

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 SUR-SUR-REPLY IN SUPPORT OF
CONTINGENT MOTION TO AMEND**

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I. INTRODUCTION

PO submits this MTA Sur-Sur-Reply, as authorized by the Board (Paper 43). Petitioner improperly injected many new arguments into its MTA Sur-Reply (Paper 38). 37 C.F.R. § 42.23(b). Although these new arguments and numerous errors in Petitioner’s analysis are discussed below, they are still impermissible new arguments that should be rejected according to the PTAB’s rules.

II. THE SUBSTITUTE CLAIMS ARE PATENT-ELIGIBLE

A. The MTA Sur-Reply is Wrong About Step One of the *Alice* Test.

First, Petitioner’s reliance on *Intellectual Ventures I*—an impermissible new argument—is wrong. MTA Sur-Reply, 9. There, the claim recited exactly two method steps—“**storing**, in a database, a profile...” and “**causing communication** ... of transaction summary data in the database...”, and the Court found the claim directed to the abstract idea of “tracking financial transactions to determine whether they exceed a pre-set spending limit (i.e., budgeting).” *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015). The Court found the abstract idea “not meaningfully different” from the abstract ideas of *Bilski* (hedging risk) and *Alice* (mitigating settlement risk). *Id.* at 1367-68. *But the methods of organizing human activity in Intellectual Ventures I, Bilski, and Alice are nothing like the substitute claims here that recite many technical, non-abstract features rooted*

in computer technology, including a device autonomously performing operations defined by instruction sets learned in a learning process, and also numerous specific computer-rooted limitations added via amendment regarding specific data structures correlated with instruction sets.

Second, the AI Guidance (MTA Sur-Reply, 9-10) does not alter the *Alice* test. Petitioner wrongly asserts that the substitute claims are “simply applying an abstract idea on a computer.” MTA Sur-Reply, 10. Rather, they recite limitations formerly in claim 3 that *are rooted in computer technology* and that themselves make the claim non-abstract, as the Preliminary Guidance (Paper 32, 11-13) correctly found. The added limitations regarding details of specific first and second data structures correlated with first instruction sets further confirm that Petitioner is wrong.

Third, even Petitioner’s hand-picked examples—“collect[ing] information on a user’s movements and location history [and] electronically record[ing] that data” and “monitoring the location of a mobile thing and notifying a party in advance of arrival of that mobile thing”—*are nothing like the substitute claims*. MTA Sur-Reply, 10-11. Petitioner mistakenly analogizes the substitute claims—reciting many computer-rooted limitations, including those discussed above—to those examples. In fact, the *AI Guidance* explains the examples “*are not intended to change the scope*” of the “*certain methods of organizing human activity*” grouping. “[T]his grouping should not be expanded beyond the activity within the enumerated sub-

groupings of fundamental economic principles or practices, commercial or legal interactions, and managing personal behavior or relationships or interactions between people.” 2024 AI Guidance, 89 Fed. Reg. 51835 (July 17, 2024).

B. The MTA Sur-Reply is Wrong About Step Two of the *Alice* Test.

Petitioner also fails at *Alice* step 2. **First**, PO was not required to provide expert testimony, especially since the Board’s PG sided with PO on § 101. Moreover, an expert is not required to show the apparent—that data structures including only key object properties (i.e., type, location, and size information) help achieve less memory usage, faster computation, and improved object representation accuracy for autonomous operation than storage-intensive, processing-intensive, and inaccurate images each containing a huge number of pixels. **Second**, the *MTA Sur-Reply cherry-picks words and concepts*, such as using a camera and accessing a database, *and ignores the claims as a whole*. The recited limitations (and their combination) of the substitute claims themselves confirm that the invention amounts to significantly more than any abstract idea. For example, the substitute claims recite a method that includes a device autonomously performing operations defined by anticipated instruction sets, in addition to specific details regarding first and second data structures, including specific claimed features, that are correlated with the instruction sets, *none of which are well-understood, routine, and conventional*.

III. THE SUBSTITUTE CLAIMS ARE PATENTABLE OVER THE ART

A. The MTA Sur-Reply Makes Impermissible New Arguments, and Incorrect Arguments, About Grotmol-Hickman

1. Limitations [21.10], [21.13]

Figure 5 at page 2 of the MTA Sur-Reply and associated text constitute impermissible new argument. Petitioner is also wrong substantively. **First**, the Opposition (Paper 31) only included a single sentence (“Recall, also that Hickman...” at page 21) citing Hickman 10:57-11:7 and ¶89 of the expert declaration, which merely copies the Opposition. The hypothesized figure 5 in the MTA Sur-Reply improperly goes beyond that to attempt to show how the combination would have operated.¹ The cited part of Hickman has very broad, essentially meaningless language without any explanation of Petitioner’s proposed configuration. As its name dictates, *a data structure is data that is actually disclosed as structured*, not data that Petitioner retrospectively attempts to structure to fit its purpose. **Second**, the sentence beginning “In the GHC, a row in ...” at the bottom of page 2 of the MTA Sur-Reply is wrong. *Since Hickman always operates on a single object*, each row in Hickman’s tables represents an object from a *different*

¹ To the extent Petitioner attempts to rely on Section III.A of its Opposition, the discussion in that section of the Opposition is completely divorced from the specific recited limitations. MTA Reply (Paper 34), 11.

circumstance, unlike the claimed first/second object representations and their corresponding first/second data structures representing objects of the *same* recited first circumstance. Thus, only a single object-related row from the modified figure 5 table might be used to map to the first data structure, while other rows cannot be used to map to the second data structure since these rows represent objects from different circumstances. **Third**, there is not even a hint in GHC that portions of Grotmol's image depicting objects can be replaced by rows containing object data in Hickman. And, a POSA would not have found that GHC would be feasible for the recited multi-object first circumstance since Grotmol's image depicting *two objects in the same circumstance* cannot logically be replaced by two object-related rows of the hypothetical figure 5 table because the two rows represent *objects from different circumstances*. Hickman has no concept of a *multi-object* circumstance.

The MTA Sur-Reply at page 3 further mentions Hickman's location data (LOC), model data (MOD) (a model number, not the claimed computer model), and specification data (SPC), *but no single row, much less two rows, in any of Hickman's tables includes all of the claimed label for type, coordinates for location, and computer model for size.*

The MTA Sur-Reply further asserts conclusorily that "Hickman's cloud system receives images from robots or information about objects detected in images and uses that information to update its knowledge bases." MTA Sur-Reply, 3. But

while Hickman disclose receiving images to compare them with images in a table to obtain pre-populated object properties from the table, it does not disclose or suggest *processing images to detect* object properties (i.e., type/location/size).

Petitioner has also injected impermissible new arguments about Grotmol. MTA Sur-Reply, 3-4. *The Opposition used Hickman for [21.10] and [21.13], effectively admitting that Grotmol does not disclose these limitations.* Opp., 20-23. Petitioner’s attempt to now use Grotmol, e.g., with its new theory/argument that “[d]etecting the size and location of objects from digital pictures is thus expressly disclosed in Grotmol and would have been straightforward and obvious to implement in the GHC,” should be rejected. MTA Sur-Reply, 4. Regardless, 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.

2. Limitations [21.11], [21.14]

The MTA Sur-Reply has not demonstrated that GHC discloses or suggests limitations [21.11] or [21.14]. Hickman does not disclose or suggest that its LOC/MOD/SPC fields are detected by processing pictures, let alone that the generating the first/second data structures is in response to this processing. Petitioner further asserts that “Hickman’s SPC field (in conjunction with data stored in the

model data (MOD) field) provides a computer model indicating the size of an object,” but Hickman’s MOD is a model number (Ex. 1005, 17:30-33), not the claimed computer model indicating size. Furthermore, Footnote 1 of the MTA Sur-Reply discusses cloud-based processing, but not the detected location and size resulting from processing the digital pictures. Petitioner cites reasoning presented “in the preceding section” (MTA Sur-Reply, 5), but as discussed above, Petitioner is wrong there about [21.10] and [21.13].

3. Limitation [21.15]

For [21.15], the MTA Sur-Reply discusses Grotmol. MTA-Sur-Reply, 5-6. This is a new argument and new theory, as the Opposition did not make this argument about Grotmol. *On the contrary, the Opposition only used Hickman for this limitation, effectively admitting that Grotmol does not disclose it.* Substantively, **first**, since Hickman always operates on a single object, Grotmol’s image depicting *two objects in the same circumstance* cannot logically be replaced by two object-related rows of Petitioner’s hypothetical table because the two object-related rows represent *objects from different circumstances*. **Second**, no 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

role 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.

The paragraph on page 6 of the MTA Sur-Reply beginning "Moreover, ..." is impermissible new argument. Opp., 24. But Petitioner is also wrong substantively, as Hickman simply does not disclose or suggest multiple object representations representing multiple objects of the same type since Hickman *never operates on multiple objects (only single object) to even contemplate the use of a single object-related row to represent two objects of the same or even different types*. Hickman has no concept of a multi-object circumstance. Thus, a POSA would not have been motivated to modify Grotmol in view of Hickman to arrive at [21.15].

The MTA Sur-Reply's paragraph that "the Reply fails to explain why..." (MTA Sur-Reply, 7) misses the mark. **First**, two object-related rows representing objects from *different* circumstances cannot be data structures representing objects in the recited *same* first circumstance. **Second**, even if two rows are considered, one of them includes only tasks data for that one object, and does not include tasks data from the other row (in other words, each object row includes or is associated with *different object-specific tasks*), unlike *both* claimed first and second data structures

correlated with *all of the same* instruction sets. In any event, the remainder of that paragraph of the MTA Sur-Reply is impermissible new argument.

B. The MTA Sur-Reply Makes Impermissible New Arguments, and Incorrect Arguments, About Grotmol-Tolstedt

1. Limitations [21.10], [21.13]

The MTA Sur-Reply states that “identifying attributes such as location, height, width, and dimension information when processing images would necessarily involve detecting these attributes.” MTA Sur-Reply, 7. This is impermissible new argument. Tolstedt does not necessarily disclose processing digital pictures to detect object properties *since they can be inputted by a user as Petitioner admits*. Opp., 22-24. Similarly, the paragraph beginning “Moreover, ...” on page 8 is impermissible new argument. Petitioner is wrong since “autonomous classification or input from a user can be received to detect the size of an object,” and that “[l]ocation can be detected using lidar, sensors, and other algorithms,” *say nothing about the recited processing images to detect the object properties (i.e., type/location/size)* —and Tolstedt or GTC simply does not disclose or suggest this. Moreover, Petitioner cites ¶82 of Tolstedt, but that paragraph does not disclose or suggest processing images to detect object properties. MTA Sur-Reply, 8.

2. Limitations [21.11], [21.14]

The MTA Sur-Reply’s arguments at Section II.B.2 are impermissible new arguments, as the Opposition did not discuss a thematic map for these limitations.

Opp., 22-24. Even if the Opposition discussed a thematic map at Section III.A.2, that section is entirely divorced from claim language of the added limitations. PO replied to what Petitioner actually asserted for [21.11]/[21.14] in the Opposition and PO is not required to divine Petitioner's arguments from other sections. Moreover, *Tolstedt simply does not disclose two thematic maps*—rather, it only discloses *one* thematic map, *whereas the amendment recites two data structures*. And there is simply no disclosure or suggestion of any structured second set of data fields in Tolstedt for a mapping to the recited second data structure to be even possible.

3. Limitation [21.15]

The MTA Sur-Reply just cites to its earlier (Section II.A.3) analysis for the “correlated with” feature in GHC, which is entirely inapplicable to GTC. **First**, Tolstedt fails to disclose or suggest the recited second data structure (Tolstedt has only one thematic map). **Second**, *Tolstedt does not even contemplate any data structures correlated with instruction sets*. Rather, Tolstedt's planning is based on a calculated path, not data structures correlated with instruction sets. Ex. 1015, ¶99 (“utilizes path planning module 904 to plan a path that follows the movement of the operator”). In light of Tolstedt's very different approach, a POSA would not have been motivated to modify Grotmol to arrive at [21.15].

IV. CONCLUSION

For the above and previously presented reasons, the MTA should be granted.

Date: October 21, 2024

Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S
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