United States District Court,
E.D. Texas, Marshall Division.

**Jack LO,**
Plaintiff.
v.
**MICROSOFT CORPORATION,**
Defendant.

Civil Action No. 2:07-CV-322

**June 11, 2009.**

Blake Charles Erskine, Erskine & McMahon, Jared Ross Barrett, Kenneth Edward Shore, Matthew Steven Wolcott, Vance Preston Freeman, Shore Freeman Mills, PC, Longview, TX, for Plaintiff.

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## *CLAIM CONSTRUCTION ORDER*

DAVID FOLSOM**, District Judge.**

### **Construing Terms in** U.S. Patent No. 5,576,733

Before the Court are Lo's Opening Brief on Claim Construction (Dkt. No. 37), Microsoft's Responsive Brief (Dkt. No. 38), and Lo's Reply Brief (Dkt. No. 40). Also before the Court are the Local Patent Rule (LPR) 4-3 Joint Claim-Construction and Prehearing Statement (Dkt. No. 36), and the LPR 4-5 Joint Claim-Construction Chart (Dkt. No. 41). A claim-construction hearing, in accordance with Markman v. Westview Instruments, 52 F.3d 967 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), was held in Texarkana on December 11, 2008. *See* Dkt. No. 44 (hearing transcript).

After the hearing, the Court ordered the parties to submit supplemental briefing on the issue of claim indefiniteness under 35 U.S.C. s. 112, para. 2 (Dkt. No. 43). Accordingly, also before the Court are Lo's Supplemental Brief on Indefiniteness (Dkt. No. 46), Microsoft's Supplemental Brief on Indefiniteness (Dkt. No. 45), Lo's Responsive Brief (Dkt. No. 48), and Microsoft's Responsive Brief (Dkt. No. 47). After hearing the arguments of counsel and reviewing the pleadings, presentation materials, and applicable case law, the Court finds the disputed terms of the patent-in-suit should be construed as set forth herein.

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## I. BACKGROUND

This patent infringement lawsuit was filed by Jack Lo on August 2, 2007. Dkt. No. 1. Originally, Lo sued both Microsoft and Designer Appliances, alleging that devices made by both defendants infringe his patent, U.S. Patent No. 5,576,733 ('733 Patent), which is entitled "Ergonomic Computer Mouse." *Id*. On March 25, 2008, the Court granted Designer Appliances' Alternative Motion to Transfer its portion of the case to the Eastern District of New York, based on a first-filed declaratory judgment action that Designer had filed in that court. Dkt. No. 34, at 6-7. Thus, Microsoft is the only defendant in the case presently before this Court.

Lo alleges that Microsoft's mouse products infringe its patent, "including, but not limited to the Natural Wireless Laser Mouse 6000 by Microsoft and the Air$O_2$bic Mouse (formerly called the Quill Mouse)." Dkt. No. 9, at 2-3. Lo has asserted claims 1, 2, 9, 10 and 17 against Microsoft. *See* Dkt. No. 41.

## II. LEGAL PRINCIPLES

### A. Claim Construction

A determination of patent infringement involves two steps: first, the patent claims are construed, and, second, the claims are compared to the allegedly infringing device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455 (Fed.Cir.1998) (en banc). The legal principles of claim construction were reexamined by the Federal Circuit in Phillips v. AWH Corp., 415 F.3d 1303 (Fed.Cir.2005) (en banc). The Federal Circuit in *Phillips* expressly reaffirmed the principles of claim construction as set forth in Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed.Cir.1996), and Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111 (Fed.Cir.2004). Claim construction is a legal question for the courts. Markman, 52 F.3d at 979. The Court will construe the Lo Patent in accordance with the doctrines of claim construction which it has outlined here along with those it has enunciated in the past. *See Pioneer v. Samsung,* No. 2:07-CV-170, Dkt. No. 94, at 2-8 (E.D. Tex. filed Mar. 10, 2008).

### B. Indefiniteness

Intertwined with a court's duty to construe claims is the issue of indefiniteness. Under 35 U.S.C. s. 112 para. 2, the specification of each patent must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter [that] the applicant regards as his invention." "The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.,* competitors of the patent owner, can determine whether or not they infringe." Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1340 (Fed.Cir.2003). The Supreme Court has held that "[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." United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236, 63 S.Ct. 165, 87 L.Ed. 232 (1942).

The indefiniteness issue "is a matter of claim construction and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction." Praxair, Inc. v. ATMI, Inc. ., 543 F.3d 1306, 1319 (Fed.Cir.2008) (citing Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1345 (Fed.Cir.2005)); Oakley, 316 F.3d at 1340. A claim satisfies the definiteness requirement if "one skilled in the art would understand the bounds of the claim in light of the specification." *Id.* (quoting Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001)). A claim is not indefinite merely because "it poses a difficult issue of claim construction." Exxon, 265 F.3d at 1375. Instead, the test is whether "the claims [are] amenable to construction, however difficult that task may be." *Id* . Only after reasonable efforts at claim construction prove to be futile should a claim be deemed indefinite. *Id.*

By itself, stating the meaning of a claim term in words is not dispositive as to whether the term is indefinite. Star Scientific, Inc. v. R.J. Reynolds Tobacco Co., 537 F.3d 1357, 1271 (Fed.Cir.2008) (citing Halliburton Energy Servs., Inc. v. M-I LLC, 514 F.3d 1244, 1251 (Fed.Cir.2008)). Further, "if reasonable efforts at claim construction result in a definition that does not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim, the claim is insolubly ambiguous and invalid for indefiniteness." *Id.*

Definiteness issues often occur when words of degree are used in patent claims. Imprecise claim language, however, does not "automatically render a claim invalid." Seattle Box Co. v. Indus. Crating & Packing, Inc., 731 F.2d 818, 826 (Fed.Cir.1984). Likewise, the need for some experimentation in order to determine claim scope does not automatically render a claim indefinite. Exxon, 265 F.3d at 1379. However, when words of degree are used, "the district court must determine whether the patent's specification provides some standard for measuring that degree." Seattle Box, 731 F.2d at 826; Star, 537 F.3d at 1372 (citing Datamize, 417 F.3d at 1351). Stated alternatively, the district court must decide "whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification." Seattle Box., 731 F.2d at 826.

## III. PATENT-IN-SUIT

The patent-in-suit is directed to an ergonomic computer mouse. The '733 Patent issued on November 16, 1996 from an application filed on May 25, 1994. The patent generally discloses and claims an ergonomic computer mouse having a surface to support the fingers in a mostly upright position, designed to eliminate fatigue, discomfort, and pain that typically accompanies the use of a standard computer mouse. The '733 Patent abstract reads:

An ergonomic computer mouse includes an upright, primary finger-supporting surface for supporting all of the fingers of an upright hand in straight positions and in an upright stack. It also includes an opposite thumb-supporting surface for supporting the thumb. A hand holding the ergonomic computer mouse will be in a naturally upright and relaxed position, without requiring twisting of the hand, wrist, or forearm. As a result, fatigue, discomfort, and pain are minimized or eliminated even after a long period of continuous use.

'733 Patent at [57].

## **IV.** U.S. PATENT NO. 5,576,733

### A. Overview

Lo has asserted claims 1, 2, 9, 10 and 17 of the '733 Patent against Microsoft in this lawsuit. Dkt. No. 41, at 2-6. The asserted claims read (disputed terms emphasized):

1. An ergonomic computer mouse for translation over a horizontal stationary surface, comprising:

a generally horizontal bottom surface for stably and translatably positioning said mouse over said stationary surface;

a housing attached on top of said bottom surface, said housing having a forward end, a rear end, and opposite sides extending continuously between said forward end and said rear end;

one of said sides being a **generally vertical finger-supporting surface** for supporting the fingers of a **generally upright hand** in a **generally vertical stack,** so that the little finger is at the bottom thereof and the index finger is at the top thereof, said finger-supporting **surface being generally elongated** in a horizontal direction for supporting the fingers in **generally straight** positions; and

another one of said sides being a thumb-supporting surface for supporting the thumb of said hand, so that said mouse is securely gripped between the thumb and the fingers, and is easily maneuvered by flexing the

straight fingers and the thumb, and the hand is in a **relaxed, untwisted, and naturally upright** position.

2. The computer mouse of claim 1 wherein said **finger-supporting surface** has a predetermined height for supporting all four fingers in said **vertical stack.**

....

9. An ergonomic computer mouse for translation over a horizontal stationary surface, comprising:

a generally horizontal bottom surface for stably and translatably positioning said mouse over said stationary surface;

a **generally vertical finger-supporting surface** connected to said bottom surface for supporting the fingers of a **generally upright hand** in a **generally vertical stack,** so that the little finger is at the bottom thereof and the index finger is at the top thereof, said finger-supporting **surface being generally elongated** in a horizontal direction for supporting the fingers in **generally straight** positions; and

a thumb-supporting surface for supporting the thumb of said hand, said thumb-supporting **surface being generally parallel to** and **laterally spaced from** said finger-supporting surface, said thumb-supporting surface being positioned no higher than an upper portion of said finger-supporting surface for supporting the thumb no higher than the index finger, so that said mouse is securely gripped between the thumb and the fingers, and is easily maneuvered by flexing the straight fingers and the thumb, and said hand is in a **relaxed, untwisted, and naturally upright position.**

10. The computer mouse of claim 9 wherein said **finger-supporting surface** has a predetermined height for supporting all four fingers in said **vertical stack.**

....

17. An ergonomic computer mouse for translation over a horizontal stationary surface, comprising:

a generally horizontal bottom surface for stably and translatably positioning said mouse over said stationary surface;

a **generally vertical finger-supporting surface** connected to said bottom surface for supporting the fingers of a **generally upright hand** in a **generally vertical stack,** so that the little finger is at the bottom thereof and the index finger is at the top thereof, said finger-supporting **surface being generally elongated** in a horizontal direction for supporting the fingers in **generally straight** positions; and

a thumb-supporting surface **laterally spaced** from said finger-supporting surface for supporting the thumb of said hand, said thumb-supporting surface including a concave portion for generally fitting the contour of said thumb, so that said mouse is securely gripped between the thumb and the fingers, and is easily maneuvered by flexing the straight fingers and the thumb, and the hand is in a **relaxed, untwisted, and naturally upright position.**

'733 Patent at 4:15-41, 4:63-5:22, 6:9-33 (emphasis added).

**B. Claim Construction**

**1. "vertical" and "upright"**

One or more of these terms appear in all of the asserted claims. The primary dispute between the parties is whether the terms need to be individually construed; that is, whether the construction of a larger phrase that includes these terms is sufficient. The parties offer the following constructions.

| Lo | Microsoft |
|---|---|
| No construction is necessary for either term. | Vertical means "straight up." Upright means "vertical in posture." |

Dkt. No. 41, at 2.

***a. Parties' Positions***

Lo contends these are two of a number of terms that are used consistently with their plain and ordinary meaning in the '733 Patent and over which there is no genuine dispute between the parties. Dkt. No. 40, at 3. The dispute about the meaning of these terms, argues Lo, occurs only when they are combined with the word "generally"-there is no dispute as to the meaning of "vertical" or "upright" alone.

Microsoft contends its construction is "simple and concise" and that it undoubtedly "will help resolve the parties' dispute."

***b. Court's Construction***

The Court finds both "vertical" and "upright" are used in the '733 Patent in accord with their plain and ordinary meanings. Although Lo contends there is no genuine dispute over the meaning of these terms, the Court finds that a construction would be helpful and that there is no reason why the plain and ordinary meanings of the terms should not be stated.

The Court further finds that "vertical" and "upright" are used synonymously in the '733 Patent. For example, the Patent states: "Unlike prior art mice, which have a generally horizontal primary supporting surface, the ergonomic mouse [of this invention] has a generally **upright,** primary supporting surface 11.... Finger-supporting surface 11 can be slightly more or less than **vertical** than the example shown." '733 Patent at 3:1-7 (emphasis added); *see also id*. at 2:50-55 ("a first embodiment of the invention ... includes an ergonomically shaped, **upright** housing 10 having a generally **upright,** finger-supporting surface 11 on its right side"). Thus, in speaking of the "finger supporting surface," the patentee equates upright and vertical. The patentee makes similar statements in reference to the hand. *See* '733 Patent at 1:49-53 ("However, the most natural and relaxed position for a hand ... is in an **upright** position: the little finger side of the hand rests on the desk, and the fingers and palm generally define a **vertical** plane." (emphasis added)). Extrinsic evidence additionally supports this conclusion. *See* Dkt. No. 39, Exh 3, at 10 (defining "vertical" as "perpendicular to the horizontal ... upright" and similarly defining "upright" as "in a vertical position").

Based on the intrinsic and extrinsic evidence, the Court construes "**vertical**" and "**upright**" to mean "**straight up, which is 90 degrees from horizontal.**"

**2. "generally"**

This term appears in each of the asserted independent claims (1, 9 & 17). FN1 The primary dispute between the parties is whether the term needs to be individually construed or whether the construction of phrase(s) that include "generally" is sufficient. The parties offer the following constructions:

| Lo | Microsoft |
|---|---|
| No construction is necessary. | Approximately and throughout. |

Dkt. No. 41, at 2.

***a. Parties' Positions***

As with the previous terms, Lo contends "generally" is used in accord with its plain and ordinary meaning and therefore no construction is needed. Dkt. No. 40, at 3-4.

Microsoft contends its construction comports with the plain and ordinary meaning and is consistent with the term's usage as an adverb to modify vertical, horizontal, upright, straight, elongated, and parallel in the patent specification and claims. Dkt. No. 38, at 15-16, 26, 29.

***b. Court's Construction***

The Court finds no construction of this individual term is necessary. The Court additionally finds that construing this term individually would not be helpful and would likely be confusing. As Microsoft points out, "generally" is an adverb that, as used in the '733 Patent, always modifies another word, such as horizontal or vertical. Therefore, a larger phrase in which "generally" appears, from which a context can be established, is the more correct means of construction.

Additionally, the Court finds the construction offered by Microsoft is incorrect. Microsoft attempts to define generally as "throughout," but neither the intrinsic or extrinsic evidence supports such a construction. The Patent specification nowhere requires the "throughout" limitation. Indeed, the illustrations in the patent seem to counsel against such an interpretation. Microsoft's own extrinsic evidence defines generally as "with regard to an overall picture ... in a general manner ... on the whole." Dkt. No. 38, at 15. This extrinsic definition, "on the whole," however, does not support Microsoft's position of "throughout" as "on the whole" can just as easily justify a construction of "for the most part," or "mostly," "on average," or "without specificity." In sum, because "generally" is always used in the ' 733 Patent claims to modify another word, the Court declines to individually construe the term.

**3. "generally vertical," "generally upright," "generally vertical finger-supporting surface," and "generally vertical finger-supporting surface ... for supporting the fingers of a generally upright hand in a generally vertical stack"**

All three of these phrases appear in all three of the asserted independent claims. In two of the three asserted independent claims-9 and 17-the largest phrase also contains "connected to said bottom surface" (in place of the ellipsis), for which neither party has requested a construction. The two asserted dependent claims-2 and 10-contain only the term "said vertical stack." With respect to "generally vertical" and "generally upright," the central dispute between the parties is whether any quantification of either term is required. With respect to "generally vertical finger-supporting surface," the central disputes between the parties are (1) whether the

term needs construction and (2) whether the surface must support all four fingers and the palm of the hand. With respect to the largest phrase, the primary disputes between the parties are (1) whether the phrase needs construction and (2) how much the fingers of a generally upright hand must "overlap" one another to be considered a "vertical stack." The parties offer the following constructions.

| Lo | Microsoft |
|---|---|
| Generally vertical means "having an angle ranging from slightly less vertical to slightly more vertical than shown in Figures 3 and 4 of the '733 Patent." | Generally vertical means "approximately vertical throughout (within approximately 10 degrees of vertical throughout). |
| Generally upright means "having an angle ranging from slightly less upright to slightly more upright than shown in Figures 7 and 8 of the '733 Patent." | Generally upright means "approximately vertical in posture throughout." |
| Generally vertical finger-supporting surface needs no construction. | Generally vertical finger-supporting surface means "a surface that supports the four fingers and palm of a user's hand in a position that generally defines a vertical plane. The surface is vertical or approximately vertical throughout (over all or nearly all of its extent). |
| "generally vertical finger-supporting surface ... for supporting the fingers of a generally upright hand in a generally vertical stack" needs no construction. | "generally vertical finger-supporting surface ... for supporting the fingers of a generally upright hand in a generally vertical stack" means "a surface that is so close to vertical that it can support a hypothetical user's fingers one on top of the other (i.e., with each of the fingers approximately directly above or below its neighbor(s))." |

Dkt. No. 41, at 2.

***a. Parties' Positions***

Lo contends its constructions for "generally vertical" and "generally upright" are directly supported by the specification and that Microsoft's constructions exclude a preferred embodiment and are contrary to law. Dkt. No. 37, at 8. More specifically, Lo argues Microsoft's construction for "generally vertical" is incorrect because "(1) it improperly places a strict numerical boundary on the term; and (2) it excludes the preferred embodiment of Figures 3 and 4." *Id.* at 9. According to Lo, the patent specification nowhere supports the "10 degrees of vertical" and "throughout" limitations that are contained in Microsoft's constructions.

According to Lo, the Patent uses the terms "generally vertical" and "generally upright" to specifically "avoid a strict numerical boundary to the specified parameter." Dkt. No. 40, at 6 (citing Anchor Wall Sys. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1311 (Fed.Cir.2003)). Thus, argues Lo, applying a strict numerical quantity when one is never described in the patent would be erroneous. *Id.* at 6-7. Lo further argues that, under In re Heinrich, 46 C.C.P.A. 933, 936-37, 268 F.2d 753 (C.C.P.A.1959), the express reference to the figures for the definition of "generally vertical" and "generally upright" "suggests that the drawings are in fact working drawings representing preferred embodiments"; therefore, the drawings provide

the most accurate reference for construction. Id. at 7-8, 268 F.2d 753.

Although Microsoft offers separate constructions, it discusses "generally," "generally vertical" and "a generally vertical figure-supporting surface" collectively. *See* Dkt. No. 38, at 15-21. Microsoft argues its construction for "generally vertical," which includes the "within approximately 10 degrees of vertical," is derived from the "quantitative guidance that the '733 Patent specification provides in this area." Dkt. No. 38, at 16. Microsoft cites in support of its position a portion of the specification where prior art mice are discussed. *Id*. (citing '733 Patent at 1:45-67). Because "there is no suggestion in the patent that the terms horizontal or vertical are being used in any way other than their ordinary meaning," Microsoft contends "it is logical to apply the same guidance to 'generally vertical' as the patent provides for 'generally horizontal.' " Dkt. No. 38, at 16. Thus, argues Microsoft, the "generally vertical finger-supporting surface" should be understood to mean "within approximately 10 degrees of vertical." *Id*. at 16.

With respect to "generally vertical finger-supporting surface," Lo contends no construction is necessary if "generally vertical" and "generally upright" are construed. Dkt. No. 40, at 4-5. Lo additionally argues that Microsoft impermissibly includes "four finger" and "palm" limitations in its construction for "finger-supporting surface" that are nowhere to be found in the claim language or the specification. *Id*. at 5. Lo also contends Microsoft's proposed "four-finger" limitation would render claims 2 and 10 superfluous as both of those dependent claims specifically include a "four-finger" limitation. *Id*. Further, Lo argues Microsoft's "palm-supporting" limitation is not supported by the specification or claim language. *Id*. Lo concedes that the specification speaks of the hand remaining in a "natural and relaxed position" but contends "it does not follow that the surface must ***support the palm*** in order to achieve that end." *Id*. (emphasis added).

Microsoft contends the finger-supporting surface must support all four fingers because the latter part of the claim limitation refers to a "stack, so that the little finger is at the bottom thereof and the index finger is at the top thereof." Dkt. No. 50, at 9. Because of this latter language, Microsoft argues, all four fingers must necessarily be supported by the surface. *Id*. Microsoft additionally argues claim differentiation does not help Lo because "dependent claims do not rewrite independent claims." *Id*. Relying on the claim language that refers to the hand being in a "naturally upright" position in addition to the patent specification, Microsoft additionally contends its "palm" limitation is correct. Dkt. No. 38, at 16 n. 9 (citing '733 Patent at 1:49-53).

As for the whole phrase, Lo contends no constructions-other than "generally vertical" and "generally upright"-are necessary. Dkt. No. 41, at 3.

Microsoft contends the latter part of the phrase, "generally upright hand in a generally vertical stack," requires that the surface be so close to vertical that the user's fingers are stacked one on top of the other. Dkt. No. 38, at 22-23.

***b. Court's Construction***

The Court finds individual constructions of "generally vertical," "generally upright," and "generally vertical finger-supporting surface" are not necessary and would be redundant as well as potentially misleading. Rather, because the claim limitation that contains all three of these phrases describes a surface configured in a way for supporting the hand and fingers in a certain position, the appropriate construction should consider the entire phrase and not handle it piecemeal. That is, because the asserted claims are directed at a surface configured in such a manner as to ergonomically support the hand, the Court finds construing the phrases separately would disjoin the surface/hand relationship that is taught throughout the patent and effectively

preclude a proper contextual construction. Indeed, Lo acknowledges the interrelationship between these terms in his brief. *See* Dkt. No. 37, at 12. Microsoft explicitly notes that these terms are "closely related" and argues for constructions of both the individual terms as well as the larger phrase in which they appear. *See* Dkt. No. 38, at 15-24. The '733 Patent likewise recognizes the relationship between the surface of the mouse and the position of the fingers and hand. *See, e.g.,* '733 Patent at 2:1-19 (objects and summary of the invention).

Simply put, the Court finds that a construction of the phrase as a whole will resolve the disputes between the parties and provide the most appropriate context for construction. *See* Hockerson-Halberstadt, Inc. v. Converse Inc., 183 F.3d 1369, 1374 (Fed.Cir.1999) (proper claim construction requires contextual interpretation rather than a single element in isolation); L.B. Plastics, Inc. v. Amerimax Home Prods., Inc., 499 F.3d 1303, 1308 (Fed.Cir.2007) (must first look at intrinsic evidence, such as the surrounding claim language to determine the meaning of claim terms); U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997) (construction is "not an obligatory exercise in redundancy"); O2 Micro Int'l v. Beyond Innovation Tech. Co., Ltd., 521 F.3d 1351, 1361 (Fed.Cir.2008) ("district courts are not (and should not be) required to construe every limitation present in a patent's asserted claims").

In considering these terms, the Court finds the proffered constructions of both parties problematic. By proposing constructions of "generally vertical" and "generally upright" that refer to diagrams with no indication of scale or measurements of any kind, Lo in effect asks the Court to pass the claim construction issue off to the jury. Lo essentially argues that the references to Figures 3, 4, 7 and 8 provide the "standard" for measuring "generally vertical" and "generally upright" that is required by *Seattle Box*. The Court disagrees. Lo additionally claims that these references to the drawings somehow transform them into "working drawings drawn to scale" under *In re Heinrich*. Once again, the Court disagrees.

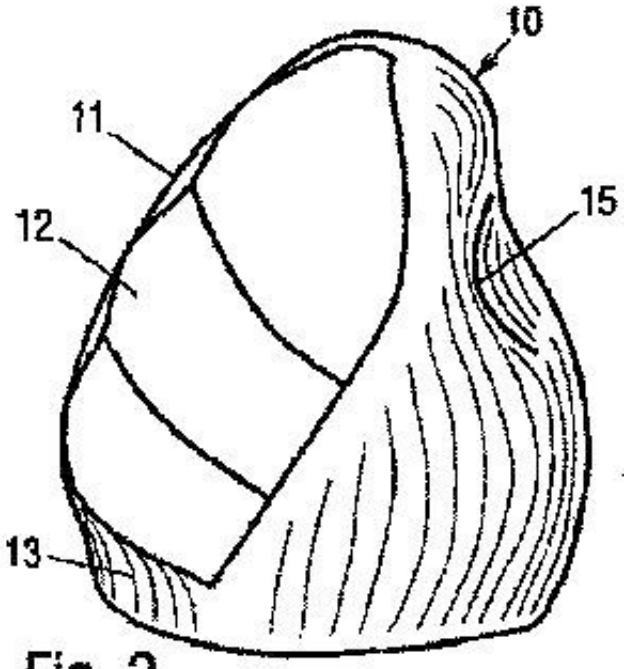


Fig. 3

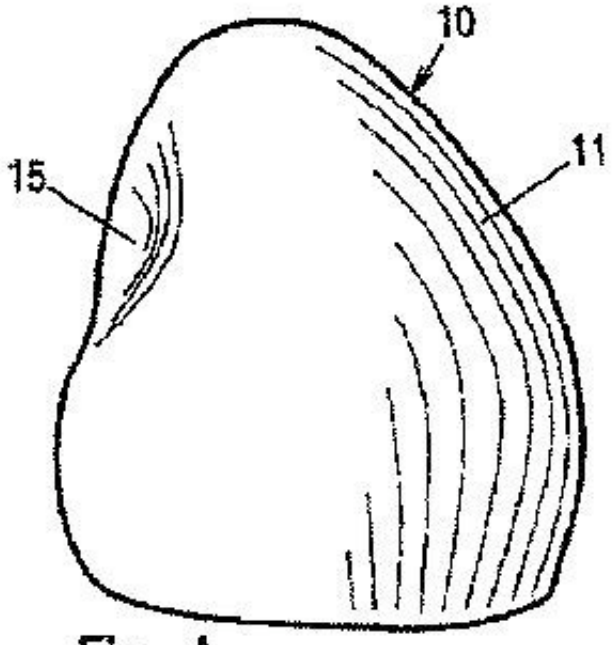



Fig. 4

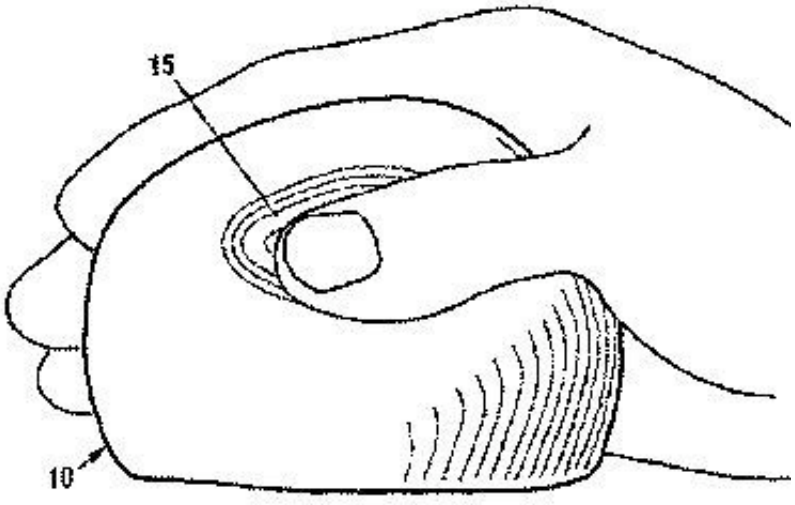
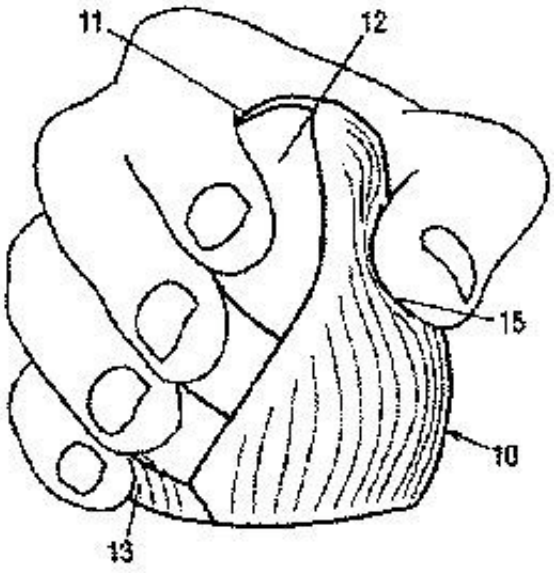



Fig. 7

Fig. 4

Fig. 8




The figures in the '733 Patent (specifically figures 3, 4, 7 & 8, shown above) provide no indication of having been drawn to scale and none of them contain any measurements, angular or otherwise, from which the public or a person of ordinary skill can discern what is meant by "generally vertical" or "generally upright." Although Lo contends the claims are written with words of degree on purpose, to avoid a strict numerical boundary, patentees are required to be "as precise as the subject matter permits." Miles Labs., Inc. v. Shandon Inc., 997 F.2d 870, 875 (Fed.Cir.1993). The degree of precision required depends on the nature of the subject matter. *Id*. As Microsoft points out, other patents in this subject matter area show how to indicate angles and other measurements in drawings. *See, e.g.,* U.S. Patent No. 5,414,445 Figs. 1 & 8 (included in Dkt. No. 50, at 6). Thus, Lo could have been more precise in his drawings such that reference to the drawings would provide guidance as to the meaning of "generally vertical" and "generally upright." As the drawings exist, however, following Lo's proposal would do nothing more but shift claim construction to the subjective interpretation of each juror. Doing so would violate the teachings of both *Markman* and *O2 Micro*. It is the Court's duty to interpret the claims and resolve interpretation ambiguities and the Court's constructions must be "meaningfully precise" to a person of ordinary skill in the art. Halliburton, 514 F.3d at 1251.

However, Microsoft's constructions for "generally vertical" and "generally upright" are also problematic. Microsoft relies on an extrinsic dictionary definition and case law to justify its construction of "generally" as "approximately and throughout." Dkt. No. 38, at 15-16. The Court finds Microsoft's construction does not comport with the extrinsic definition it cites nor the use of the term in the Patent. The extrinsic definition Microsoft cites is: "with regard to an overall picture ... in a general manner ... on the whole." *Id*. Microsoft then argues that "on the whole" means "throughout," based on Schoell v. Regal Marine Indus., Inc., 247 F.3d 1202, 1208-09 (Fed.Cir.2001). *Id*. However, the *Schoell* Court construed the term "essentially flat ." "Generally" and "essentially" are not the same terms and the Court finds Microsoft's logic unpersuasive. It may be that "essentially vertical" means "approximately vertical throughout," but that is not the term used in the '733 Patent. The diagrams clearly show, even without scaling or measurements, that the finger-supporting surface of the mouse is not "approximately vertical throughout." Thus, Microsoft's construction

would read out a preferred embodiment, which is rarely, if ever, correct. *See* Vitronics, 90 F.3d at 1583. The Court finds that "generally," as used in the context of these terms, is used to mean "mostly" or "for the most part," which both comport with Microsoft's extrinsic definition of "with regard to an overall picture ... in a general manner ... on the whole."

In at least one instance, however, the specification further informs the meaning of certain terms modified by "generally." Specifically, the specification provides additional guidance as to what "generally vertical finger-supporting surface *...for supporting the fingers of a generally upright hand* " means. Microsoft argues that the specification indicates the mouse *surface* must be "within approximately 10 degrees of vertical." Although the Court agrees that the portion of the specification cited by Microsoft is informing, the Court disagrees with Microsoft about what the patent specification says. The Court finds the following passages of the '733 Patent informative, the first of which Microsoft cites to support its proposed constructions:

**All prior art mice have a generally horizontal, primary supporting surface for supporting a hand in a horizontal position**.... However, the most natural and relaxed position for a hand-when placed on a desk by a sitting person-is an upright position: the little finger side of the hand rests on the desk, and the fingers and palm generally define a vertical plane. Therefore **prior art mice force the hand, wrist, and forearm to be twisted 80 to 90 degrees out of their natural and relaxed positions,** and require constant muscular force to be applied to the hand, wrist, and forearm to maintain their positions.

....

Accordingly the **primary object of the present invention** is to provide an ergonomic computer mouse which is **shaped to allow a hand holding it to remain in a natural, untwisted, and relaxed position.**

....

Accordingly the upright shape of the ergonomic computer mouse, in either embodiment, **allows the hand holding it to remain in a relaxed and naturally upright position. It eliminates the substantial twisting of the hand, wrist, and forearm that are common to users of prior art mice.** The upright hand distributes its weight along its entire lower edge (FIG.7), which eliminates the pressure sores on the wrist that prior art mice can cause. As a result, fatigue, discomfort, and pain are minimized or eliminated even after a long period of continuous use.

The present invention **only relates to the ergonomic aspects** of a computer mouse.

'733 Patent at 1:45-67, 2:4-7, 3:50-62 (emphasis added).

From these passages, it is clear that the central objective and focus of the patent relates to the ergonomic features of the claimed invention. *See* Ormco Corp. v. Align Tech, Inc., 498 F.3d 1307, 1313-14 (Fed.Cir.2007) (considering the "primary objective" of the invention in construing claims). In the first passage, Lo explicitly criticizes and disclaims prior art mice, which he contends have "generally horizontal" supporting surfaces, as opposed to his inventive "generally vertical" supporting surface. Lo further explains why these prior art mice are problematic-because their horizontal supporting surfaces "force the hand wrist, and forearm to be twisted 80 to 90 degrees out of their natural and relaxed positions." Lo then distinguishes his invention from the prior art by noting that his mouse, "in either embodiment, allows the hand holding it

to remain in a relaxed and naturally upright position." From these statements, the Court concludes that the supporting surface in Lo's invention is such that the hand remains in its natural and relaxed position, about 10 degrees or less from vertical. *See* SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1341 (Fed.Cir.2001) ("Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question."); Ormco, 498 F.3d at 1313-14 (limiting claims in part based on the "primary objective" of the invention).

Based on Anchor Wall Sys. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1311 (Fed.Cir.2003), Lo contends that any construction dictating a strict numerical boundary would be erroneous. The Court disagrees. It is the duty of the Court, under *Markman, O2 Micro,* and *Halliburton,* to construe patent claims over which there is a genuine dispute and those constructions must be meaningfully precise to a person of ordinary skill in the art. In this case, none of the drawings provides any means for deriving a meaningfully precise construction. Therefore, referring to the specification as a guide for what the claims mean is appropriate. *See* Phillips, 415 F.3d at 1314 ("claims must be read in view of the specification, of which they are a part"). Further, contrary to Lo's assertion, "about 10 degrees" is not a strict numerical boundary-there remains some latitude. Finally, although there may be some argument that the Court's construction reads out the preferred embodiment illustrated by Figures 7 and 8, there is no way to tell whether or not that is true. Because those figures have no scaling or angular measurements, it is impossible to tell whether the hand pictured in Figures 7 and 8 would fall outside the Court's construction. It is precisely this reason, as previously discussed, that the Court finds the textual language in the specification controlling.

With respect to the "finger-supporting surface," the Court finds Microsoft's arguments unpersuasive. Because "fingers" is plural, the surface must support more than one finger. However, Microsoft's proposed construction impermissibly requires that all four fingers and the palm of the hand be supported by the finger-supporting surface. Although the intrinsic record and diagrams arguably *support* this position, neither the intrinsic record nor the asserted claims *require* that all four fingers and/or the palm be supported by the finger-supporting surface. Indeed, claim differentiation lends additional support for Lo's argument that Microsoft has impermissibly imported the "four-fingers" limitation. *See, e.g.,* '733 Patent at 5:20-23 (dependent claim 10, which includes a requirement for the surface to support all four fingers); D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574 (Fed.Cir.1985) (when some claims are broad and others narrow, the narrow limitations should not be read into the broad claims); Autogiro Co. v. United States, 181 Ct.Cl. 55, 384 F.2d 391, 404 (Ct.Cl.1967) ("an interpretation of a claim should be avoided if it would make the claim read like another one"). The Court additionally finds there is no support for importing Microsoft's "palm" limitation into the claim.

Based on the foregoing analysis, the Court construes "**generally vertical finger-supporting surface ... for supporting the fingers of a generally upright hand in a generally vertical stack**" to mean "**a mostly vertical surface that supports multiple fingers of a hand in a manner such that when the fingers are supported by the surface, the hand is about 10 degrees or less from vertical and the fingers of the hand are mostly stacked on top of each other.**"

**4. "generally elongated in a horizontal direction," "generally straight positions," "straight," "elongated," and "said finger-supporting surface being generally elongated in a horizontal direction for supporting the fingers in generally straight positions"**

These terms and phrases appear in the third limitation of all three of the asserted independent claims. The primary disputes between the parties are (1) which terms/phrases need construction, (2) whether the surface must support all four fingers, (3) whether Lo disclaimed curled fingers, and (4) whether "generally elongated" is defined relative to actual structure or to a user's hand. The parties offer the following constructions.

| Lo | Microsoft |
|---|---|
| "Straight," "elongated," and the phrase as a whole needs no construction. | "Straight" means "directly ahead; without a bend, angle, or curve; not curled or curved." |
| "Generally straight" means "extended but slightly bent." | "Generally straight" means "approximately straight throughout; not curled." |
| A "generally elongated" surface is one "long enough to support the fingers." | "Elongated" means "lengthened out." |
| | A "generally elongated" surface means "a lengthened surface between the front and rear portions of the housing lengthened throughout its extent." The phrase as a whole means "the length of the surface where four fingers can rest is so close to straight that a hypothetical user's fingers will be supported in an extended posture without any substantial curl or curve." |

Dkt. No. 41, at 2.

***a. Parties' Positions***

Lo contends the overall phrase needs no construction, as long as "generally straight" and "generally elongated" are construed. Dkt. No. 41, at 3. Lo argues Microsoft's inclusion of "not curled" in its construction is "ambiguous and has no support in the specification." Dkt. No. 37, at 13. Although Lo admits the prosecution history shows that Lo distinguished his invention from the Lear reference, which discloses an "ergonomic computer mouse having a finger-supporting surface that is gripped by curving the fingers around a vertical axis," Lo states Microsoft's construction is not helpful because "generally straight" is significantly different from the "gripped by curving the fingers around a vertical axis" disclosed in Lear. *Id*.

Microsoft contends all of the individual terms should be construed to have their plain and ordinary meanings, which Microsoft submits from extrinsic sources. Dkt. No. 38, at 26-27. Microsoft again argues "generally" means "approximately and throughout." *Id*. at 27. With respect to "generally elongated surface," Microsoft admits that the fingers supported by the surface need not be "perfectly straight" but also argues that the specification makes it clear the fingers cannot be substantially curled either. *Id*. (citing ' 733 Patent at 1:42-43 (prior art mouse "includes a surface for supporting some fingers in substantially curled positions")). Microsoft further contends Lo distinguished his invention from Lear to overcome a rejection and in so doing, Lo distinguished "curved" from "elongated" and "curled" and "generally straight." Accordingly, argues Microsoft, Lo cannot now disavow that distinction. *Id*. at 28.

***b. Court's Construction***

The Court finds a construction of the whole phrase is the most appropriate contextually and will resolve the dispute between the parties. *See supra* Part IV.B.3. Therefore separate constructions for the individual terms or smaller phrases are not necessary.

The Court finds, under the guidance of *Seattle Box,* that the standard for determining whether the finger-supporting surface is "generally elongated in a horizontal direction," as stated in the claim, depends on the support given to the fingers of a hand. That is, according to the plain and ordinary meaning of the claim language, the finger-supporting surface must be long enough in the horizontal direction to support generally straight fingers.

The Court additionally finds that Microsoft's "not curled" limitation is incorrect. It is clear from the specification and the drawings that the fingers may be somewhat bent, or "curled." Thus, a construction that disallows any degree of curling would read out one of the preferred embodiments. Additionally, the specification passage cited by Microsoft on this point is inapt. That passage discusses prior art mice that have generally horizontal surfaces for supporting a hand in the horizontal position. Lo was not discussing the positions of the fingers in that passage. The purpose of that passage, along with the subsequent paragraph, is to show that prior art mice have generally horizontal primary surfaces rather than generally vertical ones. *See* '733 Patent at 1:27-67. The Court additionally finds Microsoft's prosecution history disclaimer argument without merit. The arguments made by Lo to overcome the Lear reference do not rise to the level of clear and unmistakable disavowal. *See* Lucent Techs., Inc. v. Gateway, Inc., 525 F.3d 1200, 1211 (Fed.Cir.2008). The thrust of Lo's argument to the Examiner appears to relate primarily to the vertical axis of Lear and how the fingers curl around that vertical axis. *See* Dkt. No. 39, Exh. 2 Pt. 2, at 19.

Finally, as previously discussed, the Court finds no justification for Microsoft's four-finger limitation. The claim clearly uses fingers in the plural, which necessarily requires more than one finger, but, for the same reasons stated previously, the Court disagrees that all four fingers must be supported by the surface.

Based on the foregoing analysis, the Court construes "**said finger-supporting surface being generally elongated in a horizontal direction for supporting the fingers in generally straight positions**" to mean "**the supporting surface is long enough in a horizontal direction to support multiple fingers in extended, but slightly bent positions.**"

**5. "generally parallel to," "parallel," "laterally spaced from," and "said thumb-supporting surface being generally parallel to and laterally spaced from said finger-supporting surface"**

One or more of these terms/phrases appears in two of the asserted independent claims although the parties seemingly only dispute the language appearing in claim 9. *See* Dkt. No. 38, at 28. The central disputes between the parties are (1) whether Lo's reliance on the Patent figures is adequate and (2) whether generally parallel surfaces must be parallel in all directions or just one direction.

***a. Parties' Positions***

Lo contends the only term needing construction is "generally parallel." Dkt. No. 37, at 17. Lo further contends his proposed construction "comports with the specification, while [Microsoft's] proposed construction does not adequately reflect the intent of the patentee regarding the amount of deviation from parallel implied by the modifier 'generally.' " *Id*. Lo then refers to Figure 5 of the patent and argues: "It is unclear whether [Microsoft's] proposed construction would include this preferred embodiment because the phrase 'approximately perpendicular common planes over approximately the entire surface' is ambiguous.' "

*Id*. at 18. Finally, Lo states the construction should take into consideration Figure 5, which indicates Lo's intent. *Id*.

Microsoft begins by offering an extrinsic "ordinary" definition of "parallel" and then applies that definition to surfaces, which yields surfaces that have "common perpendicular planes at any point ." Dkt. No. 38, at 30. Then, applying Microsoft's proposed construction for "generally" of "approximate and throughout," Microsoft arrives at its proposed construction.

***b. Court's Construction***

The Court finds Lo's reference to Figure 5 is unhelpful and that Lo's "intent" is not pertinent to construing the claims, except as that "intent" is conveyed by the specification and illustrative drawings. Although Figure 5 shows the thumb-supporting surface, it is not clear from that figure precisely how the thumb-supporting surface relates geometrically to the finger-supporting surface. Therefore, the Court must also consider the words used by Lo.

However, the Court additionally finds that Microsoft's proposed construction is also incorrect. As the Court previously discussed, "generally" does not mean "approximately and throughout." Instead, the patentee primarily uses "generally" in accordance with its plain and ordinary meaning, to mean "mostly" or "for the most part." Microsoft's construction erroneously reads "generally" out of the claim by requiring such exacting parallelism. That is, requiring the surfaces to be "approximately parallel throughout" or "have approximately perpendicular common planes at any point" does not account for Lo's use of "generally" in the phrase "generally parallel."

Additionally, it is clear from the specification and the drawings that the preferred "thumb-supporting surface" is concave while the preferred "finger-supporting surface" is convex. *See* '733 Patent at 2:65-67 & Figure 4. Using Microsoft's construction, it would be impossible for convex and concave surfaces to have "approximately perpendicular common planes over approximately the entire surface." Thus, Microsoft's erroneous construction would read out a preferred embodiment.

The Court concludes that what the patent teaches with respect to the parallelism between the thumb-supporting and finger-supporting surfaces is that they both run in the same direction, namely the elongated horizontal direction, but are separated by space (laterally-spaced from). Therefore, the Court construes "**said thumb-supporting surface being generally parallel to and laterally spaced from said finger-supporting surface**" to mean "**the thumb supporting and finger-supporting surfaces are mostly parallel to one another in the elongated horizontal direction and are separated from one another throughout the length of the surfaces (i.e., the surfaces do not meet).**"

**6. "relaxed, untwisted, and naturally upright position" and "so that said mouse is securely gripped between the thumb and the fingers and is easily maneuvered by flexing the straight fingers and the thumb, and the hand is in a relaxed, untwisted, and naturally upright position"**

These phrases both appear in all three of the asserted independent claims. The primary disputes between the parties are whether both phrases need construction and which construction is most accurate. The parties offer the following constructions.

| **Lo** | **Microsoft** |
|---|---|

| | |
|---|---|
| Relaxed, untwisted, and naturally upright position means "Positioned such that the hand's weight is distributed along the hand's bottom edge, as shown in Figure 7 of the '733 Patent." | The hand is in a "relaxed, untwisted, and naturally upright position" when "the little finger side of the hand rests on the desk, and the fingers and palm generally define a vertical plane. Wrist pronation is at or close to zero degrees. The "natural and relaxed positions" of the hand, wrist and forearm are 80 to 90 degrees from horizontal.<br><br>The phrase as a whole means: "The user's hand must be in a relaxed, untwisted, and naturally upright position, and fit the mouse such that the thumb and fingers are placed in opposition to each other, on opposed surfaces. Wrist pronation is at or close to zero degrees. The mouse must also be held firmly and tightly. |

Dkt. No. 41, at 4.

***a. Parties' Positions***

Lo contends his construction comports with the teachings in the specification. Dkt. No. 40, at 10. Lo further argues that Microsoft's construction impermissibly imports the "wrist pronation" limitation, which is unsupported by the specification. *Id*. Finally, Lo argues that Microsoft's construction improperly applies a numerical range to the angle of the " 'generally define[d] vertical plane' in which the patentee describes a shortcoming of prior art mice." *Id*.

Microsoft contends "the Patent is expressly clear that the hand is in a 'relaxed, untwisted, and naturally upright position' when 'the little finger side of the hand rests on the desk, and the fingers and palm generally define a vertical plane.' " Dkt. No. 38, at 24. Therefore, argues Microsoft, Lo's construction is incomplete.

***b. Court's Construction***

Microsoft fails to explain where it comes up with several limitations that are included in its proposed construction. Microsoft further fails to explain why the entire phrase needs construction. The Court does agree with Microsoft, however, that Lo's construction is incomplete. But, the Court disagrees with Microsoft's assertion that that the little finger side of the hand must rest on the desk. The Court finds the following passages from the '733 Patent informative:

However, the most natural and relaxed position for a hand-**when placed on a desk by a sitting person**-is an upright position: **the little finger side of the hand rests on the desk, and the fingers and palm generally define a vertical plane.**

....

Unlike prior art mice, which are held with a horizontal hand that is supported on the desk by a small area of the wrist on the little finger side, **a hand holding the ergonomic mouse has its weight distributed along an entire lower edge thereof.**

'733 Patent at 1:49-53, 3:31-34 (emphasis added).

Although the patent specification uses the language proposed by Microsoft-that the little finger side of the

hand rests on the desk-the context provides that this occurs when the hand is "placed on a desk by a sitting person." What is claimed, however, is an ergonomic mouse with a finger-supporting surface. Thus, limiting the claims to require a hand that "rests on the desk" would be erroneous because such a construction would ignore the context of the statement made in the specification.

Based on the specification, the Court construes "**the hand is in a relaxed, untwisted, and upright position**" to mean "**the little finger-side of the hand is nearest the horizontal stationary surface with the fingers and palm mostly upright and the weight of the hand is distributed along the little-finger side of the hand.**" Given the additional constructions provided herein, the Court finds this construction resolves any dispute between the parties as to the scope of the claim. Accordingly, no additional construction of the phrase as a whole is necessary.

## V. CONCLUSION

Finding all disputed claim terms amenable to construction, the Court hereby **ORDERS** the claim terms addressed herein construed as indicated.

**IT IS SO ORDERED.**

FN1. The Court recognizes that a dependent claim legally includes all the limitations of an independent claim from which it depends. However, the Court uses "appear" in this Order to reference the claim(s) that actually recite the specified term/phrase.

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Lo v. Microsoft Corp.

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