

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner

v.

AUTONOMOUS DEVICES, LLC,
Patent Owner

Case: IPR2023-01055
U.S. Patent No. 11,238,344

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW

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EXHIBIT LIST

Exhibit	Description
2001	Biography of Blair M. Jacobs (previously submitted)
2002	Declaration of Blair M. Jacobs (previously submitted)
2003	Supplemental Declaration of Blair M. Jacobs (previously submitted)
2004	Disclaimer of Claims 1-2 and 19-20 (previously submitted)
2005	District Court Docket (previously submitted)
2006	District Court Scheduling Order (previously submitted)
2007	Declaration of Dr. Eli Saber (previously submitted)
2008	Deposition transcript of Dr. Jason Janet dated February 29, 2024 in IPR2023-01055 (previously submitted)
2009	RESERVED
2010	Institution Decision in IPR2023-01054 (previously submitted)
2011	U.S. Patent No. 10,452,974 (previously submitted)
2012	American Heritage Dictionary (1992) Excerpts (previously submitted)
2013	Webster's Third New International Dictionary (2002) Excerpts (previously submitted)
2014	File history of U.S. Patent No. 10,452,974 (previously submitted)
2015	Dr. Eli Saber CV (previously submitted)
2016	Demonstratives of Patent Owner Autonomous Devices, LLC (previously submitted)

I. INTRODUCTION

Patent Owner (PO) requests Director Review of the Final Written Decision (Paper 47, “FWD”) because the Panel erred in several respects regarding challenged Claim 12 and PO’s Motion to Amend (Paper 28, “MTA”). For claim 12, the Panel essentially relied on its analysis of claim 11—a different claim with different limitations—and did not actually properly analyze, and indeed ignored some of the limitations of claim 12 with respect to the cited prior art. After PO filed its MTA, the Panel issued Preliminary Guidance (Paper 32) siding with PO regarding prior art. The FWD flipped the Preliminary Guidance regarding limitation [21.10] of proposed substitute claim 21, without explaining why the Panel’s own reasoning regarding that limitation was no longer deemed correct. The FWD clearly erred regarding analysis of the actual claim language of limitation [21.10]—namely, the claimed “processing one or more digital pictures to detect: ... a location of the first object, and a size of the first object”—with respect to the cited prior art references. And for limitation [21.15], the FWD does not address the actual claim language, by failing to map “wherein the first data structure and the second data structure are correlated with the first one or more instruction sets for operating the first device” to the cited references.

PO requests the Director to grant review, reverse the Panel’s unpatentability holding for claim 12, and grant PO’s MTA, for the reasons explained below.¹

II. LEGAL STANDARDS

Director review of a Board decision under 37 C.F.R. § 42.75 may be warranted when the decision includes, among other things, “(a) abuse of discretion, (b) important issues of law or policy, (c) erroneous findings of material fact, or (d) erroneous conclusions of law.” USPTO, Director Review process, § 5.A, <https://www.uspto.gov/patents/ptab/decisions/director-review-process> (last updated Oct. 2024).

III. ARGUMENT

The Panel’s FWD erred regarding findings of material fact in several respects. The Panel’s errors regarding challenged Claim 12 are discussed below in Section III.A, and the Panel’s errors regarding the MTA are discussed below in Section III.B.

¹ In the MTA, entry of substitute claim 28 was proposed contingent upon a finding of unpatentability of claim 12. *Id.* at Appx. A. To the extent the Director grants the relief requested herein regarding claim 12, PO requests the Director to grant the MTA as to the substitute claims other than claim 28. To the extent the Director denies the requested relief regarding claim 12, PO requests the Director to grant the MTA also as to claim 28.

A. The Panel Clearly Erred Regarding Claim 12

The FWD fails to address multiple limitations of claim 12 that are in dispute, and thus its finding of unpatentability for this claim is clearly erroneous. Claim 12 is a lengthy claim that includes many limitations. *See* Ex. 1001, 172:3–26. The following are three examples of limitations disputed between the parties:

- “generating or receiving a fourth circumstance representation, wherein the fourth circumstance representation represents a fourth circumstance detected at least in part by one or more sensors of a fourth device” (discussed at, *e.g.*, PO Response (Paper 26, “POR”) at 53-54)
- “anticipating the second one or more instruction sets for operating the third device based on at least partial match between the fourth circumstance representation and the third circumstance representation” (discussed at, *e.g.*, POR at 54)
- “wherein the fourth device autonomously performs one or more operations defined by the second one or more instruction sets for operating the third device” (discussed at, *e.g.*, POR at 54-55)

None of the above limitations are recited in claim 11. *See* Ex. 1001, 171:59-172:2. Yet, despite this, the Panel essentially relied on its analysis of claim 11 to also find claim 12 unpatentable, without even addressing the above limitations. This constitutes error. The FWD states that “[i]n particular, for claim 12, Petitioner relies on its contentions for claim 11,” “Patent Owner refers to its arguments discussed above with respect to claim 11,” and “[w]e find that those arguments do not

undermine Petitioner’s showing for the same reasons given with respect to claim 11.” FWD at 84-85. Since the above limitations are not in claim 11, the FWD simply has not addressed them in any way.

Moreover, although PO briefly mentioned its arguments for claim 11 when discussing two specific points of claim 12 as the FWD noted (*id.* at 84), PO did not use them for the limitations of claim 12 that are not recited in claim 11. Instead, PO developed a full set of arguments for the limitations of claim 12 that are not recited in claim 11 (see the list of arguments above) that include 8 pages of analysis of the limitations of claim 12 (POR at 52-59) and PO’s sur-reply includes additional analysis (*see, e.g.*, PO Sur-Reply (Paper 33) at 24-25), which the Panel ignored.

At the very least, there is no indication in the approximately 1.5 pages of analysis of claim 12 in the FWD (from middle of page 84 to first two lines of page 86) that the Panel considered PO’s arguments about the above limitations recited in claim 12 and not recited in claim 11, and certainly nothing written in the FWD about those limitations. The last full paragraph on page 84 of the FWD merely notes Petitioner’s arguments, and the paragraph spanning pages 84-85 mentions PO’s arguments *but incorrectly assumes they are the same arguments for claim 11*. The panel also cryptically stated that “[a]dditionally, we addressed many of Patent Owner’s other arguments above in our overview and discussion of Petitioner’s reasoning to combine Grotmol and Hickman. *See* §§ II.F.2–.3”—but this also does

not address the above-listed limitations of claim 12 that are not recited in claim 11. FWD at 85. On page 85, the second-to-last paragraph of the FWD mentions PO's expert, and the last paragraph presents the panel's conclusion. *That leaves only one place where any analysis of the above claim limitations recited in claim 12 but not in claim 11 could possibly be*—the first full paragraph of page 85 of the FWD. But that paragraph does not address any mapping of the above limitations to prior art, either. Instead, that paragraph just notes some of PO's arguments and then states that “[o]ne cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references.” FWD at 85 (citation omitted). It is clearly erroneous for the Board to make a highly general statement like that without even trying to map claim limitations onto anything specific in Grotmol or Hickman.

In summary, the panel simply has not set forth any proper analysis of how the prior art is mapped to, and indeed ignored, the limitations of claim 12, including the above limitations *recited in claim 12 but not in claim 11*. Therefore, the Director should find the Panel has not established claim 12 unpatentable.

B. The Panel Clearly Erred in Denying the Motion to Amend

The Panel's Preliminary Guidance (Paper 32, “PG”) sided with PO for multiple claimed limitations regarding prior art. *See generally* PG at 6-13 (finding that “Petitioner (or the record) has not shown a reasonable likelihood that proposed

substitute claims 21-29 are unpatentable”). In the FWD, the Panel reversed itself on the prior art issues, without explaining why it was wrong in its earlier analysis of the PG. And as explained below in Sections II.B.1-2, the FWD clearly erred in its factual findings regarding two limitations ([21.10] and [21.15]) of proposed substitute claim 21, which are also limitations recited in the other substitute claims.² The Panel initially provided a detailed well-articulated well-supported conclusions in the PG and replaced them with terse ambiguous conclusions that ignore key limitations in the FWD with no explanation for the reversal.

**1. Limitation [21.10]: The Panel Clearly Erred Regarding
“Processing One or More Digital Pictures to Detect: ... a
Location of the First Object, and a Size of the First Object”**

The Panel stated in its Preliminary Guidance that the combination of Grotmol in view of Hickman (“Grotmol-Hickman”) does not disclose or suggest “processing one or more digital pictures to detect ... a size of the first object” as recited in limitation [21.10] of substitute claim 21. PG at 7-8. The Panel reversed course inexplicably in the FWD. *See* FWD at 98-107. It is unclear why the Panel disavowed

² Because the content of limitations [21.10] and [21.15] is added to each substitute claim, PO requests the Director to grant the MTA as to each substitute claim (except potentially claim 28, which is a substitute for claim 12, if the Director reverses the Panel’s finding of unpatentability regarding claim 12, *see supra* § III.A).

its own clearly explained and well-supported reasoning from the PG, because the FWD does not address this change in course. In addition to not providing an explanation for the Panel’s reversal in reasoning regarding the PG, it is apparent that the *FWD clearly erred in addressing the actual claim language*.

The Panel noted PO’s arguments regarding the cited prior art combination failing to disclose or suggest “processing one or more digital pictures to detect: ... a location of the first object, and a size of the first object” as recited in limitation [21.10] (*i.e.*, does not disclose/suggest processing the digital pictures to detect a size of the first object as the PG correctly recognized, and also does not disclose or suggest processing the digital pictures to detect a location of the first object). FWD at 105. The FWD makes clear where it is turning to this specific claim feature. *Id.* (“We turn to Patent Owner’s arguments that neither Grotmol nor Hickman teach...”). But in the approximately 2.5 pages devoted to this feature (top of page 105 to the end of Section III.C.1.c on page 107), *the Panel never found or discussed proper prior art disclosures regarding processing digital pictures to detect these specific claimed things (location and size of the first object)*.

In those 2.5 pages regarding the above feature, the FWD first turns to the claimed location and size at the bottom of page 105. FWD at 105-106 (“Additionally, Grotmol discloses detecting locations and sizes of objects in images acquired by the robot.”). But the specific portions of Grotmol cited by the FWD

simply do not disclose processing digital pictures to detect location and size of the first object. PO specifically argued this point. MTA Sur-Sur-Reply (Paper 44) at 6 (“Petitioner’s citations of Grotmol say nothing about these features. Grotmol discloses comparing images based on image features (corners, edges, etc.), but not processing object properties such as type/location/size. And neither Grotmol nor Hickman discloses or suggests processing images to detect such object properties.”). At the top of page 106, the FWD mentions Grotmol’s feature extraction, citing Ex. 1004 (Grotmol) at 39:13-17, 28:19-25, but even the FWD noted that Grotmol’s features refer to values characterizing the input image, *e.g.*, “the presence or absence of an edge, corner, shape, texture, color, object, at particular locations in the image.” FWD at 106. But edges, corners, and other features quoted by the Panel are image features, not object location and size, as PO noted its MTA Sur-Sur-Reply. The FWD also cites Grotmol 10:26-32 regarding “state of the environment (*e.g.*, object size, location)” and Grotmol 31:23-27 regarding “size of a target” and “distance determination.” FWD at 106. But none of these equates to disclosing or suggesting ***processing digital pictures to detect the*** location and size of the first object. MTA Reply (Paper 34) at 4-5.; *see also* PG at 8.

The FWD then cites disclosures of Hickman, including citation to Ex. 1005 (Hickman) at 13:64-14:6 regarding “location of the unique object” and citation to Hickman 14:15-27 regarding “location data ... [that] may include GPS coordinates.”

FWD at 106. The FWD further cites Hickman 18:10-14 regarding “physical dimensions (height, width, depth, shape, volume, area, etc.).” FWD at 106-107. But again, none of that discloses *processing digital pictures to detect the* location and size of the first object.

Thus, the Panel has ignored what is specifically recited in limitation [21.10] and instead used unrelated teachings or extreme generalities to somehow arrive at the claimed elements, without providing/analyzing a mapping of the actual claim elements to prior art.

2. Limitation [21.15]: The Panel Clearly Erred Regarding “the First Data Structure and the Second Data Structure are Correlated with the First One or More Instruction Sets for Operating the First Device”

For limitation [21.15] of substitute claim 21 (“wherein the first data structure and the second data structure are correlated with the first one or more instruction sets for operating the first device”), the FWD did not address how the prior art allegedly discloses or suggests that the first and second data structures are *correlated* with the first one or more instruction sets for operating the first device. This is clear error, because the FWD has not addressed the actual claim language.

The entirety of the Panel’s analysis of limitation [21.15] is found at pages 110-111 of the FWD. There, the *FWD does not even mention “correlated”* other than stating in the first paragraph of page 110 that Petitioner argues that a POSITA would

have understood that in the Grotmol-Hickman combination the “correlated” limitation is met. *The FWD also does not address at those pages the claimed first and second data structures* in the context of [21.15] other than stating that Petitioner argued that “Hickman teaches that for each detected object, the knowledge base can store a data structure that includes ‘relevant tasks that a robot may perform with the object’ in the task data (TASK) field.” FWD at 110.

Not only did the Panel fail to address the “correlated” and the first and second data structures for [21.15], but the Panel never even addresses that the first data structure and the second data structure must **both** be correlated with the first one or more instruction sets for operating the first device as recited in [21.15].

Moreover, the FWD did not address PO’s arguments presented in the MTA Sur-Sur-Reply regarding limitation [21.15]. For example, PO argued:

[N]o single row, much less two rows, in any of Hickman’s tables includes all of the claimed label, coordinates, and computer model. Thus, there are no first/second data structures in GHC that can be correlated with the recited instruction sets. Even if a row in any of Hickman’s actual tables is considered, Petitioner’s assertion that “[n]othing about Hickman’s in the proposed combination disturbs this fundamental aspect of Grotmol’s teachings” is wrong. MTA Sur-Reply, 6. Since Hickman always operates on a single object instead of in a recited first multi-object circumstance, each of Hickman’s object-related rows only

has its own separate TASKS field, whereas [21.15] recites first/second data structures are both correlated with all of the same instruction sets.

MTA Sur-Sur-Reply (Paper 44) at 7-8.

The FWD completely ignored that argument. FWD at 110-111. This is apparent by looking at pages 110-111 (the only pages addressing limitation [21.15]—there is not even an acknowledgment that PO made such an argument. Thus, the Panel has ignored multiple limitations specifically recited in [21.15] without providing/analyzing a mapping of the actual claim elements to prior art.

IV. CONCLUSION

For the foregoing reasons, the Director should grant review, reverse the panel's holding of unpatentability regarding claim 12, and grant PO's Motion to Amend as to all the substitute claims (except potentially claim 28, whose entry is contingent on unpatentability of claim 12).

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Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that a copy of this **PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW** has been served on Petitioner via email on the following counsel of record for Petitioner:

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