

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION**

CRESWELL HOLDINGS LLC,	§	
	§	
v.	§	CIVIL ACTION NO. 4:15-CV-407
	§	(Judge Mazzant)
LENOVO (UNITED STATES) INC.	§	
	§	
	§	
	§	

MEMORANDUM OPINION AND ORDER

Before the Court are Plaintiff Creswell Holdings LLC’s Opening Claim Construction Brief (Dkt. # 34), Defendant Lenovo (United States) Inc.’s Response to Plaintiff’s Construction Brief (Dkt. #42), and Plaintiff’s Reply Claim Construction Brief (Dkt. #45). Also before the Court are the parties’ March 17, 2016 Joint Claim Construction and Prehearing Statement (Dkt. #33) and the parties’ August 16, 2016 Joint Claim Construction Chart (Dkt. #49). The Court held a claim construction hearing on August 30, 2016, to determine the proper construction of the disputed claim terms in United States Patent Nos. 6,194,677 (“the ‘677 Patent”), 6,318,695 (“the ‘695 Patent”), and 6,340,803 (“the ‘803 Patent”).

The Court issues this Claim Construction Memorandum and Order and hereby incorporates-by-reference the claim construction hearing and transcript as well as the demonstrative slides presented by the parties during the hearing. For the following reasons the Court provides the constructions set forth below.

BACKGROUND

Plaintiff brings suit alleging infringement of United States Patent Nos. 6,194,677, 6,318,695, and 6,340,803 (collectively, the “patents-in-suit”). Plaintiff has asserted Claims 1 and 2 of the ‘677 Patent, Claims 1 and 2 of the ‘695 Patent, and Claim 1 of the ‘803 Patent (Dkt.

#34 at p. 1). Plaintiff submits: “All three patents are generally related to improving the compactness of laptop keyboards by reducing the height of the keys in the keyboard.” (Dkt. #34 at p. 2).

The parties have addressed the three patents-in-suit individually in their briefing, and the Court does the same herein.

LEGAL STANDARDS

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996). The purpose of claim construction is to resolve the meanings and technical scope of claim terms. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). When the parties dispute the scope of a claim term, “it is the court’s duty to resolve it.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Court examines a patent’s intrinsic evidence to define the patented invention’s scope. *Id.* at 1313–14; *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). Intrinsic evidence includes the claims, the rest of the specification, and the prosecution history. *Phillips*, 415 F.3d at 1312–13; *Bell Atl. Network Servs.*, 262 F.3d at 1267. The Court gives claim terms their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

Claim language guides the Court's construction of claim terms. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Other claims, asserted and unasserted, can provide additional instruction because "terms are normally used consistently throughout the patent." *Id.* Differences among claims, such as additional limitations in dependent claims, can provide further guidance. *Id.*

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). In the specification, a patentee may define his own terms, give a claim term a different meaning than it would otherwise possess, or disclaim or disavow some claim scope. *Phillips*, 415 F.3d at 1316. Although the Court generally presumes terms possess their ordinary meaning, this presumption can be overcome by statements of clear disclaimer. *See Cultor Corp. v. A.E. Staley Mfg. Co.*, 224 F.3d 1328, 1331 (Fed. Cir. 2000) ("Claims are not correctly construed to cover what was expressly disclaimed."). This presumption does not arise when the patentee acts as his own lexicographer. *Irdeto Access, Inc. v. EchoStar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004).

The specification may also resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. For example, "[a] claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely, if ever, correct.'" *Globetrotter Software, Inc. v. Elam Comput. Grp. Inc.*, 362 F.3d 1367, 1381

(Fed. Cir. 2004) (quoting *Vitronics*, 90 F.3d at 1583). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patentee may define a term during prosecution of the patent. *See, e.g., Home Diagnostics Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“[A] patent applicant may define a term in prosecuting a patent . . .”). The well-established doctrine of prosecution disclaimer “preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution.” *Omega Eng’g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). When a patentee distinguishes a claimed invention over the prior art, he is “indicating what the claims do not cover” and “by implication surrendering such protection.” *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed. Cir. 1997). “As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Omega Eng’g*, 334 F.3d at 1324. However, the prosecution history must show that the patentee “clearly and unambiguously ‘disclaimed or disavowed the proposed interpretation during prosecution to obtain claim allowance.’” *Middleton Inc. v. Minn. Mining and Mfg. Co. (3M Co.)*, 311 F.3d 1384, 1388 (Fed. Cir. 2002) (quoting *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985)). Statements will constitute disclaimer of scope only if they are “clear and unmistakable statements of disavowal.” *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1358 (Fed. Cir. 2003). “An ambiguous disavowal will not

suffice.” *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275, 1285 (Fed. Cir. 2010) (internal quotation marks and citation omitted).

The Court may rely on extrinsic evidence to “shed useful light on the relevant art” although such evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (citation omitted). Technical dictionaries and treatises may help the Court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but such sources may also provide overly broad definitions or may not be indicative of how terms are used in the patent. *Id.* at 1318. Similarly, expert testimony may aid the Court in determining the particular meaning of a term in the pertinent field, but “conclusory, unsupported assertions by experts as to the definition of a claim term are not useful.” *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

ANALYSIS

I. DISPUTED CLAIM TERMS IN U.S. PATENT NO. 6,340,803

The ‘803 Patent, titled “Computer Keyswitch,” issued on January 22, 2002, and bears a filing date of January 25, 2001. The Abstract of the ‘803 Patent states:

A computer keyswitch comprises clamping plate extended upward from the bottom plate thereof. The clamping plate is used to retain the upward motion of the pivotal shafts on bottom end of the two levers of the computer keyswitch. The position, orientation and height of the clamping plate have not [sic] limit such that the clamping plate has reduced thickness and height. Therefore, the computer keyswitch has lower height but with same level mechanism height and structural strength.

‘803 Patent at Abstract. The parties have agreed upon the following constructions for terms in the ‘803 Patent:

<u>Term</u>	<u>Agreed Construction</u>
“bottom plate”	Plain and ordinary meaning, no construction necessary.
“bottom plate having a predetermined thickness”	Plain and ordinary meaning, no construction necessary.
“a membrane circuit overlaying said bottom plate and having a plurality of apertures formed therein”	Plain and ordinary meaning, no construction necessary.
“base having a thickness greater than said predetermined thickness of said bottom plate”	Plain and ordinary meaning, no construction necessary.

(Dkt. #33, Exhibit A at p. 1).

A. “base”

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
No construction required.	“plate below the keycap” ¹

(Dkt. #33, Exhibit B at p. 1; Dkt. #52, Exhibit A at p. 1). The parties submit that this term appears in Claim 1 of the ‘803 Patent (Dkt. #49, Exhibit A at p. 1).

1. The Parties’ Positions

Plaintiff argues that “[a]lthough the specification does not expressly state that a base can be placed at substantially the same level as the keycap rather than below, the specification also does not require that ‘base’ be limited to ‘a plate below the keycap.’” (Dkt. #34 at p. 6). Plaintiff also cites prosecution history (Dkt #34 at pp. 6–7).

Defendant responds: “[Defendant’s] proposed construction of a plate placed below the keycap is not only supported by the claim language, but must be correct in order for the apparatus to function as claimed.” (Dkt. #42 at p. 2) (footnote omitted). Defendant also submits

¹ Defendant’s previously proposed construction was a “plate that is placed below the keycap.” (Dkt. #49, Exhibit A at p. 1).

that “[t]he specification includes only a single embodiment, which is repeatedly described as ‘the present invention,’ which limits the scope of the invention to the preferred embodiment.” (Dkt. #42 at p. 3).

Plaintiff replies that claims reciting “a base arranged below the key cap” were withdrawn during prosecution, and “nothing in the specification attempts to tie the entire invention with the ‘below the keycap’ limitation.” (Dkt. #45 at p. 2). Plaintiff also argues:

Neither party disputes the plain claim language requires that the base be thicker than the bottom plate. This requirement offers the structural strength needed for the keyswitch to operate. However, the thickness element of the base does not require the base to be laid below the keycap. In fact, this unwarranted limitation defeats the other equally important objective of the inventions, i.e., lowering the overall height of the keyswitch. ‘803 patent at 1:41–43.

(Dkt. #45 at p. 3). At the August 30, 2016 claim construction hearing, Plaintiff urged that requiring the “base” to be below the keycap would frustrate the disclosed objective of reducing the overall height of the key.

2. Analysis

Claim 1 of the ‘803 Patent recites:

1. A computer keyswitch, comprising:

a bottom plate having a plurality of through holes formed therein, said bottom plate having a predetermined thickness and a plurality of clamping plates extending upwardly therefrom and respectively across said plurality of through holes;

a membrane circuit overlaying said bottom plate and having a plurality of apertures formed therein in respective aligned relationship with said plurality of through holes and through which said plurality of clamping plates respectively extend;

a *base* overlaying said membrane circuit, said *base* having an opening formed therethrough, said plurality of clamping plates extending into said opening, said *base* having a thickness greater than said predetermined thickness of said bottom plate;

a resilient body disposed in said opening of said *base* and having a lower end disposed on said membrane circuit;

a keycap having a mounting surface on a bottom side thereof, said resilient body having an upper end contacting said bottom side of said keycap; and,

a first lever and a second lever disposed in a scissors arrangement between said mounting surface of said keycap and said bottom plate, said first and second levers having respective top ends assembled to said mounting surface and respective bottom ends formed with pivotal shafts, said pivotal shafts being respectively disposed in said through holes of said bottom plate and respectively captured therein by said plurality of clamping plates.

‘803 Patent at 4:1–35 (emphasis added).

During prosecution, original claim 1 recited “a base arranged below the key cap.” (Dkt. #34, Exhibit D at CRESWELL000468). The examiner rejected the claim, stating that a prior art reference disclosed this limitation (among others) (Dkt. #34, Exhibit D, May 23, 2001 Office Action at p. 3 (CRESWELL000485)). In response, the patentee cancelled the original claims and added a new claim reciting “a base overlaying said membrane circuit, said base having an opening formed there through, said plurality of clamping plates extending into said opening, said base having a thickness greater than said predetermined thickness of said bottom plate.” (Dkt. #34, Exhibit D, Aug. 17, 2001 Amendment at p. 2 (CRESWELL000489)).

Plaintiff argues that this prosecution history demonstrates that the patentee eliminated any requirement of the base being arranged below the key cap. Additionally, Plaintiff has not identified any statements in the prosecution history that specifically address this issue, let alone any definitive statements. *See Omega Eng’g*, 334 F.3d at 1324 (“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on *definitive* statements made during prosecution.” (emphasis added)).

Nonetheless, Defendant has not demonstrated that the claim itself (reproduced above) recites any limitation that the base must be below the keycap. As to the specification, the Summary of the Invention states:

It is the object of the present invention to provide a computer keyswitch, which has lower height but with same level mechanism height and structural strength.

‘803 Patent at 1:41–43; *see id.* at 1:29–53. The specification further discloses:

The base **50** is placed below the keycap **10**, the first lever **30** and the second lever **40**, and has a specific thickness. The base **50** has an accommodating space **51** thereon and the first lever **30** and the second lever **40** are placed atop the accommodating space **51**. Therefore, the first lever **30** and the second lever **40** can be accommodated by the accommodating space **51**.

The bottom plate **60** is placed below the base **50** and is a plate with thinner thickness.

.....

The present invention is characterized in that the clamping plates **63** and **64** are extended from the bottom plate **60**. The thickness of the bottom plate **60** has [no] limit and can adopt thinner thickness. . . . The keyswitch has lower height but with the same level mechanism height and structural strength.

Id. at 2:32–41, 3:19–28; *see id.* at Figs. 4 & 5.

Although the specification refers to “the present invention,” these disclosures do not rise to the level of defining the invention as requiring the base to be below the keycap. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (“When a patent thus describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.”); *see also Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1366–67 (Fed. Cir. 2012) (“It is . . . not enough that the only embodiments, or all of the embodiments, contain a particular limitation. We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that. To constitute disclaimer, there must be a clear and unmistakable disclaimer.”).

Finally, Defendant has not adequately supported the argument that its proposed construction is necessary for operability. *See AIA Eng’g Ltd. v. Magotteaux Int’l S/A*, 657 F.3d 1264, 1278 (Fed. Cir. 2011) (“A construction that renders the claimed invention inoperable should be viewed with extreme skepticism.” (citation omitted)). That is, Defendant has not

shown that the keyswitch would be inoperable if the base was not positioned directly below the keycap. *See Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1325 (Fed. Cir. 2008) (“[I]t is generally not appropriate to limit claim language to exclude particular devices because they do not serve a perceived purpose of the invention” (internal quotation marks and citation omitted)).

At the claim construction hearing, Defendant discussed prosecution history in which the patentee stated the base is involved in bearing the force exerted when the keycap is pressed down (Dkt. #34, Exhibit D, Aug. 17, 2001 Amendment at p. 4 (CRESWELL000491) (“[T]he invention of the subject Patent Application provides a bottom plate and base plate in combination to provide the structural support necessary for the switch”). Defendant did not show, however, that it necessarily follows that the base must be placed directly below the keycap to provide support as part of this “combination.”

The Court therefore expressly rejects Defendant’s proposed construction. No further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568 (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro*, 521 F.3d at 1362 (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015) (“Because the plain and ordinary meaning of the disputed claim language is clear, the district court did not err by declining to construe the claim term.”).

Accordingly, the Court hereby construes “**base**” to have its **plain meaning**.

II. DISPUTED CLAIM TERMS IN U.S. PATENT NO. 6,194,677

The ‘677 Patent, titled “Structure of Keyswitch,” issued on February 27, 2001, and bears a filing date of December 13, 1999. The Abstract of the ‘677 Patent states:

An improved structure of keyswitch comprises a circuit base with a circuit layer, a resilient dome, a supporting lever and a keytop. The circuit base further comprises a substrate and a flexible circuit layer. T[he] supporting lever comprising a first lever and a second lever pivotal to each other in scissors arrangement. The first lever has a sliding portion on bottom side thereof and the second lever has a rotating portion on bottom side thereof and a sliding portion on top side thereof. The sliding portion of the first lever comprises two clamping blocks and a sliding shaft arranged between the two clamping blocks. The clamping block is extended from the sliding shaft such that the edge at the intersection of an outer surface of the sliding shaft and an [sic] bottom surface of the sliding shaft is an embowed square shape. The sliding shaft is entirely or partially embedded into the first through hole. The rotational portion of the second lever has two rotational shafts retained between the second retaining bodies and embedded within the second through hole. Therefore, the height of the keyswitch is lowered and the key pressing operation is more stable.

‘677 Patent at Abstract. The parties have agreed upon the following constructions for terms in the ‘677 Patent:

<u>Term</u>	<u>Agreed Construction</u>
“circuit base”	Plain and ordinary meaning, no construction necessary.
“slidably engaging”	Plain and ordinary meaning, no construction necessary.
“pivotaly engaging”	Plain and ordinary meaning, no construction necessary.
“pair of laterally spaced clamping blocks and a sliding shaft axially extending therebetween”	Plain and ordinary meaning, no construction necessary.
“outer and bottom surfaces adjoined by a tapered edge extending laterally adjacent an axial direction defined by said sliding shaft”	Plain and ordinary meaning, no construction necessary.
“substrate”	Plain and ordinary meaning, no construction necessary.
“flexible circuit layer”	Plain and ordinary meaning, no construction necessary.
“first leve[r] having distal sliding and rotating portions”	Plain and ordinary meaning, no construction necessary.

“second leve[r] having distal sliding and rotating portions”	Plain and ordinary meaning, no construction necessary.
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(Dkt. #33, Exhibit A at pp. 1–2).

A. “pair of laterally projecting rotational shafts”

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
No construction required.	“two rotating shafts extending outwards in an axial direction”

(Dkt. #33, Exhibit B at p. 1). The parties submit that this term appears in Claim 1 of ‘677 Patent

(Dkt. #49, Exhibit A at p. 13).

Defendant agreed at the claim construction hearing that this term should be given its plain meaning. Therefore, the Court hereby construes “**pair of laterally projecting rotational shafts**” to have its **plain meaning**.

III. DISPUTED CLAIM TERMS IN U.S. PATENT NO. 6,318,695

The ‘695 Patent, titled “Notebook Computer Key,” issued on November 20, 2001, and bears a filing date of June 29, 1999. The Abstract of the ‘695 Patent states:

A notebook computer key comprises a key hat, a seat, an elastic touch moving piece, a first supporting frame and a second supporting frame. The key hat is formed with an operating surface and an assembling surface at the top surface and the lower surface. The seat is installed with a plurality of through holes, each through hole is installed with a positioning piece. The elastic touch moving piece installed between the key hat and the seat. The first supporting frame and second supporting frame installed between the assembling surface of the key hat and the seat. The two supporting frames are pivotally connected. The upper ends of the two supporting frames are connected to the assembling surface of the key hat, and each lower end of two sides of the two supporting frames are installed with a pivotal shaft for being pivotally connected to the through hole of the seat. The pivotal shaft at lower end of each side of the two supporting frames are protruded from the first lateral wall and the second lateral wall of the supporting frame. The pivotal shaft at each lower end of two sides of the two supporting frames is inserted into the through hole pivoted. Therefore, the height of the key is reduced and the requirement of compact of modem [sic] products is met.

'695 Patent at Abstract. The parties have agreed upon the following constructions for terms in the '695 Patent:

<u>Term</u>	<u>Agreed Construction</u>
“seat”	Plain and ordinary meaning, no construction necessary.
“pivotal shaft coupled to each said lower end”	Plain and ordinary meaning, no construction necessary.
“abuttingly engaging and stopping edge portion”	Plain and ordinary meaning, no construction necessary.
“circuit board layer juxtaposed on an upper surface of said seat”	Plain and ordinary meaning, no construction necessary.

(Dkt. #33, Exhibit A at p. 2).

A. “[seat including a] protrusive stopping edge portion”

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“stopping edge protruding out the surface of the seat”	“stopping edge protruding out the surface of the seat located between two positioning pieces” ²

(Dkt. #33, Exhibit B at p. 1; Dkt. #52, Exhibit A at p. 6). The parties submit that this term appears in Claims 1 and 2 of the '695 Patent (Dkt. #49, Exhibit A at p. 6).

1. The Parties’ Positions

Plaintiff argues that Defendant’s proposed construction would improperly limit the term to the specific embodiment that is illustrated in Figure 4 of the '695 Patent (Dkt. #34 at p. 10).

² Defendant previously proposed the following claim construction: “stopper piece extending above the [seat] located between two positioning pieces providing a stopping effect to the forward and rearward movement of the protrusion at lower end of the second supporting frame or first supporting frame.” (Dkt. #49, Exhibit A at p. 6).

Defendant responds that “[t]he claim language is essentially a prose description of a parts diagram,” and “the stopping edge (38) must be between the positioning pieces (29) in order to engage the convex body (37).” (Dkt. #42 at pp. 9–10).

Plaintiff replies that, based on the claim language, “although the end portion is located between the lower ends, there’s no requirement that the stopping edge portion must be located between the pivot shafts.” (Dkt. #45 at p. 7). Plaintiff then urges that “Defendant’s construction is unnecessary, confusing, and should be rejected by this Court.” (Dkt. #45 at p. 8).

At the claim construction hearing, Plaintiff agreed that the “stopping edge portion” must be distinct from the “positioning pieces,” but Plaintiff urged that no evidence requires any limitation as to the location of the stopping edge portion aside from what the claims expressly recite. In particular, Plaintiff argued Defendant’s proposal of “between” might be interpreted as requiring the stopping edge portion to lie precisely along a line between positioning pieces.

2. Analysis

The specification discloses:

[T]he stopping edge **38** of the seat **15** provides a stopping effect to the forward and rearward movement of the protrusion **37** at lower end of the second supporting frame **14** (or first supporting frame **14**).

‘695 Patent at 3:39–42.

Claim 1 of the ‘695 Patent, for example, recites:

1. A notebook computer key comprising:
 - a key hat formed with an operating surface and an assembling surface respectively at a top surface and a lower surface thereof;
 - a seat defining an upper surface having a plurality of through holes formed therein, the seat having a plurality of positioning pieces formed thereon, each of said plurality of positioning pieces extending at least partially across a respective one of said through holes, said *seat including a protrusive stopping edge portion*;
 - an elastic touch moving piece installed between the key hat and the seat;and

a first supporting frame and a second supporting frame installed between the assembling surface of the key hat and the seat, the two supporting frames being pivotally connected together to form a crossed linkage, each of the first and second supporting frames having respective upper ends connected to the assembling surface of the key hat, each of the first and second supporting frames having a pair of lower ends on two respective sides thereof with a pivotal shaft coupled to each said lower end, each said lower end having first and second lower side surfaces transversely oriented one relative to the other, each said pivotal shaft extending laterally from said first lower side surface of said lower end and protruding from said second lower side surface of said lower end, each said pivotal shaft of both said first and second supporting frames extending at least partially below the plane of said seat upper surface into a respective one of said plurality of through holes beneath a corresponding one of said plurality of positioning pieces for respective pivotal coupling to the seat, while each said lower end of both said first and second supporting frames remains at or above the plane of said seat upper surface;

at least one of said first and second supporting frames includes an *end portion disposed laterally between said lower ends* thereof, said end portion having at least one convex body protruding therefrom for *abuttingly engaging said stopping edge portion*.

Id. at 3:54–4:25 (emphasis added). The claim language expressly calls for the protrusive stopping edge portion to be abuttingly engaged by an end portion, and the end portion is between the lower ends of the supporting frames. The claim thus requires the protrusive stopping edge portion must be positioned between the lower ends of the supporting frames. Defendant’s proposed construction, however, would require the protrusive stopping edge portion to be between the two “positioning pieces.” The above-reproduced claim does not recite such a limitation. Claim 2 of the ‘695 Patent is similar.

The illustrated arrangement relied upon by Defendant is not recited in the claims and is a specific feature of a particular embodiment that should not be imported into the claim. *See MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007) (“[P]atent coverage is not necessarily limited to inventions that look like the ones in the figures.”); *see also Phillips*, 415 F.3d at 1323 (warning against confining the claims to embodiments described in the specification); *Constant*, 848 F.2d at 1571 (“It is the claims that define the claimed invention.”).

As to whether the “protrusive stopping edge portion” can be the same structure as the positioning pieces (Dkt. #42 at p. 11), distinct limitations do not necessarily correspond to distinct structures:

Here, the disclosure in the specification cuts against Home Depot’s argument that the “cutting box” and “dust collection structure” must be separate components for purposes of the infringement analysis. The specification discloses that the “[c]utting box . . . defines an internal chamber wherein the rotating saw blade meets the work piece during the cutting process and functions to contain the sawdust and wood chips generated as the blade cuts through the wood.” . . . Thus, the specification teaches that the cutting box may also function as a “dust collection structure” to collect sawdust and wood chips generated during the wood cutting process. It does not suggest that the claim terms require separate structures. *See Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1303 (Fed. Cir. 2011) (“The claims and the specifications indicate that the ‘needle holder’ and ‘retainer member’ need not be separately molded pieces.”); *see also NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1310 (Fed. Cir. 2005) (noting that the asserted claim language did not support a limitation requiring that the claimed “RF receiver” and “destination processor” be separate and distinct). Nor are we convinced that the claim language “in fluid communication” requires that “cutting box” and “dust collection structure” be wholly separate structures.

Powell v. Home Depot U.S.A., Inc., 663 F.3d 1221, 1231–32 (Fed. Cir. 2011).

During prosecution, the patentee distinguished what the patentee characterized as “secure retention at hooking members” in the “Su” reference (Dkt. #42, Exhibit 1, Oct. 12, 2000 Amendment After Final Office Action at pp. 8–9 (CRESWELL000390–91)). Later during prosecution, the patentee reiterated this distinction as to the “Yu” reference:

[T]he reference nowhere discloses Applicant’s limitation of “at least one of said first and second supporting frames includ[ing] an end portion disposed laterally between said lower ends thereof,” on which “at least one convex body protrud[es] therefrom for abuttingly engaging” a stopping edge portion of the underlying seat 11. The lateral support function served by such abutting engagement is actually obviated by the reference’s disclosure of the snugly conformed engagement of the pivot shafts 32 (of the second element 30) with the rear two fastening slots 13.

(Dkt. #42, Exhibit 1, May 11, 2001 Amendment at pp. 9–10 (CRESWELL000423–24)).

The patentee thus relied upon the end portion and the stopping edge portion being distinct from the positioning pieces, and that reliance should be given effect in the Court’s construction. *See Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381 (Fed. Cir. 2011) (“The patentee is bound by representations made and actions that were taken in order to obtain the patent.”); *see also Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.” (internal quotation marks and citation omitted)).

Therefore, the Court hereby construes “[**seat including a] protrusive stopping edge portion**” to mean “**stopping edge that protrudes from the surface of the seat and that is distinct from the positioning pieces.**”

B. “each said pivotal shaft extending laterally from said first lower side surface of said lower end and protruding from said second lower side surface of said end”

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
No construction required, alternatively, “each pivotal shaft extends laterally from both a first and second surfaces of the lower end.”	“each said pivotal shaft extends laterally outward from the first lower side surface and downward from the second lower side surface of the lower end” ³

(Dkt. #33, Exhibit B at p. 1; Dkt. #52, Exhibit A at pp. 9–10). The parties submit that this term appears in Claims 1 and 2 of the ‘695 Patent (Dkt. #49, Exhibit A at pp. 9–10).

1. The Parties’ Positions

Plaintiff argues that Defendant’s proposed construction would improperly limit the term to the specific embodiment that is illustrated in Figure 4 of the ‘695 Patent (Dkt. #34 at p. 12).

³ Defendant previously proposed the following claim construction: “each said pivotal shaft extends laterally outward and downward from the lower end.” (Dkt. # 49, Exhibit A at pp. 9–10).

Instead, Plaintiff submits “the claim language itself already offers a detailed description of the plain and ordinary meaning of this term.” (Dkt. #34 at p. 12).

Defendant responds that whereas Plaintiff’s alternative proposal “simply eliminates and reads out the term ‘protruding from,’” “[t]he patentee chose to use two different phrases in the claim—‘extending laterally from’ and ‘protruding from’—to describe the orientation of the pivotal shafts in relationship to the sides of the lower end,” and “these claim terms should be given different meaning.” (Dkt. #42 at p. 12).

Plaintiff replies that the claim language is clear and “does not require a pivotal shaft to extend laterally at an ambiguous outward or downward direction as demanded by Defendant’s construction.” (Dkt. #45 at p. 8).

2. Analysis

Claim 1 of the ‘695 Patent mentions:

a first supporting frame and a second supporting frame installed between the assembling surface of the key hat and the seat, the two supporting frames being pivotally connected together to form a crossed linkage, each of the first and second supporting frames having respective upper ends connected to the assembling surface of the key hat, each of the first and second supporting frames having a pair of lower ends on two respective sides thereof with a pivotal shaft coupled to each said lower end, each said lower end having first and second lower side surfaces transversely oriented one relative to the other, *each said pivotal shaft extending laterally from said first lower side surface of said lower end and protruding from said second lower side surface of said lower end*, each said pivotal shaft of both said first and second supporting frames extending at least partially below the plane of said seat upper surface into a respective one of said plurality of through holes beneath a corresponding one of said plurality of positioning pieces for respective pivotal coupling to the seat, while each said lower end of both said first and second supporting frames remains at or above the plane of said seat upper surface;

at least one of said first and second supporting frames includes an end portion disposed laterally between said lower ends thereof, said end portion having at least one convex body protruding therefrom for abuttingly engaging said stopping edge portion.

‘695 Patent at 3:66–4:25 (emphasis added).

During prosecution, the patentee further explained:

As [the] newly-amended Claims further recite, each of the first and second supporting frames is equipped with a pair of lower ends on two respective sides thereof - each with a pivotal shaft coupled to *extend laterally outward and downward therefrom*.

(Dkt. #42, Exhibit 1, May 11, 2001 Amendment at pp. 7–8 (CRESWELL000421–22) (emphasis added)). Consequently, Defendant’s proposed construction is consistent with how the patentee described the claim language at issue. *See Typhoon Touch*, 659 F.3d at 1381 (binding the patentee to representations made before a patent examiner). Defendant’s proposal is also consistent with the Figures of the ‘695 Patent. *See* ‘695 Patent at Figs. 3 & 4 (illustrating pivotal shafts 24 and 25); *see also id.* at 2:62–65 (“The pivotal shaft **24** is protruded from a lateral wall **30** (outer lateral wall) . . .”).

However, at the claim construction hearing, Plaintiff persuasively argued that the lateral direction of protrusion need not be outward. Indeed, in the prosecution history quoted above, the patentee referred to an “outward” direction with reference to each lower end of each supporting frame rather than with reference to the center of the supporting frame (Dkt. #42, Exhibit 1, May 11, 2001 Amendment at pp. 7–8 (CRESWELL000421-22)). As a result, the claim limitation of “each said pivotal shaft extending laterally from said first lower side surface of said lower end” could be satisfied by a shaft extending from a surface that faces laterally *inward* (toward the center of the supporting frame) rather than necessarily outward (away from the center of the supporting frame, as illustrated, for example, in the figures of the ‘695 Patent). Thus, the “outward” limitation proposed by Defendant (and Defendant’s interpretation thereof) is merely a specific feature of a particular embodiment. *See Constant*, 848 F.2d at 1571 (stating claims rather than the specification define a claimed invention); *see also Phillips*, 415 F.3d at

1323; *MBO Labs.*, 474 F.3d at 1333 (refusing to limit patent coverage to embodiments depicted in figures).

Therefore, the Court hereby construes “**each said pivotal shaft extending laterally from said first lower side surface of said lower end and protruding from said second lower side surface of said end**” to mean “**each said pivotal shaft extends laterally and downward from the lower end.**”

C. “end portion having at least one convex body protruding therefrom”

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
No construction required, alternatively, “end portion having at least one protrusion.”	“end portion having at least one convex protrusion in addition to the pivotal shafts”

(Dkt. #33, Exhibit B at p. 1). The parties submit that this term appears in Claims 1 and 2 of the ‘695 Patent (Dkt. #49, Exhibit A at p. 2).

1. The Parties’ Positions

Plaintiff argues that Defendant’s proposed construction would improperly limit the term to the specific embodiment that is illustrated in Figure 4 of the ‘695 Patent (Dkt. #34 at p. 14).

Defendant responds that the claim language “claims a ‘convex body’ separately from the ‘pivotal shafts.’” (Dkt. #42 at p. 6). Defendant also argues that, during prosecution, the patentee specifically disclaimed the claimed “convex body” being the same structure as the “pivotal shafts.” (Dkt. #42 at p. 6). Further, Defendant argues Plaintiff’s alternative construction should be rejected because it “reads out of the claim language the term ‘convex body,’” such that any protrusion would suffice, when the claim language specifically “requires the protrusion to be a ‘convex body.’” (Dkt. #42 at p. 8).

Plaintiff replies that “[t]he alleged disclaimer is a misinterpretation of the prosecution history at best.” (Dkt. #45 at p. 5). In particular, Plaintiff urges that “[t]he distinction with the

prior art [was] the lack of abutting engagement between the convex body and the protruding stop edge, not the separation of the convex body and the pivot shaft.” (Dkt. #45 at p. 6).

At the claim construction hearing, Defendant emphasized the prosecution history and argued that Plaintiff is attempting to read out the requirement of a convex body by advancing a position that resembles a doctrine of equivalents argument. Plaintiff responded that the prosecution history cited by the Defendant concerns the need for a “convex body,” not its location.

2. Analysis

In general, distinct limitations need not necessarily correspond to distinct structures. *Powell*, 663 F.3d at 1231. Nonetheless, “[w]here a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.” *Tyco Healthcare Grp.*, 616 F.3d at 1254 (internal quotation marks and citation omitted).

Plaintiff urges: “The specification makes it clear[] that a pivotal shaft alone also offers the stopping effect. It states that “[t]he pivotal shafts 24 and 25 at lower ends of the two sides of the first supporting frame 13 and second supporting frame 14 provide a stopping effect for upward movement through the positioning pieces 28 and 29.” (Dkt. #34 at p. 14 (citing ‘695 Patent at 3:19–22)). This disclosure, however, relates only to stopping upward movement, not downward or lateral movement.

Additionally, the prosecution history warrants finding the “convex body” must be structurally distinct from the pivotal shafts:

[T]he reference nowhere discloses Applicant’s limitation of “at least one of said first and second supporting frames includ[ing] an end portion disposed laterally between said lower ends thereof,” on which “at least one convex body protrud[es] therefrom for abuttingly engaging” a stopping edge portion of the underlying

seat 11. The lateral support function served by such abutting engagement is actually obviated by the reference's disclosure of the snugly conformed engagement of the pivot shafts 32 (of the second element 30) with the rear two fastening slots 13.


(Dkt. #42, Exhibit 1, May 11, 2001 Amendment at pp. 9–10 (CRESWELL000423–24)); *see* Dkt. #42, Exhibit 1, Oct. 12, 2000 Amendment After Final Office Action at pp. 8–9 (CRESWELL000390–91) (distinguishing the “convex body” and the pivotal shafts).

Therefore, the Court hereby construes **“end portion having at least one convex body protruding therefrom”** to mean **“end portion having at least one convex protrusion that is distinct from the pivotal shafts.”**

CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 6th day of September, 2016.


AMOS L. MAZZANT
UNITED STATES DISTRICT JUDGE