

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC

Petitioner

v.

DDC TECHNOLOGY, LLC,

Patent Owner

U.S. Patent No. 9,420,075

Case No.: IPR2023-00707

PETITIONER'S REPLY

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I. INTRODUCTION

Patent Owner (“PO”) responds by attempting to unduly narrow its claims, arguing against the prior art’s clear disclosures, and proffering secondary considerations that lack nexus to the challenged claims and misstate the record. PO’s arguments should be rejected.

II. PETITIONER’S DEFINITION OF A POSA IS CORRECT

PO incorrectly argues that POSA must have “sufficient experience in ‘touchscreen technology’ and ‘capacitive/conductive technology and materials,’ because they are pertinent to the inventive elements of the claimed invention.” POR, p. 2. Such detailed knowledge of touchscreen implementation is unnecessary because the ’075 patent does not improve touchscreen technology or even claim to. In fact, the patent explains that its “pad and electrical shield material work ... so that *any form of touch screen technology* will register a touch event....” EX1001, 10:45-49. Thus, the details of any particular touchscreen are irrelevant to the patent. Indeed, the patent’s inventor, Mr. Buckley, is a mechanical engineer who has no experience implementing touchscreens. EX1023, 133:14-20, 140:22-25.

Petitioner’s POSA definition is proper because it is grounded in the patent’s “field of the invention” which states “virtual reality viewer devices for use with

personal mobile electronic devices and having an input device.” EX1001, 1:23-26; MPEP §608.01(c)(1).

III. PO’S CLAIM CONSTRUCTIONS ARE UNDULY NARROW

PO seeks to avoid the prior art by improperly reading the specification into its claims. But, “[w]hile we read claims in view of the specification, we do not read limitations from embodiments in the specification into the claims.” *Hill-Rom Services, Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). The Federal Circuit departs “from the plain and ordinary meaning of claim terms based on the specification in only two instances: lexicography and disavowal.” *Id.* “The standards for finding lexicography and disavowal are exacting.” *Id.*

A. PO ATTEMPTS TO READ EMBODIMENTS FROM THE SPECIFICATION INTO CLAIMS 7 AND 8

PO seeks to narrow claims 7 and 8 by improperly importing a specification embodiment where a touch event occurs “without relying on the electrical properties of other components or the human body” (“the no-human-body example”) even though the claims recite no such requirement. POR, pp. 4-11.

This is improper, particularly since the '075 patent states three times that the specification is illustrative only and not limiting.¹ EX1001, 11:64-12:1, 12:16-17.

PO concedes that the '075 patent discloses two embodiments: one that uses the human body's electrical properties and one that does not. POR, pp. 5-6; EX1001, 7:52-61. PO also concedes that it is attempting to limit claims 7 and 8 to only the latter embodiment, based on claim 7's phrase "the electric shield *sized* to have electrical properties that are sufficient to be detected by the touch-screen *based on capacitance*" and claim 8's phrase "the surface of the electric shield is *sized* to have sufficient *capacitive properties* such that contact ... can be detected by a capacitive touch screen" (hereinafter, the "size/capacitance limitations"). POR, 4-5, 9. For claim 8, PO also relies on the "in the absence of human contact with the electric shield" limitation to support its claim construction. POR, p. 9.

None of these limitations restrict the claims as PO proposes. PO cites no legal basis for its narrowing construction. PO does not argue lexicography,

¹ To the extent PO is seeking a construction of "electric[al] shield" that is specific to only claims 7 and 8 and does not apply to other claims that recite the term, that proposal must be rejected. *See Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1331 (Fed. Cir. 1999).

disclaimer, or disavowal from any part of the intrinsic evidence because there is none. In fact, PO cites to no legal support for its argument. PO could have drafted its claims to capture the no-human-body example it now seeks, but it did not. Indeed, for claims 7 and 8, PO's proposed construction effectively tacks on an unrecited, negative limitation, "without relying on the electrical properties of other components or the human body," to the existing language. POR, pp. 4-5, 9. PO's argument should be rejected.

Because claims 7 and 8 do not specify whether the human body's electrical properties are used, the only reasonable interpretation is that the claims receive their ordinary meaning and can cover both embodiments: when those electrical properties are used and when they are not. EX1001, 7:52-61. Indeed, considering the specification, the size/capacitance limitations of claims 7 and 8 do not exclude the human-body's-electric-properties embodiment, but actually *include* it.

The '075 patent discusses sizing the electric shield in four passages. EX1001, 7:52-56, 8:40-9:9, 10:39-45, 10:61-67. Only the passages at 7:52-56 and 10:61-67, relied on by PO, relate to the no-human-body example. The other passages make no mention of the electric shield's capacitive properties or not using a human's electric properties. One of those passages, at 8:52-55, explicitly states that the electric shield is "*sized*" to approximate the size and shape of a human finger, without ever mentioning capacitive properties of the electric shield or not

using a human’s electric properties. Thus, the electric shield is not sized “to have capacitive properties” but is instead sized based on unrelated criteria (to approximate the size and shape of a human finger), demonstrating that 8:52-55 can encompass the human-body’s-electric-properties example.²

A simple experiment demonstrates that when using the human body’s electric properties, the touch screen’s contact region needs to approximate the size of a human finger. For example, touching a capacitive touch screen while holding a small conductive object, like a sewing needle or tip of a letter opener, will not trigger a touch event. Whereas, holding a conductive object that is closer to the size of a human finger and touching the touchscreen with that object will cause a touch event. For instance, using one’s finger to tap a coin, *e.g.*, dime or penny, that has been placed on the touchscreen will cause a touch event.

The capacitance part of the size/capacitance limitations is met by a “*capacitive coupling with a human*” which gives the electric shield capacitive properties, to use the terminology of PO’s expert. EX2050, ¶35. Thus, the size/capacitance limitations cover the human-body’s-electric-properties example.

² PO also relies on EX1001, 10:45-54 to support its argument (POR, pp. 7-8), but this quote also applies to both embodiments (i.e., with human body contact or without), and nothing in the quote or surrounding text says otherwise.

Finally, for claim 8, PO also cites the “in the absence of human contact with the electric shield” limitation to argue that claim 8 excludes “indirect physical contact” between a human body and the “electric shield.” POR, p. 11. This limitation precludes only direct physical contact from the human body “*with the electric shield*”—not the “input mechanism,” which is a different component.

Claim 8 does not exclude indirect contact between the human body and “electric shield.” In fact, claim 1, from which claim 8 indirectly depends, requires that the input mechanism be “accessible from an exterior of the housing and is moveable ... between at least a first position and an extended position.” This is accomplished by the user (i.e., human body) touching the input mechanism, not the electric shield. The patent discloses no other alternatives for this embodiment. Had PO wanted to exclude even indirect contact with the electric shield (contrary to all embodiments), PO could have claimed so, but didn’t. *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004) (“we construe the claim as written, not as the patentees wish they had written it.”).

B. A LEVER DOES NOT REQUIRE A FULCRUM

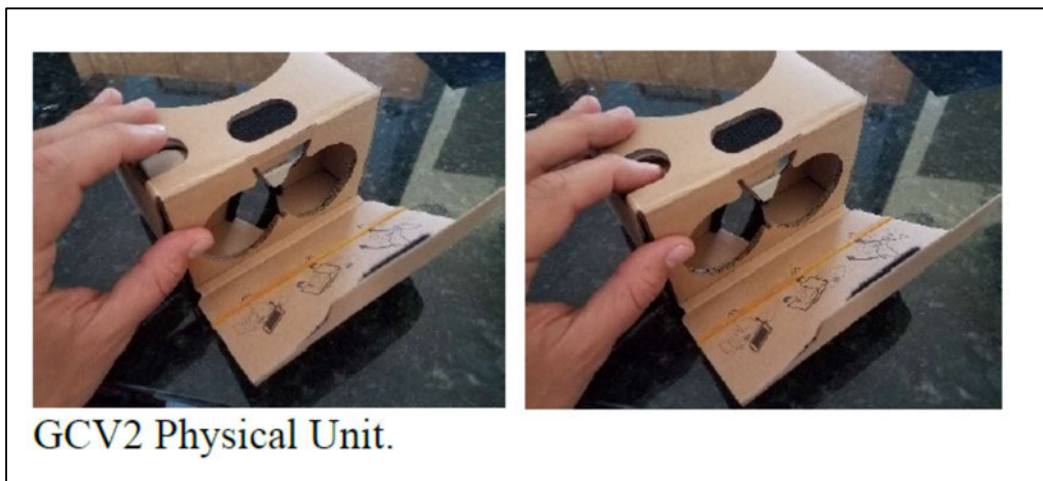
PO also seeks an unduly narrow definition of “lever” by limiting it to require a “fulcrum.” But, PO cites no definition, disclaimer, or disavowal from the intrinsic record. The intrinsic evidence places no such restrictions on “lever.”

Without intrinsic support, PO relies mainly on dictionaries. But PO's own dictionaries are either inapposite or actually support Petitioner's definition. PO's first definition (EX2052) refers to a "simple machine." That is inapplicable here because the claimed lever is *part* of a machine (i.e., a VR viewer) used to *operate* that machine. In that context, only the second definition from the same dictionary is applicable: "A projecting handle used to adjust or operate a mechanism." EX2052. This definition is nearly identical to Petitioner's construction of "a projecting piece by which a mechanism is operated or adjusted." The only substantive distinction between the two—"handle" versus "piece"—is immaterial to the outcome here, as the Petitioner provides a Kondo/Chu combination showing a "handle." Pet., §XII(A)(L).

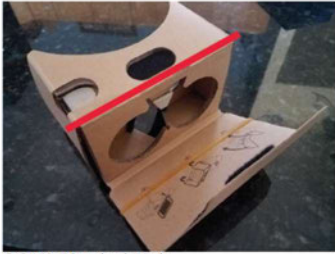
Additionally, PO's reliance on a mechanical-technology dictionary (EX2051) is misplaced, because the '075 patent's input mechanism is *electromechanical*. EX1001, Abstract; 10:57-60. Also, Petitioner's expert, Mr. Keller, confirmed in his deposition that the '075 input mechanism is electromechanical. EX2053, 99:4-10; 100:2-19; 101: 3-10, 16-18; 102:7-8, 14-16; 104:1-5, 13-15. Thus, the mechanical dictionary is not relevant, and PO's definition is wrong.

PO's "fulcrum" requirement is also undermined by its own positions in other proceedings. In district court, PO accuses a "lever" in Petitioner's product that

lacks any “fulcrum.” In particular, Petitioner accuses an externally accessible input mechanism which the user presses as shown below. That input mechanism is connected to the housing at about the midway point which acts like a hinge. When the user presses down, the entire input mechanism, including the triangular “pillow” attached at the end, moves in the direction of the touchscreen via the hinge, resulting in the pillow touching the touchscreen. *See* POR, p. 92.



PO’s infringement contentions map the product’s hinge to the claimed “flexible linkage.” See **red** line drawn by PO in top figure below.

U.S. Patent No. 9,420,075 Claim 12	GOOGLE CARDBOARD GCV2 VR VIEWER ("Cardboard Viewer")
The virtual reality viewer of claim 1, wherein the input mechanism includes a lever and a flexible linkage coupled to the housing,	<i>The Cardboard Viewers are virtual reality viewers as claimed in independent claim 1.</i> <i>The input mechanism of the Cardboard Viewers includes a lever and a flexible linkage coupled to the housing.</i>  GCV2 Physical Unit.  GCV2 Physical Unit. The flexible linkage of the Cardboard Viewers is the cardboard portion of the input mechanism coupled to the housing and which deforms upon depression of the lever and returns to its original position upon cessation of depression. See also annotated supplement.

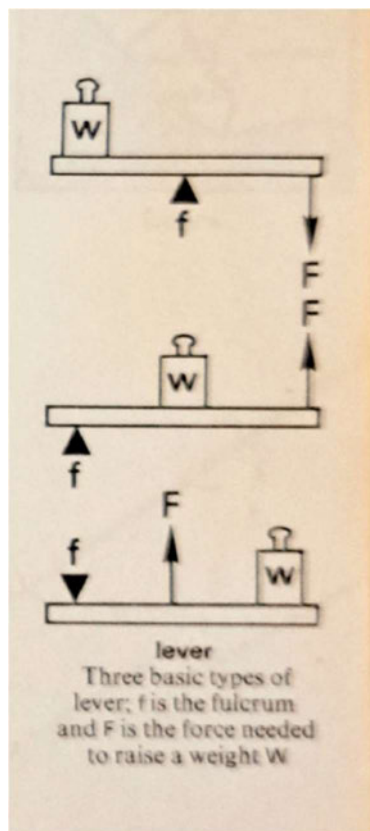
EX1011, p. 117 (annotations in original).

Separate from the hinge, PO maps the part of the input that the user presses down as the claimed “lever.” *Id.* (“The flexible linkage ... is the cardboard portion of the input mechanism coupled to the housing which deforms upon depression of the **lever**”) (emphasis added). Crucially, this accused lever does not have a fulcrum. It is merely “[a] projecting piece by which a mechanism is operated or adjusted” consistent with Petitioner’s claim construction.

PO may argue that the hinge is both the claimed “flexible linkage” as well as the claimed “lever’s” fulcrum. But the terms “lever” and “flexible linkage” are distinct terms and are described as two separate structures in the patent. EX1001,

7:62-8:39 (identifying the “distal end 720” as a “lever,” and a separate component, “coupling 730,” as the “linkage”), Figs. 7a-f. So, the hinge cannot serve as both the lever’s fulcrum and the flexible linkage.

Regardless, there is still no fulcrum because Cardboard’s entire input mechanism moves in the same direction when pressed—i.e., in the direction of the smartphone’s touchscreen. By contrast, as PO’s own dictionary definitions explain, where a “lever” has a “fulcrum,” pressing one end of the “lever” (as shown in the excerpt below, where “f” is the fulcrum) makes the lever pivot about the fulcrum such that both ends move *in opposite directions*. POR, pp. 12-13.



POR, p. 16.

Moreover, both PO and the inventor have interchangeably referred to the “lever” as a button, which does not include a fulcrum. EX2054, ¶¶4, 7, 10; EX2033, ¶28; EX2034; EX1026; see also *e.g.*, EX1023, 53:18-54:12, 57:14-21, 67:20-23, 71:9-16. For example, in a prior IPR proceeding, the inventor, Mr. Buckley, equated the two terms: “This button mechanism, the way it works ... you should basically be pushing down on this wooden lever....” IPR2018-00494, paper 34 (“Prior ’075 POR”), p. 17; *see also*, pp. 16, 31, 36, 35. The PO’s POPR also used button and lever synonymously: “DODOCASE Virtual Reality Kit 1.2 ... disclosed an input mechanism including *a movable button, a lever* passing from the exterior through a cutout in the housing....” IPR2018-00494, paper 11 (“Prior ’075 POPR”), pp. 21 (emphasis added); *see also*, pp. 19, 22, 23. DODOcase is PO’s predecessor in interest.

The term “lever” does not require a fulcrum and should receive a broad definition as Petitioner proposes.

IV. PO’S OBVIOUSNESS ARGUMENTS ARE UNPERSUASIVE

For 10 of the 16 challenged claims, PO addresses only Kondo—not the Kondo/Chu combination—and attacks only one of Petitioner’s motivations to combine, leaving the others unrebutted. Pet., XI(C). PO’s arguments should be rejected.

A. PO IMPROPERLY CHALLENGES ONLY KONDO RATHER THAN THE KONDO/CHU COMBINATION

Kondo expressly discloses a projected-capacitive touchscreen on a smartphone. EX1003, ¶¶0023-0024 (“the touch panel 1506 is a *projected capacitive touch panel*”). PO, nonetheless, spends many pages discussing how Kondo cannot use a projected-capacitive touchscreen, and must use a surface-capacitive touchscreen instead. POR, pp. 17-24. Based on this false premise, PO then argues that a POSA would not integrate a surface-capacitive touchscreen into a smartphone and that “[a] POSA ... who was considering combining Kondo’s and Chu’s patents would therefore be faced with combining designs created for two different and incompatible technologies.” POR, pp. 23-25. PO’s arguments fail for several reasons.

First, PO rewrites Kondo to avoid unpatentability by asserting it cannot be “projected-capacitive,” when Kondo expressly says the opposite as quoted above. EX1003, ¶0024.

Second, PO addresses Kondo alone and does not address the teachings of the Kondo/Chu combination, which is Petitioner’s case. *Bradium Techs. LLC v. Iancu*, 923 F.2d 1032, 1050 (Fed. Cir. 2019) (“A finding of obviousness, however, cannot be overcome ‘by attacking references individually where the rejection is based upon the teachings of a combination of references.’”).

Third, PO's argument simply does not matter because the '075 patent's claims are not limited to any type of touchscreen (see §II). Thus, PO's mischaracterization of the Kondo/Chu combination as limited to solely a surface-capacitive touchscreen is irrelevant to whether the combination satisfies the claims. In any event, Petitioner's Kondo/Chu combination is not limited to any particular type of capacitive touchscreen, but can work with all types, as well as resistive touchscreens. Pet., §XI.

Fourth, even if the type of capacitive touchscreen used in Kondo were relevant, PO's basis for disputing whether Kondo discloses a projected-capacitive touchscreen is based on a few scant details about how Kondo's projected-capacitive touchscreen works. But Kondo provides few details because, as it explains, the operation of a projected-capacitive touchscreen was well known in the art. Specifically, after stating that its touchscreen is a projected capacitive touch screen, Kondo explains that "the method for calculating such contact position can be a known technique as appropriate, and therefore *the description thereof is omitted in this specification.*" EX1003, ¶24 (emphasis added).

Fifth, PO's argument that "Kondo's emphasis on the need for protection against static electricity" supports that Kondo's touchscreen is surface capacitive is wrong. POR, pp. 19-20. Kondo's concern is about preventing a malfunction in the VR viewer's touch circuit that leads from the user's finger to the touchscreen, and

does not indicate the touchscreen is surface capacitive. Indeed, Kondo’s ¶12 explains that static electricity is dissipated to prevent malfunction not of the touchscreen, but of the remote touch circuit, which is shown as reference numeral 70 in Fig. 7. EX1003, ¶0012 (“... static electricity can be prevented from building up on the exterior, preventing malfunction of the remote touch circuit”). PO and its expert observe that “[a] stable reference ground is *critically important* in a surface-capacitive touchscreen...” POR, p. 22; EX2050, ¶63 (emphasis added). But, in Kondo, any grounding is *optional*. EX1003, ¶57 (“depending on the sensitivity of the touch panel 1506, it is of course possible to omit the circuit for grounding.”). Additionally, PO’s reference to Kondo’s ¶39 similarly does not support its contention, as that paragraph merely describes the type of material that electrical wire 72 is made of, not the function it performs: “formed of a material that is conductive *or* that dissipates static electricity on a flexible sheet 73....” (emphasis added).

B. PO’S OTHER MOTIVATION-TO-COMBINE ARGUMENTS FOR CLAIM 1 FAIL

PO’s remaining arguments against combining Kondo/Chu are also unpersuasive. PO first argues that a POSA wouldn’t add moving parts to Kondo because there is no technical or user benefit. POR, p. 25. But, PO ignores and does not address the many benefits that the Petition identified for combining Kondo/Chu, including: (1) enabling varying inputs, such as recognizing different

inputs by pressure; (2) allowing swipe input; (3) waterproofing the device; and (4) allowing the device to be cleaned more easily. Pet., §XI(C).

Next, PO attacks Petitioner’s motivation argument about enabling the Kondo/Chu combination to work with both capacitive and resistive touchscreens by claiming that resistive touchscreens in 2014 had little market share and phones with resistive touchscreens didn’t have the processing power or display resolution for VR applications. PO’s argument is contradicted by the patent itself, which is agnostic as to touchscreen’s type and expressly mentions that it should function with “resistive touchscreens.” EX1001, 6:43-47, 10:49-54 (stating the alleged invention should work “on a variety of touch screen technologies such as capacitive, *resistive*, or conductive touch screen technologies.”) (emphasis added); *see generally*, 2:11-13; 3:19-24; 3:41-51; 10:45-49. And the Compton reference, applied during prosecution and published just a year before the ’075 patent’s priority date, recognized the desirability of working with both “capacitive screens” and “pressure sensitive [i.e., resistive] screens.” EX1022, ¶0050.

Petitioner’s expert, Mr. Keller, also explained that consumers using smartphones as their VR viewer’s display device would be cost-conscious, may not have the latest cellphone, and are “probably going to be using non-top-of-the-line or first rate display,” meaning that those consumers would look to lower-cost smartphones with resistive touchscreens. EX2053, 137:19-138:5, 138:6-139:1.

Mr. Keller also disagreed that resistive touchscreen smartphones did not have the processing power to run VR applications by citing applications that did not require much processing power, like “static images, such as the old View-master style” and showing “stereo imagery of some travel locations, things like that.” EX2053, 139:20-140:1, 140:10-24, 141:5-14.

V. PO’S ARGUMENTS FOR CLAIMS 7, 8, 10, 12, 18, AND 20 ARE UNAVAILING

Of the 16 claims challenged, PO only makes specific arguments for 6 claims, none of which have merit.

A. PO’S SOLE CLAIM 7 ARGUMENT RELIES ENTIRELY ON A FAULTY CLAIM CONSTRUCTION

For claim 7, PO’s sole argument is that the claim is limited to the no-human-body example. That construction is wrong for the reasons discussed in §III(A). A conductive coupling with the human body satisfies claim 7 and is disclosed by the Kondo/Chu combination. Pet., §XII(G).

B. PO’S CLAIM 8 ARGUMENTS ARE UNAVAILING

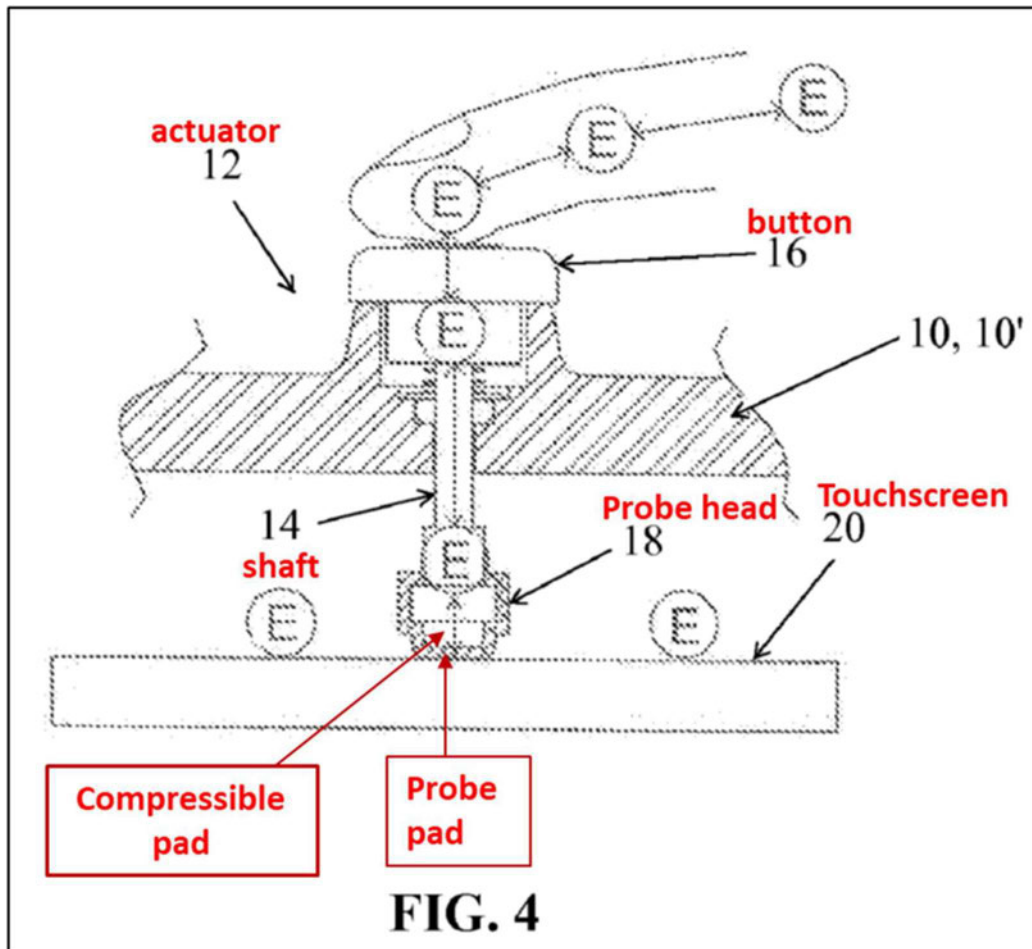
As explained in §III(A) *supra*, claim 8 is not limited to the no-human-body embodiment. Thus, PO’s primary challenge, premised on that construction, should be rejected. POR, pp. 33-34. PO also complains of Petitioner’s alternative argument of using Kondo’s capacitive element in the Kondo/Chu combination because it alleges that Petitioner did not adequately explain how the modification

would work. Petitioner satisfied all legal requirements by providing a motivation to make the modification (i.e., that users could then operate the VR viewer with gloves) and by showing a reasonable expectation of success (including by referencing the implementation details from Kondo). Pet., pp. 84-85.

Lastly, PO has no response to Petitioner's third argument (Pet, pp. 85, 86) explaining that both Kondo and Chu's electric shields are sized to have sufficient capacitive properties such that contact with only the portion of the shield's surface can be detected by the capacitive touchscreen, as recited by claim 8.

C. PO REWRITES CHU TO DEFEND CLAIM 10

Chu's Fig. 4 and accompanying text discloses a "compressible pad" as claim 10 recites, contrary to PO's arguments. Fig. 4 is annotated below to show an electric charge (labeled "E") flowing from the user through the probe head 18 and to the touchscreen, causing a touch event. EX1004, ¶¶0041, 0053, 0055. Since an electric charge is flowing through the probe head, there needs to be some conductive material behind the probe pad. EX2053, 111:14-112:25; see also 113:1-128:7. It is this conductive material that Petitioner calls the claimed "compressible pad." See Pet., §XII(J).



PO admits that Chu says this, but then asserts that Chu doesn't mean what it says. POR, p. 38 (arguing that "Chu's use of the 'electric charge E' labels is not accurate," and that "[t]here is no 'charge transferred' as Chu states in ¶0041...."). PO's attempt to rewrite Chu should be rejected.

D. CLAIM 12: THE KONDO/CHU COMBINATION SHOW A LEVER AND CHU'S BIASING MEMBER IS COUPLED TO THE HOUSING

PO's primary argument is that the Kondo/Chu combination's "lever" does not include a "fulcrum." See POR, pp. 44-45. But a "fulcrum" is not required in the claimed "lever." See §III(B). Should the Board decide that a "lever" requires a

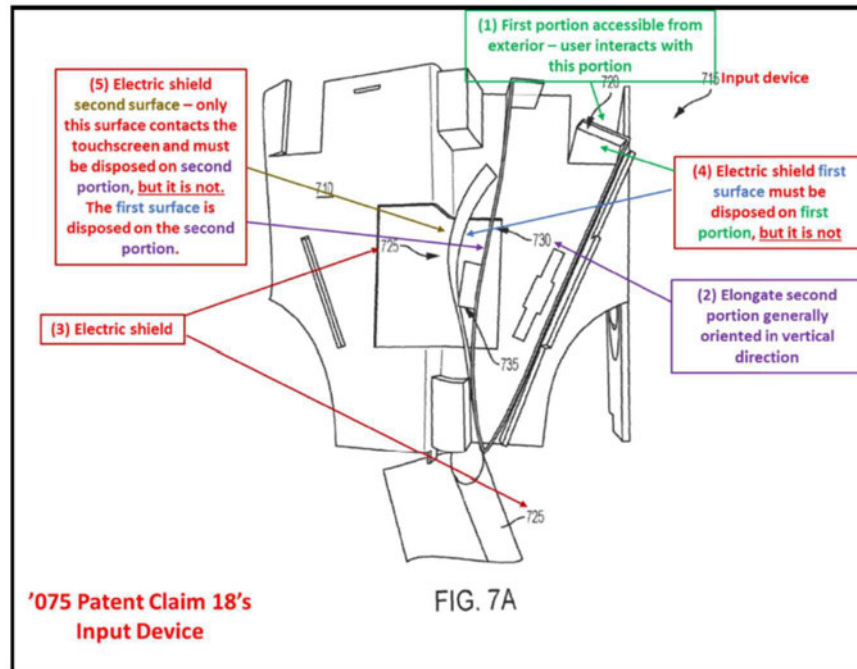
“handle,” the Petition describes such a combination. Pet, §XII(L). PO does not dispute that Kondo/Chu discloses a “lever” if the term does not require a “fulcrum” or if a “lever” requires a “handle.”

Besides its flawed construction, PO makes only trivial arguments. First, PO argues that Chu’s biasing member 40 (the claimed “flexible linkage”) is not “coupled” to housing 10, but may only rest up against the housing. POR, p. 43. Yet, PO offers no definition of “coupled” and the Federal Circuit has repeatedly held that “coupled” should be construed broadly. *E.g.*, *Johnson Worldwide Associates, Inc. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1999) (“the term [coupled] is not limited to a mechanical or physical coupling.”); *Promptu Systems Corp. v. Comcast Corp.*, 92 F.4th 1372, 1381 (Fed. Cir. 2024) (rejecting a proximity requirement for “coupled to”). Thus, merely resting against something satisfies the definition of “coupled.” However, the biasing member 40 does more, it is in physical contact and thus connected with the housing. See *Polygroup Ltd. MCO v. Willis Electric Co.*, 2022 WL 1183332, *4–*5 (Fed. Cir. 2022) (“the term ‘coupling’ is broad enough to mean mechanically connecting or electrically connecting or both”) (nonprecedential). Additionally, should “coupled” actually require a physical bonding, like soldering, Figures 7A, 4A, and 4B show the biasing member does not move laterally during activation, demonstrating it is physically attached to the housing 10.

PO next argues that the biasing member does not guide the probe pad from an unactivated to an activated position. POR., p. 43. But, Fig. 7A plainly shows that the biasing member surrounds shaft 14, thereby guiding the shaft (and the connected arm and probe pad at the end) to an extended position. Without the biasing member, it would be extraordinarily difficult for the probe pad to move from an unactivated to an activated position. The biasing member is responsible for the movement of the shaft and probe pad from an unactivated state to an activated state, thereby guiding its movement.

E. CLAIM 18: PO’S USE OF AN ALTERNATIVE EMBODIMENT DOES NOT SAVE THIS CLAIM

The Petition discussed claim 18’s inconsistencies to show that the phrase “disposed on” must encompass an indirect connection. Pet, §XII(N). For ease of explanation of PO’s response, Petitioner reproduces its diagram from Pet, p. 101.



PO responds by arguing at POR, p. 48 that claim 18 covers an alternative embodiment EX1001, 10:67-11:4, which states:

In addition or alternatively, the portion of the metallized film that is configured to touch the screen can be accessible to receiving a user touch. For instance, a portion of the metallized film can be exposed on the lever 722 or otherwise accessible to the user on an external surface.

PO's argument is that the portion of the metallized film (the electric shield) that touches the touch screen (the second surface of the electric shield) can be exposed on the first portion of the input device which is externally accessible.

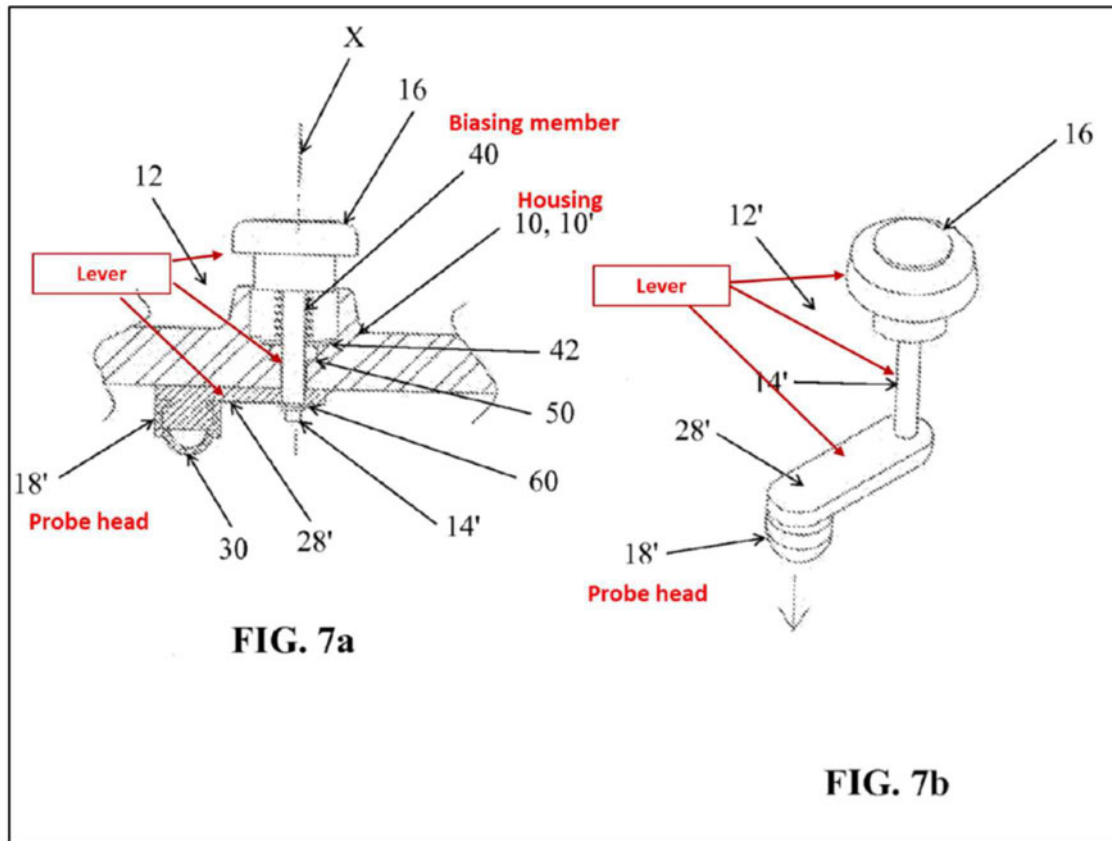
PO's argument does not address the other problems with the claim: how this second surface of the electric shield is also disposed on the second portion of the input device and how the first surface of the electric shield is disposed on the first

portion of the input device, which are all required by claim 18. Accordingly, the term “disposed on” must include an indirect connection.

PO also disputes Petitioner’s claim 18(g) analysis based on its faulty assumption that “disposed on” requires a direct connection. Pet, §XII(N, N.7). “Disposed on” also includes an indirect connection and there is no dispute that the Kondo/Chu combination discloses an indirect connection between a “first surface” of its electrical shield and a first portion of its input device as explained in the Petition. Pet, pp. 111-12 (Fig. 5 of Kondo, EX1003, annotated and modified based on the teachings of Chu).

F. CLAIM 20: PO FALSELY ASSERTS LACK OF PROOF

PO argues that Petitioner did not show that the claimed flexible linkage (i.e., Chu’s biasing member 40) is coupled to the claimed lever (i.e., comprising Chu’s button 16, shaft 14, and arm 28) as required by claim element 20(f). POR, p. 54. This is incorrect. As shown in annotated Figs. 7a, 7b, Petitioner referenced its analysis of claims 12 and 14 for the analysis of claim element 20(f). *See also*, Pet., p. 121. Petitioner showed that Chu’s button 16 is part of the claimed “lever.” Pet., pp. 96, 99. Petitioner then cited Chu’s Fig. 7a, which clearly shows biasing member 40 is physically and electrically connected to button 16. *Id.*, p. 99. Thus, the button (part of the “lever”) is “coupled” to the flexible linkage. See §V(D).



Pet., p. 97; see also §§XII(L) and (M).

VI. PO'S SECONDARY CONSIDERATIONS ARE UNPERSUASIVE AND BASED ON BIASED EVIDENCE

Secondary considerations “simply cannot overcome a strong *prima facie* case of obviousness,” which Petitioner has shown. *Wyers v. Masterlock*, 616 F.3d 1231, 1246 (Fed. Cir. 2010).

Moreover, PO's secondary considerations case is based entirely on the testimony of the '075 patent's sole inventor, Patrick Buckley. Mr. Buckley is biased, not only because he is an inventor, but also because [REDACTED]

[REDACTED]

In fact, he is obligated to support enforcement actions filed by PO. EX1023, 127:1-16. The Board should give Mr. Buckley’s testimony little, if any, weight.

A. PO’S SECONDARY CONSIDERATIONS ARGUMENTS LACK NEXUS

Although PO claims a presumption of nexus, its claim chart, which attempts to map the patent to the product of the prior assignee, DODOcase, lacks clarity, detail, and sufficient explanation. POR, pp. 55-66. But even if the Board finds a presumption is warranted, Petitioner may rebut by presenting evidence. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1330 (Fed. Cir. 2016). One way to show a lack of nexus is if the evidence “‘exclusively relates to a feature that was ‘known in the prior art’—not necessarily well-known’” including through obviousness. *Yita v. MacNeil*, 69 F.4th 1356, 1364 (Fed. Cir. 2023). Here, PO claims its distinguishing feature is “the user input mechanism,” a conductive/capacitive input mechanism in general. POR, p. 66; EX2054, ¶¶3, 4, 6, 7. But Petitioner has demonstrated capacitive/conductive inputs, as well as all other features of PO’s alleged invention, were known.

Even PO has admitted that a conductive/capacitive input mechanism is not novel. During prosecution, PO faced an anticipation rejection based on Compton (US 2013/0141360) which discloses a conductive/capacitive input mechanism on a VR viewer. EX1022, ¶¶0044-0050; cls. 1, 6, 9, 10, 11, 14; Figs. 1-6b. PO

amended its input mechanism claim element to be patentable over the Compton reference as follows. See, Pet., p. 17.

an input mechanism that is accessible from an exterior of the housing and is moveable within the interior between at least a first position and an extended position, the input mechanism comprising:

an electrical shield having a surface, wherein only a portion of a-the surface of the
input-mechanism the electrical shield is configured to contact a central region of the
touch-screen of the mobile electronic device when the input mechanism is in the extended position.

Thus, per the PO's own admission, the only allegedly novel features that could form the basis of a secondary considerations case would be those limitations added by amendment (*e.g.*, an electrical shield having a surface, wherein only a portion of the surface is configured to contact a central region of the touch-screen").

That, however, is not PO's secondary considerations case. Instead, PO mischaracterizes and broadens the alleged invention to any conductive/capacitive input mechanism on a VR viewer, and then makes the nexus arguments based on this mischaracterization. See, *e.g.*, POR, pp. 99.

But conductive/capacitive input mechanisms for VR viewers were replete in the prior art, as shown by Kondo (Pet., §§XI(A)), the Kondo/Chu combination (Pet., §§XI(A-C), XII(A)(3)), and Compton (Pet., §VI(C); EX1022), as each uses a conductive/capacitive input in a VR viewer. Indeed, Google had been working on

a conductive/capacitive input mechanism by June 2014, when PO mentioned its own. EX1023, 47:13-48:19. In fact, one of Google’s engineers met with Mr. Buckley to provide “tips” Google learned from that development and to “brainstorm” about PO’s conductive input device. EX1023, 47:13-48:19, 52:16-56:20; EX2034. Importantly, Mr. Buckley filed his first provisional application on the same day as this meeting. EX1023: 64:3-21. Because a conductive/capacitive input mechanism for a VR viewer was known in the art, PO cannot show nexus for its secondary considerations.

B. THERE WAS NO LONG-FELT NEED BECAUSE CONDUCTIVE/CAPACITIVE INPUT MECHANISMS WERE KNOWN IN THE ART

Conductive/capacitive input mechanisms for VR viewers were known. See §VI(A). PO’s long-felt need argument therefore fails as a matter of law. *Geo. M. Martin Co. v. Alliance Machine Systems Intern. LLC*, 618 F.3d 1294, 1304-1305 (Fed. Cir. 2010).

C. PO’S COPYING CASE FAILS AS A MATTER OF LAW

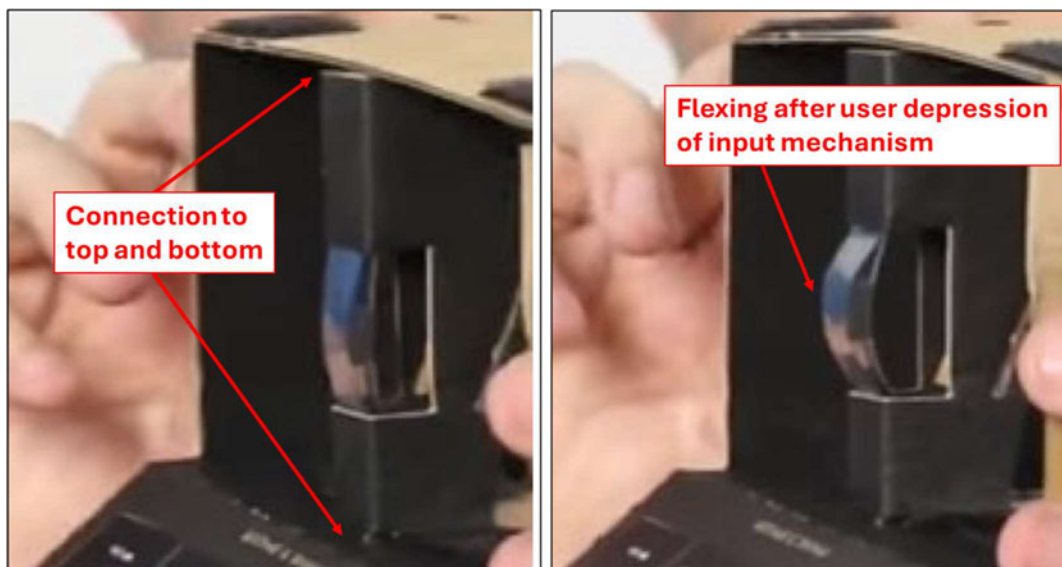
PO presents its copying case by comparing Google’s Cardboard product to claim 1. POR, pp. 67-96. However, “the copying inquiry involves a comparison of the competitor’s product with the allegedly copied patent product, rather than the patent’s claims....” *Medtronic v. Teleflex*, 70 F.4th 1331, 1340 (Fed. Cir. 2023). As such, PO’s copying argument fails as a matter of law.

Moreover, even a cursory comparison between Google cardboard's input mechanism (POR, pp. 68-73, 92) and PO's (POR, pp. 59-62) demonstrates a remarkable difference.³ PO's input mechanism connects to the VR viewer's top and bottom and flexes towards the touchscreen. In contrast, Google's input mechanism is attached to the VR viewer's top only and swings forward.

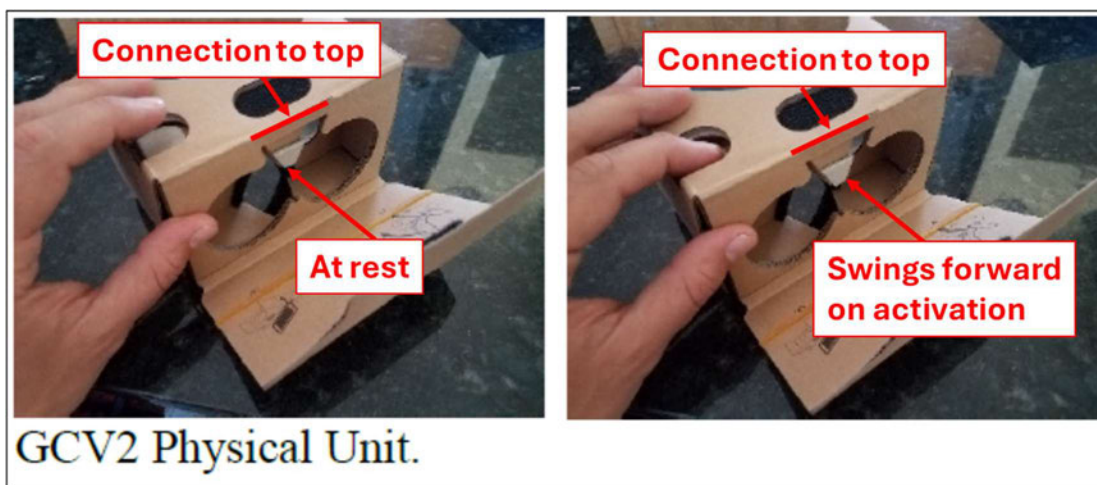


PO's device. POR, p. 60 (annotations added).

³ The product features other than the input mechanisms are similar because PO based its product on Google's. EX1023, 27:8-29:23.



PO's device. POR, pp. 61-62 (annotations added).



Google Cardboard V2. POR, 92 (annotations added).

D. GOOGLE ASSISTED PO IN ITS DEVELOPMENT AND PROVIDED BUSINESS OPPORTUNITIES, CUSTOMERS, AND ENCOURAGEMENT, NOT PRAISE

The 2014 email communications cited by PO do not show praise from Petitioner to DODOcase. Rather, DODOcase's founder, Mr. Buckley, testified that Petitioner provided him and DODOcase with technical input, [REDACTED], marketing

opportunities, business opportunities, advertising, and technical “tips” and “brainstorming” on its allegedly novel input mechanism. EX1023, 25:2-11, 47:1-62:9, 74:18-79:14. Petitioner even provided DODOcase with suppliers, cheered them along, and promoted them at every opportunity, even to Google executives. EX1023, 45:17-19, 61:5-9, 61:20-62:5, 82:12-83:5; EX1026, pp. 1, 2. Petitioner’s 2014 comments about PO’s input mechanism were thus directed at encouraging and supporting a then-business partner in DODOcase, not at praising the alleged invention.

E. THERE IS NO EVIDENCE THAT A CONDUCTIVE INPUT MECHANISM DROVE SALES OF PO’S AND GOOGLE’S VR VIEWERS

PO presented evidence of sales, but “evidence of commercial success alone is not sufficient Rather, the proponent must offer proof ‘that the sales were a direct result of the unique characteristics of the claimed invention—as opposed to other economic and commercial factors unrelated to the quality of the patented subject matter.’” *In re DBC*, 545 F.3d 1373, 1384 (Fed. Cir. 2008) (citations omitted). Here, PO’s evidence fails for several reasons.

First, PO relies on inaccurate public information to suggest that Cardboard V2, with a “capacitive button” sold at about “10x” (1,000%) the rate as the prior Cardboard V1, without the button (POR, p. 104). But Mr. Buckley admitted that the three exhibits (EX2057, EX2058, and EX2059) he cited to show Google’s sales

information are third party sources and he did not know if they were accurate. In particular, he cannot say whether the cited sales figures are for only Google's viewers or include sales from all members of the Google's Works with Google Cardboard (WWGC) program. EX1023, 147:4-153:3, 168:8-25. The WWGC program provided third party members with marketing, branding, advertising, sales, and the prestige associated by working with Google for having a compatible VR viewer. EX1023, 57:22-59:15, 77:15-21, 87:12-95:24; Paper 15, pp. 7-8.

Second, in the underlying district court proceeding, Petitioner produced the actual sales numbers that contradict PO's figures third-party sources. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]—not the 1,000% increase suggested by PO and Mr. Buckley. This modest increase was not due to the “capacitive button” introduced in V2. Rather, the increase was due to the continued growth of the WWGC program. Moreover, not all WWGC members used capacitive input mechanisms in their VR viewers after Cardboard V2 was released, because it was not a requirement. EX2043, p. 3. Indeed, Mr. Buckley admitted that he did not know what kind of input mechanism (*e.g.*, magnets or conductive) were used by many of the WWGC members. EX1023, 97:14-106:15.

Third, through the WWGC program, Petitioner provided marketing, advertising, branding, and sales for all WWGC members, including DODOcase. *See* §VI(D). WWGC drove sales for DODOcase, as admitted by Mr. Buckley. EX1023, 58:12-59:15. In fact, Mr. Buckley stated that WWGC website referrals

[REDACTED]

[REDACTED]

EX1023, 77:15-78:6. PO therefore cannot show that any sales increase was solely due to a conductive/capacitive input mechanism.

VII. CONCLUSION

Petitioner respectfully requests the Board to cancel all challenged claims.

Respectfully Submitted,

Dated: April 24, 2024

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Attorney for Petitioner
Google LLC

PETITIONER'S EXHIBIT LIST

April 24, 2024

EX1001	U.S. Patent No. 9,420,075
EX1002	Declaration of Kurtis Keller
EX1003	Kondo (JP3176588)
EX1004	Chu (US 2013/0082963)
EX1005	U.S. Pat. No. 8,957,835
EX1006	Random House Webster's College Dictionary (2000)
EX1007	Mooibroek and Cornish, <i>Alternative Sources of Natural Rubber</i> , Appl Microbiol Biotechnol (2000) 53: 355-65.
EX1008	Selected portions of '075 Patent's prosecution history
EX1009	<i>DDC v. Merge Labs</i> complaint
EX1010	<i>DDC v. Google, et al.</i> infringement contentions
EX1011	DDC's '075 patent infringement chart for Google
EX1012	<i>DDC v. Google</i> Transfer Order
EX1013	Transcript of 6-13-2023 conference call
EX1014	Patent Owner 6-5-2023 email to Board
EX1015	6-26-2023 email between parties

EX1016	Order Granting Stay
EX1017	DDC v. OPS docket
EX1018	Google response to RFAs
EX1019	CONFIDENTIAL Agreement to mediate
EX1020	TX Civil Practice and Remedies Code Chapter 154
EX1021	August 14, 2023 Board Authorization Email
EX1022	Compton – US 2013/0141360
EX1023	CONFIDENTIAL Buckley Deposition Transcript
EX1024	HIGHLY CONFIDENTIAL ATTORNEYS’ EYES ONLY – Revenue data for WWGC members. Third worksheet of a spreadsheet produced natively at the district court as GOOG- DDC-0000364.
EX1025	Declaration of Michael L. Kiklis
EX1026	CONFIDENTIAL email correspondence
EX1027	Not used
EX1028	Not used

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing document, excluding the portions exempted under 37 C.F.R. § 42.24(a)(1), contains 5,595 words, which is under the limit of 5,600 words set by 37 C.F.R. § 42.24(c)(1).

Respectfully Submitted,

Dated: April 24, 2024

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CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) of PETITIONER'S REPLY by filing this document through the USPTO Patent Trial and Appeal Case Tracking System and by emailing a copy to the following email addresses:

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Dated: April 24, 2024

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