UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

PROBATTER SPORTS, LLC,	:	
Plaintiff,	:	**CIVIL ACTION NO.**
	:	**3:05-CV-01975 (VLB)**
v.	:	
	:	
SPORTS TUTOR, INC.,	:	**March 31, 2014**
Defendant.	:	

CLAIM CONSTRUCTION OF DISPUTED TERMS

I. Introduction

The Plaintiff, Probatter Sports, LLC ("Probatter"), filed this action against the Defendant, Sports Tutor, Inc. ("Sports Tutor"), alleging patent infringement and related claims arising out of the Defendant's alleged infringement of the Plaintiff's U.S. Patent Nos. 6,182,649 (the "'649 Patent") and 6,546,924 (the "'924 Patent"), in violation of 35 U.S.C. §§ 271, 281-85. Pursuant to the Court's scheduling order issued on May 31, 2013, the parties submitted claim construction briefs, which serve as the basis for this order.

II. Background

The Plaintiff, the owner of the patents at issue in this case, was assigned the patents on January 16, 2002. [Dkt. 246, Plaintiff's Original Markman Brief in Support of its Motion for Claim Construction, p. 1]. These patents are directed to a unique ball-throwing machine, in particular one that is used as a pitching machine for baseball, softball, and cricket. The devices in issue are used by

numerous Major League Baseball teams, college teams, and hundreds of commercial batting cages and cricket clubs worldwide. [*Id.*].

This action was originally commenced on December 28, 2005, but was stayed while the parties pursued separate reexamination proceedings at the United States Patent and Trademark Office ("PTO"). The PTO issued final rejections of all claims of both patents in suit in November 2009, but the Plaintiff appealed these decisions in 2010 to the Board of Patent Appeals and Interferences (the "Board"). On December 21, 2011, the Board unanimously reversed the PTO Examiner and held all claims of both patents in issue patentable as amended and distinguishable over the prior art of record. [*Id.* at p. 2]. A subsequent reexamination request was filed, but the PTO Examiner found that the claims of the patents were patentable as amended. The request for claim construction and these *Markman* briefs followed.

III. Legal Standard

Resolution of a patent infringement case entails a two-step process, the first of which is claim construction, and the second of which is a comparison of the patented device or process to the accused device or process applying the terms as construed. *Cybor Corp. v. FAS Techs.*, *Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). Only those terms that are in controversy need to be construed, and the construction only needs to be to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Science & Eng'g, Inc*., 200 F.3d 795, 804 (Fed. Cir. 1999). Claim construction, furthermore, is a question of law, and the Court has the

exclusive power to construe "the meaning of the language used in the patent claim." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-79 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996); *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1321 (Fed. Cir. 2013). Accordingly, "[c]laim construction is a legal statement of the scope of the patent right; it does not turn on witness credibility, but on the content of the patent documents." *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, No. 2012-1014, 2014 WL 667499, at *9 (Fed. Cir. Feb. 21, 2014) (en banc).

Procedurally, when constructing patent claims, "claim terms are given their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art in question at the time of the invention." *3M Innovative Props. Co.*, 725 F.3d at 1321. However, "[i]diosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification." *Id.*; *see also SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1195 (Fed. Cir. 2013) ("The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the speciation and prosecution history." (quoting *Thorner v. Sony Comp. Entm't Am. LLC*, 669 F.3d 1362, 1365–67 (Fed. Cir. 2012)). Accordingly, although claim construction is dependent on the language of the claims themselves, it requires reading that language "in view of the specification, of which they are a part." *Pressure Prods. Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1314 (Fed. Cir. 2010) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-15 (Fed. Cir. 2005)). Even though the specification informs the Court as to

the use of the terms in the claims, "limitations discussed in the specification may not be read into the claims." *3M Innovative Props. Co.*, 725 F.3d at 1321 (citing *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010)). Similarly, while the prosecution history is used, as needed, to inform the Court of the use of the claim terms, courts should not "rely on the prosecution history to construe the meaning of the claim to be narrower than it would otherwise be unless a patentee limited or surrendered claim scope through a clear and unmistakable disavowal." *3M Innovative Props. Co.*, 725 F.3d at 1321-22 (citing *Pass & Seymour, Inc. v. Int'l Trade Comm'n*, 617 F.3d 1319, 1327 (Fed. Cir. 2010); *Trading Tech. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010)); *see also Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973 (Fed. Cir. 2014) ("In claim construction, the court gives primacy to the language of the claims, followed by the specification. Additionally, the prosecution history, while not literally within the patent document, serves as intrinsic evidence for purposes of claim construction.").

An applicant may also express an element of a claim "as a means or step for performing a specified function . . . and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof." 35 U.S.C. § 112(f). Accordingly, "[i]n exchange for the ability to use a generic means expression for claim limitation, the 'applicant must indicate in the specification what structure constitutes the means.'" *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1363 (Fed. Cir. 2012) (quoting *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 948 (Fed. Cir. 2007)). "Such structure 'must be clearly linked or associated with the claimed function.'" *Id.* (quoting

***Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1219 (Fed. Cir. 2003)). "If the applicant does not disclose structure for a means-plus-function term, the claim is indefinite." *Id.* When a claim includes the word "means," a presumption applies that the means-plus-function analysis should be used. *See Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 498 F. App'x 986, 991-92 (Fed. Cir. 2013), *reh'g en banc granted, opinion vacated sub nom*., 500 F. App'x 951 (Fed. Cir. 2013) and *on reh'g en banc sub nom.,* No. 2012-1014, 2014 WL 667499 (Fed. Cir. Feb. 21, 2014).**

"To determine whether a means-plus-function limitation is definite, a court applies a two-step analysis. First, the court must identify the particular claimed function. . . . Second, the court must look to the specification and identify the corresponding structure, material, or acts that perform that function." *Creative Integrated Sys. Inc. v. Nintendo of Am., Inc.*, 526 F. App'x 927, 936 (Fed. Cir. 2013) (citing *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1278 (Fed. Cir. 2012)). Other decisions have also required a third step: the "'[s]tructure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.'" *Kinzenbaw v. Case LLC*, 179 Fed. App'x 20, 24 (Fed. Cir. 2006) (quoting *Altiris, Inc. v. Symantec Corp.*, 318F.3d 1363, 1375 (Fed Cir. 2003)). "'[A] challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one

skilled in the art as being adequate to perform the recited function.'" ***Id.*** **(quoting** ***Budde v. Harley-Davidson, Inc.*****, 250 F.3d 1369, 1376-77 (Fed. Cir. 2001)).**

IV. Analysis

A. Specific Claim Construction Terms

In this case, the Plaintiff is asserting against the Defendant claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 25, 26, 27 and 31 of the '649 Patent and claim 1 of the '924 Patent. The parties dispute the meaning of several specific terms and means clauses found in the patent claims. The Court will address the individual terms issues first.

i. Power Head

The term "power head" is used in most, but not all of the claims. Specifically, it is used in claims 2, 3, 4, 7, 8, 11, 25, 26, 27, and 31 of the '649 Patent. The parties' construction of this term diverges on the number of wheels required to comprise a "power head" and the sufficiency of the term "power head." The Plaintiff argues that the proper construction of this term is "a power head including at least one and, preferably, three coacting wheels." [Dkt. 249, Plaintiff's Original Markman Brief in Support of its Motion for Claim Construction, p. 7]. The Defendant disagrees that the term can retain its plain meaning and that a "power head" might have one wheel, but believes this issue is moot because none of the devices at issue have one wheel.

Neither the claim nor the specification states that the patented device's "power head" must have more than one wheel. Moreover, the specification states that the "present invention, in brief summary, comprises a ball-throwing machine of the type having a power head including at least one and, preferably, three coacting wheels for propelling a ball toward a batter to simulate a pitch." '649 Patent, col. 3, ll. 63-67. The transitional term "including" is not a limiting term and use of the phrase "at least one" by definition explicitly includes one. Even if it were a limiting term, it is a preferred embodiment to have "at least two and preferably three coacting drive wheels." Courts should be particularly restrained in reading limitations listed as a preferred embodiment into the patent claims. *See N. Am. Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 1347-48 (Fed. Cir. 2005). However, as the infringing machine has more than one wheel in the "power head," the Court need not determine whether a power head can have only one wheel. *Vivid Techs, Inc.*, 200 F.3d at 804.

The Defendant also argues that the term "power head" should be given the neutral definition of "assembly" instead of not being defined. [Dkt. 250, Defendant, Sports Tutor, Inc.'s Response to Plaintiff's Motion for Claim Construction, p. 2, 13]. The Court agrees that the term "power head" does not have an ordinary meaning easily discernable from the claims and should be given a neutral term that describes its function. The specification describes the machine as including a "power head having at least two and preferably three coacting drive wheels 70A, 70B and 70C . . . which serve to propel a ball introduced into the machine toward a desired location." '694 Patent, col. 5, ll. 41-

45. Furthermore, the specification also shows that the "power head" is comprised of several different components, including, among other things, coacting wheels. *Id.* at col. 5, ll. 45-50. Therefore, the Court agrees that the Defendant's proposed construction for power head as an "assembly" is correct, but should be modified slightly to be more descriptive. Accordingly, the Court adopts the construction "ball-propelling assembly."

ii. Center Pivot

The term "center pivot" is used in claims 7, 8, 25, 26, 27 and 31 of the '649 Patent. The Plaintiff argues that the term "center pivot" does not need to be defined and should be given its plain meaning because any other definition would be inappropriately restrictive. [Dkt. 246, p. 7-8]. The Defendant argues that the Plaintiff has conceded in its prior briefing that the term "center pivot" means "ball joint" and has used the terms interchangeably in the patent. [Dkt. 250, p. 14]. Accordingly, the Defendant asks the Court to define "center pivot" as a "ball joint."

The term "ball joint" first appears in the "Brief Description of the Preferred Embodiments" section of the '649 Patent at col. 6, l. 32. There it states that "[t]he upper portion 12 of the machine 10 is pivotally mounted to a base plate 30 at a center ball joint 40." Later it clarifies that "[t]he power head 20 is adapted to pivot in a horizontal plane about the center ball joint 40 in order to change the horizontal position of the power head 20 relative to a center position and, therefore, the angle at which a ball is delivered to a batter." '649 Patent, col. 6, ll.

51-55. Similarly, the '924 Patent has a "Brief Description of the Preferred Embodiments" section which also states that "[t]he upper portion 12 of the machine 10 is pivotally mounted to a base plate 30 at a center ball joint 40." '924 Patent, col. 6, ll. 37-38. The only time the term "ball joint" is used is in reference to the portion of diagram labeled "40." However, none of the '649 or '924 Patent claims use the term "ball joint," nor does it appear in the Background or Summary of the Invention sections in the patents. The term "ball joint" only appears to be used interchangeably with "center pivot" in the Preferred Embodiments section. The primacy of the claim language is well established. *Tempo Lighting, Inc.*, 742 F.3d at 977. The Court, therefore, should not limit a claim based on the specification "when the claim language is broader than such embodiments[,]" absent some inherent limitation in the device's actual design. *KJC Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000); *see also Pressure Prods. Med. Supplies, Inc.*, 599 F.3d at 1314; *3M Innovative Props. Co.*, 725 F.3d at 1321 ("[L]imitations discussed in the specification may not be read into the claims.") (citing *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010)). While the preferred embodiment depicted in the diagram may have been a ball joint, the patent claims are not so limiting so as to exclude other center pivots. Further, the term "center pivot" is a term of common parlance generally understood by one of ordinary skill in the art in question at the time of the invention as any pin, shaft, or ball joint around which objects can rotate or pivot. Therefore, a "center pivot" can include but is not entirely limited to a "ball joint." "Center pivot" is not a highly technical or idiosyncratic term coined by the

inventor, requiring construction by the Court. *3M Innovative Props. Co.*, 725 F.3d at 1321. Accordingly, this term is not ambiguous and needs no description beyond that already contained in the specification.

iii. Programmable Controller

Both parties agree that the term "programmable controller" should be defined as Judge Reade defined the term in the Iowa litigation. That court dually-defined a programmable controller as:

> **a control device, normally used in industrial control applications, that employs the hardware architecture of a computer and a relay ladder diagram language. Also known as a programmable logic controller.**
>
> **Programmable controllers . . . Electronic computers that are used for the control of machines and manufacturing processes through the implementation of specific functions such as logic, sequencing, timing, counting, and arithmetic. They are also known as programmable logic controllers (PLCs).**

[Dkt. 267-1, Joint Claim Construction Claim Chart, p. 26-27]. Seeing no reason to depart from this definition given the parties' agreement, the Court adopts that construction.

iv. Ball and Batter

The parties state that they agree on the construction of these terms, but that agreement appears to be misleading. The parties agree that "ball" should be construed as any ball. [Dkt. 247, Sport's Tutor's Motion for Claim Construction, p. 13; Dkt. 253, Plaintiff's Opposition to Defendant's Motion for Claim

Construction, p. 12]. However, the Defendant seems to construe "batter" as "any player," while the Plaintiff states that batter should be given its plain meaning, and be construed as any batter. [Dkt. 247, p. 13; Dkt. 253, p. 12]. The Court agrees that the term "batter" is unambiguous and clear on its face. The

> **general rule that the ordinary meaning of an unambiguous claim term controls is subject to two limitations. First, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification. . . . Second, even where the ordinary meaning of the claim is clear, it is well-established that the prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.**

***Inverness Med. Switzerland GmbH v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1371-72 (Fed. Cir. 2002) (citations and internal quotation marks omitted); *see also Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (same). Here, the term batter is unambiguous, and none of the exceptions apply because the Plaintiff is actually requesting the more limited application of the term. Batters are by definition not all players, but merely a subset of players. Even though the specification permits the machine to be used to throw lacrosse balls and tennis balls, that language is not clear enough to constitute a special definition of the term batter to include any player of any sport as some sports, such as lacrosse and tennis, do not have batters. Therefore, the use of the specification would inappropriately broaden the claims. As stated above, since the term "batter" is not scientific or a term of engineering art, it does not require further construction for the jury.**

v. Dynamic Braking

The parties agree that the construction of the term "dynamic braking" should be "any system that uses a motor as a generator to brake regardless of how the generated energy is handled" and includes "regenerative braking." [Dkt. 246, p. 10; Dkt. 255, Sport's Tutor's Reply in Support of Motion for Claim Construction, p. 2]. The Court need not construe this term as the parties agree on its construction.

B. Means Plus Function Terms

The parties have several conflicting constructions related to "means" clauses in the patents, but they do agree that each qualifies as a means clause under 35 U.S.C. § 112(f). In the context of this case, these clauses require the Court to conduct the two-step means-plus-function analysis. *See Creative Integrated Sys. Inc.*, 526 F. App'x at 936 ("First, the court must identify the particular claimed function. . . . Second, the court must look to the specification and identify the corresponding structure, material, or acts that perform that function.").

i. "dynamic braking means"

The dynamic braking means clause claims "dynamic braking means for rapidly decelerating the speed" of either "at least one wheel" or "each wheel," depending on the claim, and is recited in claims 1, 2, 3, 26, 27, and 31 of the '649 Patent and claim 1 of the '924 Patent. The function of this clause, as described in the claim itself, is to rapidly decelerate the speed of the wheel through the use of

dynamic braking tools. The relevant portion of the specification states "[w]hile drive motors 80 can be virtually any DC or AC motor with sufficient power to rotate the wheels 70A-70C at the desired speeds, one of the essential elements of this machine 10 is the ability to rapidly accelerate and decelerate the coacting wheels 70A-70C to permit the machine to interchangeably deliver a variety of different pitches in a relatively short period of time, i.e. less than 7-10 seconds." '649 Patent, col. 8, ll. 40-47. "The DC motors heretofore used by other ball-throwing machines were found to be incapable of achieving the rapid acceleration and deceleration of the coacting wheels required for such a machine." *Id.* col. 8, ll. 53-57. However, "[i]t has been determined that such rapid and accurate acceleration and deceleration of the wheels can be easily achieved by the use of AC motors with companion motor drives including dynamic or regenerative braking circuits." *Id.* col. 8, ll. 64-67. The Defendant argues that the specification creates no link to DC motors, only to AC motors, but the Plaintiff maintains that both DC motors and AC motors are incorporated into the patent. [Dkt. 247, p. 8; Dkt. 253, p. 9-11].

The claims of the '649 Patent include both AC and DC motors unless specifically limited by a transitional limiting term because the term motors is generally used in the claims. Claim 6 provides for "[t]he ball-throwing machine of claim 5, wherein said motor is an AC motor." The transitional term "wherein," while not one of the traditional limiting transitional terms, is synonymous with other commonly used limiting terms and is clearly used here to limit this dependent claim to machines having an AC motor only. *See* MPEP § 2111.03

(discussing various traditional transitional terms and their effect, including that "'consisting of' excludes any element, step, or ingredient not specified in the claim"); *Vehicular Techs. Corp. v. Titan Wheel Intern. Inc.*, 212 F.3d 1377, 1382 (Fed. Cir. 2000) ("The phrase 'consisting of' is a term of art in patent law signifying restriction and exclusion, while, in contrast, the term 'comprising' indicates an open-ended construction." (citations omitted)); *see also Ex parte Uwe Schümann, Ulrike Wappler, Ralf Hirsch, Andreas Beckmann and Andree Bernoth*, No. 2008-5943, 2009 WL 871152, at *2 (B.P.A.I. March 30, 2009) (determining that the transitional term "wherein" should be given its plain meaning in light of the specification). Here the term "wherein" is qualified only by the verb "is," such that the device in Claim 6 must have an AC motor serving as the motor described in Claim 5. The clear import of that transitional phrase, therefore, is to distinguish Claims 5 and 6, the distinction being that claim 5 includes either an AC or a DC motor, while the dependent claim 6 consists only of an AC motor. This conclusion is further supported by the fact that none of the other claims reference any particular type of motor, despite the fact that a motor is an essential component of the device. Accordingly, all but claim 6 of the '649 Patent may be comprised of either AC and DC motors.

Regardless of the foregoing analysis, the means clause at issue here makes a keen distinction between accelerating and decelerating the wheels. In this means clause, the correlative function is that which is used to decelerate the wheels using dynamic tools. As the Plaintiff described, "'dynamic braking' is any system that uses a motor as a generator to brake regardless of how the generated energy

is handled." [Dkt. 246, p. 10]. Therefore, what makes the wheels rapidly decelerate in this device is the use of companion motors with dynamic braking circuits, which are additions to drive motors, and are used to store or otherwise use the heat generated from the drive motors when braking occurs. The specification clearly links the use of virtually any drive motor with sufficient power to rotate the wheels, albeit DC or AC motor drives, for acceleration. However, the deceleration component seems to only be tied to the companion motor drives with dynamic braking circuits. Furthermore, neither the specification nor the claims specify what type of companion motor drive is required. This understanding is confirmed later when the specification states that "[i]t is important that these AC motor drives include a dynamic or regenerative braking circuit to permit rapid deceleration of the coacting wheels 70A-70C in order to allow the rapid interchangeability of pitches." *Id.* at col. 9, ll. 7-10. Accordingly, "companion motor drives with dynamic, including regenerative, braking circuits" is this structure that is tied to the function in this means clause. Furthermore, there is no limitation in the specification or in the claims as to which type of companion motor drives can be employed. Therefore, the proper structures tied to this means clause are all companion motors drives with dynamic, including regenerative, braking circuits.

ii. "means for causing"

There are several "means for causing" clauses found in the '649 Patent, which can be broken down into four groups: means for causing each of said wheels to

rotate at a predetermined speed, means for causing the power head to assume a predetermined horizontal position, means for the power head to assume a predetermined vertical position, and means for causing the power head to rotate around the center pivot. *See* '649 Patent claims 3, 8, 27, and 31.

1. Rotational speed

The first clause group relates to the rotational speed of the wheels. The clause claims the "means for causing each of said wheels to rotate at a predetermined speed." *Id.* The parties agree that the function of this means clause is to accelerate and decelerate the speed of the wheels rapidly and accurately enough to deliver a variety of different types of pitches with less than ten second intervals between throws. *See* '649 Patent, col. 8, ll. 35-63.

As discussed previously, the structures related to the dynamic braking deceleration of the wheels are companion motor drives with dynamic, including regenerative, braking circuits. Therefore, the remaining structures necessary to cause acceleration of the wheels are covered by this clause because causing accurate rotation speed of the wheels, which could require either a faster or slower speed, requires both rapid acceleration and rapid deceleration to attain the predetermined speed. The remaining structures identified in the specification for acceleration are those related to the drive motors. The specification states that "[t]he coacting wheels 70A-70C are each powered by drive motors. . . . While drive motors 80 can be virtually any DC or AC motor with sufficient power to rotate the wheels 70A-70C at the desired speeds, one of the essential elements of

this machine 10 is the ability to rapidly accelerate and decelerate the coacting wheels . . . .” ‘649 Patent, col. 8, ll. 35-44. The specification goes on to conclude that DC motors used previously, impliedly without companion motor drives with dynamic braking circuits, have been unable to achieve the necessary acceleration and deceleration to perform the requisite functions of the machine. *Id.* col. 8, ll. 53-57. Furthermore, “[i]t has been determined that such rapid and accurate acceleration and deceleration of the wheels can be easily achieved by the use of AC motors with companion motor drives including dynamic or regenerative braking circuits.” *Id.* col. 8, ll. 64-67. The Defendant argues that these excerpts prove that the specification only links AC motors with this function because the Plaintiff acknowledged that DC motors were previously incapable of achieving the necessary rapid acceleration and deceleration for the machine to perform as the patent requires. [Dkt. 247, 9-11]. The Plaintiff, however, argues that it has sufficiently linked any drive motor that has sufficient power to generate the requisite acceleration and deceleration, including AC and DC motors. [Dkt. 246, p. 14]. As discussed above, the patents encompass both AC and DC motors.

Here, the Plaintiff has concluded that “virtually any” DC or AC motor can be used to accelerate the wheels if it has sufficient power to do so, but that the DC motors used by its predecessors were *alone* incapable of achieving the results of the patented device. The addition that made the results attainable was not necessarily the use of an AC drive motor as opposed to a DC drive motor, but the inclusion of the dynamic braking means discussed *supra*. Therefore, the proper reading of the specification is that any drive motor with sufficient power to

accelerate the wheels can be used to accelerate and decelerate the wheels as long as companion motor drives with dynamic braking components are included. The specification continues by stating that the Plaintiff found it relatively easy to achieve the desired results using an AC motor drive with companion motor drives with dynamic braking circuits. When read together, it is not clear that the specification limits the use of motor drives to AC motors; instead, this is merely a preferred embodiment. Nowhere in the specification does it state, as the Defendant would like this Court to hold, that DC motors with companion motor drives including dynamic or regenerative braking circuits cannot achieve the same results as the preferred embodiment. The Defendant, therefore, is asking the Court to read a limitation only found in a preferred embodiment into the patent's claims, but this Court must be weary of construing a limitation from the specification not found in the claims into the design of the device. *See N. Am. Container, Inc.*, 415 F.3d at 1347-48.

The claim differentiation doctrine further supports this Court's construction. As discussed previously, an AC motor is never listed as a required component of the machine until the dependent claim 6, which in turn refers to prior claims that only generally require a motor and a drive control. *See* '649 Patent claims 3, 5, 6. Therefore, the later dependent claims are more specific than and do not limit the prior independent claims. Generally, claim differentiation, a standard maxim for interpreting patent claims, refers to the "presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir.

2006). Accordingly here, the later dependent claim requiring the AC drive motor should not be used to limit the prior independent claims that do not specify what type of drive motor is required.

However, courts are cautioned that claim differentiation cannot be used to broaden claims beyond their correct scope. *Id.* at 1381. Reading the sequence of claims in the '649 Patent along with the details in the specification, the Court is of the view that the claim differentiation presumption would not broaden the patent claims because the claims properly provide that any drive motor, including DC and AC motors, with companion motor drives including dynamic or regenerative braking circuits can be used to achieve the results of the patented machine.

The Defendant argues that this case should be governed by the court's logic in *Curtiss-Wright Flow Control Corp*. In that opinion, the court ruled that the district court erred in using the claim differentiation doctrine to give the plain meaning to the word "adjustable" because it "went too far in completely eliminating any constraints on the 'adjustable limitation.'" *Curtiss-Wright Flow Control Corp*, 438 F.3d at 1381. Here, however, the '649 Patent is not being interpreted nearly as broadly as in that case. In our case, the specification and claim differentiation reach the same end: the patent of a device that can use any motor with sufficient power to rotate all of the wheels with companion motor drives with dynamic, including regenerative, braking circuits. The claims, therefore, are not being broadened beyond their scope.

The parties also agree that the "programmable controller" is also necessary for this means clause. [Dkt. 267-1, p. 6-7; Dkt. 250, p. 4]. Absent the parties' agreement, however, the Court would view the terms "cause" and "control," used in the various means clauses, as being substantively different. The Court would take the view that the "means for causing" clauses and "means for controlling" clauses would implicate different structures because the functions described are different, as detailed in the specification and in the claims. For example, several of the claims use a combination of the "means for controlling" and "means for causing" clauses. Claim 3 of the '649 Patent provides for a machine with the

> **means for *causing* each of said wheels to rotate at a predetermined speed; . . .**
>
> **means for *causing* the power head to assume a predetermined horizontal position;**
>
> **means for *causing* the power head to assume a predetermined vertical position; and**
>
> **means for *controlling* the rotational speed of each wheel, the horizontal position of the power head and the vertical position of the power head . . . .**

Rendering the "means for causing" clauses equivalent to the "means for controlling clauses" would make this claim redundant and parts of the claim superfluous because the controlling clauses, which come after the causing clauses, add nothing to the claim.

The Court's interpretation is supported by the specification language because the terms cause and control are not used interchangeably, but are used to define a specific subset of structures. For example, the specification states that "[t]he

ball-throwing machine 10 of the present invention is *controlled* by a programmable control unit 200 that is housed in a separate control box . . . [t]he control unit 200 includes drive motor controls 202A-202C, which are electronically connected to and control their respective drive motors 80A-80C." '649 Patent, col. 10, ll. 4-17 (emphasis added). The explicit use of the word "control" as it relates to the programmable control unit and the drive motor controls helps the Court to identify those structures that are used to control the various functions of the device as opposed to those that ultimately cause the result when triggered by the controlling component. The specification, therefore, separates the structures that "cause" certain functions and those that "control" those causes.

As related to controlling the machine, the specification generally provides that "[t]he ball-throwing machine 10 of the present invention is controlled by a programmable control unit 200 that is housed in a separate control box . . . the control unit 200 is electrically connected to and provides the controls for the ball-throwing machine 10 of the present invention." '649 Patent, col. 10, ll. 4-13. Furthermore, "[a] programmable controller 208 is provided to control all of the various operations of the ball-throwing machine." *Id.* at col. 10, ll. 27-29. Accordingly, the linked structures to control the entire machine are the programmable control unit that is electrically connected to the machine and a programmable controller, as defined *supra*.

Aside from the two general control devices, there are also specific controls related to the rotation speed of the wheels. The function associated with this clause is the ability to control the amount of acceleration and deceleration of each wheel to ensure that the device can deliver the desired pitches. The specification provides that "the control unit 200 includes drive motor controls 202A-202C, which are electrically connected to and control their respective drive motors 80A-80C." '649 Patent, col. 10, ll. 14-17. Evidently, the structures that are tied to the function of controlling the respective motors that rotate the wheels are the drive motor controls. Therefore, the construction of the controlling means clause should be a programmable controller and a control unit with drive motor controls. In the Courts view, these control structures do not "cause" the wheels to rotate at a predetermined speed, but are required to "control" the motors that "cause" the wheels to do so. Therefore, it would not be sufficiently tied to the function of causing the wheels to rotate to be incorporated into the means for causing clause.

However, adopting the Court's preferred construction would result in certain claims potentially being meaningless because some claims only contain the controlling means clauses and not the causing means clauses. Therefore, these claims would encompass structures to control certain functions when the objects of that control are not incorporated. For example, claim 2 of the '649 Patent provides for a machine with the "means for controlling the rotational speed of each wheel; . . . [and the] means for controlling the horizontal position of the

power head; and means for controlling the vertical position of the power head," but never provides for the means to cause such changes.

Nevertheless, since the parties appear to agree that the controlling means clauses and the causing means clauses should both be construed to include the structures that cause and control the specified functions, the Court will construe them accordingly. Therefore, the means for controlling the speed of each wheel clause will be construed as DC or AC motors with companion motor drives with dynamic, including regenerative, braking circuits, and drive motor controls, and a programmable controller.

2. Horizontal position

The second "means for causing" group relates to the horizontal position of the power head. The patent claims the "means for causing the power head to assume a predetermined horizontal position." ***See*** **'649 Patent claims 3, 8, 27, and 31. The parties agree that the function involved is aiming the power head in the horizontal plane. The parties' principle disagreement is whether the structure necessary for this function is a "horizontal actuator" or a "horizontal linear actuator." [Dkt. 267-1, p. 14-15; Dkt. 250, p. 18; Dkt. 246, p. 14]. The Court finds that the structure tied to this function is the horizontal linear actuator.**

The specification provides that

> **[a]ctual movement of the power head 20 in a horizontal plane is effected by a horizontal linear actuator . . . Horizontal linear actuator 50 includes a horizontally extending shaft 52 which extends from the horizontal**

> **linear actuator 50 to the inside surface of the front plate 21. The horizontal linear actuator 50 serves to cause the power head to pivot in a horizontal direction about the front center ball joint 40.**

'649 Patent col. 6, ll. 56-64. It is clear from this description that what is required to cause the power head to move in the horizontal plane is a horizontal linear actuator. The Defendant's argument that a rotary actuator can also be used is not supported by either the specification or the patent claims.

The Defendant also seems to suggest that the construction of this claim should be limited to pivoting the power head around the central pivot in a horizontal manner. However, the function in the claim does not contain the limitation that movement in the horizontal plane be merely around the center pivot; instead it provides only for moving the power head to a predetermined horizontal position. The limitation that it merely pivot around the center pivot only appears as a preferred embodiment and as an explicit limitation in specific claims.

Finally, the specification also states that "a horizontal actuator control 206 is provided which is electrically connected to and controls the horizontal linear actuator 50." '649 Patent, col. 10, ll. 25-27. Accordingly, the Court views it as appropriate as construing this "means for causing" clause as a "horizontal linear actuator, a horizontal actuator control, and a programmable controller, causing the ball-propelling assembly to assume a predetermined horizontal position."

3. Vertical position

The third type of "means for causing" group relates to the vertical position of the power head. The patent claims the "means for causing the power head to assume a predetermined vertical position." *See* '649 Patent claims 3, 8, 27, 31. The parties agree that the function involved is aiming the power head in the vertical plane. The parties' principle disagreement is whether the structure necessary for this function is a "vertical actuator" or a "vertical linear actuator." [Dkt. 267-1, p. 15-16; Dkt. 250, p. 18-19; Dkt. 246, p. 15]. The Court finds that the structure tied to this function is the vertical linear actuator.

The specification provides that "[a] vertical linear actuator 60 having a downwardly extending shaft 62 is provided on the outer surface of the rear plate 22. The vertical linear actuator 60 permits the power head 20 to pivot in the vertical plane about the front center ball joint 40." '649 Patent col. 7, ll. 9-13. It is clear from this description that what is needed to cause the power head to move vertically is a vertical linear actuator. The Defendant's argument that a rotary actuator can also be used is not supported by either the specification or the patent claims.

Furthermore, the Defendant again implies that this claim should be limited by the application of the center pivot. As discussed above, that is inapplicable. Finally, the specification also states that "[a] vertical actuator control 204 is provided which is electrically connected to and controls the vertical linear actuator 60." '649 Patent, col. 10, ll. 23-25. The Court, therefore, construes this

clause as a "vertical linear actuator, a vertical actuator control, and a programmable controller, causing the ball-propelling assembly to assume a predetermined vertical position."

4. Center pivot

The final type of "means for causing" clause relates to the pivoting position of the power head. The patent claims the "means for causing the power head to rotate about said center pivot to assume a predetermined horizontal/vertical position." *See* '649 Patent claims 27, 31. The parties agree that the function implicated by this clause is pivoting the power head around the center pivot to aim the power head in both the horizontal and vertical plane. The parties' principle disagreement is whether the structure necessary for this function is a "vertical actuator" or a "vertical linear actuator" and a "horizontal actuator" or a "horizontal linear actuator." [Dkt. 267-1, p. 14-16; Dkt. 250, p. 18-19; Dkt. 246, p. 14-15]. For the same reasons discussed above, the devices that are linked to moving the power head in a vertical and horizontal direction are, respectively, the vertical linear actuator and the horizontal linear actuator. However, in this clause, the requirement that the power head pivot around the center pivot is explicitly contained in the claim itself. Therefore, this clause is construed as "a horizontal linear actuator and horizontal actuator controls or vertical linear actuator and vertical actuator controls and a programmable controller causing the ball-propelling assembly to rotate about center pivot."

iii. "means for controlling"

There are several "means for controlling" clauses used in the '649 Patent claims, which can be broken down into three main groups: means for controlling rotational speed of each wheel, means for controlling the horizontal position of the power head, and means for controlling the vertical position of the power head. *See* '649 Patent claims 2, 3, 26, and 31.

The Plaintiff and Defendant seem to agree that the "controlling" clauses should be interpreted identically to the "causing" clauses discussed *supra*. Accordingly, those constructions will be adopted.

iv. "means to interchangeably deliver"

The final means clause implicated in this case is the "means to interchangeably deliver pitches of different types to different locations at different speeds," recited in claims 1, 2, and 25 of the '649 Patent. This clause really encompasses the entire function of the patented device, which is described in the specification as "to provide a machine that can be used to interchangeably throw a variety of different types of balls . . . with less than ten second intervals between throws." '694 Patent, col. 3, ll. 32-37. It goes without saying that the function of this means clause is actually comprised of several subsidiary functions: the means to throw a variety of pitches at different speeds and the ability to throw pitches in various directions. Therefore, the means clause is comprised of the necessary functions to (1) propel the ball at various speeds and

styles within ten second intervals and to (2) aim or direct the ball to various locations.

As discussed above, the specification clearly links the propulsion of the wheels through drive motors and the use of the dynamic braking circuits to achieve the ability to propel a ball at various speeds and throw various pitches within ten second intervals. Therefore, based on the discussion above, the necessary structures to achieve the ability to deliver pitches of various styles and speeds are any drive motors, including AC or DC motors, with drive controls and companion motor drives with dynamic, including regenerative, braking circuits. Furthermore, the necessity to deliver such pitches within 10 second intervals requires the control mechanisms for those functions, so that programmable information can be preloaded into the system. Therefore, the programmable controller also appears to be required to produce the function covered by this means clause.

The second function is the ability to propel the ball to various locations. This has been defined previously to require a power head assembly to be repositioned in both the vertical and horizontal planes, which has been linked to the horizontal linear actuator and horizontal actuator controls and the vertical linear actuator and vertical actuator controls. Furthermore, since the power head needs to be repositioned in a short time frame, the control mechanisms, namely the programmable controller, is also required to accomplish this task.

Accordingly, this means clause requires any motor drive, including AC or DC motors, with drive controls and companion motor drives including dynamic or regenerative braking circuits, a horizontal linear actuator and horizontal actuator controls and a vertical linear actuator and vertical actuator controls, all controlled by a programmable controller.

C. Claim Construction of Patent Claims

The claims at issue in this case have been construed, but set forth below is a recitation of the claims as construed in the interests of clarity and efficiency.

i. Claim 1 of the '649 Patent

"A ball-throwing machine including means to interchangeably deliver pitches of different types to different locations at different speeds, said machine including at least one rotating wheel for propelling a ball toward a batter and dynamic braking means for rapidly decelerating the speed of said at least one rotating wheel." '649 Patent, col. 16, ll. 23-28.

The preamble of this claim is "[a] ball throwing-machine." The parties agree that this should be given its plain meaning with the clarification that ball means any type of ball. [Dkt. 267-1, p.1].

The first element, "means to interchangeably deliver pitches of different types to different locations at different speeds," has been construed by this Court to mean a ball-propelling assembly, called a power head, having any motor drive, including AC or DC motors, with drive motor controls and companion motor

drives with dynamic braking circuits, including regenerative braking circuits, a horizontal linear actuator and horizontal actuator controls and a vertical linear actuator and vertical actuator controls, all controlled by a programmable controller.

The parties agree that the second element, "at least one rotating wheel for propelling a ball toward a batter," should be given its plain meaning. [*Id.* at 1-3].

The final element of the first claim, "dynamic braking means for rapidly decelerating the speed of said at least one rotating wheel," has been construed by this Court to mean a companion motor drive with dynamic, including regenerative, braking circuits for rapidly decelerating the speed of said at least one rotating wheel.

ii. Claim 2 of the '649 Patent

> **A ball throwing machine of the type having a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch, said machine including:**
>
> > **means for controlling the rotational speed of each wheel;**
> >
> > **dynamic braking means for rapidly decelerating the speed of each wheel;**
> >
> > **means for controlling the horizontal position of the power head; and means for controlling the vertical position of the power head;**
>
> **said machine being able to interchangeably deliver pitches of different types to different locations at different speeds with less than ten-second intervals**

> **between said pitches of different type, location and speed.**

'649 Patent, col. 16, ll. 29-43.

The parties agree that the preamble, "[a] ball throwing machine," should be given its plain meaning. [Dkt. 267-1, p. 5]. The first element, "a power head" is construed as a ball-propelling assembly. The parties agree that the remainder of that element, "including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch," is to be given its plain meaning. [*Id.* at 6].

The second element, "means for controlling the rotational speed of each wheel," has been defined by this Court to mean DC or AC motors with companion motor drives with dynamic, including regenerative, braking circuits, and drive motor controls, and a programmable controller.

The third element, "dynamic braking means for rapidly decelerating the speed of each wheel," has also been defined by the Court as companion motor drives with dynamic braking, including regenerative braking circuits, for rapidly decelerating each rotating wheel.

The fourth element, "means for controlling the horizontal position of the power head," has been construed by this Court as a horizontal linear actuator with horizontal actuator controls and a programmable controller.

The fifth element, "means for controlling the vertical position of the power head," has similarly been construed to be a vertical linear actuator with vertical actuator controls and programmable controller.

The remaining language, "said machine being able to interchangeably deliver pitches of different types to different locations at different speeds with less than ten-second intervals between said pitches of different type, location and speed," has been agreed by the parties to retain its plain meaning. [Dkt. 267-11].

iii. Claim 3 of the '649 Patent

> **A ball-throwing machine of the type having a power head including at least three coacting wheels for propelling a ball toward a batter to simulate a pitch, said machine having:**
>
> > **means for causing each of said wheels to rotate at a predetermined speed;**
> >
> > **dynamic braking means for rapidly decelerating the speed of each wheel;**
> >
> > **means for causing the power head to assume a predetermined horizontal position;**
> >
> > **means for causing the power head to assume a predetermined vertical position; and**
> >
> > **means for controlling the rotational speed of each wheel, the horizontal position of the power head and the vertical position of the power head; said machine being able to interchangeably deliver pitches of different types to different locations at different speeds with less than ten second intervals between said pitches.**

'649 Patent, col. 16, ll. 44-63.

The parties agree that the preamble, "[a] ball-throwing machine of the type having," should be given its plain meaning. [Dkt. 267-1, p. 11].

The first element, "a power head including," has already been construed and the same definition will be used throughout: "a ball-propelling assembly." The parties' agree that the next element, "at least three coacting wheels for propelling a ball toward a batter to simulate a pitch, said machine having," should be given its plain meaning except to clarify that it can be any ball and any batter. [Dkt. 267-1, p. 11].

The first means clause, "means for causing each of said wheels to rotate at a predetermined speed," has already been construed as DC or AC motors with companion motor drives with dynamic, including regenerative, braking circuits, and drive motor controls, and a programmable controller which cause the wheels to rotate at a predetermined speed.

The next means clause, "dynamic braking means for rapidly decelerating the speed of each wheel," has been construed in claim 2 and will be construed identically here. The next means clause, "means for causing the power head to assume a predetermined horizontal position," has been construed as a "horizontal linear actuator with horizontal actuator controls and a programmable controller causing the ball-propelling assembly to assume a predetermined horizontal position."

The next means clause, "means for causing the power head to assume a predetermined vertical position," has been construed as a "vertical linear actuator with vertical actuator controls and a programmable controller causing the ball-propelling assembly to assume a predetermined vertical position." The

next element, "means for controlling the rotational speed of each wheel, the horizontal position of the power head and the vertical position of the power head," has been construed in claim 2 and the same construction will apply here. Finally, the parties agree that the remainder of the claim, "said machine being able to interchangeably deliver pitches of different types to different locations at different speeds with less than ten second intervals between said pitches," should be given its plain meaning. [Dkt. 267-1, p. 19].

iv. Claim 4 of the '649 Patent

"The ball-throwing machine of claim 3, wherein said wheels are positioned on said power head at equal distances relative to the ball being propelled." '649 Patent, col. 16, ll. 63-65.

The parties agree that this should be construed as including at least one wheel where the wheels are positioned at equal distances and angles relative to one another. [Dkt. 267-1, p. 20].

v. Claim 5 of the '649 Patent

"The ball throwing machine of claim 3, wherein said means for controlling the rotational speed of each wheel includes a motor and a drive control, wherein said drive control includes means for rapidly changing the speed of each wheel." '649 Patent, col. 16, l. 67- col. 17, l. 3.

The parties agree that the first three elements of this claim should be given their plain meaning: "[t]he ball throwing machine of claim 3, wherein said means

for controlling the rotational speed of each wheel includes a motor and a drive control, wherein said drive control includes . . ." [Dkt. 267-1, p. 20]. The remaining element, "means for rapidly changing the speed of each wheel," should be construed identically to the "means for causing each of said wheels to rotate at a predetermined speed," because the functions of both clauses are the same, and the linked structures in the specification are identical. Therefore, the Court adopts the construction for this means clause as that found in claim 3 for the means "for causing each of said wheels to rotate at a predetermined speed."

vi. Claim 7 of the '649 Patent

"The ball-throwing machine of claim 3, wherein said power head is pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and a vertical direction." '649 Patent, col. 17, ll. 6-9. The parties agree that the preamble and the first element of the claim, "[t]he ball-throwing machine of claim 3, wherein said power head is pivotably mounted on a base," should be construed as a power head including at least one wheel pivotably mounted on a base. [267-1, p. 22]. The parties' disagreement as to the remaining element is the definition of center pivot, but this Court has already construed the center pivot as a center pivot, and that construction will apply here.

vii. Claim 8 of the '649 Patent

> **The ball-throwing machine of claim 7, wherein said means for causing the power head to move to a predetermined horizontal position comprises at least one horizontal linear actuator adapted to cause said**

> **power head to rotate in a horizontal plane about a center pivot and wherein said means for causing the power head to move to a predetermined vertical position comprises at least one vertical linear actuator adapted to cause said power head to rotate in a vertical plane about said center pivot.**

'649 Patent, col. 17, ll. 9-17.

The parties agree that the first part of this claim, "[t]he ball-throwing machine of claim 7, wherein said," should be given its plain meaning. [Dkt. 267-1, p. 22]. Even though the parties disagree as to the construction of the "means for causing the power head to move to a predetermined horizontal position" clause, the Court has already construed the means clause claiming the "means for causing the power head to assume a predetermined horizontal position" in clause 3. Since the only difference between these two clauses is the use of the word "move" instead of "assume" they should be construed identically. Therefore, the construction of the means clause in claim 3 applies here.

The parties agree, in large part, that the next element, "at least one horizontal linear actuator adapted to cause said power head to rotate in a horizontal plane about a center pivot and wherein said," should be given its plain meaning except as to the terms power head and central pivot. [Dkt. 267-1, p. 24]. This Court has already construed those terms, and the Court's definitions will be applied here.

The next means clause, "means for causing the vertical power head to move to a predetermined vertical position comprises," is construed identically to the same clause found in claim 3, discussed *supra*. Finally, the remaining element,

"at least one vertical linear actuator adapted to cause said power head to rotate in a vertical plane about said center pivot," is to be afforded its plain meaning, as agreed to by the parties, except for the terms center pivot and power head, which have been otherwise defined. [Dkt. 267-1, p. 25-26].

viii. Claim 9 of the '649 Patent

"The ball-throwing machine of claim 3, wherein said means for controlling comprises a programmable controller." '649 Patent, col. 17, ll.19-20. The parties agree that the plain meaning should govern except as to the definition of programmable controller which should be defined as it was in the Iowa litigation. [Dkt. 267-1, p. 26-27].

ix. Claim 10 of the '649 Patent

"The ball-throwing machine of claim 9, wherein said programmable controller includes a programmable microprocessor." '649 Patent, col. 17, ll.21-23. The parties agree that the ball-throwing machine in the claim can throw any ball, and that the programmable controller should be defined as it was in claim 9. [Dkt. 267-1, p. 27-28]. Furthermore, the Plaintiff argues that the term microprocessor should be defined as "a device that integrates the functions of the central processing unit (CPU) of a computer onto one semiconductor chip or integrated circuit." *See Sci Tech Encyclopedia – Answers.com*. It appears that the Defendant agrees with using this definition for microprocessor. [*See* Dkt. 267-1, p. 27]. Other sources confirm the Plaintiff's plain meaning definition. For

example, Oxford English Dictionary defines microprocessor as "[a] very small processor; *spec.* one based on one or more chips to serve as the central processing unit of a calculator or microcomputer." Accordingly, "microprocessor" shall be given its ordinary meaning; that is, a device that integrates the functions of the CPU of a computer onto one semiconductor chip or integrated circuit.

x. Claim 11 of the '649 Patent

The parties are in agreement as to the construction of this claim. [Dkt. 267-1, p. 28-29].

xi. Claim 12 of the '649 patent

The parties are in agreement as to the construction of this claim. [Dkt. 267-1, p. 29].

xii. Claim 25 of the '649 Patent

> **A ball-throwing machine including means to interchangeably deliver pitches of different types to different locations at different speeds, said machine including a power head having at least one rotating wheel for propelling a ball toward a batter, *wherein at least one motor for powering at least one rotating wheel is connected to a motor drive including a dynamic braking circuit and* wherein said power head is pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and a vertical direction.**

'649 Patent, as amended, col. 18, l. 63 – col. 19, l. 3 (as amended Dkt. 246-2, col. 2, ll. 58-67 (italics in original)).

The parties agree that the preamble, "[a] ball-throwing machine including," is to be given its plain meaning and that a ball can be any ball. [Dkt. 267-1, p. 30]. The next means clause has already been construed by this Court in claim 2, and the same construction will apply here.

The parties agree that the next element, "said machine including a power head having at least one rotating wheel for propelling a ball toward a batter," should be given its plain meaning and power head should be construed as including at least one wheel. [Dkt. 267-1, p. 32]. The parties agree to the construction of the remaining element, "wherein said power head is pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and a vertical direction," except for the dispute over the terms power head and center pivot. Those terms have already been defined by this Court, and those constructions will apply here.

The Defendant also states, without explanation, in the Claim Construction Chart that claim 25 need not be construed because it is not part of any valid patent. For purposes of this claim construction, this Court will rely on the Reexamination Certificate and will assume, without deciding, that the patent is valid as amended.

xiii. Claim 26 of the '649 Patent

> **A ball-throwing machine of the type having a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch, said power head being pivotably mounted on a base at a**

> **center pivot about which the power head may be pivoted in both a horizontal and a vertical direction, said machine including:**
>
> > **means for controlling the horizontal position of the power head; [and]**
> >
> > **means for controlling the vertical position of the power head; *and***
> >
> > ***dynamic braking means for rapidly decelerating the speed of said at least one coacting wheel*.**

'649 Patent, col. 19, ll. 4-13 (as amended Dkt. 246-2, col. 3, ll. 10-12 (italics in original)). The parties agree that the preamble, "[a] ball-throwing machine of the type having," should be given its plain meaning with the clarification that it can pertain to any ball. [Dkt. 267-1, p. 3]. The first element, "a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch," is agreed to be given its plain meaning. [*Id.*]. The parties' dispute on the next element, "said power head being pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and a vertical direction, said machine including," is limited to the definition of a center pivot. The Court has already construed that term "center pivot", and its construction will be applied here.

The two means clauses for "controlling the horizontal position of the power head" and for "controlling the vertical position of the power head," have been construed by this Court already in claim 2 and will be given the same construction. The final means clause, "dynamic means for rapidly decelerating the speed of at least one coacting wheel," has been construed in claim 2 and will

be given the same construction. The Court recognizes that the language varies slightly in this dynamic braking means clause because it applies to "at least one coacting wheel," whereas claim 2 provided for rapidly decelerating the speed of "each wheel." However, this variation on the number of wheels does not affect the underlying function of the clause or the structures that were linked to performing that function. Therefore, no change in the means-plus-function analysis originally conducted is required.

xiv. Claim 27 of the '649 Patent

> **A ball-throwing machine of the type having a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch, said power head being pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and vertical direction, said machine including:**
>
> > **means for causing the power head to rotate about said center pivot to assume a predetermined horizontal position, said means for causing comprising at least one horizontal linear actuator; and**
> >
> > **means for causing the power head to rotate about said center pivot to assume a predetermined vertical position, said means for causing comprising at least one vertical linear actuator[.]; *and***
> >
> > ***dynamic braking means for powering motors for the said coacting wheels, said means comprising a dynamic or regenerative braking circuit*.**

'649 Patent, col. 19, ll. 14-27 (as amended Dkt. 246-2, col. 3, ll. 13-28 (italics in original)). The parties agree that the preamble and the first element of this claim,

"[a] ball-throwing machine of the type having a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch," should be given their plain meaning with the clarification that the term "ball" can include any ball. [Dkt. 267-1, p. 37-38]. The parties' dispute over the next element, "said power head being pivotably mounted on a base at a center pivot about which the power head may be pivoted in both a horizontal and vertical direction, said machine including," relates to the definition of center pivot, which this Court has already construed. The Court's construction will apply here as well.

The first means clause, "means for causing the power head to rotate about said center pivot to assume a predetermined horizontal position, said means for causing comprising at least one horizontal linear actuator," has been defined by this Court to be "a horizontal linear actuator with horizontal actuator controls and a programmable controller causing the ball-propelling assembly to rotate about a center pivot to assume a predetermined horizontal position." The next clause, "means for causing the power head to rotate around said center pivot to assume a predetermined vertical position, said means for causing comprising at least one vertical linear actuator," has been similarly construed by the Court as "a vertical linear actuator with vertical actuator controls and a programmable controller causing the ball-propelling assembly to rotate about the center pivot to assume a predetermined vertical position." Finally, the remaining means clause, "dynamic braking means for powering motors for the said coacting wheels, said means comprising a dynamic or regenerative braking circuit," has already been construed by this Court and that construction will apply here.

xv. Claim 31 of the '649 Patent

> **A ball-throwing machine of the type having a power head including at least two coacting wheels for propelling a ball toward a batter to simulate a pitch, said machine having:**
>
> > **a base including a center pivot on which said power head is mounted;**
> >
> > **means for causing each of said wheels to rotate at a predetermined speed;**
> >
> > **means for causing the power head to rotate about said center pivot to assume a predetermined horizontal position;**
> >
> > **means for causing the power head to rotate about said center pivot to assume a predetermined vertical position; and**
> >
> > **means for controlling the rotational speed of each wheel, the horizontal position of the power head and the vertical position of the power head; and**
> >
> > **dynamic braking means for rapidly decelerating the speed of each wheel.**

'649 Patent, col. 20, ll. 10-27. All of the elements of this claim have been previously construed in the other claims at issue and the same constructions will apply.

xvi. Claim 1 of the '924 Patent

"A ball-throwing machine for propelling balls toward a batter, said machine having at least one propulsion motor for powering the propulsion of said balls toward said batter and dynamic braking means for rapidly decelerating the speed of said at least one propulsion motor." '924 Patent, col. 17, ll. 1-5. The parties'

only dispute in this claim relates to the means clause: "dynamic braking means for rapidly decelerating the speed of said at least one propulsion motor." Since the specifications of the two patents appear to be identical, the means-plus-function analysis of this means clause mirrors the analysis conducted for the '649 Patent. Accordingly, this clause will be construed as "companion motor drives with dynamic, including regenerative, braking circuits.

IT IS SO ORDERED.

/s/
Hon. Vanessa L. Bryant
United States District Judge

Dated at Hartford, Connecticut: March 31, 2014