wire is in direct contact with the lower tier of heated cylinders.

One of the drawbacks of the single-wire dryer sections was "the tendency of the web to become detached from the surface of the drying wire on those cylinders where the web is situated on the outer surface of the drying wire." ('380 patent at 1:26-28.) Detachment of the web from the wire that resulted in breakage of the web could result in loss of product, clogging of the machine, and safety concerns. Moreover, detachment of the web could result in bagging and wrinkling, causing a loss in quality of the finished paper. The problem of detachment was more severe as the speed at which the web traveled through the paper-making machine increased. (Pl.'s Br. at 2; Def.'s Br. at 10; '380 patent at 1:32-34.)

The solution to this problem was the application of forces to ensure that the web adhered to the wire as it traveled up, down, and around the various heated cylinders. Specifically, various methods and apparatus were used to generate suction and positive pressure at various locations. One such method was the conversion of the lower tier of heated cylinders into "vacuum rolls," in which suction was applied to the lower tier cylinder so that the web was sucked onto the wire as the web traveled around the lower tier cylinder. Another method was the creation of a negative pressure in the rectangular box-shaped volume formed between the upper and lower tier cylinders. The negative pressure creates a suction which ensures that the web adheres onto the wire as the wire travels vertically in the space between the upper and lower cylinders. The rectangular box-shaped volume is commonly referred to as the "pocket space." One such method for creating the negative pressure is through the use of an array of "blow boxes." The blow box creates the negative pressure through the ejection of air out of the blow box. (Pl.'s Br. at 2-4; Def.'s Br. at 11-12.)

The three patents at issue relate to the methods and apparatus for using a blow box in combination with other equipment to ensure that the web will travel in the desired path in a drying section of a paper-making machine, and not separate from the wire. Metso has asserted claims 11, 14, and 15 against Enerquin for the

'380 patent. For the '236 patent, Metso has asserted claims 1, 2, 4-7, 9-17, 19-21, 24, 27, and 30-32. For the '277 patent, Metso has asserted claims 1-10 and 12-15. Although Metso has not asserted claims 3, 22, 25, 28, and 29 of the '236 patent, Enerquin asks the court to construe these claims.

A. The '380 Patent

The parties dispute the meaning of eight terms that appear in the asserted claims of the '380 patent. Each of these terms has been identified and numbered sequentially as [1]-[8] by the parties in the Joint Claim Construction Chart ("JCCC"), which was filed with the court on March 13, 2008.

1. Claim 11 of the '380 Patent

Terms [1]-[7] are found in claim 11. Claim 11 states, in pertinent part (with the disputed terms [1]-[7] in bold):

A method in a single-wire drying group of a multi-cylinder drying section of a paper machine ... comprising the combination of steps of: as the web-carrying drying wire departs from a first one of a pair of successive drying cylinders and travels over an incoming substantially straight run towards said deflection roll, [1] maintaining the web supported on said incoming drying wire run by [2] inducing a first underpressure on the incoming run said web-carrying drying wire by an ejection gas flow, said first underpressure being induced in [3] a first gap space defined between said incoming drying wire run and [4] a first wall of [5] a blow box; and maintaining the web supported on the outer surface of said drying wire over said deflection sector of said deflection roll by creating and maintaining an underpressure in said perforations formed through said shell of said deflection roll; maintaining said perforation underpressure in said perforations by at least one of the steps of [6] closing a free sector of said deflection roll not covered by said web-carrying drying wire and [7] communicating said free sector with an underpressure zone; and conducting said web-carrying drying wire from said deflection roll to the second one of said pair of successive drying cylinders.

(Ex. L, '380 patent at 8:54-9:26.)

Enerquin argues that the meaning of terms [5], [3], and [4] of claim 11 inform the constructions of the remaining terms of claim 11. As such, the court will first address the construction of terms [5], [3], and [4], respectively, and then address the remaining terms in turn.

a. [5] "a blow box"

Metso argues that "a blow box" means "one or more structures for ejecting gas." (JCCC at 2.) Enerquin, in contrast, argues that "a blow box" means:

an integral multi-compartment structure comprising at least one overpressure compartment and at least one underpressure compartment, said structure further comprising a pair of opposing side walls spanning the entire cross-machine dimension of the structure, an upper wall spanning the entire cross-machine dimension of the structure and extending between the upper ends of the side walls, and a pair of opposing vertical end walls extending across and joining the side walls and upper wall, said vertical end walls defining the bounds of the cross-machine dimension of the structure.

(JCCC at 2.)

As noted above, a court first looks at the language of the claim itself to determine the meaning of a claim term. Here, the language in claim 11 indicates that the claimed "blow box" must have at least a "first wall," and that the "blow box" produces an "ejection gas flow." As noted by Metso, claim 11 describes a method of maintaining the web on the wire by "inducing a first underpressure on the incoming run said web-carrying drying wire by an ejection gas flow." (Ex. L, '380 patent at 9:7-9) (emphasis added.) Although the language of the claim does not explicitly state that the blow box is the source of this "ejection gas flow," (other than that the word "blow" seems to imply the ejection of gas), the specification explicitly references the blow box as a structure which ejects gas. *See* Ex. L, '380 patent at 2:62-65 ("Each blow box has a substantially planar wall ... and nozzle means through which an ejection gas flow is directed ..."); Ex. L, '380 patent at 4:46-55 ("the suction-blow box 20 has an overpressure compartment 22 I which an overpressure P+ is maintained by means of a gas flow ... The ejection gas flows ... induce an underpressure ..."); Ex. L, '380 patent at 5:24-26 ("The underpressure in perforations 19 is partially maintained in the nips ... by the action of the ejection gas flows ...").

Although the language of the claim, with support from the specification, clearly indicates that the blow box is a structure which ejects gas, it is not clear from the language of the claim if the blow box must have certain structural features. Enerquin contends that after looking at the specification and prosecution history to construe the term "blow box" in its proper context, the blow box must have certain structural features. Enerquin includes these structural features in its proposed definition of "blow box."

In support of its construction, Enerquin first points to the "SUMMARY OF THE INVENTION" portion of the specification, which states that:

Each blow box has a substantially planar wall facing a respective incoming run of the web-carrying drying wire and nozzle means through which an ejection gas flow is directed in a direction opposite to the direction of travel of the incoming run of the web-carrying wire to induce an underpressure in the gap space between the blow box wall and the incoming run of the drying wire and in the following nip or wedge gap defined by the incoming drying wire run and the deflection roll.

(Ex. L, '380 patent at 2:61-3:2.)

According to Enerquin, this makes clear that the blow box, at a minimum, must have a planar wall facing the incoming run of the web-carrying drying wire, and that there must be a gap space between the planar wall and the incoming run. Enerquin also cites various portions of the "DESCRIPTION OF THE PREFERRED EMBODIMENTS" section of the specification to support its contention that the blow box must also have "an upper wall," "two side walls," and "two vertical end walls.":

Referring to FIGS. 2-6, the embodiments of the blow-suction boxes 20 generally all comprise an upper wall 28, side walls 25 and 26, and vertical end walls 29a and 29b (FIG.6), which have curved bottom edges 29V having a profile corresponding to the curve of the outer surface of shell 18 of deflection rolls 14, 15 and 16 and spaced therefrom by a distance V.

(Ex. L, '380 patent at 4:34-40) (emphasis added.)

Enerquin notes that the features of an upper wall, side walls, and vertical walls are present in every embodiment of the invention encompassed by the '380 patent, including those described in the written description and the drawings. Moreover, Enerquin argues that the specification makes clear that the side

walls and upper wall must span the entire "cross-machine dimension" of the claimed blow box. FN1 In support of this contention, Enerquin cites FIG. 6, which shows the side walls and upper wall spanning the entire distance between the front and rear vertical end walls. Enerquin also cites the written description of FIG. 2 of the '380 patent:

FN1. The term "cross-machine dimension," as used by Enerquin, refers to "the dimension which runs along the axis of the heated drying cylinders and/or vacuum roll in the single-wire dryer section ." (Def.'s Br. at 25.) In FIGS. 2-5 of the '380 patent, the "cross-machine dimension" would run into and out of the plane of the illustration.

Referring now to the embodiment of FIG. 2, the suction-blow box 20 ... The nozzle slits 32 and 34 are preferably arranged as Coanda nozzles and are formed between the outwardly bent marginal ends of the walls 25 and 26 and tubular section 31 and 33. Nozzle slits 32 and 34 extend transversely to the run of web W over its entire width.
(Ex. L, '380 patent at 5:3-7) (emphasis added.)
According to Enerquin, the side walls and upper wall must span the entire cross-machine dimension because this is the only way that the nozzle slits can extend transversely to the run of the web over its entire width, as discussed in the specification.

Enerquin also contends that the specification makes clear that the claimed blow box must also contain two separate, but integrated, compartments: an overpressure compartment and an underpressure compartment. To support this contention, Enerquin notes that the specification consistently refers to a "suction-blow box," rather than a generic blow box. Moreover, Enerquin notes that every embodiment, including the description and the illustrations, references an overpressure and underpressure compartment:

In the embodiments illustrated in FIGS. 2-6, combined blow-suction boxes 20 are provided in the inter-cylinder regions between pairs of successive cylinders 10, 11; 11, 12; and 12, 13. The upper, free or open sectors of the deflection rolls 14, 15 and 16 are covered by components of the blow-suction boxes 20.

(Ex. L, '380 patent at 4:28-33) (emphasis added.)

Referring now to the embodiment of FIG. 2, the suction-blow box 20 has an overpressure compartment 22 in which an overpressure P+ is maintained by means of a gas flow F_o introduced through connector 21.

...

Still referring to FIG. 2, *a separate suction compartment* 23 is provided within the suction-blow box 20 opening onto the open sector of the deflection roll 14 between the nips N_T and N_L. The lowermost points 29K of the curved edges 29V of end walls 29a and 29b, which comprise the lowermost edges of the suction compartment 23, preferably extend as deeply as possible into the nips N_T and N_L. An underpressure Pis maintained in the suction compartment 23 by means of a suction connector 24 coupled to a vacuum pump 41 whereby a suction flow F_2 is produced.

(Ex. L, '380 patent at 4:46-49; 5:12-22) (emphasis added.)

The underpressure Pmaintained in the suction compartment 23, 23a of the box 20 is generally in the range of between about -200 to -2000 P_a, preferably in the range of between about -400 to -1000 P_a.

The overpressure P+ maintained in the overpressure compartment 22, 22a is generally in the range of between about 400 to 2000 P_a, preferably in the range of between about 600 to 1000 P_a.

(Ex. L, '380 patent at 6:53-60) (emphasis added.)

Enerquin also cites the prosecution history to support its position. Specifically, Enerquin cites portions of a translation of the Finnish patent application filed one year prior to the filing of the '380 patent in the United States. The patent application resulting in the '380 patent claims foreign priority to the corresponding Finnish patent. The Finnish patent application states, in relevant part:

In order to achieve the above aims, the procedure of the invention is mainly characterized in that

- in the procedure the web carried on the drying wire, when leaving the surface of a drying cylinder, is first supported by a vacuum field induced on the run of drying wire and web by means of ejection blowing(s), said field being produced in the gap between said run of the drying wire and the wall of a specific blow box,

...

The means of the invention is, in its turn, mainly characterized in that the means comprises combined blow/suction boxes disposed in the central interstices of the drying cylinders of a single-wire conduction group, or groups, said boxes having on the incoming side of drying wire and web a planar wall, ...

(Ex. M, '380 patent file history at FH 71-72) (emphasis added.)

According to Enerquin, the prosecution history, as shown from the Finnish translation, indicates that the claimed invention encompasses a specific "blow/suction" box, rather than a generic blow box.

In contrast, Metso argues that the blow box of claim 11 is not limited to the specific embodiments described in the patent. According to Metso, there is nothing in the specification which mandates that the blow box of claim 11 include an upper wall, two side walls, and two vertical end walls. Metso notes that there is no mention of these walls in the "SUMMARY OF THE INVENTION." Rather, the general description of the invention in the "SUMMARY OF THE INVENTION" only references "a wall of a blow box." (Ex. L, '380 patent at 2:37.) Metso also argues that there is no requirement in claim 11 that the blow box or any of its walls span the entire cross-machine dimension.

Moreover, Metso argues that it is improper to import a limitation of "an integral multi-compartment structure comprising at least one overpressure compartment and at least one underpressure compartment." In support of this contention, Metso contends that the specification allows for variations in blow box structure:

It is within the scope of the invention to provide that the box 20 merely closes the open sector of the deflection roll 14. The underpressure in perforations 19 is created and maintained in this case by means of a suction connector provided on the journal pin of a cylinder ...

(Ex. L, '380 patent at 6:40-46.)

Metso also cites to the "SUMMARY OF THE INVENTION," which states that:

In accordance with the illustrated embodiments, the single-wire drying group includes one or more blow or blow/suction boxes ... The blow or blow/suction box includes a suction and/or sealing section which covers the open sector of a respective deflection roll between adjacent wedge gaps or nips.

(Ex. L, '380 patent at 2:58-3:5) (emphasis added.)

Both parties agree that every embodiment of the specification includes the structural components found in Enerquin's proposed definition of "blow box." However, as noted by the Federal Circuit, "although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments." Phillips, 415 F.3d at 1323 (citing Nazomi Communications, Inc. v. Arm Holdings, PLC, 403 F.3d 1364, 1369 (Fed.Cir.2005) (claims may embrace "different subject matter than is illustrated in the specific embodiments in the specification")). The Federal Circuit has "expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment." *Id*. This is because "persons of ordinary skill in the art rarely would confine their definitions of terms to the exact representations depicted in the embodiments." *Id*.

In order "[t]o avoid importing limitations from the specification into the claims, it is important to keep in mind that the purposes of the specification are to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so." *Id*. Often, "upon reading the specification in that context, it will become clear whether the patentee is setting out specific examples of the invention to accomplish those goals, or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive." *Id*.

Here, although the embodiments in the specification describe in detail the structural components of a blow box, the language of the specification and the claim indicate that they are simply specific examples of blow boxes that can accomplish the goals of the invention. In essence, Enerquin argues that the blow box must have certain structural features because every embodiment contains these features. However, as noted above, this contention has been expressly rejected by the Federal Circuit. Enerquin has not pointed to any language in the specification explicitly limiting the scope of the invention to having a particular number and type of wall, or requiring the blow box to have both an overpressure and underpressure compartment. Moreover, Enerquin has not pointed to any language in the specification which would indicate that these structural components are necessary for the blow box to accomplish its goal of ejecting gas.

Indeed, the language of the specification indicates that the embodiments are representative examples rather than the only potential embodiment of the invention. With regards to the embodiments describing an upper wall, side walls, and vertical end walls, the specification states "[r]eferring to FIGS. 2-6, the embodiments of the blow-suction boxes 20 *generally* all comprise an upper wall 28, side walls 25 and 26, and vertical end walls 29a and 29b." (Ex. L, '380 patent at 4:34-37.) This language only indicates that the specific embodiments contain all of these walls, but does not provide any indication that the blow box must have all of these walls.

With regards to the embodiments indicating that the walls span the "entire cross-machine dimension," the specification states that "[t]he nozzle slits 32 and 34 are *preferably arranged* as Coanda nozzles ... Nozzle

slits 32 and 34 extend transversely to the run of web W over its entire width." (Ex. L, '380 patent at 5:3-7.) Enerquin's contentions that the side walls and upper wall must span the entire cross-machine dimension are based on the location of the nozzle slits as discussed in the specification. The language "preferably arranged" clearly indicates that the position of the nozzle slits in the embodiments are a preferable arrangement, but does not limit the nozzles to only this particular arrangement. As such, the specification does not require that the side and upper walls must span the entire cross-machine dimension.

Moreover, the specification explicitly references the possibility of blow boxes which do not have both an overpressure and underpressure compartment. As noted above, the specification references on two occasions both "blow or blow/suction boxes." Although Enerquin concedes that this language may suggest that the invention need not be limited to "suction-blow boxes," Enerquin argues that the rest of the specification, as well as the prosecution history, should compel the court to interpret "blow or blow/suction boxes" to essentially still mean "suction-blow boxes." However, Enerquin again relies on specific embodiments to limit the more general claim, and is ignoring language in the specification indicating that the embodiments are merely representative examples. Furthermore, as with the specification language, the prosecution history contains language indicating that the claimed blow box is not limited to a blow-suction box. As noted above, the Finnish patent application states that "[t]he means of the invention is ... mainly characterized in that the means comprises combined blow/suction boxes." (Ex. M, '380 patent file history at FH 71-72) (emphasis added).

Such being the case, the court agrees with the plaintiff that the term "blow box" refers to "one or more structures for ejecting gas." The claim explicitly indicates that the blow box is a structure that is the source of an ejection gas flow. Moreover, the claim and specification do not limit the structure of the blow box to having specific walls that span the entire cross-machine dimension of the structure. However, the claim does reference a "first wall" of the blow box. Given this reference to a particular "first wall," the claim itself requires at least one specific structural component of the blow box, namely a "first wall." As will be discussed below, the court will construe the term "a first wall of a blow box" to mean "the wall of the blow box located adjacent to the incoming run of the web-carrying drying wire." Such being the case, the court construes the term, "a blow box" to mean "one or more structures, comprising at least one wall located adjacent to the incoming run of the web-carrying drying wire, for ejecting gas."

b. [3] "a first gap space"

Metso argues that "a first gap space" means "a space designated as the 'first,' and is defined within the claim." (JCCC at 2.) Enerquin argues that "a first gap space" means the "space between the entire cross-machine width of the incoming drying wire run and the entire cross-machine dimension of the first wall of the blow box." (JCCC at 2.)

The parties' primary dispute as to the meaning of the term centers on Enerquin's use of "entire cross-machine width" FN2 and "entire cross-machine dimension" in its proposed definition. In support of its contention that the "first gap space" must span the entire cross-machine width/dimension of the first wall of the blow box and incoming wire, Enerquin cites a portion of the specification that indicates that the gap spaces are defined by the walls of the blow boxes and the web-carrying wire:

FN2. The term "cross-machine width" is used in the same way as "cross-machine dimension." Both refer to the dimension that runs into and out of the plane of FIGS. 2-5 of the '380 patent.

The ejection gas flows F_T and F_L induce an underpressure in the gap spaces T_T and T_L defined by the walls 25 and 26 of blow-suction box 20 and respective opposed incoming and outgoing straight runs of the web-carrying wire 17.
(Ex. L, '380 patent at 4:49-54) (emphasis added.)
Although the gap spaces are "defined" by the walls of the blow box and the wire, it is unclear whether this necessarily means that gap spaces in this particular embodiment (FIG.2) span the "entire cross-machine dimension" of the wall and wire. However, regardless of whether this particular embodiment involves a gap space spanning a cross-machine dimension, the language of the claim and in the rest of the specification indicates that there is no requirement that the "first gap space" span the entire cross-machine dimension of the first wall of the blow box and the wire.

To begin with, as noted by Metso, the term "a first gap space" is explicitly defined in claim 11. Specifically, claim 11 states that "a first gap space" is "defined between said incoming drying wire run and a first wall of a blow box." Unlike the language cited by Enerquin in the specification describing one particular embodiment, the claim states that the "first gap space" is defined "between," rather than "by," the wire and wall.

Moreover, the specification explicitly states that the blow box can boost underpressure "in selected areas across the web." (Ex. L, '380 patent at 6:27-28.) A requirement that the gap space span the entire cross-machine dimension of the web (and that a first underpressure be induced in a gap space that spans the entire cross-machine dimension of the web) would be inconsistent with this teaching of the specification. Such being the case, it is improper to include a limitation that the gap space span the entire cross-machine dimension of the incoming wire and the first wall of the blow box.

Outside of the dispute regarding the "cross-machine" limitations, the proposed definitions are essentially the same. The claim defines the "first gap space" as being the space between the "incoming drying wire run and a first wall of a blow box." Enerquin's proposed construction, after removing the cross-machine limitation language, also states that the "first gap space" is the space between the "incoming drying wire run and ... the first wall of the blow box." Such being the case, the court construes "a first gap space" to mean "the space between the incoming drying wire run and the first wall of the blow box."

c. [4] "a first wall of a blow box"

Metso argues that "a first wall of a blow box" means "surface of the 'a blow box' designated as the 'first,' and is defined within the claim." (JCCC at 2.) Enerquin, in contrast, argues that "a first wall of a blow box" means "the side wall of the blow box located adjacent the incoming run of the web-carrying drying wire, said side wall spanning the entire cross-machine dimension of the blow box as defined by the pair of opposing vertical end walls of the blow box." (JCCC at 2.)

The parties dispute Enerquin's proposed limitation that the first wall spans "the entire cross-machine dimension of the blow box as defined by the pair of opposing vertical end walls of the blow box." As noted above in the construction of the term "blow box," claim 11 does not contain the limitation that the walls must span the entire cross-machine dimension. Moreover, as noted above, there is no requirement that the blow box have vertical end walls.

The parties also appear to dispute whether the "first wall" must be a "planar wall" located adjacent the

incoming run of the web-carrying drying wire. Although Enerquin in its proposed definition does not explicitly state that the wall must be planar, but rather states that it must be a "side wall," it appears that Enerquin implies that this side wall must be planar based on its proposed definition of "blow box." Indeed, in its initial brief Enerquin argues that, based on the specification, the blow box must have "a planar wall facing the incoming run of the web-carrying drying wire, and that a gap space must be present between said wall and the incoming run." (Def.'s Br. at 23.)

The specification, in describing the preferred embodiments, states that "[i[n accordance with the illustrated embodiments ... [e]ach blow box has a substantially planar wall facing a respective incoming run of the web-carrying drying wire." (Ex. L, '380 patent at 2:61-63.) Although Enerquin argues that this describes the invention itself rather than a particular preferred embodiment of the invention, the specification plainly states that it is referencing the illustrated embodiments.

Moreover, as noted by Metso, claim 3 explicitly describes "a substantially planar first wall in spaced opposed relationship with a respective incoming run of said web-carrying drying wire and forming a first gap space therewith." (Ex. L, '380 patent at 7:67-8:2.) As noted by the Federal Circuit, a limitation from the preferred embodiment should not be read into the language of the claim "where another claim restricts the invention in exactly the [same] manner." TurboCare Div. of Demag Delaval Turbomachinery Corp. v. GE, 264 F.3d 1111, 1123 (Fed.Cir.2001). Although claim 3 is not dependent on claim 11 (and as such the doctrine of claim differentiation does not apply), it still provides some support for the view that the patentee did not intend to restrict claim 11 to the preferred embodiments described in the specification.

However, this does not mean that there are not any limitations to the claimed "first wall" other than it being designated the "first." The "first wall" is the structure that, along with the incoming wire run, creates the "first gap space." As such, the definition of "first wall" must be sufficiently definite so as to make clear what constitutes the "first gap space." Based on the specification, in order to have a defined "first gap space" between the "first wall" and the incoming wire run, the "first wall" must be the wall located adjacent to the incoming wire run (although not necessarily "planar").

Such being the case, the court construes the term, "a first wall of a blow box" to mean, "the wall of the blow box located adjacent to the incoming run of the web-carrying drying wire."

d. [1] "maintaining the web supported on said incoming drying wire run"

Metso argues that "maintaining the web supported on said incoming drying wire run" means "inducing the web to contact the drying wire after it leaves the surface of a drying cylinder and before it contacts the deflection roll." (JCCC at 1.) Enerquin argues that term [1] means "causing the cross-machine width of the web to remain supported by the drying wire after it leaves the surface of the first one of a pair of drying cylinders and before it contacts the deflection roll." (JCCC at 1.) At issue, given these competing constructions, is whether term [1] merely means "inducing the web to contact the drying wire," or whether the "cross-machine width of the web" must be supported by the drying wire.

Metso argues that term [1] means what it says, and nothing more. According to Metso, there is nothing in the remainder of claim 11, the specification, or the file wrapper which supports an additional limitation of "cross-machine width" to the definition of term [1]. In contrast, Enerquin argues that the specification of the '380 patent makes clear that "maintaining the web" must occur across the entire cross-machine dimension of the web-carrying drying wire, or at least the entire portion of the drying wire that lies within the bounds of

the vertical end walls defining the cross-machine dimension of the blow box. (Def.'s Br. at 33.)

Enerquin cites the specification of the '380 patent in support of its construction. Specifically, Enerquin notes that the specification reads:

Ejection air flows F_T and F_L are directed through nozzle slits 32 and 34 of the suction-blow box 20. The ejection gas flows F_T and F_L induce an underpressure in the gap spaces T_T and T_L defined by the walls 25 and 26 of blow-suction box 20 and respective opposed incoming and outgoing straight runs of the web-carrying wire 17. The underpressures in these gap spaces ensure that the web W is reliably held on the surface of the drying wire 17 on both the incoming and outgoing runs thereof with respect to the deflection roll 14.

...

The ejection gas flow F_T is directed parallel to the plane of the web-carrying wire 17 at that point in a direction opposite to the direction of its travel, while the ejection gas flow F_L on the outgoing side is directed parallel to the plane of the web-carrying wire 17 at that point, but in the same direction as the wire is traveling. The nozzle slits 32 and 34 are preferably arranged as Coanda nozzles and are formed between the outwardly bent marginal ends of the walls 25 and 26 and tubular section 31 and 33. Nozzle slits 32 and 34 extend transversely to the run of web W over its entire width.

(Ex. L, '380 patent at 4:49-59; 4:65-5:7) (emphasis added.)

Again, as noted above, the nozzle slits referenced in the specification are explicitly referred to as being "preferably arranged" to extend the run of the web over its entire width. There is nothing in the specification which suggests that this is the only arrangement contemplated by the patentee. Moreover, the language in the specification describing the invention as a whole does not support the interpretation that the entire cross-machine width of the web must be supported by the drying wire. In the "SUMMARY OF THE INVENTION," it states that an object of the invention is to provide methods in which "the web is more reliably maintained in contact with the outer surface of the drying wire as the drying wire travels over the deflecting sector." (Ex. L. '380 patent at 2:12-15) (emphasis added). Similarly, the specification also states that "[t]he invention provides ... a combination of underpressure zones created and maintained by different mechanisms to reliably maintain the support on drying wire 17, from the smooth 10' of drying cylinder 10 to the corresponding smooth surface of the next drying cylinder ..." (Ex. L, '380 patent at 7:10-16.) A web that is "more reliably maintained in contact" with the wire does not mean that the entire cross-machine width of the web must remain supported during the entire time it leaves the first drying cylinder until it contacts the deflection roll.

In addition, as noted above, the specification explicitly teaches that the blow box can boost underpressure "in selected areas across the web." (Ex. L, '380 patent at 6:27-28.) A requirement that the entire cross-machine width of the web be supported via the method recited in claim 11 is inconsistent with the teaching that selected portions of the web may be supported by additional underpressure. Simply stated, the proposed limitation by Enerquin is not supported by the language in the specification or the claim.

The language of the claim itself, as well as the specification, generally supports Metso's proposed construction. Moreover, the parties agree that the portion of the web described in term [1] is "the drying

wire after it leaves the surface of the a drying cylinder and before it contacts the deflection roll." However, as noted by Metso, there is nothing in the patent that supports a meaning of the term "maintaining" different from the plain meaning of the term. The Webster's Third New International Dictionary, G. & C. Merriam Co. (1969), p. 1362 defines "maintain" as "3: to persevere in: carry on: keep up: CONTINUE." This definition is consistent with the use of the term in the claim and specification (i.e. "the web is more reliably maintained in contact ...").

Such being the case, the court construes "maintaining the web supported on said incoming drying wire run" to mean "causing the web to continue to be in contact with the drying wire after it leaves the surface of a drying cylinder and before it contacts the deflection roll."

e. [2] inducing a first underpressure on the incoming run [sic] said web-carrying drying wire by an ejection gas flow

Metso argues that "inducing a first underpressure on the incoming run [sic] said web-carrying drying wire by an ejection gas flow" means "producing an underpressure on the incoming run of the web carrying drying wire by using a gas flow." (JCCC at 2.) Enerquin argues that the term means

creating an underpressure along the cross-machine width of the incoming run of the web-carrying drying wire by ejecting a gas flow from an overpressure compartment of the blow box over the entire cross-machine width of the incoming run of the web-carrying drying wire in a direction which is opposite to the direction of travel of the incoming run of the web-carrying drying wire.

(JCCC at 2.)

As an initial matter, as discussed above, the claim does not require the creation of an underpressure along the entire "cross-machine width." A "cross-machine" limitation is not supported by the language of the specification or claim. The remaining issues, therefore, are whether the ejection gas flow must be from an "an overpressure compartment," and whether the gas flow must be "in a direction which is opposite to the direction of travel of the incoming run of the web-carrying drying wire."

Enerquin, citing the same portion of the specification it used in support of its construction of term [1], notes that every embodiment of the blow box in the specification discloses a blow box having an overpressure compartment. *See* Ex. L, '380 patent at 4:49-59; 4:65-5:7. However, as discussed above with regards to term [5], the blow box of claim 11 is not limited to the specific embodiments described in the patent. Although the overpressure compartment produces an ejection gas flow as described in the specific embodiments, this does not mean that this structure is essential for the production of an ejection gas flow in the generic blow box claimed in claim 11. As such, the proposed limitation of "an overpressure compartment" improperly narrows the scope of the disputed term.

With regards to its contention that the the "ejection gas flow" must be in a direction opposite to the direction of travel of the incoming run:, Enerquin cites a portion of the "SUMMARY OF THE INVENTION:"

Each blow box has a substantially planar wall facing a respective incoming run of the web-carrying drying wire and nozzle means through which an ejection gas flow is directed in a direction opposite to the direction of travel of the incoming run of the web-carrying wire to induce an underpressure in the gap space between the blow box wall and the incoming run of the drying wire and in the following nip or wedge gap defined

by the incoming drying wire run and the deflection roll.

(Ex. L, '380 patent at 2:61-3:2) (emphasis added.)

Enerquin also notes that every embodiment of the invention is described and illustrated as having an ejection gas flow which travels in a direction opposite that of the incoming run. For example, Enerquin notes that the written description of FIG. 2 of the '380 patent provides, in pertinent part:

The ejection gas flow F_T is directed parallel to the plane of the web-carrying wire 17 at that point in a direction opposite to the direction of its travel, while the ejection gas flow F_L on the outgoing side is directed parallel to the plane of the web-carrying wire 17 at that point, but in the same direction as the wire is traveling.

(Ex. L, '380 patent at 4:65-5:2) (emphasis added.)

In addition, Enerquin cites the prosecution history, specifically the section of the Finnish application corresponding to the "SUMMARY OF THE INVENTION:"

The means of the invention is, in its turn, mainly characterized in that the means comprises combined blow/suction boxes disposed in the central interstices of the drying cylinders of a single-wire conduction group, or groups, said boxes having on the incoming side of drying wire and web a planar wall, on its margin opening a nozzle aperture, or apertures, by which an ejecting flow is blown in the direction opposite to the traveling direction of the drying wire at that point, ...

(Ex. M, '380 patent file history at FH 71-72) (emphasis added.)

Metso contends that, although the specification describes embodiments where the ejection gas flow is "in a direction which is opposite to the direction of travel of the incoming run," there is no explicit teaching in the specification indicating that the applicant intended to limit this claim to what was shown in the embodiments. Moreover, Metso argues that the specification describes embodiments in which an ejection gas flow F_T at the offgoing run blown in the same direction of travel as the web can induce an underpressure on the incoming run (FIGS. 2 and 3). FIGS. 2 and 3 show an ejection gas flow at the offgoing run blown in the same direction of travel as the web, but it is not clear what would be the effect on the incoming run.

In addition, and most significantly, Metso invokes the doctrine of claim differentiation to support its view. Under the doctrine of claim differentiation, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Phillips, 415 F.3d at 1315. However, "the doctrine of claim differentiation can not broaden claims beyond their correct scope, determined in light of the specification and the prosecution history and any relevant extrinsic evidence.... [C]laims that are written in different words may ultimately cover substantially the same subject matter." Multiform Desiccants, 133 F.3d at 1480.

In this case, claim 12, which is dependent on claim 11, contains a limitation "for directing said first ejection gas in a direction opposite to the direction of travel of said web-carrying drying wire ." (Ex. L, '380 patent at 9:30-10:1.) Given that this limitation is not found in independent claim 11, there is a presumption that this limitation is not present in claim 11. At issue, therefore, is whether there is evidence to overcome this

presumption.

Although the particular embodiments describe the ejection gas flow as being in a direction opposite to the direction of travel of the incoming run, I cannot say that the specification indicates that the limitations found in the specific embodiments are meant to be read into the language of claim 11. The language in the specification explicitly states that this limitation relates to particular embodiments of the invention, but does not state that the limitation is applicable to the invention as a whole. Similarly, the language in the Finnish application also explicitly states that it is describing particular embodiments of the invention.

In contrast, the language in the specification (and in the claim itself) referencing the method of the invention (claim 11 is a method claim) describes an ejection air flow more generally, and does not reference an air flow in a direction opposite the incoming run. Moreover, as noted by Metso, the embodiments include illustrations of an ejection gas flow in the same direction as the outgoing run. There is nothing in the specification or claim language which would preclude the possibility that these gas flows could also induce an underpressure on the incoming run.

Metso's contention that "an ejection gas flow" is not limited to a gas flow in a direction opposite the incoming run is supported by the doctrine of claim differentiation, and is not contradicted by the language of the claim, specification, or patent history. Such being the case, the court construes "inducing a first underpressure on the incoming run [sic] said web-carrying drying wire by an ejection gas flow" to mean "creating an underpressure on the incoming run of the web-carrying drying wire by ejecting a gas flow."

f. [6] closing a free sector of said deflection roll

Metso argues that "closing a free sector of said deflection roll" means "sealing off any portion or portions of a free sector of the deflection roll so as to eliminate the passage of air through said sealed off portion or portions." (JCCC at 3.) Enerquin argues that the term means "sealing off the free sector of the deflection roll so as to eliminate the passage of air therethrough." (JCCC at 3.)

As seen from the proposed constructions, the key issue is whether the "free sector of the deflection" must be completely closed, or whether a portion of the free sector can be sealed off. As the meaning of the word "closing" is not readily apparent from the language of the claim, it is necessary to look at the specification for guidance. The specification references a blow box as a possible structure for "closing" the free sector of the deflection roll:

It is within the scope of the invention to provide that the box 20 merely closes the open sector of the deflection roll 14. The underpressure in perforations 19 is created and maintained in this case by means of a suction connector provided on the journal pin of a cylinder, or merely under the effect of the centrifugal pumping induced by the rotation of the shell 18.

(Ex. L, '380 patent at 6:40-46) (emphasis added.)

Enerquin argues that although the plain language of claim 11 and the specification are ambiguous as to the exact meaning of this term, the word "closing" in the claim means exactly that, and not "partially closing" or "closing a portion." Metso, on the other hand, argues that the specification teaches that partitions can be provided in the deflection roll such that underpressure may be boosted in selected areas across the web, and that as a result the free sector of the deflection roll may be sealed off either in portions or in its entirety:

A vertical partition or partitions can be provided in the deflection roll 14 and/or in the suction-blow box 20 so that underpressure may be boosted in selected areas across the web W such, for example, as during end conducion. A greater underpressure is obtained in the box 20 in the areas confined by such partitions, such as by closing the suction apertures of other areas.

(Ex. L, '380 patent at 6:24-31.)

Given the above language, Metso's contention that only a portion or portions of the free sector of the deflection roll may be sealed off is consistent with the specification. To be sure, Enerquin argues that this portion of the specification only discloses that "axial segments of the deflection roll may be closed off through the use of partitions placed within the roll itself." (Def.'s Resp. Br. at 21.) However, the specification does not limit the vertical partitions to only being located in the deflection roll, but rather explicitly states that the vertical partition or partitions can be located in "the deflection roll 14 and/or in the suction-blow box 20."

Simply stated, although there is language in the specification indicating that the blow box may partially seal off the free sector of the blow box, there is no language in the specification requiring that the free sector be completely sealed off. Such being the case, the court construes "closing a free sector of said deflection roll" to mean "sealing off any portion or portions of a free sector of the deflection roll so as to eliminate the passage of air through said sealed off portion or portions."

g. [7] communicating said free sector with an underpressure zone

Metso argues that "communicating said free sector with an underpressure zone" means "connecting a sector of the deflection roll which is not covered by the web-carrying drying wire with a zone of underpressure." (JCCC at 3.) Enerquin argues that the term means "causing an underpressure zone created within a suction compartment (underpressure compartment) of the blow box to act upon the free sector of the deflection roll." (JCCC at 3.)

Given these competing definitions, the first issue of contention is whether "an underpressure zone" refers to a variety of potential underpressure zones, or specifically the underpressure compartment of the blow box. Enerquin argues the plain language of claim 11 makes it clear that the claimed "an underpressure zone" is identifiably separate from the other zones of underpressure described in the specification. Enerquin focuses on the antecedent term "an" in the phrase "an underpressure zone," and seems to contend that the word "an" means that this underpressure zone is separate from the "combination of underpressure zones created and maintained by different mechanisms" described in the specification:

The invention provides in a novel and advantageous manner, a combination of underpressure zones created and maintained by different mechanisms to reliably maintain the support of the web on drying wire 17, from the smooth surface 10' of drying cylinder 10 to the corresponding smooth surface of the next drying cylinder 11, while traveling over paths having sharp curves at high speeds.

(Ex. L, '380 patent at 7:9-16) (emphasis added.)

It is unclear why the use of the word "an" would indicate that this is an underpressure zone distinct and separate from other zones of underpressures. The word "an" does not imply that there is only one particular

underpressure zone, but rather can be interpreted to mean one out of a variety of underpressure zones.FN3 Enerquin cites Gaus v. Conair Corp., 363 F.3d 1284, 1288 (Fed. Cir2004) in support, in which the court found that the "electrical operating unit" and "pair of spaced-apart ... probe networks were separate and distinct" given the claim language providing that the apparatus comprises "*an* electrical operating unit *and* a pair of spaced-apart ... probe networks." (emphasis added). However, the court does not appear to have relied on the word "an," but rather on the word "and" in making its determination. As such, the word "an," in an of itself, does not support Enerquin's contention that this zone of underpressure is separately identifiable from the other zones of underpressure referenced in the specification.

FN3. Unlike, for example, the use of the word "the."

As further support for its argument, Enerquin points to the prosecution history of the '380 patent. Specifically, Enerquin cites a response by the patentee to an Office Action from the United States Patent & Trademark Office, which had rejected claim 11 of the '380 patent:

As recited in independent method claim 10, the present invention is directed to a method comprising, among other features, the combination of steps of maintaining the web W supported on the incoming drying wire run W T by inducing a first underpressure F_T on the incoming run W T of the web-carrying drying wire 17 by an injection gas flow F_T (the first underpressure being induced in a first gap space T_T defined between the incoming drying wire 17 run W T and a first wall 25 of a blow box 20), and maintaining the web supported on the outer surface of the drying wire 17 over the deflection sector a of the deflection roll by creating and maintaining an underpressure Pin the perforations 19 formed through the shell 18 of the deflection roll 14 and communicating with an interior of the roll 14; by at least one of the steps of closing a free sector 360 (deg.)-a of the deflection roll not covered by the web-carrying drying wire 17, and communicating the free sector 360 (deg.)-a with an underpressure zone 23a.

(Ex. M, '380 patent file history at FH 96) (emphasis added.)

Enerquin argues that viewing the specification in light of this prosecution history demonstrates that its proposed construction is consistent with both. Specifically, Enerquin contends that the specification and patent history make it clear that the claimed "an underpressure zone" corresponds to the underpressure zone generated within the area formed by the underpressure compartment of the blow box. Enerquin emphasizes that the figures in the specification all show this same relationship.

In contrast, Metso contends that "an underpressure zone" refers to one or more underpressure zones that are described in the specification. In support of this contention, Metso cites to the portion of the specification cited above which refers to "a combination of underpressure zones created and maintained by different mechanisms." (Ex. L, '380 patent at 7:10-11.)

Metso also cites to portions of the specification which indicate that there are areas of underpressure separate from the underpressure zone created by the underpressure compartment of the blow box:

the web, upon leaving the surface of the drying cylinder, is initially supported by an underpressure induced ... by means of an ejection air flow. The underpressure may be produced in the gap formed between the run of the drying wire and wall of a blow box.

...

The ejection gas flows F_T and F_L induce an underpressure in the gap spaces T_T and T_L defined by the wall 25 and 25 of blow-suction box 20 and respective opposed incoming and outgoing straight runs of the web-carrying wire 17. The underpressures in these gap spaces ensure that the web W is reliably held on the surface of the drying wire 17 on both the incoming and outgoing runs thereof with respect to the deflection roll 14. The zones of underpressure also contribute to ensuring that a sufficiently low pressure exists in both the incoming nip N_T and the outgoing nip N_L between the deflection roll 14 and the drying wire 17 to thereby reliably hold the web W on the outer surface of the wire 17.

(Ex. L, '380 patent at 2:32-27, 3:52-64) (emphasis added.)

Metso also notes that claim 1 specifically refers to "an underpressure compartment" rather than "an underpressure zone," indicating that the patentee did not intend for the term "an underpressure zone" to be synonymous with the underpressure compartment of the blow box. As further support, Metso points out that the "SUMMARY OF THE INVENTION" does not reference an underpressure compartment, but rather references "an underpressure zone in communication with the open sector of the deflection roll." (Ex. L, '380 patent at 2:46-47.)

In response to Enerquin's citation to the prosecution history, Metso argues that the singular reference to zone "23a" refers to particular embodiments shown in FIGS 4 and 5, but does not constitute a disavowal of claim scope. *See* Baldwin Graphic Sys., Inc. v. Siebert, Inc., 512 F.3d 1338, 1346 (Fed.Cir.2008) (the singular comment during prosecution did not constitute something akin to disavowal of claim scope, as disavowal of scope must be "clear and unmistakable.") Metso notes that FIGS. 2 and 3 reference underpressure zone "23," which is clearly related to claim 11, and argues that under Enerquin's interpretation of the prosecution history this underpressure zone would be excluded from claim 11 because it is not "23a."

Metso argues that Enerquin is again seeking to limit claim 11 to the preferred embodiments described in the specification, and that there is nothing in the patent application which suggests that the applicants intend to limit claim 11 to the specific embodiments in the specification. In particular, Metso notes that the specification explicitly provides that:

Obviously, numerous modifications and variations of the present invention are possible in the light of the above teachings. Therefore, it is to be understood that within the scope of the claims appended hereto, the invention may be practiced otherwise than as specifically disclosed herein.

(Ex. L, '380 patent at 7:16-22.)

Metso also notes that the specification states that "preferred embodiments of the invention are illustrated to which the invention is not limited." (Ex. L, '380 patent at 3:36-38.)

The language of the specification, and the claim itself, do not support a limitation to a particular underpressure zone created with an underpressure compartment of the blow box. The particular embodiments referencing a particular underpressure compartment are merely embodiments, but do not indicate that they limit "an underpressure zone" of claim 11 to those particular embodiments. Moreover, as noted by Metso, the specification contains references to other underpressure zones, and the language of the claim and specification do not conflict with an interpretation that "an underpressure zone" could refer to

these other zones of underpressure.

The next issue is the meaning of "communicating." Enerquin argues that the term must be construed in such a way as to make it clear that the claimed "an underpressure zone" is acting upon the free sector of the deflection roll, as opposed to the deflection roll acting upon the claimed "an underpressure zone." Enerquin points to the specification, which, according to Enerquin, teaches that the claimed "an underpressure zone" acts on (or "communicates" with) the free sector of the deflection roll, thereby generating a flow of air from the deflection roll toward the "an underpressure zone."

The suction gas flow F3 through connector 21a maintains an underpressure Pin the suction compartment 23a which, together with the centrifugal effect produced by the rotation of deflection roll 14, generates suction air flows F_v through the perforations 19 in the open sector of the shell 18 of deflection roll 14.

(Ex. L, '380 patent at 5:67-6:5) (emphasis added.)

Enerquin notes that the relationship between the underpressure zone and the free sector of the deflection roll is depicted in every illustrated embodiment of the '380 patent.

Metso argues that "communicating" means "connecting," and cites the dictionary definition in support. Webster's Third New Ineternational Dictionary, G. & C. Merriam Co. (1969), p. 460 defines "communicating" as "4: be connected: open into each other ." Metso contends that the word "communicating" does not include a limitation of "acting upon," and that if the applicants intended to limit their invention to an underpressure zone acting upon the free sector, they would have done so in the claims.

Again, Enerquin is importing limitations found in specific illustrated embodiments into the claim. The ordinary meaning of the term "communicating" is to "be connected: open into each other." Interpreting the term "communicating" to mean "connecting" is not inconsistent with the specification, as the illustrated embodiments do, indeed, show an underpressure zone "connecting" to a free sector of the deflection roll. Although the illustrated embodiments may indicate that the underpressure zone "acts on" the free sector of the deflection roll in those particular embodiments, this does not mean that the patentee intended the term "connecting" to have a meaning different, and more restrictive, than its ordinary meaning.

Such being the case, the court construes the term "communicating free sector with an underpressure zone" to mean "connecting a sector of the deflection roll which is not covered by the web-carrying drying wire with a zone of underpressure."

2. Claim 15 of the '380 Patent

Term [8] is found in claim 15 of the '380 patent. Claim 15 states, in pertinent part (with the disputed term [8] in bold):

The method of claim 11[8] wherein an underpressure is created and maintained in an incoming nip defined between said incoming drying wire run and said deflection roll by said first ejection gas flow and said underpressure maintained in said perforations.

(Ex. L, '380 patent at 10:21-25).

Metso argues that term [8] means "an underpressure is created and maintained in an incoming space defined between said incoming drying wire run and said deflection roll by said first ejection gas flow and said underpressure maintained in said perforations." (JCCC at 4.) Enerquin argues that term [8] means

the first underpressure on the incoming run of the web-carrying drying wire and the perforation underpressure combine to create and maintain an underpressure located along the cross-machine width of the incoming run of the web-carrying drying wire at the juncture between the incoming drying wire run and the deflection roll.

(JCCC at 4.)

Given these proposed constructions, the primary dispute is whether the underpressure must be maintained along the "cross-machine width." With regards to its argument that the claim includes a "cross-machine width" limitations, Enerquin points to its arguments regarding terms [1] and [2], and argues that there is no reason that the interpretation of term [8] should depart from the meaning of those terms. However, for the reasons stated with regards to terms [1] and [2], there is no limitation in the claim or specification that the underpressure be created and maintained across the entire cross-machine dimension of the blow box.

With the exception of the cross-machine limitation, the parties' proposed definitions essentially mirror the claim language, as this term is defined by the plain meaning of the claim itself. Both parties agree as to the location of the "incoming nip" where the underpressure is created. Such being the case, the court construes the term "wherein an underpressure is created and maintained in an incoming nip defined between said incoming drying wire run and said deflection roll by said first ejection gas flow and said underpressure maintained in said perforations" to mean "an underpressure is created and maintained in an incoming space located at the juncture between the incoming drying wire run and the deflection roll by said first ejection gas flow and said underpressure maintained in said perforations."

B. The '236 Patent

The parties dispute the meaning of 32 terms that appear in the asserted claims of the '236 patent. Each of these terms has been identified and numbered sequentially as [9]-[40] by the parties in the JCCC, which was filed with the court on March 13, 2008.

1. Claim 1 of '236 Patent

Terms [9]-[14] are found in Claim 1. Claim 1 states, in pertinent part (with the disputed terms [9]-[14] in bold):

1. A method for use in web drying apparatus of a paper machine ..., comprising the steps of: ...; maintaining negative pressure in a [9] pocket space defined between said pair of successive drying cylinders and the web-supporting wire by means for suctioning the web into contact with the wire as the web-supporting wire runs from said one drying cylinder to the intermediate leading cylinder to said next drying cylinder, said perforated mantle having a free sector not covered by said wire that normally opens in its entirety into the interior of said enclosed [10] pocket chamber; maintaining a negative pressure within the interior of said outer mantle of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder, and arranging said outer mantle of said leading cylinder such that said perforations open into grooves which extend around the circumference of said outer mantle such that the area of said outer surface over which suction is effected is enlarged to an extent that the web remains

substantially wrinkle-free and in [12] a desirable drawing contact with the wire as the wire travels over the leading cylinder with the web carrier on its outer surface; partially closing and sealing said free sector by [13] sealing means such that a throttled flow of air flows from the interior of said enclosed pocket chamber into said interior of said leading cylinder; and removing air from said enclosed [9] pocket space via air removal means comprising [14] a blower connected to said [11] pocket area by duct means ...

(Ex. N, '236 patent at 10:65-11:53.)

a. [9] pocket space, [10] pocket chamber, [11] pocket area

Both parties agree that terms [9], [10], and [11] are the same term, and have the same definition. Metso argues that the terms "pocket space," "pocket chamber," and "pocket area" all mean "the space defined by the incoming and outgoing straight runs of the web-carrying wire between the drying cylinders and the open sector of the mantle of the lead cylinder." (JCCC at 5, 7.) Enerquin argues that the terms all mean "the three-dimensional space defined by the incoming and outgoing straight runs of the web-carrying drying wire, the gap between the two successive drying cylinders, the free sector of the mantle of the leading cylinder, and the cross-machine width of the web-carrying drying wire" (JCCC at 5, 7.)

As seen from the two competing definitions, the primary point of contention is whether the claimed "pocket space" (or "pocket chamber" or "pocket area") extends over the entire cross-machine width of the web. Both parties cite the same portion of the specification in support, which states, in pertinent part:

Although the enclosed pocket space of the invention disclosed herein extends across the entire width of the web W, it will be understood that this invention has application in arrangements in which the negative pressure extends over only a part of the width of the web. For example, any of the illustrated embodiments can be easily modified so that a negative pressure extends only over both of the lateral areas of the web. In such case, a separate pocket chamber 40 is provided at each lateral region.

(Ex. N, '236 patent at 9:48-58) (emphasis added.)

As seen from the language of the specification, the specification explicitly teaches that the "pocket space" can extend over only a part of the width of the web. Such being the case, Enerquin's proposed "cross-machine width" limitation is inconsistent with the specification.

However, Enerquin argues that, despite the language in the specification, the patent history indicates that the "cross-machine width" limitation is properly read into the claim. Specifically, Enerquin cites a response to an Office Action from the United States Patent & Trademark Office in which the patentee distinguished the claimed invention of the '236 patent from the prior art:

The Wedel, et al. reference describes a suction roll having *suction boxes at the edge portions* thereof. Suction takes place either from the boxes alone or from the boxes and from the roll. The suction box covers only a part of the mantle of the roll and does not close the whole pocket. Thus, the Wedel, et al. reference also lacks the features of the present invention stated in amended claim 1 comprising the maintaining of negative pressure in a pocket space defined by a pair of successive drying cylinders and a web-supporting wire by means of a suction roll.

(Ex. O, '236 patent file history at FH 115) (emphasis added.)

Enerquin argues that, given this patent history, the patentee waived its right to any interpretation of the term "pocket space" aside from one in which the "pocket space" extends over the entire cross-machine width of the web. *See* Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1349 (Fed.Cir.2004) ("We cannot construe the claims to cover subject matter broader than that which the patentee itself regarded as comprising its inventions and represented to the PTO").

However, it is unclear that a reference to closing "the whole pocket" provides support to the argument that the pocket must span the entire width of the web. The phrase "whole pocket" does not define the width of the "pocket," but rather describes the parameters of the suction box. Regardless, as noted above, disavowal of claim scope must be "clear and unmistakable," and a single comment regarding a "whole pocket" is not akin to a disavowal of claim scope. *See* Baldwin, 512 F.3d at 1346. This is especially apparent in light of explicit language in the specification teaching that the pocket space need not extend over the entire cross-machine width of the web.

With the exception of the cross-machine width limitation, the parties essentially agree that the term "pocket space" is defined by the plain meaning of the claim language. Such being the case, the court construes "pocket space," "pocket chamber," and "pocket area" to mean "the space defined by the incoming and outgoing straight runs of the web carrying drying wire, the gap between the drying cylinders, and the free sector of the mantle of the leading cylinder."

b. [12] a desirable drawing contact

Metso argues that the term means "contact sufficient to draw the web to contact the wire so as to maintain the web substantially wrinkle-free." (JCCC at 6.) Enerquin argues that the term is indefinite pursuant to 35 U.S.C. s. 112, para. 2. (JCCC at 6.)

All patent specifications must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112, para. 2 (2000). "[T]he purpose of the definiteness requirement is to ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude." Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1347 (Fed.Cir.2005) (citing Honeywell Int'l, Inc. v. ITC, 341 F.3d 1332, 1338 (Fed.Cir.2003)). " '[T]he statutory requirement of particularity and distinctness in claims is met only when [the claims] clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise." ' *Id*. (quoting United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942).

However, the definitiveness requirement "does not compel absolute clarity." *Id*. Only claims that are "not amenable to construction" or "insolubly ambiguous" are considered indefinite. *Id*. (citing Novo Indus., L.P. v. Micro Molds Corp., 350 F.3d 1348, 1353 (Fed.Cir.2003)). As such, "the definiteness of claim terms depends on whether those terms can be given any reasonable meaning." *Id*. "If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds." Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001). "[C]lear and convincing evidence [must] be shown to invalidate a patent." Datamize, 417 F.3d at 1348 (citing Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1376 (Fed.Cir.2001)).

Moreover, "an issued patent is entitled to a statutory presumption of validity." Id. at 1347 (citing 35 U.S.C. s. 282 (2000)). "By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal." Exxon Research, 265 F.3d at 1375 (citation omitted). "In the face of an allegation of indefiniteness, general principles of claim construction apply." Datamize, 417 F.3d at 1348.

Enerquin argues that the term "a desirable drawing contact" is subjective in nature, rendering the claim indefinite. In support, Enerquin cites to a dictionary definition of the word "desirable," which is "worth having or wanting; pleasing, excellent, or fine." (Random House Dictionary of the English Language, 2nd Edition, (1987) at p. 539.) According to Enerquin, a "drawing contact" which pleases one may not necessarily please another, thus making the term indefinite.

Enerquin also argues that neither the claim itself nor the specification provide sufficient guidance so as to make the term sufficiently definite. Enerquin cites to portions of the specification which describe the claimed "desirable drawing contact" as being "efficient" or "good:"

Referring to FIG. 3B ... it is possible to enlarge the area of the outer surface of the mantle over which the suction is effective so that the web W will remain substantially wrinkle-free and in good drawing contact with the web-carrying wire 15 as the wire travels over a suction cylinder 30 with the web W carried on its outer surface. A labyrinth or other type of seal is not required within the suction cylinder 30.

...

On the suction cylinder 30, an efficient drawing contact is produced between the drying and drawing wire 15 and the surface of mantle 31 of cylinder 30 under the effect of the negative pressure that prevails within the suction cylinder 30. Additionally, a good adhesion of the web to the wire 15 is also obtained.

(Ex. N, '236 patent at 5:30-40, 8:10-16) (emphasis added.)

Moreover, Enerquin argues that the prosecution history of the '236 fails to provide guidance as to the meaning of "desirable drawing contact." Enerquin cites an explanation from the patentee which accompanied an amendment to claim 1 in response to an Office Action from the United States Patent & Trademark Office which had rejected all pending claims of the '236 patent:

A first important difference between the apparatus and method claimed in the present application and the prior art relied upon by the Examiner is that the structure therein defined provides for the perforations (31b) to which the mantle (31) of the leading cylinder (30) opens into grooves (31a; 31c) extending around the outside of the mantle (31) which grooves spread the suction effect over a sufficiently large portion of the area of the cylinder mantle such that the area of the outside surface of the mantle over which the suction occurs is enlarged such that the web W will remain substantially wrinkle-free and in good drying contact with the web carrying wire 15 as the wire travels over the leading cylinder with the web W carried on its outer surface.

This important difference is now set forth in the independent method claim 1, wherein it states that the "perforations open into grooves which extend around the circumstances of said outer mantle such that the area of said outer surface over which suction is effected is enlarged to an extent that the web remains

substantially wrinkle-free and in a desirable drawing contact with the wire as the wire travels over the leading cylinder with the web carrier on its outer surface".

(Ex. O, '236 patent file history at FH 138) (emphasis added.)

Enerquin also cites *Datamize* to support its contention that "desirable drawing contact" is indefinite. In *Datamize,* the court held that the term "aesthetically pleasing" was indefinite because the claim term lacks an objective anchor which would allow the public to determine the scope of the claimed invention. 417 F.3d at 1350. The court noted that the ordinary meaning of "aesthetically pleasing" was "beautiful," and that "[w]hile beauty is in the eye of the beholder, a claim term, to be definite, requires an objective anchor." *Id.; see also Romala Stone, Inc. v. Home Depot USA, Inc.,* 2007 U.S. Dist. LEXIS 73098, *13-15 (N.D.Ga.2007) (the term "price affordable to the average consumer" was indefinite because there was no "objective standard from which one could determine whether the product is affordable to such a consumer ."); Halliburton Energy Servs., Inc. v. M-I, LLC, 456 F.Supp.2d 811, 817-18 (E.D.Tex.2006) (the term "fragile gel drilling fluid" was indefinite because descriptions of the term including "easily transitions," "easily disrupted or thinned," "less gel-like," "more liquid-like," "quickly returns to a gel," "break instantaneously," and "minimum pressure, force and time" were subjective in nature.).

In response, Metso argues that Enerquin has ignored the alternate definition of "desirable," specifically dictionary definition 3-"advisable; recommendable" (Random House Dictionary of the English Language, 2nd Edition, (1987) at p. 539). According to Metso, given this definition, it is clear within the context of the specification that the term "desirable" is not subjective, but rather has a similar meaning to "desired," which the court in *Datamize* found to be not indefinite. In *Datamize,* the court found the term "desired" to not be indefinite because the term "required foreknowledge and even intent on the part of the person practicing the invention." 417 F.3d at 1356.

Metso cites portions of the specification which it argues provides an objective anchor from which to determine the definition of "desirable." Specifically, Metso notes that the specification states that an object of the invention disclosed in the '236 patent is to "reduce fluttering of the web and the possibility of detachment of the web from the wire." (Ex. N, '236 patent 1 :52-53.) Moreover, Metso notes that the "SUMMARY OF THE INVENTION" states that "[t]he invention provides an efficient method and apparatus for use in a drawing group of a paper machine ... The web will be maintained in tight adhering contact to the carrying wire over the entire run in which the web is not in contact with the drying, drawing and/or rolling cylinders." (Ex. N, '236 patent at 2:47-54.) According to Metso, "tight adhering contact" provides an objective standard for determining the meaning of "desirable drawing contact." In addition, Metso argues that the existence of this objective standard makes the facts in the case at hand distinguishable from the cases cited by Enerquin.

Although the term "desirable drawing contact" may not have absolute clarity, I conclude that the term is amenable to construction; it is not "insolubly ambiguous." The specification does provide some form of objective anchor from which the term can be construed, such that "desirable" is not simply a subjective term whose scope is undeterminable. As noted by Metso, the specification states that an object of the invention is to "reduce fluttering of the web and the possibility of detachment of the web from the wire," and that the "web will be maintained in tight adhering contact." This provides a sufficient objective anchor from which to construe the term "desirable drawing contact." Namely, a "desirable drawing contact" involves sufficiently tight contact to reduce fluttering and the possibility of detachment of the web from the wire. Although the specification does not explicitly state exactly how tight the contact must be, again, absolute

clarity is not required for a term to be amenable to construction.

Moreover, the term "desirable," as with the term "desired" in *Datamize,* requires foreknowledge. Those who practice the art of making paper are well aware of the problem of fluttering and detachment of the web, and presumably would have an idea as to the ideal degree of tight contact the web should have with the wire in order to properly produce paper.

Enerquin also argues that Metso's proposed construction involving the term "substantially wrinkle free" renders the term "desirable drawing contact" superfluous and redundant. According to Enerquin, Metso's contruction ignores that the plain language of the claim makes it clear that the "substantially wrinkle free" limitation is separate from the "desirable drawing contact" limitation. As noted by Enerquin, claim constructions which fail to give meaning to all the terms are less favored than those which provide a meaning for all the terms. *See e.g., Merck & Co.,* 395 F.3d at 1372 ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."); Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed.Cir.2006); Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1307 (Fed.Cir.2005).

Enerquin is correct that Metso's proposed definition renders the term "desirable drawing contact" somewhat superfluous and redundant. The plain language of the claim makes it clear that the "substantially wrinkle free" limitation is separate from the "desirable drawing contact" limitation. Perhaps conceding this point, Metso proposes that an alternative definition for "desirable drawing contact" is "tight adhering contact to the carrying wire over the entire run in which the web is not in contact with the drying, drawing and/or cooling cylinders." I conclude that this definition is consistent with the specification. Such being the case, the court construes "desirable drawing contact" as "tight adhering contact to the carrying wire over the entire run in which the web is not in contact with the drying, drawing and/or cooling cylinders."

c. [13] sealing means

Metso argues that "sealing means" means "a covering plate whose edges are situated at a small gap distance from the outer surface of the leading cylinder, or a sealing arrangement including sealing ribs, and the equivalents thereof, including not providing perforations in a portion of the otherwise perforated leading cylinder." Enerquin argues that "sealing means" means:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the "sealing means" is to partially close and seal the free sector of the perforated mantle of the leading cylinder such that a throttled flow of air flows from the interior of the enclosed pocket chamber into the interior of the leading cylinder. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) a covering plate provided within the pocket space and having edges situated at a small gap distance from the outer surface of the leading cylinder, or (2) a closing chamber provided within the leading cylinder including seal ribs that bear against a smooth inner surface of the perforated mantle of the leading cylinder such that a closed sector is formed; and equivalents of either structure.

(JCCC at 6-7.)

Both parties agree that the term "sealing means" is a means-plus-function term invoking 35 U.S.C. s. 112, para. 6. 35 U.S.C. s. 112, para. 6 states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The construction of a means-plus-function claim element involves two steps. The first step "is to identify the particular claimed function." Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1210 (Fed.Cir.2003). The second step "is to look to the specification and identify the corresponding structure for that function." *Id*. The structure disclosed in the specification is a corresponding structure " 'only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." ' *Id*. (quoting B. Braun Medical, Inc. v. Abbott Lab., 124 F.3d 1419, 1424 (Fed.Cir.1997)). "The duty of a patentee to clearly link or associate structure with the claimed function is the *quid pro quo* for allowing the patentee to express the claim in terms of function under section 112, paragraph 6." Id. at 1211.

Although "the specification must contain structure linked to claimed means," the bar is not high: "[a]ll one needs to do in order to obtain the benefit of [s. 112, para. 6] is to recite some structure corresponding to the means in the specification, as the statute states, so that one can readily ascertain what the claim means and comply with the particularity requirement of [s. 112,] P 2." Biomedino, LLC v. Waters Techs. Corp, 490 F.3d 946, 950 (Fed.Cir.2007) (quoting Atmel Corp. v. Information Storage Devices, Inc., 198 F.3d 1374, 1382 (Fed.Cir.1999)). Moreover, the "interpretation of what is disclosed in the specification must be made in light of the knowledge of one skilled in the art." *Id*. As such, "in order for a means-plus-function claim to be valid under s. 112, the corresponding structure of the limitation 'must be disclosed in the written description in such a manner that one skilled in the art will know and understand what structure corresponds to the means limitation. Otherwise, one does not know what the claim means." ' *Id*. (quoting Atmel, 198 F.3d at 1382).

"The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not merely enable the pertinent structure to operate as intended." Asyst Techs., Inc. v. Empak, Inc., 268 F.3d 1364, 1371 (Fed.Cir.2001). Moreover, in determining whether structures are corresponding structure, the focus of the inquiry is not whether the structures are "capable of performing the recited function." Medtronic, Inc. v. Advanced Cardiovascular Sys., 248 F.3d 1303, 1311 (Fed.Cir.2001). Rather, the court must determine whether the structure "is clearly linked or associated" with the recited function. *Id*.

Both parties agree that the function of the "sealing means" is "to partially close and seal the free sector of the perforated mantle of the leading cylinder such that a throttled flow of air flows from the interior of the enclosed pocket chamber into the interior of the leading cylinder." At issue, therefore, are the corresponding structures identified in the specification which are clearly linked to performing the claimed function.

The parties agree on the identification of two corresponding structures from the specification which are clearly linked to performing the claimed function. The first portion of the specification identifies a covering plate:

Referring now to FIG. 4, another embodiment of apparatus in accordance with the invention is illustrated. The free sector of the perforated mantle 31 of the suction cylinder 30 that normally opens in its entirety into the interior of the enclosed pocket chamber 40 is partially closed and sealed by means of a covering plate 41

whose edges 41a and 41b are situated at a small gap distance from the outer surface of the cylinder 30. In this manner, throttled air flows A_3 pass from the interior of the enclosed pocket chamber 40 into the interior 32 of the suction cylinder 30.

(Ex. N, 236 patent at 6:60-7:2) (emphasis added.)

The second portion of the specification references an alternative structure to the recited function, namely a closing chamber:

Referring now to FIG. 5, a variation of the embodiment of the invention corresponding to that of FIG. 4 is illustrated. A closing chamber 42 is provided within suction cylinder 30 having seal ribs 42a and 42b at its edges that bear against the smooth inner surface of the mantle 31 of cylinder 30 so that a closed sector a of the normally open free sector is formed. In this case, limited suction flows A_4 flow from the interior of the chamber enclosing pocket space T into the interior 32 of cylinder 30. By choosing the magnitude of the sector a appropriately, the flows A_4 and, consequently, the pressure levels P_{01} and P_{01} can be adjusted appropriately with respect to each other.

(Ex. N, '236 patent at 7:3-15) (emphasis added.)

As shown from the above referenced portions of the specification, the two corresponding structures described by Enerquin in its proposed definition are clearly linked by the specification to performing the recited function of the "sealing means." Metso's proposed definition also includes these two corresponding structures. However, Metso's proposed definition also includes the structure "not providing perforations in a portion of the otherwise perforated leading cylinder." At issue, therefore, is whether this additional structure is also identified in the specification as a corresponding structure.

Metso argues that FIG. 8 describes the additional structure of "not providing perforations in a portion of the otherwise perforated leading cylinder," and that FIG. 8 clearly links this structure to performing the recited function of the "sealing means."

[I]n FIG. 8 ... It is also noted that the perforations 31b in the mantle 31 of suction cylinder 30 are provided only over the portion of the mantle over which the web-carrying wire 15 runs, so that the end areas 30a of cylinder 30 situated outwardly of the end plates 35 are solid and not perforated.

(Ex. N, '236 patent at 7:66-8:3) (emphasis added.)

Metso relies on the description of "solid" end areas in the specification referring to FIG. 8 in maintaining that the corresponding structure to "sealing means" includes "not providing perforations in a portion of the otherwise perforated leading cylinder." According to Metso, solid end areas function to throttle airflow from the interior of the enclosed pocket chamber into the interior of the suction cylinder because they constrict the passage through which air flows. In support of this argument, Metso cites a Mechanical Engineering Handbook which states that "[w]hen a fluid flows from a region of higher pressure into a region of lower pressure through a valve or constricted passage, it is said to be throttled or wire-drawn." Marks' Standard Handbook for Mechanical Engineers (10th ed.1996), p. 4-24.

Although Metso has arguably provided an explanation as to how air could be "throttled" through a constricting passage with the structure described in FIG. 8, the specification does not clearly link the

structure referenced in FIG. 8 to the claimed function. As an initial matter, it is questionable whether the structure described in FIG. 8 actually "throttles" airflow. Under a broad interpretation of "throttle," it is possible that the solid end areas direct airflow (by being impermeable) towards the perforations in the mantle, and that the mantle perforations "throttle" air flow by constricting airflow as air goes through the perforations. In this way, a combination of the solid end areas and mantle perforations could arguably perform the function of throttling airflow. However, it is debatable whether the solid end areas actually direct air towards the perforations, or whether static end areas could be said to be "sealing" the perforations to create a throttled flow of air.

Regardless of whether the structure described in FIG. 8 could produce a throttled flow of air, the specification does not clearly link the structure referenced in FIG. 8 to the claimed function. The written description and illustration of FIG. 8 make no mention of throttled airflow, and provide no express indication that the solid end plates serve the purpose of producing a flow of throttled air. In contrast, the specification, in its description of more obvious sealing elements such as a "covering plat" or "seal ribs," explicitly states that these structural elements create throttled airflows, and explicitly describes these airflows in the descriptions and illustrations. Given this contrast in the descriptions of the structures at issue, there is no indication that one of skill in the art would understand that the mere description of solid end plates would clearly link that structure to throttling air. Even if Metso were to produce evidence (such as expert testimony) indicating that the solid end plates can perform this function, the fact remains that the specification does not create a clear link between the solid end plates and the throttling of airflow. *See* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1332 (Fed.Cir.2003) (statements from experts cannot be used to "rewrite the patent's specification" to create a clear link where the language in the specification does not provide a clear link).

Such being the case, "not providing perforations in a portion of the otherwise perforated leading cylinder" is not identified in the specification as a corresponding structure.

However, Metso also argues that this structure is an equivalent structure to the "sealing ribs" and "covering plate." In support of this contention, Metso states that, similarly to the solid end areas, the "sealing ribs" and "covering plate" close off only some of the perforation in the leading cylinder.

It is unclear whether it is appropriate for the court to consider during the claim construction process what types of structures would constitute equivalents to the two corresponding structures identified in the specification. A determination of whether a structure constitutes an equivalent to a corresponding structure is generally part of an infringement analysis under the doctrine of equivalents. Under the doctrine of equivalents, the determination of whether the accused device is an equivalent structure is a question of fact. *See* Utah Med. Prods., Inc. v. Graphic Controls Corp., 350 F.3d 1376, 1383 (Fed.Cir.2003).

Metso argues that because this is not an infringement issue, but rather a claim construction issue, it is appropriate for the court to determine equivalents under 35 U.S.C. s. 112, para. 6. In support, Metso cites Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1376-77 (Fed.Cir.2003), in which the court held that the district court erred by only including the equivalents of one of the corresponding structures in its claim construction. However, this indicates that the court erred by not allowing for equivalents for another corresponding structure, not that the court erred by not explicitly determining exactly what structures constituted an equivalent. As such, all that is required is that the court include equivalents for every structure disclosed in the specification linked to the claimed function.

In sum, the specification clearly links only two structures, a covering plate and sealing ribs, to the claimed function. These two structures are defined in detail in the specification. Such being the case, the court construes "sealing means" to mean:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the "sealing means" is to partially close and seal the free sector of the perforated mantle of the leading cylinder such that a throttled flow of air flows from the interior of the enclosed pocket chamber into the interior of the leading cylinder. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) a covering plate having edges situated at a small gap distance from the outer surface of the leading cylinder, or (2) a closing chamber provided within the leading cylinder including seal ribs that bear against a smooth inner surface of the perforated mantle of the leading cylinder such that a closed sector is formed; and equivalents of either structure.

d. [14] a blower

Metso argues that "a blower" means "one or more devices that blow gas." Enerquin argues that "a blower" means "a device which generates a current of air." (JCCC at 7.) Given these constructions, at issue is whether "a blower" means a singe device, or "one or more" devices.

Both parties note that the Federal Circuit has stated that, as a general rule, the article "a" carries the meaning of "one of more ." *See* KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed.Cir.2000) ("[t]his court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising." '); Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 977 (Fed.Cir.1999). However, "[t]he general rule does not apply when the context clearly evidences that the usage is limited to the singular." Tivo, Inc. v. Echostar Communications Corp., 516 F.3d 1290, 1303 (Fed.Cir.2008). "The exceptions to this rule are extremely limited: a patentee must 'evince[ ] a clear intent' to limit 'a' or 'an' to 'one.' Baldwin, 512 F.3d at 1342. "An exception to the general rule that 'a' or 'an' means more than one only arises where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule. Id. at 1342-43; *see also* Norian Corp. v. Stryker Corp., 432 F.3d 1356, 1359 (Fed.Cir.2005) ("that general rule does not apply when the specification or the prosecution history shows that the term was used in its singular sense.") Moreover, "[t]he subsequent use of definite articles 'the' or 'said' in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning." *Id*. at 1343.

Although Enerquin notes that there are no embodiments disclosed in the specification in which more than one blower is connected to the pocket area, Enerquin concedes that there is nothing in the specification which forecloses the possibility of there being an embodiment which involves more than one blower. *See also* AbTox, Inc. v. Exitron Corp, 122 F.3d 1019, 1023 (Fed.Cir.1997) ("standing alone, a disclosure of a preferred or exemplary embodiment encompassing a singular element does not disclaim a plural embodiment."). Given that there is no clear intent evidenced from the claims themselves, the specification, or the prosecution history to deviate from the general rule, the court construes the term "a blower" to mean "one or more devices that blow gas."

2. Claim 2 of the '236 patent

Terms [15]-[17] are found in Claim 2 of the '236 patent. Claim 2 states, in pertinent part (with the disputed terms [15]-[17] in bold):

2. The method of claim 1 wherein ... [15] substantially enclosing said pocket space; [16] partially closing and sealing said free sector via [17] sealing means such that a throttled flow of air flows from the interior of said pocket chamber into said leading cylinder and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other ...

(Ex. N, '236 patent at 11:54-68.)

a. [15] substantially enclosing said pocket space

Metso argues that "substantially enclosing said pocket space" means "substantially closing off the pocket space." Enerquin argues that the term means "closing off the boundaries of the pocket space defined by (1) the area of the pocket space located between a pair of successive drying cylinders and (2) the transverse ends of the pocket space, so as to substantially prevent the passage of air therethrough."

The construction of the term "pocket space" has been addressed above (disputed term [9]). At issue, therefore, is the proper construction of the term "substantially enclosing." Although both parties agree that "substantially enclosing" means a "closing off" of the pocket space, the parties dispute whether the claim includes additional limitations beyond a simple "closing off" of the pocket space. Specifically, Enerquin contends that a specific portion of the pocket space must be closed off by a specific structure, and that the pocket space must be closed off so as to "substantially prevent the passage of air."

Enerquin argues that the specification makes clear that the pocket space is "substantially enclosed" by way of a specific structure, namely a chamber-like structure consisting of (1) a wall and (2) a pair of transverse end plates. Enerquin cites to portions of the specification in support. In the "SUMMARY OF THE INVENTION," it states:

In accordance with the apparatus of the invention, the pocket spaces defined by the straight runs of the web-carrying wire between the drying cylinders and the lead cylinders, as well as by the free or open sector of the mantle of the lead cylinder situated between them, is *substantially enclosed* by a pocket chamber construction, *including for example a wall* arranged between adjoining drying cylinders and *end plates provided at the transverse ends of the pocket space,* i.e., at the operation and service sides of the coating or paper machine.

(Ex. N, '236 patent at 2:23-33) (emphasis added.)

The specification also provides:

In accordance with the apparatus of the invention, the pocket space T between the cylinders 10 and 30 is substantially enclosed by a chamber-like structure, generally designated 40. In particular, a planar end plate 35 is provided at each transverse end of the pocket space T, i.e., at the service and operating sides of the coating or paper machine. Referring to FIG. 2, each end plate 35 has a pair of long straight edges 38, each situated at a small gap distance d_1 from the straight runs of the web-carrying wire 15. A curved edge 36 conforming in shape to the curvature of the suction cylinder 30 is positioned at a small gap distance d_2 from the mantle of suction cylinder 30.

The curved edge 36 of each end plate 35 intersects the straight edges 38 to define tapered regions 37 (FIG.2) which extend as deeply as possible into the nip spaces N between the wire 15 and the suction cylinder 30.

The chamber-like structure 40 enclosing the pocket space T further includes a wall 39 situated in the space between the cylinders 10 and extending transversely to the machine direction as best seen in FIG. 8. Sealing elements 39a and 39b are adjustably connected to respective transverse edges of the wall 39 and are spaced a small gap distance d_3 (FIG.2) from the wire 15 running over cylinders 10. Thus, the pocket space T is *substantially enclosed* by the straight runs of the web-carrying wire 15 and the pocket chamber 40 including *the two end plates* 35, the free or open sector of the suction roll 30, and the *wall* and sealing means 39, 39a, 39b. By "free sector" of suction cylinder 30 is meant the sector of the mantle not covered by the web-carrying wire 15.

(Ex. N, '236 patent at 5:41-6:4) (emphasis added.)

According to Enerquin, given the specification, the referenced "wall" occupies the pocket space area located between a pair of successive drying cylinders, and the referenced "end plates" respectively occupy the transverse ends of the pocket space. The pocket space is "substantially enclosed" by the structural occupancy of these areas of pocket space.

Although the specification reveals particular structures which can "substantially enclose" the pocket space, the specification also makes clear that the specific structures identified are only representative examples. In the portion of the specification cited by Enerquin, it states that the pocket space is "substantially enclosed by a pocket chamber construction, including for example a wall arranged between adjoining drying cylinders and end plates provided at the transverse ends of the pocket space." The specification states that a "pocket chamber construction" is the structure which substantially encloses the pocket space, but it does not state that this "pocket chamber construction" must include a wall and a pair of transverse end plates. Indeed, as noted by Enerquin, the specification also states that "[g]enerally, any manner of varying the amount of air in the enclosed pocket can be used." (Ex. N, '236 patent at 9:43-45) (emphasis added). Such being the case, the specification and claim language do not support the limitation proposed by Enerquin defining the exact area of the pocket space that must be enclosed.

Enerquin also contends that it would be all but impossible to create and maintain the necessary negative pressure within the pocket space unless the structure described above substantially prevented the "passage of air" into the pocket space. Although Enerquin concedes that the specification contemplates the passage of some air into the "substantially enclosed pocket space," it argues that the specification does not suggest that the invention could be practiced if there was a substantial passage of air.

As conceded by Enerquin, and emphasized by Metso, the specification specifically provides for the passage of air into the enclosed pocket space:

The seals of 39a and 39b of wall means 39 are adjustably positionable so that the magnitude of the gaps d_3 can be adjusted as desired for the purpose of regulating the amount of air passing into the enclosed pocket space defined by pocket chamber 40, designated by arrows A_1.

...

Referring to FIGS. 1-3, the evacuation of air from the interior of suction cylinder 30 effected by blower 34 through ducts 33, 33a, causes air to flow from the interior of the enclosed pocket chamber 40 into the

interior 34 of suction cylinder 30 as shown by arrows A_2.

(Ex. N, '236 patent at 6:13-18, 32-46.)

Simply stated, the language of the claim and the specification supports a view that the claim simply means what it says. Namely, that "substantially enclosing said pocket space" means "substantially closing off the pocket space." There is no specific language in the claim or specification which requires that the pocket space must be enclosed such that the passage of air is substantially prevented therethrough. Rather, the specification simply teaches that the amount of air passing through the pocket space can be adjusted as needed.

To be sure, Enerquin argues that Metso does not provide any context to the word "substantially" in its proposed definition, and that this word cannot simply be amorphous. However, as noted by Metso, Enerquin uses the word "substantially" in its definition when describing the prevention of the passage of air. It is unclear why the meaning of "substantially" as used to describe the closing off a space would be less clear, or more divorced from context, than the meaning of "substantially" as used to describe the prevention of the passage of air. There is no language in the claim or specification indicating that the word "substantially" differs from the ordinary meaning of the term in either case. The definition of "substantially" from Webster's Third New International Dictionary, G. & C. Merriam Co., p. 2280, is: "substantially: in a substantial manner" ... "substantial" means "4a: being that specified to a large degree or in the main."

For the reasons stated above, the court construes "substantially enclosing said pocket space" to mean "substantially closing off the pocket space."

b. [16] partially closing and sealing said free sector via sealing means such that a throttled flow of air flows from the interior of said pocket chamber into said leading cylinder and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other

At issue is whether this term is indefinite. Enerquin argues that the term is indefinite because the term constitutes a double inclusion with respect to claim 1. Metso argues that this term is not indefinite because the language "and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other" is a limitation not found in claim 1.

As an initial matter, "[t]here is no hard and fast rule against the double inclusion of claim language." *Doyle v. Crain Indus.,* 2000 U.S.App. LEXIS 26894, (Fed.Cir.2000). " 'Automatic reliance upon a 'rule against double inclusion' will lead to as many unreasonable interpretations as will automatic reliance upon a 'rule allowing double inclusion.' The governing consideration is not double inclusion, but rather is what is a reasonable construction of the language of the claims." ' *Id.* (quoting In re Kelley, 305 F.2d 909, 916 (CCPA 1962). Such being the case, even if term [16] constitutes a double inclusion, this does not mean that the term is necessarily indefinite. Rather, the question remains: what is a reasonable construction of the claim language?

The parties agree that the phrase "and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other" is not found in claim 1, and that this phrase modifies the rest of the language of term [16]. However, Enerquin argues that re-writing dependent claim 2 in independent format, including all of the limitations of independent claim 1, produces the

following result:

A method for use in web drying apparatus of a paper machine ..., comprising the steps of: ... [partially closing and sealing said free sector by sealing means such that a throttled flow of air flows from the interior of said enclosed pocket chamber into said interior of said leading cylinder] ... [partially closing and sealing said free sector via sealing means such that a throttled flow of air flows from the interior of said pocket chamber into said leading cylinder] and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other.

(Ex. N, '236 patent at 10:65-11:68) (brackets added for emphasis.)

Metso argues that the claim is amenable to construction and is not insolubly ambiguous, and that therefore the claim is not indefinite. Specifically, Metso argues that a reasonable construction of the term is that

the step of partially closing and sealing the free sector via sealing means is such that a throttled flow of air flows from the interior of the pocket chamber into the leading cylinder and that the negative pressures within the pocket space and the leading cylinder can by adjusted relative to each other.

(Pl.'s Br. at 36.)

In support of this construction. Metso argues that, although the language "partially closing and sealing said free sector via sealing means such that a throttled flow of air flows from the interior of said pocket chamber into said leading cylinder" is duplicative of the language in claim 1, the language which follows, i.e., "and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other," modifies the previous phrase and is not found in claim 1. As further support, Metso cites a portion of the specification which describes the relationship between the closing and sealing of the free sector and the adjustment of negative pressures within the pocket space and leading cylinder. (Ex. L, '236 patent at 7:3-15.)

Enerquin relies solely on its argument that if term [16] is technically a double inclusion, the term is indefinite as a matter of law. However, as noted above, there is no hard and fast rule against double inclusion. Enerquin has not provided any arguments with respect to whether the term is amenable to a reasonable construction. In contrast, Metso has offered a construction which appears reasonable given the language of the claim and the specification. As noted above, "the definiteness of claim terms depends on whether those terms can be given any reasonable meaning." Datamize, 417 F.3d at 1347.

Such being the case, the court construes the term "partially closing and sealing said free sector via sealing means such that a throttled flow of air flows from the interior of said pocket chamber into said leading cylinder and to such an extent that the negative pressures within said pocket space and within said leading cylinder can be adjusted relative to each other" to mean exactly what it says in the claim.

c. [17] sealing means

Term [17] is the same as disputed term [13] of claim 1 of the '236 patent. Such being the case, the court construes term [17] to have the same meaning as term [13].

3. Claim 6 of the '236 Patent

Terms [18]-[22] are found in Claim 6 of the '236 patent. Claim 6 states, in pertinent part (with the disputed terms [18]-[22] in bold):

6. Drying apparatus for use in paper machines, comprising: ... [18] means for substantially enclosing said pocket space; [19] means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder; and [20] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder, ... such that the area of said outer surface over which suction is effected is substantially enlarged to such an extent that the web remains substantially wrinkle-free and in [21] a desirable drawing contact with said wire as said wire travels over said leading cylinder ... said free sector being partially closed and sealed by [22] sealing means such that a throttled flow of air from the interior of said enclosed pocket chamber ...

(Ex. N, '236 patent at 12:14-13:6.)

a. [18] means for substantially enclosing said pocket space

Metso argues that the term means "a device located in the pocket space that causes the pocket space to be substantially enclosed using the device, and its equivalents." Enerquin argues that the term

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the "means" is to close off the boundaries of the pocket space defined by (1) the area of the pocket space located between a pair of successive drying cylinders and (2) the transverse ends of the pocket space, so as to substantially prevent the passage of air therethrough. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) a chamber-like structure comprising a wall situated in the area between a pair of successive drying cylinders, said wall spanning the entire cross-machine width of the chamber-like structure, and a pair of opposing end plates which define the bounds of the cross-machine width of the chamber-like structure, or (2) a structure comprising a blow box spanning the entire cross-machine width of the structure, the blow box being situated in the area of the pocket space located between a pair of successive drying cylinders, and a pair of opposing end plates which define the bounds of the cross-machine width of the structure; and equivalents of either structure.

(JCCC at 11-12.)

Although the parties agree that this is a means-plus-function term, they disagree as to both the function and corresponding structure. Both parties agree that the claimed function is "to substantially enclose the pocket space," but disagree as to what exactly this term means. This term was defined above with respect to term [15]. As such, the function of term [18] is "substantially closing off the pocket space."

Enerquin argues that there are two alternative corresponding structures for this function disclosed in the specification. The first is a chamber-like structure consisting of (1) a wall and (2) a pair of transverse end plates. In support, Enerquin cites a portion of the specification which provides:

In accordance with the apparatus of the invention, the pocket space T between the cylinders 10 and 30 is *substantially enclosed* by a *chamber-like structure,* generally designated 40. In particular, *a planar end plate 35 is provided at each transverse end of the pocket space T,* i.e., at the service and operating sides of the coating or paper machine.

...

The *chamber-like structure* 40 enclosing the pocket space T *further includes a wall 39 situated in the space between the cylinders 10 and extending transversely to the machine direction* as best seen in FIG. 8. Sealing elements 39a and 39b are adjustably connected to respective transverse edges of the wall 39 and are spaced a small gap distance d_3 (FIG.2) from the wire 15 running over cylinders 10. Thus, the pocket space T is *substantially enclosed* by the straight runs of the web-carrying wire 15 and the pocket chamber 40 including the *two end plates* 35, the free or open sector of the suction roll 30, and *the wall* and sealing means 39, 39a, 39b. By "free sector" of suction cylinder 30 is meant the sector of the mantle not covered by the web-carrying wire 15.

(Ex. N, '236 patent at 5:41-6:4) (emphasis added.)

The second structure proposed by Enerquin consists of (1) a blow box (in lieu of the wall of the chamber-like structure) and (2) a pair of transverse end plates. In support, Enerquin cites a portion of the specification which provides:

On the other hand, the negative pressure P_{01} is provided in the pocket space T by situating *a blow box 45 at or in lieu of the wall 39* between the drying cylinders 10. A nozzle 46 in the blow box faces a gap space R_2 into which ejection air jets E are directed from the nozzle in a direction opposite to the direction of movement of the cylinder 10 and the drawing wire 15 by means of a blower 48 connected to the blow box 45 by duct 49. The air jets E induce an ejection of air, designated by air flows A5, from the interior of the enclosed pocket space T. On the side of the blow box 45 opposite from the ejection nozzle 46, an elastic sealing web 47 is provided to reduce leakage flow A_0 into the enclosed pocket space as much as possible. The chamber 40 is thus formed by *end plates* 35, the web-carrying wire 15, the *blow box* 45 and sealing web 47.

(Ex. N, '236 patent at 7:41-58) (emphasis added.)

The parties agree that the specification discloses "a chamber-like structure" and "blow box" as corresponding structures to term [18]. However, Metso notes that there are several embodiments of the "chamber-like structure" disclosed in the specification, in addition to the embodiment cited to by Enerquin. Among these, according to Metso, are: a wall arranged between adjoining drying cylinders and end plates provided at the transverse ends of the pocket space (Ex. N, '236 patent at 2:27-33); a chamber-like structure, generally designated 40 (Ex. N, '236 patent at 5:43-44, 7:60-64.), pocket chamber 40 (Ex. N, '236 patent at 5:65-67), and closing chamber 42 (Ex. N, '236 patent at 7:5).

The "chamber-like" structures cited to by Metso, with the exception of the closing chamber 42, appear to be the same structures cited to by Enerquin above. Specifically, these structures cited by Metso consist of either (1) a wall and a transverse pair of end plates or (2) a blow box and a pair of transverse end plates. The parties are essentially in agreement that structures with these basic characteristics are corresponding structures disclosed in the specification.

However, as noted by Enerquin, closing chamber 42 is not clearly linked to the claimed "means for substantially enclosing said pocket space." The specification describes closing chamber 42:

A closing chamber 42 is provided within suction cylinder 30 having seal ribs 42a and 42b at its edges that bear against the smooth inner surface of the mantle 31 of cylinder 30 so that a closed sector a of the normally open free sector is formed.

(Ex. N, '236 patent at 7:5-9.)

Closing chamber 42 does not operate to enclose the "pocket space," but rather closes a portion of the "free sector." The free sector is the portion of cylinder 30 which is not covered by the wire, and closing off this portion does not enclose the "pocket space" defined above. The "pocket space" encompasses more than simply the "free sector," and a closing chamber located within cylinder 30 does not "enclose" a space where cylinder 30 makes up only one of the boundaries of this "pocket space." *See* FIG. 7 (closing cylinder 42 cannot "enclose" pocket space T). As such, there are only two corresponding structures disclosed by the specification.

The parties also dispute whether these two structures have elements which must span the entire "cross-machine width." Specifically, Metso argues that neither the wall of the "chamber-like structure" nor the "blow box" are required to span the entire cross-machine width, or have a pair of opposing end plates which define the bounds of the cross-machine width. In support, Metso notes that the specification specifically provides that:

Although the enclosed pocket space of the invention disclosed herein extends across the entire width of the web W, it will be understood that this invention has application in arrangements in which the negative pressure extends over only a part of the width of the web. For example, any of the illustrated embodiments can be easily modified so that a negative pressure extends only over both of the lateral areas of the web. In such case, a separate pocket chamber 40 is provided at each lateral region and the suction cylinders may have perforated areas only in the lateral areas of the web communicating with chambers 40. The invention also includes applications in which a chamber 40 extending across the entire width of the web W is provided with internal partition walls ... By any one of these arrangements, possibly among others, the level of negative pressure can be regulated in the transverse direction of the web. For example, the above techniques, possibly among others, can be used to provide a higher level of negative pressure in the lateral areas of the web W than in the middle area of the web.

(Ex. N, '236 patent at 9:48-10:6) (emphasis added.)

As further support for its argument that the cross-machine limitation is incorrect, Metso cites dependent claim 20. Claim 20 reads:

20. The apparatus of claim 6 wherein said negative pressure provided by at least one of said pocket space and leading cylinder interior extends only over a part of the width of the web.

(Ex. N, '236 patent at 14:7-10.)

As such, according to Metso, claim 20 specifically provides an option for an apparatus where the pocket space provides negative pressure extending over only a part of the width of the web, and in that embodiment, the chamber-like structure may extend over a part of the width of the web to effectuate a negative pressure only over a part of the width of the web. Metso also cites claim 21, which is dependent on

claim 20, in further support that there are apparatus where the negative pressure extends over only a portion of the width of the web.

21. The apparatus of claim 20 wherein said negative pressure extends only over lateral areas of the web.

(Ex. N, '236 patent at 10:11-12.)

In response, Enerquin argues that, regardless of certain language in the specification, the patent history makes clear that the patentee restricted his invention to a chamber-like structure or blow box which spans the entire cross-machine width. Specifically, Enerquin points to the patent history related to term [11] discussed above. As noted above, the patentee stated in response to an Office Action by the USPTO that a prior art reference was distinguishable from the claimed invention of the '236 patent because that reference described "a suction roll having suction boxes at the edge portions thereof ... The suction box covers only a part of the mantle of the roll and does not close the whole pocket." (Ex. O, '236 patent file history at FH 115.) Enerquin contends that, regardless of what the specification might say, the patent history makes clear that the claims are limited in scope to a "pocket space" defined by the entire cross-machine width of the web.

Enerquin argues that claims 20 and 21 do not mandate that something less than the entire cross-machine width of the pocket space is "substantially enclosed," as the use of partitions located internally along the cross-machine dimension of the enclosed pocket space accomplish the result of producing negative pressure over only a portion of the web. Moreover, Enerquin argues that regardless, the patent history overcomes the presumption created by the doctrine of claim differentiation. Enerquin cites a recent Federal Circuit decision in which the court found that, in a case involving dependent claims that did not exclude repetitive sequences, "the prosecution history overcomes the presumption; the correct construction of 'heterogeneous mixture' is one that excludes repetitive sequences, notwithstanding the presence of certain dependent claims that do not exclude them." Regents of the Univ. of Cal. v. DakoCytomation Cal., Inc., 517 F.3d 1364, 1375 (Fed.Cir.2008). The court noted that " '[w]hile it is true that dependent claims can aid in interpreting the scope of claims from which they depend, they are only an aid to interpretation and are not conclusive." ' *Id.* (quoting *N.* Am. Vaccine, Inc. v. Am. Cyanamid Co., 7 F.3d 1571, 1577 (Fed.Cir.1993).

As an initial matter, Metso's proposed definition stating that the corresponding structure is "a device located in the pocket space" is too broad given the specific language used in the specification identifying the corresponding structure. The specification clearly identifies both a "chamber-like structure" and a "blow box" as corresponding structures, and not simply a generic "device." However, there is no language in the specification which supports a further limitation that the wall of the "chamber-like structure" or the blow box span the entire cross-machine width, or that the end plates define the bounds of the cross-machine width of the structures.

Moreover, the prosecution history does not amount to an express restriction of the invention to a chamber-like structure spanning the entire cross-machine width of the web. The patent history distinguishes the present invention from a reference in which the suction boxes were only at the edge portions, and which did not close the whole pocket. However, this does not mean that the patentee intended for the invention to have to close the whole pocket. Indeed, the explicit language of the claim, as supported by language in the specification, states only that the pocket must be "substantially enclosed," and not "completely enclosed." A structure which "substantially encloses" the pocket space does not have to span the entire cross-machine width in order to be clearly differentiable from prior art referencing structures located only at the edge

portions.

Metso acknowledges that its proposed definition of term [18] may be overly vague in that it only describes a generic "device" as the corresponding structure. As such, Metso proposes an alternative definition: "a chamber-like structure or blow box located in the pocket space that causes the pocket space to be substantially enclosed using the chamber-like structure or the blow box, and equivalents thereof." However, this definition does not appear to be an adequately specific (or accurate) definition given what is revealed in the specification.

As noted above, the specification describes in detail corresponding structures, including (1) a chamber-like structure including a wall arranged between adjoining drying cylinders and end plates provided at the transverse ends of the pocket space; and (2) a structure including a blow box and a pair of transverse end plates. Contrary to Metso's definition, the specification does not reveal that the blow box itself encloses the pocket space, but rather that the blow box makes up a part of the structure that encloses the pocket space. The specification does not merely reveal a generic chamber-like structure or blow box as enclosing the pocket space, but rather provides for specific elements that make up the corresponding structure.

Such being the case, the court construes "means for substantially enclosing said pocket space" to mean

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the 'means' is to close off the boundaries of the pocket space. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) a chamber-like structure including a wall arranged between a pair of successive drying cylinders, and a pair of transverse end plates; or (2) a structure including a blow box situated in the area of the pocket space located between a pair of successive drying cylinders, and a pair of transverse end plates; and equivalents of either structure.

b. [19] means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder

Metso argues that the term means "(1) one or more blowers connected by one or more ducts, and/or (2) one or more suction devices, which generate a negative pressure in the pocket space, and (3) their equivalents." Enerquin argues that the term

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to provide a negative pressure in the pocket space for suctioning the web into contact with the wire on the substantially straight runs of the web-supporting wire between the drying cylinders and the leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is a blower connected by a duct to either (1) the chamber-like structure which substantially encloses the pocket space, or (2) the alternative structure which substantially encloses the pocket space and includes a blow box structure; and equivalents of either structure.

(JCCC at 12-13.)

Both parties agree that the term is a means-plus-function term that should be interpreted in accordance with 35 U.S.C. s. 112, para. 6. Moreover, both parties agree that the function of the claimed "means" is "to provide a negative pressure in the pocket space for suctioning the web into contact with the wire on the

substantially straight runs of the web-supporting wire between the drying cylinders and the leading cylinder." At issue, therefore, are the corresponding structures which perform this claimed function.

Enerquin argues that the specification specifically discloses two alternate embodiments which constitute the corresponding structure for the claimed function. The first embodiment cited to by Enerquin in the specification includes a chamber like structure consisting of (1) a wall and (2) a pair of transverse end plates:

An embodiment of the invention is illustrated in FIG. 6 in which substantially the entire free sector a of the mantle 31 of cylinder 30 is closed by means of a sealing arrangement 42 including seal ribs 42a, 42b. A separate suction duct 43a is provided within the enclosed pocket space T which communicates with the suction side of blower 44 through a duct 43 in which a regulating damper 43b is provided. The suction side of blower 44 also communicates with the interior 32 of suction cylinder 30 through duct 33, in which a damper 33b is provided, and suction duct 33a. By regulating the operation of blower 44, as well as independently regulating dampers 33b and 43b and, if necessary, the rate of the air flows A_1, the pressure levels P_0 and P_{01} can be adjusted both independently with respect to their magnitudes, as well as relative to each other.

(Ex. N, 236 patent at 7:16-31) (emphasis added.)

According to Enerquin, the specification makes clear that the claimed function of term [19] may be performed by a blower connected by a duct to the chamber-like structure which substantially encloses the pocket space.

The second embodiment cited to by Enerquin in the specification includes a structure consisting of (1) a blow box and (2) a pair of transverse end plates.

An embodiment of the invention is illustrated in FIG. 7 in which the level of negative pressure maintained in the enclosed pocket space T is maintained by means of *an ejection blowing E from a blow box 45*. Referring to FIG. 7, the normally open sector a of suction cylinder 30 is substantially entirely closed by interior sealing assembly 42, 42a, 42b. An appropriate level of negative pressure P0 is obtained in the interior 32 of cylinder 30 by means of blower 34 connected to suction duct 33a by duct 33. On the other hand, the negative pressure P_{01} is provided in the pocket space T by situating a blow box 45 at or in lieu of the wall 39 between the drying cylinders 10. A nozzle 46 in the blow box faces a gap space R2 into which ejection air jets E are directed from the nozzle in a direction opposite to the direction of movement of the cylinder 10 and the drawing wire 15 by means of *a blower 48 connected to the blow box 45 by duct 49*. The air jets E induce an ejection of air, designated by air flows A5, from the interior of the enclosed pocket space T.

(Ex. N, '236 patent at 7:32-51) (emphasis added.)

According to Enerquin, the specification makes clear that the claimed function of term [19] may also be performed by a single blower connected by a duct to the blow box forming part of the alternate structure which substantially encloses the pocket space.

Enerquin objects to Metso's proposed definition by arguing that Metso's construction goes beyond the specific structures which the specification clearly links to performing the recited function of term [19].

Specifically, Enerquin argues that Metso fails to identify the structure to which the blower and duct are connected, and objects to Metso's contention that there may be "one or more blowers" rather than a single blower. Moreover, Enerquin objects to Metso's contention that the corresponding structure may encompass a generic "suction device."

Metso argues that, contrary to Enerquin's contention, there is no requirement for the blower to be connected by a duct to the interior of the pocket space. Metso cites to the specification which indicates that blower 34 can maintain the negative pressure in both the interior 32 of the suction cylinder 30, as well as in the enclosed pocket chamber. (Ex. N, '236 patent at 6:36-40.) Blower 34 is connected to the interior of cylinder 30 rather than the interior of the pocket space.

As noted by Metso, the specification explicitly states that blower 34 maintains the negative pressure in the pocket space:

Referring to FIGS. 1-3, the evacuation of air from the interior of suction cylinder 30 effected by blower 34 through ducts 33, 33 *a,* causes air to flow from the interior of the enclosed pocket chamber 40 into the interior 34 of suction cylinder 30 as shown by arrows A2. In this manner, the suction generated by blower 34 maintains the negative pressure in both the interior 32 of the suction cylinder 30, as well as in the enclosed pocket chamber 40.

(Ex. N, '236 patent at 6:36-40) (emphasis added.)

As such, the specification clearly links a blower connected to the interior of the leading cylinder to the function of providing negative pressure in the pocket space.

Although the specification clearly links a blower connected to the leading cylinder to the claimed function, Enerquin cites to the patent history in arguing that the patentee disavowed the concept of creating and maintaining a negative pressure within the enclosed pocket space solely by means of the suction roll. Specifically, Enerquin notes that the PTO determined that the concept that "the enclosed pocket space is subjected to a negative pressure by means of the suction of the suction roll" was unpatentable. (Ex. O, '236 patent file history at FH 119, 121-124. In amending the pending claims of the application, the patentee then stated:

A third important difference between the *present invention as claimed* and the prior art relied upon by the Examiner is that, in accordance with Figs. 6 and 7 of the present application, there is also removed from the pocket space T either by means of the blower 44 (Fig.6) or by means of the ejection air jets E directed from the box 45, ejecting air in the direction of the arrow A5 from the interior of the enclosed pocket chamber 40 (Fig.7).

(Ex. O, '236 patent file history at FH 139-140) (emphasis added.)

However, this does not mean that the patentee disavowed the concept of creating and maintaining a negative pressure in both the pocket space and suction cylinder by means of a blow box connected to the suction roll that blows air through ducts. The patent history may indicate that the negative pressure in the pocket space may not be created merely by the suction roll, but it does not explicitly state that other devices that incorporate the suction roll are also disallowed. Given the explicit language in the specification, and the lack of an explicit disavowal in the patent history, a blower connected to the interior of the leading cylinder is

clearly linked to the recited function.

Metso also argues that more than one blower can be used because nowhere in the '236 patent or in its file history is there a statement that more than one blower cannot be used where the figures depict only one blower. Metso contends that while corresponding structures to a means claim term are limited to structures identified in the specification and their equivalents, corresponding structures are not limited to structures shown in the figures within the specification. As noted above, as a general rule, the article "a" carries the meaning of "one of more." KCJ Corp., 223 F.3d at 1356 (Fed.Cir.2000). Enerquin has not pointed to any explicit language in the specification which forecloses the possibility of there being an embodiment which involves more than one blower. The mere fact that the illustrated embodiments only show one blower does not mean that the patentee intended the claim to be limited to only one blower. *See* AbTox, 122 F.3d at 1023 ("standing alonge, a disclosure of a preferred or exemplary embodiment encompassing a singular element does not disclaim a plural embodiment."). Such being the case, the corresponding structure identified by the specification can include more than one blower.

As noted by Enerquin, Metso has not identified the structures to which the blowers are connected by ducts. In response, Metso offers up an alternative definition of term [19]: "(1) one or more blowers connected by one or more ducts to the pocket chamber and/or the leading cylinder...." As shown from this definition, Metso's definition describes the blowers being connected to the pocket space itself ("pocket chamber"), in contrast to Enerquin's proposed definition which describes the blowers as being connected by the ducts to the structures which enclose the pocket. However, this difference is minor, as either definition essentially describes the same structure.

The structure which encloses the pocket space is connected to the pocket chamber, and as such, ducts connecting to the structure enclosing the pocket space are essentially also connected to the pocket chamber. Moreover, the specification, with regards to the embodiment related to FIG. 6, states that "[a] separate suction duct 43a is provided within the enclosed pocket space T which communicates with the suction side of blower 44 through a duct 43." (Ex. N, '236 patent at 7:19-22) (emphasis added). Therefore, in the embodiment related to FIG. 6, the duct is more accurately described as being connected to the interior of the enclosed pocket space, rather than being connected to the structure enclosing the pocket space. As such, Metso's proposed definition describing the ducts as being connected to the pocket space ("pocket chamber") is more accurate, and will be adopted by the court.

Metso further argues that the negative pressure within the enclosed pocket space can be provided by several alternative structures described in the specification, including suction devices. Metso cites to the embodiments shown in FIGS. 4 and 5, and contends that these figures demonstrate that the free sector of the perforated mantle of the suction cylinder 30 is partially closed and sealed, and in this manner throttled air flows A_3 pass from the interior of the enclosed pocket chamber 40 into the interior of the suction cylinder 30 without a blower.

The specification describes structures which create a negative pressure in the pocket space without the use of a blower. Specifically, FIGS. 4 and 5 illustrate embodiments in which closing a free sector of the perforated mantle of the suction cylinder creates throttled air flows which in turn creates a negative pressure P_{01} in the pocket space:

The free sector of the perforated mantle 31 of the suction cylinder 30 that normally opens in its entirety into the interior of the enclosed pocket chamber 40 is partially closed and sealed by means of a covering plate 41

whose edges 41a and 41b are situated at a small gap distance from the outer surface of the cylinder 30. In this manner, throttled air flows A_3 pass from the interior of the enclosed pocket chamber 40 into the interior 32 of the suction cylinder 30.

...

Referring now to FIG. 5, a variation of the embodiment of the invention corresponding to that of FIG. 4 is illustrated. A closing chamber 42 is provided within suction cylinder 30 having seal ribs 42a and 42b at its edges that bear against the smooth inner surface of the mantle 31 of cylinder 30 so that a closed sector a of the normally open free sector is formed. In this case, limited suction flows A_4 flow from the interior of the chamber enclosing pocket space T into the interior 32 of cylinder 30. By choosing the magnitude of the sector a appropriately, the flows A_4 and, consequently, the pressure levels P_0 and P_{01} can be adjusted appropriately with respect to each other.

(Ex. N, 236 patent at 6:60-7:15.) (emphasis added.)

Given the above language, the specification clearly links structures which close a portion of the free sector to the function of providing a negative pressure in the pocket space (P_{01}). However, the specification does not merely identify any generic "suction device" that can generate a negative pressure in the pocket space, but rather identifies specific structures which partially close the normally open free sector. Specifically, the specification identifies a suction device including either (1) a covering plate whose edges are situated at a small gap distance from the outer surface of the leading cylinder or (2) a closing chamber located within the leading cylinder with seal ribs at its edges that bear against the inner surface of the mantle of the leading cylinder. Metso's proposed definition is too amorphous so as to allow one skilled in the art to readily ascertain what the claim means.

In sum, and for all the foregoing reasons, the court construes "means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder" to mean:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to provide a negative pressure in the pocket space for suctioning the web into contact with the wire on the substantially straight runs of the web-supporting wire between the drying cylinders and the leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is (1) one or more blowers connected by one or more ducts to either the pocket space and/or the leading cylinder; and (2) a suction device including either a covering plate whose edges are situated at a small gap distance from the outer surface of the leading cylinder, or a closing chamber located within the leading cylinder with seal ribs at its edges that bear against the inner surface of the mantle of the leading cylinder; and equivalents of either structure.

c. [20] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder

Metso argues that the term means "one or more blowers connected by one or more ducts to the interior of the leading cylinder, and/or one or more suction devices connected to the interior of the leading cylinder, which generates a negative pressure in the interior of the leading cylinder, and their equivalents." Enerquin argues that the term:

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to provide a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is a blower connected by a duct to the interior of the leading cylinder; and equivalents of such structure.

(JCCC at 13.)

The parties agree that the term is a means-plus-function term invoking 35 U.S.C. s. 112, p 6. The parties also agree that the function of the claimed "means" is "to provide a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder." Moreover, both parties agree that a "corresponding structure" from the specification involves a blower connected by a duct to the interior of the leading cylinder. The portion of the specification relating to this "corresponding structure" reads:

Air is evacuated from the interior 32 of the mantle 31 of each suction cylinder 30, preferably by means of *suction ducts,* designated 33a, which communicate with the cylinder interior 32 at its axle journals by means of *suction ducts* 33 in which a *blower* 34 is provided. The *blower* 34 produces a negative pressure within the interior 32 of suction cylinder 30.

(Ex. N, '236 patent at 5:17-24) (emphasis added.)

Enerquin argues that the referenced "blower" and "suction duct" are the only structures identified in the specification which are clearly linked to performing the recited function of term [20], and that Enerquin's proposed construction identifies these corresponding structures. Enerquin argues that Metso's construction improperly proposes that any generic suction device is a corresponding structure, and improperly identifies "one or more blowers," rather than a single blower.

Metso contends that in another embodiment of the invention in the specification, a suction device is identified as a possible structure to term [20]. Specifically, Metso argues that in this other embodiment air is evacuated from one or both axial ends of the suction cylinder by suction. The portions of the specification cited by Metso in support read:

In an example of the invention having a construction similar to that illustrated in FIG. 2, the suction cylinder 30 comprises a perforated roll from which air is evacuated from one or both of its axial ends.

...

Furthermore, it is possible to regulate both of these negative pressures. In particular, the negative pressure P_0 in the interior 30 of suction cylinder 30 can be regulated by adjusting the amount of air being suctioned.

...

If it is desired to vary the negative pressure in the cylinder 30, the suction from the cylinder can be either increased or reduced.

(Ex. N, '236 patent at 8:39-42; 8:63-66; 9:44-47.)

Although the specification describes how it is possible to vary the negative pressure by increasing or decreasing the air evacuated from the axial ends of the suction cylinder via suction, it does not identify any structures which performs this suctioning function. The recitation of a function (in this case "evacuating air via suction") which helps create the negative pressure within the interior of the cylinder is not equivalent to a recitation of a structure which performs this function. Indeed, this would be no different than contending that the corresponding structure which performs the function of "providing a negative pressure within the interior of said leading cylinder" is "a device which provides a negative pressure within the interior of said leading cylinder." Such being the case, a suction device is not clearly linked by the specification to the function recited in the claim.

However, with regards to the blower, which both parties agree is a corresponding structure, there is no limitation to it being a single blower or a single duct. Again, Enerquin has not pointed to any explicit language in the specification which forecloses the possibility of there being an embodiment which involves more than one blower, and the fact that the illustrated embodiments only show one blower and duct does not mean that the patentee intended the claim to be limited to only one blower and one duct.

In light of the above, the court construes the term "means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder" to mean:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to provide a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is one or more blowers connected by one or more ducts to the interior of the leading cylinder; and equivalents of such structure.

d. [21] a desirable drawing contact

Term [21] is the same term and has the same definition as term [12], defined above.

e. [22] sealing means

Term [22] is the same term and has the same definition as terms [13] and [17], defined above.

4. Claim 15 of the '236 Patent

Term [23] is found in Claim 15 of the '236 patent. Claim 15 states, in pertinent part (with the disputed term [23] in bold):

15. The apparatus of claim 6 wherein [23] said suction roll and said means for providing a negative pressure within the interior of said suction cylinder comprise separate suction ducts communicating with said pocket space and leading cylinder interior respectively, blower means communicating with said suction ducts, and pressure regulator means for independently selectively adjusting the negative pressures in said leading cylinder interior and said pocket space.

(Ex. N, '236 patent at 13:45-53.)

Metso argues that this term means "that there is a first suction duct that communicates with the pocket space and there is a second suction duct that communicates with the interior of the leading cylinder." Enerquin argues that this term is indefinite. (JCCC at 18.)

Both parties seem to agree that the phrase "said suction roll" refers to the same "cylinder" as recited in claim 6. However, Enerquin argues that, assuming that the "suction roll" is the same as the "cylinder" in claim 6, the claimed "cylinder" cannot alone "comprise separate suction ducts communicating with said pocket space and leading cylinder interior respectively" as required by claim 15. Moreover, Enerquin argues that it is nonsensical, as stated in the claim, that the "said suction roll" comprises a "suction duct" which communicates with the pocket space, or which communicates with the leading cylinder interior. According to Enerquin, the only way that the claim would make sense is if it were rewritten to state:

15. (corrected) The apparatus of claim 6 wherein [said suction cylinder] *said means for providing a negative pressure in said pocket space* and said means for providing a negative pressure within the interior of said suction cylinder comprise separate suction ducts communicating with said pocket space and leading cylinder interior respectively, blower means communicating with said suction ducts, and pressure regulator means for independently selectively adjusting the negative pressures in said leading cylinder interior and said pocket space.

(Def.'s Br. at 137) (underlined language inserted.)

In response, Metso argues that those skilled in the art would understand that this claim can be read to mean that there is a first suction duct that communicates with the pocket space and that there is a second suction duct that communicates with the interior of the leading or suction cylinder. Metso cites to a portion of the specification in support of its construction of term [23]:

A separate suction duct 43a is provided within the enclosed pocket space T which communicates with the suction side of blower 44 through a duct 43 ... The suction side of blower 44 also communicates with the interior 32 of suction cylinder 30 through a duct 33 ... and suction duct 33a.

(Ex. N, '236 patent at 7:19-26.)

Moreover, Metso argues that Enerquin is improperly defining the word "comprising" as "is." According to Metso, the proper definition of "comprising" is "including but not limited to." *See* CIAS, Inc. v. Alliance Gaming Corp., 504 F.3d 1356, 1360 (Fed.Cir.2007). Under this definition, Metso argues, term [23] recites that "the suction cylinder and said means for providing a negative pressure within the interior of said suction cylinder" together comprise: (1) separate suction ducts communicating with said pocket space and leading cylinder interior respectively; (2) blower means communicating with said suction ducts; and (3) pressure regulator means for independently selectively adjusting the negative pressures in said leading cylinder interior and said pocket space.

A full reading of claim 15 does not lead to the conclusion that term [23] is indefinite. Term [23] does not recite that a "suction cylinder" is a suction duct communicating with either the pocket space or the leading cylinder interior. Rather, reading the claim as a whole, the claim states that the "suction cylinder" and "means for providing a negative pressure within the interior of said suction cylinder" *together* are comprised of: (1) separate suction ducts communicating with the pocket space and the leading cylinder interior,

respectively; (2) blower means communicating with the suction ducts; and (3) pressure regulator means for independently selectively adjusting the negative pressures in the leading cylinder interior and the pocket space. The claim does not recite that the "suction cylinder" (or "suction roll") on its own must include every element of all three components included in the combined "suction cylinder" and "means for providing negative pressure."

Turning to the language of term [23], the word "respectively" clearly indicates that there is an order for the recited suction ducts. Namely, that the duct "communicating with said pocket space" is first, and that the duct "communicating with the "leading cylinder interior" is second. Metso's proposed definition is consistent with a full reading of claim 15, and does not add any additional language not found in the claim itself. Such being the case, the court construes "said suction roll and said means for providing a negative pressure within the interior of said suction cylinder comprise separate suction ducts communicating with said pocket space and leading cylinder interior respectively" to mean "said suction cylinder and said means for providing a negative pressure with the interior of said suction cylinder comprise separate suction ducts, the first suction duct communicating with the pocket space, and the second suction duct communicating with the interior of the leading cylinder."

5. Claim 24 of the '236 Patent

Terms [24]-[28] are found in Claim 24 of the '236 patent. Claim 24 states, in pertinent part (with the disputed terms [24]-[28] in bold):

24. Drying apparatus for use in paper machines, comprising: ... said straight runs of said wire between successive adjacent drying cylinders and said intermediate leading cylinder defining a pocket space together with the open section of said leading cylinder mantle, [24] said pocket space between said at least two drying cylinders being substantially enclosed by a[25] chamber-like structure defined by a wall situated in the space between said at least two drying cylinders, a pair of end plates situated at respective traverse ends of said pocket space and having opposed substantially straight edges spaced from respective straight runs of said web-supported wire by small gaps; [26] means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder; [27] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder ... [28] sealed by sealing means ...

(Ex. N, '236 patent at 14:26-15:20.)

a. [24] said pocket space between said at least two drying cylinders being substantially enclosed

Metso argues that the term has the same definition as term [15] "substantially enclosing said pocket space." Enerquin argues that while terms [24] and [15] are essentially the same, the language of its definition of term [24] is slightly different because term [15] recites a step of the method set forth in claim 2 of the '236 patent, and term [24] recites a structural relationship of the apparatus set forth in claim 24 of the '236 patent. As such, Enerquin contends that term [24] means "having closed off boundaries across (1) the area of the pocket space located between a pair of successive drying cylinders and (2) the transverse ends of the pocket space, so as to substantially prevent the passage of air therethrough." (JCCC at 20-21.) Although Enerquin proposes slightly different language given the difference in claim language between term [15] and [24], Enerquin agrees that term [24] should be construed consistently with term [15].

As noted above with the construction of term [15], "substantially enclosing said pocket space" means "substantially closing off the pocket space." However, as noted by Enerquin, the language in the claims are slightly different, as term [15] recites a step of the method set forth in claim 2 of the '236 patent, and term [24] recites a structural relationship of the apparatus set forth in claim 24 of the '236 patent. Such being the case, the definitions of term [15] and [24] are not identical. Given the construction of term [15], the phrase "being substantially enclosed" means "being substantially closed off." The language of the claim itself defines the area that is "being substantially closed off." Namely, the claim states that it is the pocket space between two drying cylinders. As such, the court construes "said pocket space between said at least two drying cylinders being substantially enclosed" to mean "the pocket space located between a pair of drying cylinders being substantially closed off."

b. [25] a chamber-like structure

Metso argues that the term means "a structure shaped and positioned so as to substantially close off the pocket space or pocket area." Enerquin argues that the term means "a structure comprising a wall situated in the area between a pair of successive drying cylinders, said wall spanning the entire cross-machine width of the chamber-like structure, and a pair of opposing end plates which define the bounds of the cross-machine width of the structure." (JCCC at 21.)

Enerquin argues that the term is defined within the claim, and that its proposed definition is consistent with the definition found in the claim. As noted by Enerquin, claim 24 states:

enclosed by a[25] chamber-like structure defined by a wall situated in the space between said at least two drying cylinders, a pair of end plates situated at respective traverse ends of said pocket space and having opposed substantially straight edges spaced from respective straight runs of said web-supported wire by small gaps;

(Ex. N, '236 patent at 14:51-58.)

Enerquin is correct that Metso's proposed definition is overly broad given the language in the claim itself. The claim specifically defines the boundaries of the chamber-like structure as being (1) a wall situated in the space between said at least two drying cylinders; and (2) a pair of end plates situated at respective traverse ends of said pocket space and having opposed substantially straight edges spaced from respective straight runs of said web-supported wire by small gaps.

Although Metso concedes that claim 24 may require specific elements, it again argues that the limitations Enerquin proposes of a particular "wall" that extends across "the entire cross-machine width" is improper. Metso cites the same portion of the specification it used in support of its construction of claim [18]:

Although the enclosed pocket space of the invention disclosed herein extends across the entire width of the web W, it will be understood that this invention has application in arrangements in which the negative pressure extends over only a part of the width of the web.

(Ex. N, '236 patent at 9:48-52) (emphasis added.)

Again, there is nothing in the language of the claim or specification which requires the referenced "wall" to span the entire cross-machine width" of the chamber-like structure. The "chamber-like structure" is defined

in the claim, and as such, the court construes "chamber-like structure" to mean "a structure which substantially closes off the pocket space, and comprising a wall situated in the space between at least two drying cylinders, and a pair of end plates situated at respective traverse ends of the pocket space and having opposed substantially straight edges spaced from respective straight runs of the web-supported wire by small gaps."

c. [26] means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder

Metso argues that the term is the same and has the same definition as term [19] found in claim 6 of the '236 patent, which was defined above. Enerquin argues that terms [19] and [26] are not identical, and contends that term [26]

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to provide a negative pressure in the pocket space for suctioning the web into contact with the wire on the substantially straight runs of the web-supporting wire between the drying cylinders and the leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is a blower connected by a duct to the chamber-like structure which substantially encloses the pocket space; and equivalents of such structure.

(JCCC at 21.)

Enerquin argues that while claim 6 requires a "means for substantially enclosing [the] pocket space," (term [18]) and a "means for providing a negative pressure in said pocket space ..." (term [19]), claim 24 does not merely require a "means for substantially enclosing [the] pocket space." Rather, according to Enerquin, claim 24 requires a certain "chamber-like structure," which is of a narrower scope than the "means for substantially enclosing [the] pocket space" found in claim 6. As such, Enerquin argues that [26] is accordingly also of a narrower scope than term [19].

Enerquin argues that the specification makes clear that the claimed function of term [26] can only be performed by a blower connected by a duct to the chamber-like structure which substantially encloses the pocket space:

An embodiment of the invention is illustrated in FIG. 6 in which substantially the entire free sector a of the mantle 31 of cylinder 30 is closed by means of a sealing arrangement 42 including seal ribs 42a, 42b. A separate suction duct 43a is provided within the enclosed pocket space T which communicates with the suction side of blower 44 through a duct 43 in which a regulating damper 43b is provided. The suction side of blower 44 also communicates with the interior 32 of suction cylinder 30 through duct 33, in which a damper 33b is provided, and suction duct 33a. By regulating the operation of blower 44, as well as independently regulating dampers 33b and 43b and, if necessary, the rate of the air flows A1, the pressure levels P_0 and P_{01} can be adjusted both independently with respect to their magnitudes, as well as relative to each other.

(Ex. N, '236 patent at 7:16-31) (emphasis added.)

Enerquin also cites claim 6, which it argues requires the pocket space to be "substantially enclosed by a

chamber-like structure defined by a wall situated in the space between said at least two drying cylinders [and] a pair of end plates situated at respective traverse ends of said pocket space."

Although claim 24 requires a "chamber-like structure" to substantially enclose the pocket space, the language in claim 24 does not state that this "chamber-like structure" is the only structure which can produce a negative pressure in the pocket space. As discussed with regards to term [19], there are other structures which can produce a negative pressure in the pocket space. There is nothing in the language of claim 24 which precludes these other structures from being a corresponding structure which performs the function recited in claim 24 (and which is identical to the function recited in claim 6). Such being the case, the court construes term [26] identically to term [19].

d. [27] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder

Both parties agree that term [27] has the same meaning as term [20].

e. [28] sealing means

Both parties agree that this term has essentially the same meaning as terms [13], [17], and [22]. As noted by Enerquin, the language in claim 24 is slightly different in describing the function of term [28]. Accordingly, the court construes the function of term [28] as being "to partially close and seal the free sector of the perforated mantle of the leading cylinder such that a throttled flow of air flows from the interior of the enclosed pocket chamber into the interior of the leading cylinder to thereby provide a desired magnitude of negative pressure within the enclosed pocket chamber and within the interior of the leading cylinder." The corresponding structures are identical to those described with regards to term [13].

6. Claim 27 of the '236 Patent

Term [29] is found in Claim 27 of the '236 patent. Claim 27 states, in pertinent part (with the disputed term [29] in bold):

27. The apparatus of claim 24, ... such that ... the web remains ... in [29] a desirable drawing contact with the wire as the wire travels over said leading cylinder with the web carried on its outer face.

(Ex. N, '236 patent at 15:34-42.)

Both parties agree that term [29] is the same term and has the same definition as terms [12] and [21].

6. Claim 30 of the '236 Patent

Terms [30]-[38] are found in Claim 30 of the '236 patent. Claim 30 states, in pertinent part (with the disputed terms [30]-[38] in bold):

30. Drying apparatus for use in web coating machines, comprising: ... [30] said pocket space between said at least two drying cylinders being substantially enclosed by [31] a chamber-like structure defined by a wall situated in the space between said at least two drying cylinders, a pair of end plates situated at respective traverse ends of said pocket space and having opposed substantially straight edges spaced from respective straight runs of said web-supported wire by small gaps; said wall provided with [32] sealing means to

substantially enclose said pocket space in conjunction with said pair of end plates and said free sector of said leading cylinder; [33] means for providing a negative pressure within in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder; and [34] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder; said means for providing a negative pressure within said pocket space and means for providing a negative pressure within the interior of said leading cylinder comprises [35][36] a blower connected by [37] a first duct means to said pocket space and by [38] a second duct means to said interior of said leading cylinder, and dampers provided on said first duct means and said second duct means, such that regulation of said blower by said dampers causes the pressure levels within said pocket space and said interior of said leading cylinder to be adjusted both independently with respect to their magnitudes and with respect to each other.

(Ex. N, '236 patent at 15:54-16:46.)

a. [30] said pocket space between said at least two drying cylinders being substantially enclosed by [31] a chamber-like structure

Both parties agree that terms [30] and [31] are the same terms and have the same definitions as terms [24] and [25], respectively.

b. [32] sealing means

Metso argues that the term means "one or more seals, an elastic sealing web or their equivalents." Enerquin argues that the term:

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the "sealing means" is to substantially enclose the pocket space in conjunction the wall of the chamber-like structure, the pair of opposing end plates of the chamber-like structure, and the free sector of the leading cylinder. The corresponding structure identified in the specification which is clearly linked to the identified function is an adjustable sealing element connected to each cross-machine edge of the wall of the chamber-like structure, each sealing element spanning the entire cross-machine width of the chamber-like structure; and equivalents of such structures.

(JCCC at 26.)

The parties dispute both the claimed function of term [32] and the corresponding structure linked to performing the claimed function. Enerquin argues that the function is clearly recited by the language of the claim itself, and is therefore "to substantially enclose the pocket space in conjunction with the wall of the chamber-like structure, the pair of opposing end plates of the chamber-like structure, and the free sector of the leading cylinder."

Metso argues that the claimed function is "to reduce leakage flow and/or adjust the magnitude of one or more gaps between the blow box wall (39) and the wire 15 for the purpose of regulating the amount of air passing into the enclosed pocket space defined by the pocket chamber 40." (Pl.'s Br. at 44; citing Ex. N, '236 patent at 6:13-19, 5:61-6:4, 7:53-55.)

Given that the claim itself specifically defines the function of the claimed "sealing means," and states that

the wall of the chamber-like structure is provided with "sealing means" to "substantially enclose said pocket space in conjunction with said pair of end plates and said free sector of said leading cylinder," the court construes the function of the claimed "sealing means" to be to "substantially enclose the pocket space in conjunction with the wall of the chamber-like structure, the pair of opposing end plates of the chamber-like structure, and the free sector of the leading cylinder."

As to the corresponding structure which performs the claimed function, Enerquin argues that the claimed "sealing means" consists of a pair of adjustable sealing elements, with each element being connected to a respective transverse edge of the wall of the chamber-like structure. In support, Enerquin cites to the portion of the specification which provides:

The chamber-like structure 40 enclosing the pocket space T further includes a wall 39 situated in the space between the cylinders 10 and extending transversely to the machine direction as best seen in FIG. 8. *Sealing elements 39a and 39b are adjustably connected to respective transverse edges of the wall 39* and are spaced a small gap distance d_3 (FIG.2) from the wire 15 running over cylinders 10. Thus, the pocket space T is substantially enclosed by the straight runs of the web-carrying wire 15 and the pocket chamber 40 including the two end plates 35, the free or open sector of the suction roll 30, and the wall and sealing means 39, 39a, 39b. By "free sector" of suction cylinder 30 is meant the sector of the mantle not covered by the web-carrying wire 15.

...

The *seals 39a and 39b* of wall means 39 *are adjustably positionable* so that the magnitude of the gaps d_3 can be adjusted as desired for the purpose of regulating the amount of air passing into the enclosed pocket space defined by pocket chamber 40, designated by arrows A_1.

(Ex. N, '236 patent at 5:58 through 6:18) (emphasis added.)

Metso agrees with Enerquin that one of the corresponding structures which performs the claimed function consists of a pair of adjustable sealing elements, 39a and 39b, which are adjustably connected to the transverse edges of the wall 39 of the chamber-like structure (FIGS.1, 2, 4, 5, 6). However, Metso argues that the specification identifies an additional corresponding structure, namely, a single "elastic sealing web" 47 that is specifically shown in the embodiment shown in FIG. 7. (FIG. 7; Ex. N, '236 patent at 51-54) ("On the side of the blow box 45 opposite from the ejection nozzle 46, an elastic sealing web 47 is provided to reduce leakage flow A_0 into the enclosed pocket space as much as possible."). Metso also disputes Enerquin's requirement that "each sealing element" span "the entire cross-machine width of the chamber-like structure," again citing a portion of the specification relating to term [18]. ('236 patent at 9:48-10:3.)

As an initial matter, again there is nothing in the language of the claim or specification which requires each sealing element to span the entire cross-machine width of the chamber-like structure. With regards to whether there must be two sealing elements, or whether a single "elastic sealing web" is a corresponding structure, the primary issue is whether the embodiment shown in FIG. 7 is within the scope of claim 30. Enerquin argues that the embodiment shown in FIG. 7 is not within the scope of claim 30. According to Enerquin, the claim itself, the specification, and the prosecution history of the '236 patent demonstrate that claim 30 was specifically drafted to cover the embodiment illustrated in FIG. 6, and that the willfully cancelled claim 40 was drafted to cover FIG. 7. In support, Enerquin first cites to a response by the patentee

to an Office Action rejecting all pending claims of the '236 patent:

A third important difference between the present invention as claimed and the prior art relied upon by the Examiner is that, in accordance with Figs. 6 and 7 of the present application, there is also removed from the pocket space T *either* by means of the blower 44 (Fig.6) *or* by means of the ejection air jets E directed from the box 45, ejecting air in the direction of the arrow A_5 from the interior of the enclosed pocket chamber 40 (Fig.7). The same aim as set forth above is achieved by these structures, i.e ., adjusting the negative pressure level P_{01} in the interior 32 of the cylinder 30 in absolute level and in inter-relationship.

This third important difference between the present invention and the prior art is set forth in new dependent apparatus claims 28 and 29 and 34-35 and new independent apparatus claims 36 and 40.

(See Ex. O, '236 patent file history at FH 139-140) (emphasis added.)

Enerquin then cites portions of application claim 40:

means for providing a negative pressure in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinder and said leading cylinder; and means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder; said negative pressure within the pocket space being provided by means of an air ejection box situated proximate to a first one of said drying cylinders, said air ejection box blowing jets of air in a direction substantially opposite to the direction of the web-carrying wire traveling over said first one of said drying cylinders, said air jets causing air to be ejected from said pocket space.

(Ex. O, '236 patent file history at FH 136-137) (emphasis added.)

According to Enerquin, this prosecution history demonstrates that the patentee drafted application claim 40 to specifically cover the embodiment illustrated in FIG. 7, and the patentee, having willfully cancelled application claim 40, cannot now try to recapture the scope of that same claim as part of the claim construction process.

Metso, on the other hand, argues that the issue is what claim 30 covers, and not what cancelled application claim 40 covered. According to Metso, the structures recited in claim 30 are also illustrated in FIG. 7. Moreover, Metso argues that there is no evidence that application claim 36 was specifically drafted to cover FIG. 6, and that application claim 40 was drafted to cover FIG. 7.

To begin with, the language of the specification, and the embodiment illustrated in FIG. 7, support a finding that a single "elastic sealing web" performs the function recited for term [32]. Indeed, the specification explicitly describes an "elastic sealing web" which reduces the amount of air that flows into the enclosed pocket space. This function is essentially identical to the adjustable sealing elements which regulate "the amount of air passing into the enclosed pocket space." (Ex. N, '236 patent at 6:17-18.) Indeed, Enerquin does not argue that the "sealing web" does not perform the function recited in the claim. Rather, Enerquin relies solely on the prosecution history to support its contention that claim 30 does not cover FIG. 7.

However, the prosecution history does not establish that claim 30 does not cover FIG. 7. At most, the prosecution history may indicate that application claim 40 was originally intended to cover the embodiment

illustrated in FIG. 7, and that application claim 36 (which issued as claim 30) was originally intended to cover the embodiment illustrated in FIG. 6. However, this does not mean that claim 30, as issued, cannot still cover structures illustrated in FIG. 7. There is no language in the patent history which indicates that the structural features in FIG. 7 cannot also be covered by claim 30. The mere fact that application claim 40 was cancelled does not mean that the structural features found in FIG. 7 are subsequently not covered by any claim in the '236 patent, regardless of whether the structures found in FIG. 7 are clearly linked to performing a function recited in a claim in the '236 patent. As noted by Metso, it is just as plausible (if not more plausible) to infer that the patentee cancelled application claim 40 because it was duplicative of issued claim 30.

Given that an "elastic sealing web" is clearly linked to performing the function recited by term [32], and there is no language in the patent history which indicates that FIG. 7 cannot be covered by claim 30, the court will include an "elastic sealing web" as a corresponding structure for the claimed "sealing means." As to the first corresponding structure involving the pair of adjustable sealing elements, Metso's proposed definition is too broad. The specification does not merely identify "one or more seals" as a corresponding structure, but specifically identifies a structure with adjustable sealing elements connected to the respective transverse edges of the wall of the chamber-like structure. Such being the case, the court construes "sealing means" to mean:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the "sealing means" is to substantially enclose the pocket space in conjunction with the wall of the chamber-like structure, the pair of opposing end plates of the chamber-like structure, and the free sector of the leading cylinder. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) adjustable sealing elements connected to respective transverse edges of the wall of the chamber-like structure; and (2) a single elastic sealing web; and equivalents of such structures.

c. [33] means for providing a negative pressure within in said pocket space for suctioning the web into contact with the wire on the substantially straight runs of said web-supporting wire between said drying cylinders and said leading cylinder

The parties agree that the term "is not a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6 because the claim itself later identifies the structure which performs the function of 'providing a negative pressure in said pocket space." ' (JCCC at 26.)

d. [34] means for providing a negative pressure within the interior of said leading cylinder for suctioning the web into contact with the wire as the wire travels over said leading cylinder

The parties again agree that the term "is not a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6 because the claim itself later identifies the structure which performs the function of 'providing a negative pressure within the interior of said leading cylinder." ' (JCCC at 27.)

e. [35] a blower connected by a first duct means to said pocket space and by a second duct means to said interior of said leading cylinder

Metso argues that the term means "one or more blowers connected by 'a first duct means' to the pocket space and connected by a 'second duct means' to the interior of the leading cylinder." Enerquin argues that the term means "a single blower having a suction side, said suction side connected by a first duct to the pocket space and by a second duct to the interior of the leading cylinder." (JCCC at 27.)

Enerquin argues that although the article "a" typically carries the meaning of "one or more," this is an exception because the patentee has evidenced a clear intent to limit the article "a" to mean "one." *See* Tivo,, 516 F.3d at 1303. Enerquin argues that the language of the claim itself, as well as the specification, make clear that the patentee's use of the term "a blower" should be construed to mean "a single blower." Enerquin first notes that the claim itself states:

said means for providing a negative pressure within said pocket space and means for providing a negative pressure within the interior of said leading cylinder comprises *a blower connected* by a first duct means to said pocket space *and by* a second duct means to said interior of said leading cylinder, and dampers provided on said first duct means and said second duct means, *such that regulation of said blower* by said dampers causes the pressure levels within said pocket space and said interior of said leading cylinder to be adjusted both independently with respect to their magnitudes and with respect to each other.

(Ex. N, '236 patent at 16:34-46) (emphasis added.)

Enerquin then cites the specification of the '236 patent which discloses a specific embodiment covered by claim 30:

An embodiment of the invention is illustrated in FIG. 6 in which substantially the entire free sector a of the mantle 31 of cylinder 30 is closed by means of a sealing arrangement 42 including seal ribs 42a, 42b. A separate suction duct 43a is provided within the enclosed pocket space T which *communicates with the suction side of blower 44* through a duct 43 in which a regulating damper 43b is provided. The *suction side of blower 44* also communicates with the interior 32 of suction cylinder 30 through duct 33, in which a damper 33b is provided, and suction duct 33a. *By regulating the operation of blower 44,* as well as independently regulating dampers 33b and 43b and, if necessary, the rate of the air flows A_1, the pressure levels P_0 and P_{01} can be adjusted both independently with respect to their magnitudes, as well as relative to each other.

(Ex. N, '236 patent at 7:16-31) (emphasis added.)

Metso, on the other hand, again points to the embodiment illustrated in FIG. 7, which depicts two blowers, one of which is connected to the pocket space, and the other to the interior of the leading cylinder. According to Metso, "a blower" is not restricted to one blower because FIG. 7 clearly describes two blowers.

To begin with, "a blower" can be read to encompass "one or more blowers." As noted above with regards to term [14], an exception to the general rule that 'a' or 'an' means more than one only arises where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule. Although FIG. 6 clearly describes an embodiment which only involves one blower, there is no explicit language in the claim, specification, or patent history which establishes that FIG. 6, rather than being a preferred embodiment of the claim, strictly defines the limits of the term.

To be sure, Enerquin argues that the language of the claim itself clearly indicates that the pocket space and interior of the leading cylinder are connected to a single blower. In support, Enerquin cites *Tivo,* in which the Federal Circuit found that the claims and written description of the term made it clear that the singular meaning applied. 516 F.3d at 1303. Specifically, the court found that "[t]he pertinent claim language refers to 'assembl[ing] said video and audio components into an MPEG stream,' which in context clearly indicates

that two separate components are assembled into a single stream, not that the video components are assembled into one stream and the audio components into a second stream" *Id*. The court noted that other portions of the claim clearly described "the separation of a single stream into two components and then reassembly of the components into a single stream." *Id*. at 1303-4. Moreover, the court emphasized that the "assembles" limitation did not contain the "open-ended term 'comprising." ' *Id*. at 1304.

Unlike the claim language in *Tivo,* in this case the open-ended term "comprises" refers to the term in question, giving rise to the general rule that "a" means "one or more." *See* KCJ Corp., 223 F.3d at 1356 ("[t]his court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising." '). Moreover, unlike the claim language in *Tivo,* the claim language in the context of claim 30 does not clearly indicate that the claim is limited to a single blower. The claim merely states that "a blower" is connected by a first and second duct means to the pocket space and interior of the leading cylinder, and construing "a blower" to mean "one or more blowers" is not inconsistent with this language. Enerquin appears to argue that the use of the phrase "a blower" in and of itself is evidence that the term means a "single blower, which is contrary to the general rule regarding the use of the word "a."

The second issue is whether each of the "one or more blowers" must be connected to both the first and second duct means. The language of the claim, although somewhat ambiguous, does not appear to require that this be the case. Indeed, Enerquin notes that Metso's proposed definition that "one or more blowers connected by 'a first duct means' to the pocket space and connected by a 'second duct means' to the interior of the pocket space" ' encompasses a scenario in which a blower is connected by a duct to the pocket space and a separate blower is connected by a second duct to the interior of the leading cylinder. As such, it is necessary to look to the specification and patent history for clarification as to the meaning of term [35].

As noted by Metso, FIG. 7 clearly describes an embodiment in which two blowers are connected by separate ducts to the pocket space and the interior of the leading cylinder. Moreover, as discussed above with regards to term [32], there is no language in the patent history which indicates that FIG. 7 cannot be covered by claim 30. The existence of FIG. 7, as well as the lack of intrinsic evidence which would indicate that the embodiment illustrated in FIG. 6 was meant to limit the term, lead to the conclusion that claim 30 encompasses a scenario in which a blower is connected by a duct to the pocket space and a separate blower is connected by a second duct to the interior of the leading cylinder.

In sum, the court construes "a blower connected by a first duct means to said pocket space and by a second duct means to said interior of said leading cylinder" to mean "one or more blowers connected by a first duct to the pocket space and connected by a second duct to the interior of the leading cylinder."

f. [36] "a blower"

Both parties agree that the term has the same definition as claim term [14] defined above.

g. [37] a first duct means and [38] a second duct means

Metso argues that these terms are a means-plus-function terms, and that the function of both the "a first duct means" and the "a second duct means" is to connect a blower to the pocket space, and that the corresponding structure is one or more ducts. Enerquin argues that the terms are not means-plus-function terms, and that they mean "a first duct" and a "second duct," respectively. (JCCC at 28.) Enerquin contends that these terms are not means-plus-function terms because the terms are structural in nature, and the phrase

"duct means" simply means "a duct."

Although "[t]he use of the word 'means' 'triggers a presumption that the inventor used this term advisedly to invoke the statutory mandate for means-plus-function clauses." ' this presumption may be overcome in two ways. York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1574 (Fed.Cir.1996); Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1347 (Fed.Cir.2002). First, an element of a claim "that uses the word 'means' but recites no function corresponding to the means does not invoke s. 112, P 6." Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302 (Fed.Cir.1999)). Second, if the claim element does specify a function, "if it also recites sufficient structure or material for performing that function, s. 112, P 6 does not apply." *Id*. "The mere use of the word 'means' after a limitation, without more, does not suffice to make that limitation a means-plus-function limitation ." Allen Eng'g, 299 F.3d at 1347.

Here, the claim elements do not recite a function. Rather, they merely identify a structure, namely ducts. As noted by Enerquin, "duct means" simply means "a duct" in the context of the claim. Such being the case, the claimed "duct means" are not means-plus-function limitations.

However, the parties agree that both "first duct means" and "second duct means" may encompass multiple ducts. As such, the court construes both terms to mean "one or more ducts."

7. Claim 31 of the '236 Patent

Term [39] is found in Claim 31 of the '236 patent, and is the same term as terms [12], [21], and [29]. Claim 31 states, in pertinent part (with the disputed term [39] in bold):

31. The apparatus of claim 30, wherein ... the web remains substantially wrinkle-free and in [39] a desirable drawing contract with the wire ...

(Ex. N, '236 patent at 16:47-53.)

The parties agree that term [39] has the same definition as terms [12], [21], and [29].

8. Claim 32 of the '236 Patent

Term [40] is found in Claim 32 of the '236 patent, and is essentially the same term as terms [13], [17], [22], and [28]. Claim 32 states, in pertinent part (with the disputed term [40] in bold):

32. The apparatus of claim 30, wherein ... said free sector being partially closed and sealed by [40] sealing means ...

(Ex. N, '236 patent at 16:56-60.)

As noted by Enerquin, the claim language with regards to the function of term [40] is slightly different from that found with term [13]. The court therefore construes the function of term [40] to be

to partially close and seal the free sector of the perforated mantle of the leading cylinder such that a throttled flow of air flows from the interior of the enclosed pocket chamber into the interior of the leading cylinder to thereby provide a desired magnitude of negative pressure within the pocket chamber and within the interior of the leading cylinder.

C. The '277 Patent

The parties dispute the meaning of 26 terms that appear in the asserted claims of the '277 patent. Each of these terms has been identified and numbered sequentially as [41]-[66] by the parties in the JCCC.

1. Claim 1 of the '277 Patent

Terms [41]-[46] are found in Claim 1. Claim 1 states, in pertinent part (with the disputed terms [41]-[46] in bold):

1. A support system for use with the dryer section of a papermachine ..., the system comprising: [41] a blowbox assembly including [42] means for directing air out of the pocket region to induce regions of subatmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other of the drying cylinders to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric and [43] so that upon a reduction of the energy expended by the vacuum source associated with the turning roll, [44] constant sub-atmospheric conditions can be maintained within the pocket region by [45] increasing the expenditure of energy of the [46] air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source.

(Ex. P, '277 patent at 8:23-61.)

a. [41] a blowbox assembly

Metso argues that the term means "one or more structures for blowing one or more streams of air to create a negative pressure in the pocket region." Enerquin argues that the term means

a structure comprising and bounded by a pair of opposing side panels spanning the entire cross-machine dimension of the structure, a lower panel spanning the entire cross-machine dimension of the structure and extending between the lower ends of the side panels, an upper panel spanning the entire cross-machine dimension of the structure and extending between the upper ends of the side panels, and a pair of opposing end panels extending across and joining the side panels, lower panel and upper panel, said end panels defining the bounds of the cross-machine dimension of the structure.

(JCCC at 30-31.)

Enerquin argues that, although the plain language of claim describes the functional aspects of the "blowbox assembly," the claim language is ambiguous as to what the "blowbox assembly" is by way of structure. Thus, Enerquin contends that it is necessary to look at the specification to construe the term in its proper context. Enerquin argues that the specification describes only one embodiment of the invention, specifically the embodiment shown in FIG. 2, described as "the blowbox assembly of the system embodiment [ ] shown in transverse cross section." (Ex. P, '277 patent at 3:22-24). The specification provides with reference to FIG. 2:

Within the depicted system 20, the air-directing means 50 includes a blowbox assembly 52 having a *pair of opposite side panels 56, 58* which are each supported in spaced and generally parallel relationship with a

corresponding one of the incoming and offgoing runs 44 and 46 of the carrier fabric 32, a *lower panel 60* which extends and is joined between the side panels 56, 58 and an *upper panel 62* which extends between the side panels 56, 58 adjacent the upper ends thereof. *End panels 68* (best shown in FIG. 3) extend across and are joined to the side panels 56, 58 at each end of the assembly 52. It follows that the interior of the blowbox assembly 52 is bounded by the aforedescribed panels 56, 58, 60, 62 and 68.

(Ex. P, '277 patent at 5:17-29) (emphasis added.)

According to Enerquin, the specification makes it clear that the claimed "blowbox assembly" requires a pair of opposite side panels, a lower panel, an upper panel, and a pair of end plates. Moreover, Enerquin argues that the specification (as shown in FIG. 3) makes it clear that each of the panels must span the entire cross-machine dimension of the blowbox assembly itself (i.e. across the entire distance between the two end plates of the claimed "blowbox assembly").

Metso argues, similarly to its argument regarding term [5] of Claim 11 of the '380 patent, that there is nothing in the claim, specification, or file wrapper that requires there to be side panels, a lower panel, an upper panel, or a pair of opposing end panels, and there is nothing that requires that these panels span the entire cross-machine dimension. According to Metso, Enerquin is improperly trying to restrict the claim to an embodiment described in the specification which does not describe the invention as a whole.

Metso cites to the "SUMMARY OF THE INVENTION" in support of its broader definition, which describes the apparatus of the invention as "a support system" for use with the dryer section of a paper machine:

The system includes means for directing air out of the pocket region to induce regions of sub-atmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other drying cylinder to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing runs of the carrier fabric and so that upon a reduction of the energy expended by the vacuum source associated with the turning roll, constant sub-atmospheric conditions can be maintained within the pocket region by increasing the expenditure of energy of the air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source.

(Ex. P, '277 patent at 2:48-63.)

Metso also cites to the embodiment depicted in FIG. 2, which describes the general operating principles of the blow box assembly:

The operating principles of a blowbox are known so that a detailed description of such principles is not believed to be necessary. Suffice it to say that as streams of air are discharged from the nozzles 64 and 66 in directions generally away from the incoming and offgoing runs 44 and 46 of the fabric 32, air is drawn from the pocket region 40 so that a vacuum zone (i.e. a region of sub-atmospheric pressure) is created within the narrow gap, or spacing 36, located between the side panel 46 and the incoming run 44 and within the narrow gap, or spacing 38 located between the side panel 58 and the offgoing run 46.

(Ex. P, '277 patent at 5:35-45) (emphasis added.)

Again, as similarly discussed with regard to term [5], although the embodiment illustrated in FIG. 2 in the specification describes in detail the structural components of a blow box assembly, the language of the specification and the claim indicate that they are simply specific examples of blow box assemblies. Indeed, the specification states that "[i]t will be understood that numerous modification and substitutions can be had to the aforementioned embodiment without departing from the spirit of the invention ... [a]ccordingly, the aforedescribed embodiments are intended for the purpose of illustration and not as limitation. (Ex. P, '277 patent at 8:13-21.)

In essence, Enerquin argues that the blow box assembly must have certain structural features because the only embodiment which discusses a blow box assembly contains these features. However, as noted above, this contention has been expressly rejected by the Federal Circuit. See Phillips, 415 F.3d at 1323 (the Federal Circuit has "expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment."). Enerquin has not pointed to any language in the specification which explicitly limits the scope of the invention to having a particular number and type of walls which span the entire cross-machine width of the structure, or which indicate that these structural components are necessary for the blow box to accomplish its goal of ejecting gas.

In addition, as noted by Metso, the principles of claim differentiation also support a broader definition of "blow box assembly." Under the doctrine of claim differentiation, there is a presumption that dependent claims 2 and 3 of the '277 patent claim different subject matter than claim 1, and Enerquin's construction of claim 1 would result in double inclusion of claim elements in dependent claims 2 and 3. Dependent claim 2 reads, in pertinent part:

2. The system as defined in claim 1 wherein the blowbox assembly includes a blowbox having panels disposed adjacent the incoming run, the offgoing run and said peripheral surface of the turning roll ...

(Ex. P, '277 patent at 8:62-65.)

The panels identified in claim 2 appear to correspond to the side panels 56 and lower panel 60 that Enerquin seeks to import into claim through its definition of "blowbox assembly." Unlike claim 2, claim 1 does not explicitly contain an explicit limitation of side panels.

Dependent claim 3 reads:

3. The system as defined in claim 2 wherein each of the pair of drying cylinders and the turning roll has two ends and a length as measured between the two ends, and the pocket region extends along the length of the pair of drying cylinders and the turning roll between which the pocket region is defined and terminates adjacent the ends of the drying cylinders and the turning roll, and the blowbox assembly further includes:

an end panel joined to and extending between the blowbox panels adjacent the ends of the drying cylinders and turning roll; and

the means for directing air further includes edge nozzles mounted upon the panels of the blowbox for directing air laterally out of the pocket region at the ends of the drying cylinders and the turning roll to help maintain the sub-atmospheric conditions along the incoming run and along the offgoing run.

(Ex. P, '277 patent at 9:4-20.)

The "end panel" of claim 3 would appear to be the same "end panel" Enerquin seeks to import into claim 1 by its definition of "blowbox assembly." Unlike claim 3, claim 1 does not contain any mention of end panels. Moreover, the text of claim 3 requires the blowbox assembly of claim 3 to extend the length of the drying cylinders and turning roll, and Enerquin appears to be importing this limitation into claim 1 through the use of its "spanning the entire cross-machine dimension of the structure" limitation. Claim 1 does not contain any mention of elements extending the length of the drying cylinders and turning rolls.

Given that the limitations found in claims 2 and 3 are not found in independent claim 1, there is a presumption that these limitation are not present in claim 1. Although the particular embodiment described in FIG. 2 describes a blow box assembly containing the limitations found in claims 2 and 3, I cannot say that the specification indicates that the limitations found in this specific embodiment are meant to create this limitation for claim 1. The language in the specification does not state that the limitation is applicable to the invention as a whole.

As noted by both parties, the plain language of claim 1 describes several functional aspects of the "blowbox assembly." Specifically, the language of claim 1 states that the blowbox assembly directs air out of the pocket region to induce regions of sub-atmospheric conditions along an incoming and outgoing run of the carrier fabric. Moreover, as noted above by Metso, the specification describes the basic operating principles of a blow box, namely that a blow box discharges streams of air to create a region of sub-atmospheric pressure.

Such being the case, the court construes "blow box assembly" to mean "one or more structures for blowing one or more streams of air to direct air out of the pocket region to induce regions of negative pressure along an incoming and outgoing run of the carrier fabric."

b. [42] means for directing air out of the pocket region to induce regions of subatmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other of the drying cylinders to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric

Metso argues that the term means "a device that blows air in the recited direction to generate the recited effects and its equivalents." Enerquin argues that the term

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to direct air out of the pocket region to induce regions of sub-atmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other of the drying cylinders to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric. The corresponding structure identified in the specification which is clearly linked to the identified function is a pair of opposing cross-machine nozzles disposed along the edges of the upper panel of the blowbox, said nozzles spanning the entire cross-machine dimension of the blowbox [and equivalents of such structures]. In order to satisfy the claimed function, the cross-machine nozzles must both cause air to be discharged

upwardly and out of the pocket region.

(JCCC at 31-32.)

The parties agree that the term is a means-plus-function term invoking 35 U.S.C. s. 112, para. 6. The parties also agree as to the claimed function. At issue, therefore, is the corresponding structure linked to performing the claimed function.

Enerquin cites to the portion of the specification it contends identifies the structures which perform the claimed function.

Disposed along opposite edges of the upper panel 62 are cross-machine nozzles 64 and 66 (FIG.2) for receiving pressurized air from an air supply (e.g. a high-pressure industrial fan) and for discharging the air through elongated slots formed along the length of the nozzles 64 and 66.

The operating principles of a blowbox are known so that a detailed description of such principles is not believed to be necessary. Suffice it to say that as streams of air are discharged from the nozzles 64 and 66 in directions generally away from the incoming and offgoing runs 44 and 46 of the fabric 32, air is drawn from the pocket region 40 so that a vacuum zone (i.e. a region of sub-atmospheric pressure) is created within the narrow gap, or spacing 36, located between the side panel 56 and the incoming run 44 and within the narrow gap, or spacing 38, located between the side panel 58 and the offgoing run 46. In the depicted assembly 52, the air which exits the nozzles 64 and 66 is forced generally upwardly along the surfaces of the runs 44 and 46 and out of the pocket region 40 through the air space 42 which separates the adjacent drying cylinders 22 and 24 from one another so that the boundary layer of air which normally moves along the surface of the moving web 32 as the web 32 moves into and out of the pocket region 40 is peeled away from the web surface 32 by the discharged air streams. The resulting difference in air pressure which exists on the side of the web 34 opposite the fabric 32 biases the web 34 against the fabric 32 and thereby helps to prevent a separation between the web 34 and the fabric 32 as the fabric/web arrangement move along each of the incoming and offgoing runs 44 and 46.

(Ex. P. '277 patent at 5:29-59) (emphasis added.)

Enerquin argues that the only structures identified in the specification clearly linked to performing the recited function of term [42] are the above referenced "cross-machine nozzles." Moreover, according to Enerquin, the specification makes clear that in order for the "cross-machine nozzles" to actually perform the recited function, the nozzles must discharge air "upwardly ... and out of the pocket region."

Metso agrees that the "cross-machine nozzles" identified in the specification with reference to FIG. 2 are a corresponding structure to term [42]. However, Metso argues that there is no requirement in the claim, specification, or file wrapper that the cross-machine nozzles span the entire cross-machine dimension of the blow box assembly. Moreover, Metso argues that there is no requirement that the air exiting the nozzle be forced "generally upwardly." Rather, the specification teaches that the air be discharged "generally away from the incoming and offgoing runs"

Although the specification states that the cross-machine nozzles are "disposed along opposite edges of the upper panel," this does not necessarily mean that they must span the entire cross-machine dimension of the blow box assembly. There is no language in the claim, specification, or file wrapper which would support

the inclusion of this additional limitation. Moreover, although the specification describes a particular embodiment in which the air exiting the nozzle is forced "generally upward," the specification also explicitly describes a situation in which air exiting the nozzle is more generally "discharged from the nozzles in directions generally away from the incoming and offgoing runs." As such, the corresponding structure is not limited to cross-machine nozzles which cause air to be discharged "generally upward," but rather includes cross-machine nozzles which cause air to be discharged "in directions generally away from the incoming and offgoing runs."

Metso also argues that there is another corresponding structure identified in the embodiment shown in FIG. 3 and described in the specification, wherein the blow box assembly includes edge nozzles:

With reference to FIGS. 3 and 4, the blowbox assembly 52 also includes an arrangement of *edge (machine-direction) nozzles 76, 78* mounted adjacent the side edges of the end panels 68 at each end of the assembly 52 for directing air away from the incoming and offgoing runs 44 and 46 at the (longitudinal) ends of the pocket region 40 where the sub-atmospheric spacing 36 provided between the side panel 56 and the incoming run 44 and the sub-atmospheric spacing 38 provided between the side panel 58 and the offgoing run 46 would otherwise be exposed to the atmospheric conditions surrounding, or outboard of, the papermachine 18. To this end, each edge nozzle 76 or 78 is mounted along an end of a corresponding side panel 56 or 58 so as to extend substantially the entire length therealong and is appropriately connected to a source of pressurized air for directing air away from the incoming and offgoing runs 44 and 46 and generally laterally with respect to the dryer section 16, as best shown in FIG. 4. Thus, the edge nozzles 76, 78 utilize blowbox air principles to reduce the internal air pressure adjacent the ends of the aforedescribed spacings 36 and 38 and *thereby help maintain the air pressure within and along the aforedescribed spacings 36 and 38 at a sub-atmospheric condition*.

(Ex. P, '277 patent at 6:4-26) (emphasis added.)

As an initial matter, and as noted by Enerquin, FIGS. 2 and 3 illustrate the same embodiment. The specification explicitly states that "FIG. 3 is a fragmentary perspective view of an end section of the blowbox assembly of the FIG. 2 embodiment, shown exploded." (Ex. P, '277 patent at 3:25-27.) However, this does not mean that the same embodiment cannot identify two separate corresponding structures which are clearly linked to the claimed function of term [42].

The specification clearly links the edge nozzles depicted in FIG. 3 to the function of maintaining the air pressure within and along gap spaces at a sub-atmospheric condition. Enerquin argues that although the edge nozzles contribute to maintaining the conditions which have already been induced by the cross-machine nozzles, the edge nozzles cannot induce in the first instance sub-atmospheric conditions along the incoming and offgoing runs of the web. At issue, therefore, is whether "maintaining" sub-atmospheric conditions is an entirely different function than "inducing" sub-atmospheric condition.

Given that the edge nozzles "utilize blowbox air principles to reduce the internal air pressure" to help maintain sub-atmospheric conditions, these edge nozzles must also be capable of inducing, at least to some degree, sub-atmospheric conditions. The specification discusses the operating principles of blow boxes, and describes how streams of air are discharged from nozzles such that air is drawn from the pocket region so that a region of sub-atmospheric pressure is created within the narrow gap. The specification indicates that the end nozzles operate in essentially the same way as the cross-machine nozzles. Although the cross-machine nozzles may be primarily responsible for creating the sub-atmospheric pressure, the edge nozzles

help maintain this pressure by also creating sub-atmospheric pressure utilizing the same blow box principles as the cross-machine nozzles. The claim does not recite that the function is to induce sub-atmospheric conditions in the first instance, but rather simply that it is to induce sub-atmospheric conditions by directing air out of the pocket region. The specification clearly links the edge nozzles to this function.

Both sides also argue that their stances on the inclusion or exclusion of edge nozzles is supported by the doctrine of claim differentiation. As noted by both parties, claim 3 recites that "the means for directing air" includes edge nozzles for directing air laterally out of the pocket region to help maintain the sub-atmospheric conditions.

The system as defined in claim 2 wherein ... the means for directing air further includes edge nozzles mounted upon the panels of the blowbox for directing air laterally out of the pocket region at the ends of the drying cylinders and the turning roll to help maintain the sub-atmospheric conditions along the incoming run and along the offgoing run.

(Ex. P, '277 patent at 9:4-20) (emphasis added.)

Although under the doctrine of claim differentiation there is a presumption that the limitation of edge nozzles which help maintain sub-atmospheric conditions is not present in independent claim 1, this does mean that this additional structure (edge nozzles) and function (maintaining sub-atmospheric conditions) are not still encompassed by the broad language found in claim 1. As discussed above, the language of claim 1 supports a finding that edge nozzles which maintain the sub-atmospheric conditions are a corresponding structure.

The doctrine of claim differentiation also includes a presumption that the independent claim must also include the embodiment recited in a claim dependent on the independent claim. In this case, dependent claim 3 states that the "means for directing air" includes edge nozzles which direct air out of the pocket region in order to help maintain the sub-atmospheric conditions. There is thus a presumption that the "means for directing air" found in independent claim 1 would also encompass the edge nozzles specifically included in dependent claim 3.

In sum, and for all the foregoing reasons, the court construes "means for directing air out of the pocket region to induce regions of subatmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other of the drying cylinders to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric" to mean:

a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to direct air out of the pocket region to induce regions of sub-atmospheric conditions along an incoming run of the carrier fabric moving from the surface of one of the drying cylinders onto the surface of the turning roll and along an offgoing run of the carrier fabric moving from the surface of the turning roll to the surface of the other of the drying cylinders to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric. The corresponding structures identified in the specification which are clearly linked to the identified function are (1) a pair of opposing cross-machine nozzles disposed along the edges of the upper panel of the blowbox, which cause air to be discharged in directions generally away from the incoming and offgoing runs; and (2)

edge (machine-direction) nozzles mounted adjacent the side edges of the end panels, which direct air away from the incoming and offgoing runs at the (longitudinal) ends of the pocket region; and equivalents of either structure.

c. [43] so that upon a reduction of the energy expended by the vacuum source associated with the turning roll, [44] constant sub-atmospheric conditions can be maintained within the pocket region by [45] increasing the expenditure of energy of the [46] air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source.

Metso argues that term [43] "defines a function of the support system such that if there is a reduction in the energy expended by the vacuum source, a lesser increase in energy of the air directing means will maintain the sub-atmospheric condition within the interior of the turning roll." (JCCC at 32.) The parties do not dispute the meaning of term [43].

d. [44] constant sub-atmospheric conditions can be maintained within the pocket region

Metso argues that the term means "sub-atmospheric pressure conditions may be maintained within the pocket region." Enerquin argues that the term means

maintaining an invariable sub-atmospheric pressure along the cross-machine width of the nip regions of the pocket region, said nip region defined by the juncture between the incoming run of the carrier fabric and the turning roll, and the juncture between the offgoing run of the carrier fabric and the turning roll.

(JCCC at 33.)

Enerquin argues that the plain and ordinary meaning of the term "constant" is "not changing or varying; uniform; regular; invariable." (Random House Dictionary Of The English Language, 2nd Edition (1987) at p.435). Enerquin contends that the specification supports the view that the term "constant" must be construed as "invariable," and that the claimed "constant sub-atmospheric conditions" must be maintained at the "nip regions."

The foregoing energy-related advantage has been confirmed with tests whose results are plotted in the graphs of FIGS. 5, 6 and 7 and was an unexpected result prior to the performance of these tests. In particular, within the FIG. 5 graph, there is plotted the necessary pressure of the blowbox assembly nozzles 64, 66 to maintain a constant (sub-atmospheric) pressure within the nip regions 90, 92 (FIG.2) of the pocket regions 52 as a function of machine speed and contributions of the vacuum source 30. It can be seen from the FIG. 5 graph that in order to maintain a constant nip (sub-atmospheric) pressure at a machine speed of 1700 meters per minute, a fifty-percent reduction in the strength of the vacuum generated by the vacuum source necessitates an increase in the nozzle pressure of only about forty percent. Similarly, in order to maintain a constant nip (sub-atmospheric) pressure at a machine speed of 1800 meters per minute, a fifty-percent reduction in the strength of the vacuum generated by the vacuum source necessitates an increase in the nozzle pressure of only about forty-five percent.

Similarly, within the graphs of FIGS. 6 and 7, there is depicted the effect of an adjustment in the air volumes of the (vacuum) turning roll and the blowbox at the nip region 90 (FIG.2) at machine speeds of 1500 m/minute and 1800 m/minute. In particular, the pressure (in pascals) measured within the nip region 90 is plotted along the ordinates of these graphs as a function of blowbox air volume and the turning roll air volume. It can be seen from these graphs that a reduction in the turning roll air volume from 100% to 56%

at either of the machine speeds of 1500 or 1800 m/minute results in an change in the nip pressure which can be compensated for by a less-than-corresponding increase in the blowbox air flow. For example within the FIG. 6 graph, it can be seen that with the vacuum roll air at 100% and the blowbox air at 120% induces a *nip pressure of about -250 Pa*. If the vacuum roll air is reduced to 56%, the blowbox air would have to be increased by only [(140 minus 120)/ 120] x 100%, or about 17%, *in order to maintain a constant nip pressure of about -250 Pa*.

(Ex. P, '277 patent at 7:6-43) (emphasis added.)

Enerquin also argues that the specification expressly defines the "nip regions" as being "the two regions of the pocket which are closest to the locations at which the fabric/web arrangement moves onto and then off of, respectively, the surface 48 of the turning roll 27 and are identified in FIG. 2 as 90 and 92." (Ex. P, '277 patent at 6:33-37.)

In contrast, Metso argues that the claim itself refers more broadly to "pocket region," rather than the specific "nip regions" identified by Enerquin. Metso notes that while the specification refers to specific "nip regions," the specification is not limited to "nip regions."

The system 20 has also been found to be particularly advantageous for reducing the total energy requirements necessary for maintaining the pocket region 40 in a sub-atmospheric condition when used in conjunction with the vacuum source 30 associated with the turning roll 26. For example, in order to maintain a desirable constant (sub-atmospheric) pressure within the pocket region 40, a compensation for the reduction in the pressure generated by the vacuum source 30 can be made by a less-than-corresponding increase in the pressure of the blowbox assembly nozzles. Similarly, an increase in the pressure of the blowbox assembly nozzles permits a more-than-corresponding reduction in the pressure generated by the vacuum source 30.

...

Therefore, over a relatively broad range of machine speeds, it is more energy-efficient, and consequently more cost-efficient, to induce (and strengthen, if necessary) sub-atmospheric conditions within the pocket region 40 by increasing the nozzle pressure at the blowbox assembly 52 rather than by increasing the strength of the vacuum generated by the vacuum source 30.

(Ex. P, '277 patent at 6:60-7:5, 7:55-62) (emphasis added.)

A full reading of the specification supports the view that, although the specification refers to specific "nip regions," the referenced nip regions are only particular examples of a broader system of maintaining constant sub-atmospheric conditions in the pocket region. The portion of the specification immediately preceding the more specific discussion of maintaining sub-atmospheric conditions in the nip regions explicitly speaks of maintaining these constant conditions more generally "within the pocket region 40." The paragraphs discussing the nip regions outline specific examples of maintaining a constant sub-atmospheric pressure within the pocket region, and the language of the specification makes clear that these are only representative examples. Namely, the specification states that the "[t]he foregoing energy-related advantage" resulting from using system 20 to maintain a constant sub-atmospheric pressure within the pocket region 40 "has been confirmed with tests whose results are plotted in the graphs of FIGS. 5, 6 and 7 ... In particular, within the FIG. 5 graph, there is plotted the necessary pressure of the blowbox assembly nozzles 64, 66 to

maintain a constant (sub-atmospheric) pressure within the nip regions ..." (Ex. P, '277 patent at 7:6-12.)

Given that the specification describes maintaining constant sub-atmospheric conditions in the pocket region generally, and the language of the claim itself also describes a more general pocket region, it is improper to import the limitation that the claim only applies to the nip regions within the pocket region.

The next issue to address is the meaning of the word "constant." Metso argues that there is no requirement that the sub-atmospheric pressure across the entire cross-machine width be invariable, as the sub-atmospheric conditions within the pocket are a range of values rather than one value. Metso contends that the language "a desirable constant (sub-atmospheric) pressure within the pocket region means that the pressure at any given location within the pocket space can be maintained even if the pressure in the suction cylinder is reduced. In other words, according to Metso, "if pressure is measured at any given location of the pocket space, and the pressure of the suction cylinder is reduced, the pressure of the blowbox assembly may be increased by a lesser amount, such as to achieve the same pressure measurement at the same location within the pocket space, as previously taken." (Pl.'s Br. at 52.) Metso also notes that "sub-atmospheric conditions" is plural.

Enerquin concedes that different areas of the pocket space will have different values of sub-atmospheric pressure, and that the nip areas would have different sub-atmospheric pressures than other areas of the pocket region. Enerquin argues, however, that this does not mean that the sub-atmospheric pressure at the nip region itself is variable.

Given that term [44] is not limited to the nip regions, the meaning of term [44] is not limited to maintaining an invariable sub-atmospheric pressure solely at these nip regions. However, Metso's proposed definition essentially reads out the word "constant" from term [44], and the specification makes it clear that maintaining a constant sub-atmospheric pressure means that the sub-atmospheric pressure does not vary at a particular region within the pocket region (for example, at the nip regions where a "constant" nip pressure of about -250 Pa is maintained). The specification and claim appear to use the plain and ordinary meaning of the term "constant", which is "invariable."

For all the foregoing reasons, the court construes "constant sub-atmospheric conditions can be maintained within the pocket region" to mean "invariable sub-atmospheric conditions may be maintained at any given location within the pocket space."

e. [45] increasing the expenditure of energy of the [46] air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source

Metso argues that term [45] means "increasing the expenditures of energy of the [46] 'air directing means' defined below and does not recite a step as part of the system but rather is part of the language describing the function of the support system." Enerquin argues that the term "recites a step as part of the system of claim 1," and that "[a] single claim which claims both a system and a method step is indefinite." (JCCC at 33.) The parties agree that term [46] "air directing means" refers back to the claimed [42] "means for directing air."

The Federal Circuit has held that "reciting both an apparatus and a method of using that apparatus renders a claim indefinite under section 112, paragraph 2." IPXL Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377, 1384 (Fed.Cir.2005) (citing *Ex parte* Lyell, 17 USPQ2d 1548 (BPAI 1990). The court in *IPXL* noted

that such a claim was indefinite because "as a result of the combination of two separate statutory classes of invention, a manufacturer or seller of the claimed apparatus would not know from the claim whether it might also be liable for contributory infringement because a buyer or user of the apparatus later performs the claimed method of using the apparatus." *Id*. "[S]uch a claim 'is not sufficiently precise to provide competitors with an accurate determination of the 'metes and bounds' of protection involved' and is 'ambiguous and properly rejected' under section 112, paragraph 2. *Id*. (quoting citing *Ex parte* Lyell, 17 USPQ2d at 1550-51.) In finding that the particular claim at issue was indefinite, the court based its decision on the lack of clarity as to "whether infringement of claim 25 occurs when one creates a system that allows the user to [practice the claimed method step], or whether infringement occurs when the user actually [practices the method step]." *Id*.

However, "apparatus claims are not necessarily indefinite for using functional language." Microprocessor Enhancement Corp. v. Tex. Instruments Inc., 520 F.3d 1367, 1375 (Fed.Cir.2008) (citing Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244, 1255 (Fed.Cir.2008)). "A single patent may include claims directed to one or more of the classes of patentable subject matter, but no single claim may cover more than one subject matter class." Id. at 1374.

Enerquin argues that the final clause of claim 1 (corresponding to term [45]) goes beyond the use of functional language because it recites steps of a method to be carried out on the claimed system by the system's user or operator. Enerquin contends that claim 1 requires the presence of (1) a turning roll having an associated vacuum source, and (2) a blowbox assembly having an air-directing means. According to Enerquin, although these structures may be adjustable (i.e. being capable of having the energy expenditure associated with each of the particular structures adjusted), that capability alone does not correspond to any of the language recited in claim 1 of the '277 patent. Enerquin argues that there is an improper mixing of apparatus and method elements because claim 1 requires the performance of a particular adjustment to these structures: "increasing the expenditure of energy of the air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source." Enerquin contends that this requirement has nothing to do with any capability of the claimed system, but rather commands the performance of a particular action by a user or operator of the claimed system.

Enerquin cites a portion of the specification in support of its argument that claim 1 includes steps to be taken to reduce energy expenditure:

As far as the total power consumption is concerned (i.e. the combined expenditure of power by the blowbox nozzles and the vaccum source 30), in order to achieve a desired underpressure (i.e. a sub-atmospheric condition) across, for example, between the lower panel 60 and the surface 48 of the turning roll 26, it is beneficial to reduce the turning roll air amount as much as possible and compensate for this reduction by increasing the blowbox nozzle pressure. For example, to maintain a constant pocket pressure over a relatively broad range of machine speeds, a fifty percent reduction in the turning roll air flow will result in a fifteen to twenty-five percent lower total power consumption.

Therefore, over a relatively broad range of machine speeds, it is more energy-efficient, and consequently more cost-efficient, to induce (and strengthen, if necessary) sub-atmospheric conditions within the pocket region 40 by increasing the nozzle pressure at the blowbox assembly 52 rather than by increasing the strength of the vacuum generated by the vacuum source 30. Thus, the system 30 has the capacity to reduce the overall energy expenditure of the system 20 and vacuum source 30 in order to satisfactorily bias the carrier fabric 34 against the web 32 as the fabric/web arrangement moves between the drying cylinders 22

and 24, and the system 20 is advantageous in this respect.

(Ex. P, '277 patent at 7:44-67) (emphasis added.)

Enerquin contends that the specification makes clear that in order to reduce energy expenditure, two steps must be taken: (1) reducing the energy expenditure of the vacuum source and (2) increasing the energy expenditure of the air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source. Enerquin argues that it is these steps that form the final clause of claim 1 (terms [43]-[46]).

In contrast, Metso argues that the disputed claim language is functional in nature. Specifically, Metso argues that claim 1 of the '277 patent covers a "support system" which is configured so that when the energy expended by the vacuum source is reduced, to obtain the same "sub-atmospheric conditions" within the pocket space, the "energy expenditure of the air-directing means" is increased by a "less amount." According to Metso, claim 1 does not require "a user" of the system to make adjustments, but rather the claimed apparatus will by its design function as recited in the claim.

Metso distinguishes the language in claim 1 from the language in cases which found that the claim impermissibly recited both an apparatus and a method. Metso notes that in *IPXL,* the applicant specifically claimed "The system of claim 2 wherein ... a user uses the input means to either change the predicted transaction ..." 430 F.3d at 1384. In this case, as noted by Metso, there is no language similar to "a user uses."

The language of claim 1, although it uses language which references a method,FN4 does not recite both an apparatus and a method such that the term is rendered indefinite. The language which invokes a method found in term [45] relates to a functional capability of the claimed apparatus. Claim 1 does not describe a method, but rather describes an apparatus which has the capability of achieving results when a particular method is employed.

FN4. Claim 13 is the method claim relating to the method language found in term [45], and states: "13. A process ... comprising the steps of: ... reducing the energy expenditure of the vacuum source; and increasing the energy expenditure of the air-directing means to maintain the condition along the incoming run and the offgoing run at a constant sub-atmospheric level." (Ex. P, '277 patent at 12:52-14-8.)

The language of claim 1 supports this interpretation. Claim 1 describes a support system comprising "means for directing air out of the pocket region to induce regions of sub-atmospheric pressure ... to reduce the likelihood of separation of the web from the carrier fabric ... so that upon a reduction of the energy associated with the turning roll, constant sub-atmospheric conditions can be maintained within the pocket region by increasing the expenditure of energy of the air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source." (Ex. P, '277 patent at 8:13-61) (emphasis added.)

The phrase "so that" is of particular importance.FN5 The use of the phrase "so that," rather than a word such as "and," clearly indicates in the context of the other claim language that the language following the phrase "so that" recites a functional capability of the claimed apparatus, rather than a separate method step. In essence, claim 1 reads that the support system comprises an apparatus which has the functional capability of

maintaining constant sub-atmospheric conditions within the pocket region when there is a reduction of the energy associated with the turning roll through increasing the expenditure of energy of the air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source.

FN5. Metso notes that a search for the phrase "so that" in patents having the term "apparatus" in their title resulted in 155,826 hits, and argues that this means the phrase "so that" is used frequently to introduce functional language. However, without any context as to how "so that" is used in these patents, the mere existence of this phrase in numerous patents does not provide any support for an inference that "so that" is used to introduce functional language in the '277 patent.

This is in contrast to the claim language found in *IPXL,* which read:

The system of claim 2 [including an input means] wherein the predicted transaction information comprises both a transaction type and transaction parameters associated with that transaction type, *and the user uses* the input means to either change the predicted transaction information or accept the displayed transaction type and transaction parameters.

430 F.3d at 1384 (emphasis added).

As noted by the court in *IPXL,* this language makes it unclear whether infringement occurs when one creates a system to "either change the predicted transaction information or accept the displayed transaction type," or when the user "actually uses the input means to change transaction information or uses the input means to accept a displayed transaction." *Id*. The claim in *IPXL* could conceivably be read to state: "The system of claim 2 wherein ... the user uses the input means to either change transaction information or uses the input means to accept a displayed transaction," which would be a method claim. Unlike the claim in *IPXL,* claim 1 does not allow for a similar reading. Claim 1 cannot be read to describe "a support system wherein the user increases the expenditure of energy ..." Rather, the language of claim 1 clearly links "increasing the expenditure of energy ..." to a functional capability of the apparatus. Claim 1 can only be read as describing an apparatus which has a particular functional capability.

Such being the case, the court construes "increasing the expenditure of energy of the [46] air-directing means by an amount which is less than the amount of the reduction of energy expended by the vacuum source" to mean "increasing the expenditure of energy of the air-directing means as defined above with respect to term [42] by an amount which is less than the amount of the reduction of energy expended by the vacuum source." Term [45] is part of the language which describes the function of the support system.

2. Claim 2 of the '277 Patent

Terms [47]-[49] are found in Claim 2. Claim 2 states, in pertinent part (with the disputed terms [47]-[49] in bold):

2. The system as defined in claim 1 wherein the blowbox assembly includes a blowbox having [47] panels disposed [48] adjacent the incoming run, the offgoing run and said peripheral surface of the turning roll, and [49] nozzle means associated with the blowbox for directing air out of the pocket region to induce regions of sub-atmospheric conditions between the incoming run and a corresponding one of the blowbox panels and

between the offgoing run and another corresponding one of the blowbox panels.

(Ex. P, '277 patent at 8:62-9:3) (emphasis added.)

a. [47] panels

Metso argues that "panels" means "surfaces." Enerquin argues that "panels" means "solid sheets of material spanning the entire cross-machine width of the blowbox assembly." (JCCC at 34.)

Enerquin argues that the plain language of claim 2 is ambiguous as to the meaning of "panels," and cites to a portion of the specification referencing Fig. 2 to support its construction of the term:

Within the depicted system 20, the air-directing means 50 includes a blowbox assembly 52 having a pair of opposite *side panels 56, 58* which are each supported in spaced and generally parallel relationship with a corresponding one of the incoming and offgoing runs 44 and 46 of the carrier fabric 32, a *lower panel 60* which extends and is joined between the side panels 56, 58 and an upper panel 62 which extends between the side panels 56, 58 adjacent the upper ends thereof. End panels 68 (best shown in FIG. 3) extend across and are joined to the side panels 56, 58 at each end of the assembly 52. It follows that the interior of the blowbox assembly 52 is bounded by the aforedescribed panels 56, 58, 60, 62 and 68.

...

With reference still to FIG. 2, the lower panel 60 of the depicted blowbox assembly 52 which is joined between the lower edges of the side panels 56 and 58 is shaped generally complimentary to the surface of the turning roll 26. In addition, the lower panel 60 is supported in relatively close proximity to the surface of the roll 26 so as to span substantially the entire distance around the aforedescribed peripheral surface sector 48 of the roll 26 which extends between the location thereon at which the incoming run 44 moves onto the turning roll 26 and the location thereon at which the offgoing run 44 moves off of the roll 26.

(Ex. P, '277 patent at 5:17-29, 5:60-6:3) (emphasis added.)

Enerquin also cites to FIG. 3, which it argues depicts a solid sheet of material which spans the entire distance between the two end plates of the claimed "blowbox assembly."

Metso argues that the term "panels" has its ordinary dictionary definition: "3: a separate or distinct part of a surface." (Webster's Third New International Dictionary, Ed. Grover Philip Babcock, G & C Merriam Co. (1969), at p. 1630). Metso contends that there is no support for the use of "solid sheets," and, as with term [41] "blowbox assembly", there is no "entire cross-machine limitation."

As an initial matter, Enerquin does not object to removing the word "solid" from its construction, such that panels means "sheets of material spanning the entire cross-machine width of the blowbox assembly." As such, the court will not include the word "solid" in its construction of the term "panels." Moreover, for the reasons discussed above with regard to term [41], it is improper to import the limitation that the "panels" span the entire cross-machine width of the blowbox assembly. Again, although the specification reveals an embodiment in which the "panels" appear to span the cross-machine width, there is no language in the claim or specification indicating that the invention is limited to one particular embodiment.

There is no language in the claim or specification indicating that the term "panels" should be construed in a way that differs from its plain and ordinary meaning. Such being the case, the court construes "panels" to mean "surfaces."

b. [48] adjacent

Metso argues that "adjacent" means "nearby, such that there is no other intervening structure." Enerquin argues that "adjacent means "in close proximity to."

In support of its construction, Enerquin cites to the same portion of the specification as above with respect to "panels," particularly noting the phrase "lower panel 60 is supported in relatively close proximity to the surface of the roll 26." (Ex. P, '277 patent at 5:63-65.) Enerquin objects to Metso's definition because it argues that under Metso' definition the panels could be relatively distant as long as there was no other intervening structure there between.

Metso argues that its definition is consistent with the term's conventional usage, and cites the dictionary definition of "adjacent": "la: not distant or far off ... b: relatively near and having nothing of the same kind intervening ... "(Webster's Third New International Dictionary, Ed. Grover Philip Babcock, G & C Merriam Co. (1969), at p. 26).

The dictionary definition appears to accurately reflect the term's usage in the claim and in the specification. The specification describes a panel "in relatively close proximity to" the surface of the roll, which essentially matches the portion of the dictionary definition stating that "adjacent" means "relatively near." To be sure, Enerquin argues that Metso's definition could encompass structures which are relatively distant as long as there was no intervening structure positioned between. However, that is not what Metso's proposed definition says. Rather, Metso's proposed definition includes the word "nearby," and the dictionary definition of "nearby" is "close to." (Webster's Third New International Dictionary, Ed. Grover Philip Babcock, G & C Merriam Co. (1969), at p. 1510.) Structures which are relatively distant to one another could not also be "close to" each other.

Such being the case, the court construes "adjacent" to mean "in relatively close proximity to, such that there is no other intervening structure."

c. [49] nozzle means

Metso argues that the term means "nozzles and structures for receiving pressurized air from an air supply and for discharging the air and equivalents thereto." Enerquin argues that the term:

is a means-plus-function claim term pursuant to 35 U.S.C. s. 112, para. 6. The function of the claimed "means" is to direct air out of the pocket region to induce regions of sub-atmospheric conditions between the incoming run and a corresponding one of the blowbox panels and between the offgoing run and another corresponding one of the blowbox panels. The corresponding structures identified in the specification which are clearly linked to the identified function are a pair of opposing cross-machine nozzles disposed along the edges of the upper panel of the blowbox, said nozzles spanning the entire cross-machine dimension of the blowbox [and equivalents of such structures]. In order to satisfy the claimed function, the cross-machine nozzles must both cause air to be discharged upwardly and out of the pocket region.

(JCCC at 34.)

The parties agree that "nozzle means" is a means-plus-function term" invoking 35 U.S.C. s. 112, para. 6. The parties also agree that the function of the "nozzle means" is "to direct air out of the pocket region to induce regions of sub-atmospheric conditions between the incoming run and a corresponding one of the blowbox panels and between the offgoing run and another corresponding one of the blowbox panels."

The parties' arguments in support of their constructions are essentially the same as those found in the discussion of term [42] of Claim 1 of the '277 patent. Moreover, the claimed "nozzle means" appears to be the same "means for directing air" found in term [42]. Such being the case, the court construes term [49] identically to term [42].

3. Claim 4 of the '277 Patent

Terms [50]-[55] are found in Claim 4. Claim 4 states, in pertinent part (with the disputed terms [50]-[55] in bold):

4. A support system ... comprising: [50] a blowbox assembly including a blowbox having [51] panels disposed [52] adjacent the incoming run, the offgoing run and said peripheral surface of the turning roll, and [53] means associated with the blowbox for directing air away from the incoming run and the offgoing run to induce regions of sub-atmospheric conditions between the incoming run and one of the blowbox panels and between the offgoing run and another of the blowbox panels [54] thereby enabling the energy expended by the vacuum source associated with the turning roll to maintain sub-atmospheric condition within the interior of the turning roll to be reduced as [55] the energy expended by the air directing means of the blowbox assembly is increased by an amount which is less than the reduction in energy of the vacuum source.

(Ex. P, '277 patent at 9:21-10:2.)

a. [50] a blowbox assembly; [51] panels; [52] adjacent

The parties agree that term [50] is the same term and has the same meaning as term [41], that term [51] is the same term and has the same meaning as term [47], and that term [52] is the same term and has the same meaning as term [48].

b. [53] means associated with the blowbox for directing air away from the incoming run and the offgoing run to induce regions of sub-atmospheric conditions between the incoming run and one of the blowbox panels and between the offgoing run and another of the blowbox panels

Term [53] is essentially the same as term [42]. The only difference is slightly modified language used to recite the function of term [53]. Metso argues that the function of term [53] is

for directing air away from the incoming run and the offgoing run to induce regions of sub-atmospheric conditions between the incoming run and one of the blowbox panels and between the offgoing run and another of the blowbox panels thereby enabling the energy expended by the vacuum source associated with the turning roll to maintain sub-atmospheric condition within the interior of the turning roll to be reduced as the energy expended by the air directing means of the blowbox assembly is increased by an amount which is less than the reduction in energy of the vacuum source.

Enerquin argues that the function of term [53] is:

to direct air out of the pocket region to induce regions of sub-atmospheric conditions between the incoming run and a corresponding one of the blowbox panels and between the offgoing run and another corresponding one of the blowbox panels.

(JCCC at 34; Pl.'s Reply Br. at 57-58)

The explicit language of the claim itself defines the function of term [53]. As noted above with regards to term [45], the language "enabling the energy expended by the vacuum source associated with the turning roll to maintain sub-atmospheric condition ..." is part of the language describing the function of the "means for directing air." Such being the case, the court construes the function of term [53] to be

to direct air away from the incoming run and the offgoing run to induce regions of sub-atmospheric conditions between the incoming run and one of the blowbox panels and between the offgoing run and another of the blowbox panels thereby enabling the energy expended by the vacuum source associated with the turning roll to maintain sub-atmospheric condition within the interior of the turning roll to be reduced as the energy expended by the air directing means of the blowbox assembly is increased by an amount which is less than the reduction in energy of the vacuum source.

c. [54] thereby enabling the energy expended by the vacuum source associated with the turning roll to maintain sub-atmospheric condition within the interior of the turning roll to be reduced as [55] the energy expended by the air directing means of the blowbox assembly is increased by an amount which is less than the reduction in energy of the vacuum source

Metso defines terms [54] and [55] together as "the support system functions such that if there is a reduction in the energy expended by the vacuum source, a lesser increase in energy of the air directing means will maintain the sub-atmospheric condition within the interior of the turning roll." (JCCC at 38.) Metso also defines term [55] as "part of a clause beginning with the term 'thereby,' which describes a function of the support system. Enerquin argues that term [55] "recites a step as part of the system of claim 4," and is indefinite because it is "[a] single claim which claims both a system and a method step of using said system." (JCCC at 38-39.)

The arguments are essentially identical as those pertaining to term [45]. Again, terms [54] and [55] are part of the language describing the function of the means for directing air. As Enerquin does not appear to contest the meaning of these terms (beyond its argument that term [55] is indefinite), there is no need to define these terms beyond what is already stated in the claim itself.

4. Claim 5 of the '277 Patent

Term [56] is found in Claim 5. Claim 5 states, in pertinent part (with the disputed term [56] in bold):

5. The system as defined in claim 4 wherein ... [56] a second side panel extending along the offgoing run opposite the paper web so as to provide a second gap between the opposing surfaces of the first panel and the incoming run ...

(Ex. P, '277 patent at 10:3-10:15.)

Metso argues that term [56] "contains two typographical errors and should be corrected by the Court to read: 'a second side panel extending along the offgoing run opposite the paper web so as to provide a second gap between the opposing surfaces of the [first] *second side panel* and the [incoming] *offgoing* run." Enerquin argues that the language "extending along the offgoing run," "to provide a second gap between," and "the first panel and the incoming run" render claim 5 unintelligible, not amenable to construction, and therefore fatally indefinite.

The parties agree that amending the claim in the manner proposed by Metso would make sense of claim 5. At issue, therefore, is whether the court has the authority to rewrite claim 5 in this manner.

"[C]ertain obvious errors in the patent can be corrected by the district court in construing the patent." Novo Indus., L.P., 350 F.3d at 1355. Courts can "correct obvious minor typographical and clerical errors in patents." Id. at 1357 (citing Lemelson v. General Mills, Inc., 968 F.2d 1202, 1203 and n.3 (Fed.Cir.1992) (adding the word "toy" to the preamble of a claim because "the deletion of 'toy' appears from the record of the proceedings before the PTO to have been an inadvertent error when the patent was printed rather than an amendment to the claim."); Hoffer v. Microsoft Corp., 405 F.3d 1326, 1331 (Fed.Cir.2005) ("Absent evidence of culpability or intent to deceive by delaying formal correction, a patent should not be invalidated based on an obvious administrative error ... When a harmless error in a patent is not subject to reasonable debate, it can be corrected by the court, as for other legal documents.") However, "major errors are subject only to correction by the PTO." *Id.* "A district court can correct a patent only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims." *Id.*

The Federal Circuit "repeatedly and consistently has recognized that courts may not redraft claims, whether to make them operable or to sustain their validity." Chef Am., Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1374 (Fed.Cir.2004). The claim is construed "as written, not as the patentees wish they had written it." *Id.* "[A] nonsensical result does not require the court to redraft the claims of the [ ] patent." Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357 (Fed.Cir.1999). Rather, where "claims are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim must be invalidated." *Id.*

Metso argues that term [56] contains a plain obvious error, and that the court is allowed to correct a plain obvious error when the correction is not subject to reasonable debate based on consideration of the claim language and specification, and the prosecution history does not suggest a different interpretation of the claims. Enerquin, in contrast, argues that Metso is asking the court to correct a major error, which goes beyond the court's authority. In support, Enerquin cites Allen Eng'g, 299 F.3d at 1349.

In *Allen Eng'g,* the court found that the "perpendicular" limitations rendered the claims including the term "perpendicular" invalid due to indefiniteness. *Id.* The plaintiff argued that the claim should be valid despite the use of "perpendicular" because "one of skill in the art would understand that the term 'perpendicular' in the claim should be read to mean 'parallel." ' In rejecting this argument, the court reasoned that:

[The plaintiff] stretches the law too far. It is not our function to rewrite claims to preserve their validity. Rhine v. Casio, Inc., 183 F.3d 1342, 1345, 51 U.S.P.Q.2D (BNA) 1377, 1379 (Fed.Cir.1999). We are simply tasked with determining whether the claims "particularly point[ ] out and distinctly claim [ ]" what the inventor regards as his invention. 35 U.S.C. s. 112, paragraph 2; *see also* In re Zletz, 893 F.2d 319, 322, 13 U.S.P.Q.2D (BNA) 1320, 1322 (Fed.Cir.1989) (holding that claims failing this test during prosecution must

be rejected under s. 112, paragraph 2). Moreover, it is of no moment that the contradiction is obvious: semantic indefiniteness of claims "is not rendered unobjectionable merely because it *could* have been corrected." In re Hammack, 57 C.C.P.A. 1251, 427 F.2d 1384, 1388 n.5, 166 U.S.P.Q. 209, 215 n.5 (CCPA 1970). Here, it is apparent from a simple comparison of the claims with the specification that the inventor did not regard a trowel in which the second gear box pivoted only in a plane perpendicular to the biaxial plane to be his invention. [The plaintiff] admits as much. Accordingly, we conclude as a matter of law that claims 1-4 and 13, which include the incorrect "perpendicular" limitation, are invalid under s. 112, paragraph 2.

Id.

Metso argues that the situation in the case at hand is distinguishable from that in *Allen Eng'g* because in that case (unlike in this case) there was no evidence that the patent holder requested that the court correct a "plain error," that the defendant agreed that one of ordinary skill in the art would understand the claim, or that the specification supported the proposed correction of the term.

Enerquin focuses on the Federal Circuit's distinction between "minor typographical errors" and "major errors" in supporting its argument that the court lacks the authority to make the proposed correction. In essence, Enerquin argues that the subtraction of several words and the addition of entirely different words necessarily means that this is a "major error," and that the court cannot make this type of correction regardless of how obvious this correction is to both parties.

As noted above, whether a district court can correct an error is not simply a question of whether the error is a "minor typographical error" or a "major error." Rather, the Federal Circuit has outlined a more specific two part test, stating that a district court may correct an error in a patent only if "(1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims." Novo Indus., 350 F.3d at 1354. At issue, therefore, is whether the correction suggested in this case meets this two part test.

In *Novo Indus.,* the court found that the proposed corrections of deleting the words "a rotatable with" or "with said" fell outside the ambit of the court's authority not because this was automatically a "major error" and not a "minor typographical error," but rather because the nature of the error was "not apparent from the face of the patent." 350 F.3d at 1357. The Federal Circuit based its decision on whether the correction was subject to reasonable debate, and found that the correction was beyond the court's authority because "in order to make sense out of the patent, the district court was required to guess as to what was intended." Id. at 1358; *see also Fargo Elecs. Inc. v. Iris, Ltd.,* 2008 U.S.App. LEXIS 13631 (Fed.Cir.2008) (the court could not make the proposed correction of deleting the word "second" and adding the phrase "first support" because under the two part *Novo Indus*. standard, while the parties did not dispute that there were multiple reasonable ways to correct the error, they disagreed as to whether there was a "reasonable debate as to the proper correction and whether all of the reasonable corrections would result in the same claim scope.").

Here, Enerquin concedes that

the specification of the '277 patent demonstrates that the only way to make any sense of claim 5 ... would be to rewrite the claim as follows:

...

a second side panel extending along the offgoing run opposite the paper web so as to provide a second gap between the opposing surfaces of the [first] second panel and the [incoming] offgoing run.

...

[T]his corrected version of claim 5 would actually make sense in view of the specification of the '277 patent. For example, figures 2 and 3 of the '277 patent illustrate a blowbox (52) having a first panel (56) extending along the incoming run (44) (and a corresponding first gap space (36) therebetween) and a second panel (58) extending along the offgoing run (46) (and a corresponding second gap space (38) therebetween) ... The written description at column 5, line 16 through column 6, line 59 of the '277 patent would provide support for such a corrected version of claim 5 as well.

(Def. Br. at 146) (emphasis added.)

Enerquin has not identified any reasonable debate based on the specification and claim language, or any prosecution history that suggests a different interpretation of the claim. Indeed, Enerquin has stated that the proposed correction is the "only way" to make sense of claim 5, and that this correction is supported by various portions of the specification. Such being the case, the court concludes that the error found in claim 1 is correctable because the correction is not subject to reasonable debate based on consideration of the claim language and the specification, and the prosecution history does not suggest a different interpretation of the claims.

To be sure, Enerquin is correct that, as noted in *Allen Eng'g,* the mere fact that an error is obvious and could be corrected does not mean that the court can simply rewrite a claim to preserve its validity. However, as stated by the Federal Circuit in *Novo Indus.,* a court does have the authority to make corrections when the correction is not subject to any reasonable debate. That is the case with respect to claim 1, and thus the court corrects term [56] to read: "a second side panel extending along the offgoing run opposite the paper web so as to provide a second gap between the opposing surfaces of the [first] *second side panel* and the [incoming] *offgoing* run."

5. Claim 8 of the '277 Patent

Terms [57]-[60] are found in Claim 8. Claim 8 states, in pertinent part (with the disputed terms [57]-[60] in bold):

8. A web-to-fabric support system ... comprising ... [57] a blowbox assembly including [58] means for directing air away from the surface of the incoming run of the carrier fabric opposite the paper web to maintain a region of sub-atmospheric pressure adjacent the surface of the incoming run opposite the paper web and for directing air away from the surface of the offgoing run of the carrier fabric opposite the paper web to maintain a region of sub-atmospheric pressure adjacent the surface of the offgoing run opposite the paper web and to thereby reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric onto and off of the turning roll; ... [59] constant sub-atmospheric conditions can be maintained adjacent the surfaces of the incoming and offgoing runs as aforesaid by [60] increasing the energy expenditure of the air-directing means of the blowbox assembly by an amount which is less than the reduction of energy expended by the vacuum source.

(Ex. P, '277 patent at 10:44-11:29.)

The parties agree that terms [57] through [60] are essentially identical to terms previously defined, and should be construed consistently with the earlier terms. Term [57] is identical to term [41] and has the same definition as term [41]. Term [59] is identical to term [44] and has the same definition as term [44]. Term [58] is essentially identical to term [42], but as noted by Enerquin, there is slightly modified language used to recite the function of term [58] compared to term [42]. The function of term [58] is stated by the claim itself, and as such, the court construes the function of term [58] to be

to direct air away from the surface of the incoming run of the carrier fabric opposite the paper web to maintain a region of sub-atmospheric pressure adjacent the surface of the incoming run opposite the paper web, and to direct air away from the surface of the offgoing run of the carrier fabric opposite the paper web to maintain a region of sub-atmospheric pressure adjacent the surface of the offgoing run opposite the paper web, and to thereby reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric onto and off of the turning roll.

Term [60] is identical to and has the same definition as term [45].

6. Claim 9 of the '277 Patent

Term [61] is found in Claim 9. Claim 9 states, in pertinent part (with the disputed term [61] in bold):

9. The system as defined in claim 8 wherein ... [61] a second side panel extending along the offgoing run opposite the paper web so as to provide a second gap between the opposing surfaces of the first panel and the incoming run ...

(Ex. P, '277 patent at 11:29-38.)

The parties agree that term [61] is identical to term [56] and should be construed in the same way.

7. Claim 12 and of the '277 Patent

Terms [62]-[65] are found in Claim 12. Claim 12 states, in pertinent part (with the disputed terms [62]-[65] in bold):

12. In combination with a dryer section ... [62] a blowbox assembly including [63] means for directing air away from the surface of the incoming run of the carrier fabric opposite the paper web and for directing air away from the surface of the offgoing run of the carrier fabric opposite the paper web to reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing run of the carrier fabric; and ... [64] constant sub-atmosperic condition can be maintained within the pocket region by [65] increasing the expenditure of energy of the air-directing means by an amount which is less that the reduction of energy expended by the vacuum source.

(Ex. P, '277 patent at 12:1-51.)

The parties agree that term [62] is the same as disputed term [41] and should be construed consistently with term [41]. Term [64] is the same as disputed term [44] and has the same definition as term [44]. Term [63] is essentially the same as disputed term [42], but as noted by Enerquin, there is slightly modified language

used to recite the function of term [63] compared to term [42]. The function of term [63] is stated by the claim itself, and as such, the court construes the function of term [63] to be

to direct air away from the surface of the incoming run of the carrier fabric opposite the paper web, and to direct air away from the surface of the offgoing run of the carrier fabric opposite the paper web, and to thereby reduce the likelihood of separation of the web from the carrier fabric as the web is moved with each of the incoming and offgoing runs of the carrier fabric.

Term [65] is the same as disputed term [45] and has the same definition as term [45].

8. Claim 13 of the '277 Patent

Term [66] is found in Claim 13. Claim 13 states, in pertinent part (with the disputed term [66] in bold):

13. A process for ... increasing the energy expenditure of the air-directing means [66] to maintain the condition along the incoming run and the offgoing run at a constant sub-atmospheric level.

(Ex. P, '277 patent at 12:52-14:8)

The parties agree that term [66] is the same as term [44] and should be construed consistently with term [44].

D. The Non-Asserted Claims of the '236 Patent

Enerquin asks the court to construe claims which are not being asserted by Metso against Enerquin, specifically claims 3, 22, 25, 28, and 29 of the '236 patent. These claims are addressed in the Addendum to the JCCC. The parties dispute whether it is proper for the court to construe these claims as part of the claim construction process.

Enerquin cites SanDisk Corp. v. STMicroelectronics, Inc., 480 F.3d 1372, 1380 (Fed.Cir.2007) in support of its argument that the court should construe the non-asserted claims. In *SanDisk,* the Federal Circuit addressed the question of whether the facts alleged in that case demonstrated that there was "a case or controversy within the meaning of the Declaratory Judgment Act, 28, U.S.C. s. 2201(a). *Id*. at 1377. The court, in determining that the plaintiff had "established an Article III case or controversy that gives rise to declaratory judgment jurisdiction," first acknowledged that the Supreme Court in *MedImmune* had rejected the Federal Circuit's "reasonable apprehension of suit test." Id . at 1380, 1382 (citing MedImmune, Inc. v. Genentech, Inc., 127 S.Ct. 764 (2007)). The Federal Circuit held that the new test, as stated by the Supreme Court, was "whether the facts alleged, under all the circumstances, show that there is a substantial controversy, between parties having adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment." Id. at 1378 (quoting MedImmune, 127 S.Ct. at 771).

The court in *SanDisk* found that the facts of the case "evince that the conditions of creating a substantial controversy, between parties having adverse legal interest, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment were fulfilled." *Id*. at 1382 (quotations omitted). Specifically, the court reasoned that even though a representative of the defendant had promised that the defendant would not sue the plaintiff, the defendant had "engaged in a course of conduct that shows a preparedness and willingness to enforce its patent rights despite [the defendant's] statement. *Id*. at 1383.

In the case at hand, Metso asserted the claims at issue in writing and in response to Enerquin's interrogatories during the pendency of the litigation. Metso later withdrew these claims in its amended interrogatory answers. Enerquin has asked Metso to provide some form of stipulation (either a covenant not to sue or a waiver) as to the non-asserted claims, but Metso's counsel has refused to provide Enerquin with such a stipulation.

Enerquin argues that it is a declaratory judgment counter-plaintiff in this case, and that it has the absolute right to have such claims litigated. According to Enerquin, the facts of this case establish that a controversy over the referenced claims persist. In contrast, Metso argues that there is no case or controversy concerning the non-asserted claims, as it is barred from making infringement arguments due to its interrogatory answers having withdrawn the claims. According to Metso, a court ruling on these non-asserted claims would essentially be an advisory opinion.

At issue is not whether Enerquin has the right to litigate its counterclaims, but rather what claims need to be construed for the purposes of claim construction. As noted by the Federal Circuit, "only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy." Vivid Techs., Inc. v. American Science & Eng'g, Inc., 200 F.3d 795, 803 (Fed.Cir.1999) (citing U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997) (claim construction is for "resolution of disputed meanings.")). There is no indication that there are currently any disputes regarding the meaning of the non-asserted claims such that these terms need to be a part of the instant claim construction process. The parties have identified, for purposes of claim construction, the terms that are presently in controversy. It is unnecessary to construe the other claims which are not presently in dispute.

IV. CONCLUSION

In conclusion, and for all of the foregoing reasons, the court adopts as its claim construction the constructions outlined above for each of the 66 terms in dispute.

A scheduling conference will be conducted on Thursday, August 28, 2008, at 9:00 a.m, in Room 253 of the U.S. Courthouse, 517 E. Wisconsin Avenue, Milwaukee, WI 53202. At that conference the court will discuss with the parties the steps needed to further process this case to final resolution.

SO ORDERED.