

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOUGHBUILT INDUSTRIES, INC.,
Petitioner,
v.
MERIDIAN INTERNATIONAL CO., LTD.,
Patent Owner.

Case IPR2025-01462
Patent 11,192,689

**DECLARATION OF GLENN E. VALLEE, Ph.D., P.E. IN SUPPORT OF
PATENT OWNER'S REVISED MOTION TO AMEND FOR *INTER*
PARTES REVIEW OF U.S. PATENT NO. 11,192,689**

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I, Glenn E. Vallee, Ph.D., P.E., hereby declare as follows:

I. INTRODUCTION

1. I have been retained as an expert witness on behalf of Patent Owner Meridian International Co., Ltd. (“Meridian”) in the above *inter partes* review (“IPR”).

2. I submitted an expert declaration in this matter on May 14, 2026 (**Exhibit 2012**), which was in support of Patent Owner’s Response to Petition (“Petition,” Paper 26) and Patent Owner’s Contingent Motion to Amend (“Contingent Motion,” Paper 27).

3. I was also deposed in this matter on July 14, 2026. It is my understanding that a transcript of the deposition has been introduced in this matter as **Exhibit 1038**.

4. I have read Petitioner’s Opposition to Patent Owner’s Contingent Motion to Amend (“Opposition,” Paper 31), and the Board’s Preliminary Guidance (Paper 35).

5. I understand that, responsive to the Opposition and Preliminary Guidance, Meridian may file a Revised Contingent Motion to Amend (“Revised Motion”), and I have been asked to provide this declaration in support of this Revised Motion.

II. QUALIFICATIONS AND EXPERIENCE

6. I am currently the Owner and Principal Engineer of G. Vallee Consulting, LLC and I hold the rank of Professor Emeritus at Western New England University where I was formerly an Associate Professor and Chair of Mechanical Engineering. My background is in the areas of mechanical engineering, design, product development, and quality assurance. I have a Ph.D. in Mechanical Engineering from the University of Rhode Island and my Ph.D. dissertation research focused on the use of polymetric materials in pneumatic nailers. As an Assistant then Associate Professor of Mechanical Engineering, I served the university from 2002 to 2025 and taught courses in Mechanical Design, Materials Science, Kinematics, Vibrations, Mechanics of Materials, and a Product Development and Innovation (PDI) course where students design consumer products having commercial potential. Six utility patents have been issued for student inventions developed in the course, and many products developed were related to the DIY and Industrial markets, including a stackable transportation system for tool storage containers. I have for over 20 years taught machine and product design at Western New England University, which involves the design of a wide range of locking and latching mechanisms.

7. As the Owner and Principal Engineer of G. Vallee Consulting, I also

serve as a consultant in the areas of mechanical engineering design, product development, numerical stress analysis, and mechanical testing, as well as serving as a technical expert in product liability and patent litigation. I designed a novel hammer tacker utilizing polymeric staples with embedded wires (US Patent No. 10,599,969), and this product utilized a latching mechanism in the staple magazine. I have given deposition testimony over 20 times and testified before the ITC twice, all in patent related matters, and I have supported over 20 IPR matters before the PTAB. I have also provided testimony related to a wide variety of products, some of which utilize latching mechanisms, such as reusable beverage bottles, vacuum cleaners, and pneumatic and electric nailers. I have reviewed many patents as I worked with patent attorneys to file the patent applications. I am an inventor on nine patents, including an electrical power strip, devices related to hand tools, water purification, pneumatic nailers, and surgical devices. I am a member of the American Society of Mechanical Engineers (ASME member no. 1259837), and I am a licensed Professional Engineer (RI Lic. No. 6765).

8. As set forth in more detail in my curriculum vitae (**Exhibit 2013**), I have substantial expertise in the areas of mechanical engineering, consumer product design and development, quality assurance, mechanical testing, and the design of a wide variety of products utilizing methods of mechanical securement and latching.

Prior to joining Western New England University, I served as the Director of Engineering and Quality Assurance, Worldwide for the Remington Products Company, L.L.C., in Bridgeport, CT, from 1997 until 2002. Remington Products Company is a major manufacturer of consumer products, including electric shavers, beard trimmers, hair dryers, and hair setters. My responsibilities included directing the activities of Design and Product Engineering, Quality Assurance, and Manufacturing departments in the U.S., U.K., and Asia, responsible for the design and development of international consumer products, and for focusing new product engineering toward continuously improving customer satisfaction through improved product design, performance, and quality.

9. Prior to my employment at Remington Products, I served as the Manager of the Engineering Laboratories at the Stanley Bostitch Company, now a division of Stanley/Black & Decker. Stanley Bostitch is a leading manufacturer of pneumatic nailers and staplers, a variety of hand tools such as hammer tackers and staplers, and a number of other office products. I was employed by Stanley Bostitch from 1985 until 1997, serving first as a Technician, then Test Engineer, then Product Design/Development Engineer, and was promoted to Manager of the Engineering Laboratories in 1995. During my employment at Stanley Bostitch, I acquired extensive experience in the design and testing of a variety of mechanical, pneumatic,

and electromechanical products, including pneumatic fastening tools, electric trackers and staplers, and electric pencil sharpeners. My work as a Technician and then Test Engineer allowed me to acquire experience in conducting and developing test methodologies for all products. My work as a Product Design/Development Engineer involved designing and developing products from conception through manufacture and quality control, most of which required the design of fluid containment systems and methods of sealing. Here I designed latching mechanisms for nailer nail magazines, and feed systems. I am an inventor on two patents related to fastening tools that issued during this time, U.S. Patent Nos. 5,551,620 and 5,551,621, both of which utilize a latching mechanism in a novel combination triggering system. As the Manager of the Engineering Laboratories, I managed the largest of the Engineering Laboratories in Stanley Works and supervised 18 employees. This position required that I coordinate testing and allocate resources to meet stringent scheduling requirements of the Product Development, Manufacturing, and Marketing departments.

III. SUMMARY OF OPINIONS

10. In forming my opinions, I considered the arguments regarding unpatentability set forth in Petitioner's Opposition, in addition to the art cited by Petitioner (**Exhibits 1035-1037**), and the Board's Preliminary Guidance. I did not

find Petitioner's arguments persuasive because (1) the art cited by Petitioner does not teach all of the elements of the substitute claims; (2) much of the art cited by Petitioner is non-analogous art; and (3) there is no motivation to combine the art cited by Petitioner.

IV. MATERIALS CONSIDERED

11. In preparing this Declaration, I have reviewed all of the documents reviewed in preparing my first declaration (**Exhibit 2012, ¶8**) in addition to the Opposition, the exhibits to the Opposition, and the Preliminary Guidance. In formulating my opinion, I have relied upon my experience, education, and knowledge in the relevant art, and have considered the viewpoint of a person of ordinary skill in the art ("POSA") at the time of the invention (November 27, 2019).

12. For the sake of clarity, it is my opinion that a person of ordinary skill in the art ("POSA") would have had at least the equivalent of an undergraduate degree in mechanical engineering, or a closely related field, and two years of industry or academic experience with connecting technologies or similar mechanisms, or an equivalent combination of education and experience. Additional relevant industry experience may compensate for lack of formal education or vice versa.

V. ADDITIONAL REFERENCES IDENTIFIED BY PETITIONER

13. Based on my review of the Opposition, it appears that Petitioner's

grounds of alleged unpatentability rely on three additional prior art references not discussed in the Petition: Baker, Dane, and Peniche. (Opposition, Paper 31 at 8-23).

A. Alleged Prior Art Identified By Petitioner in Opposition Are Non-Analogous Art.

14. It is my opinion that Baker, Dane, and Peniche are not analogous art, as these references do not pertain to mechanisms for attaching one stacked container to another, nor would these references be reasonably pertinent to a POSA seeking to attach one stacked container to another.

15. The '689 patent repeatedly describes the structure and function of a mechanism for interlocking two stacked storage containers, and the advantages of using such a system to hold two or more containers together in this way. Art that does not relate to a mechanism for two interlocking stacked storage containers is not analogous art.

1. Baker is not analogous art to the '689 patent.

16. In my opinion, U.S. Pub. No. 2008/0000899 ("Baker," **Exhibit 1021**) is non-analogous art because it is neither in the same field of endeavor as, nor reasonably pertinent to, the subject matter of the claims of the '689 patent.

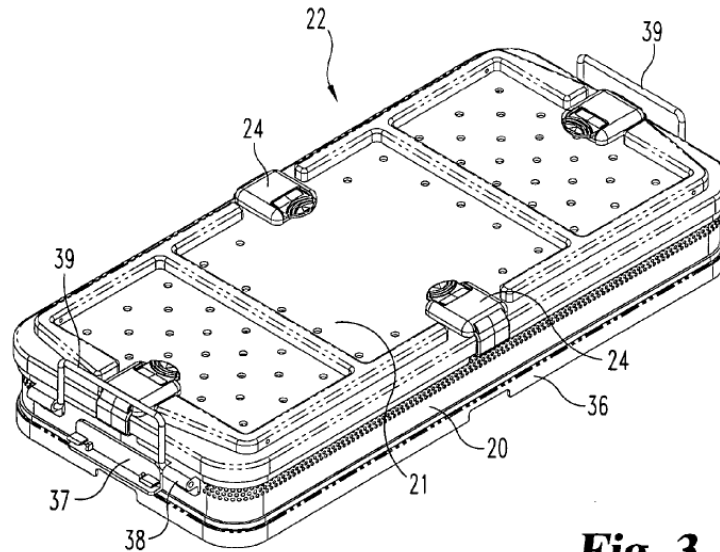


Fig. 3

17. Baker describes a closure latch for attaching a lid to a sterilization and storage tray, not a mechanism for attaching one stacked container to another.

18. The device described in Baker is not strong enough to connect two containers. It is intended only to accommodate the low stresses developed when the closure mechanism must prevent removal of the lid during storage and/or sterilization of, *e.g.*, medical instruments (or any other items requiring sterilization).

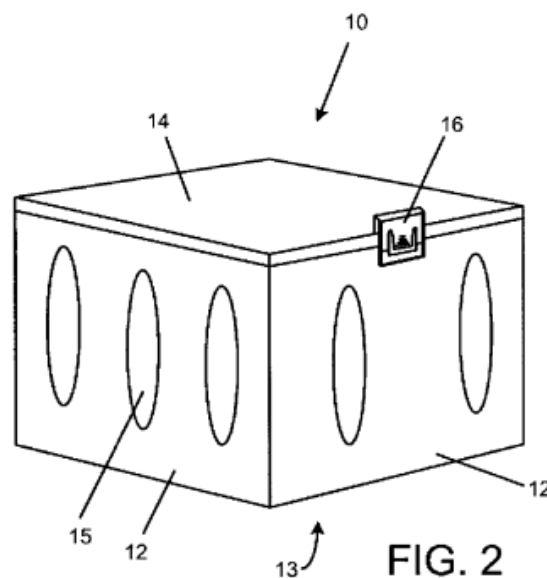
19. The latching mechanism described in the '689 patent is intended to interlock two potentially heavy storage cases which must remain locked together, even during transit, requiring that the latching mechanism resist far larger stresses.

20. In my opinion, a POSA would recognize the inherent differences between latches for securing a lid to a container and mechanisms for interlocking two or more storage containers together when stacked, such that a POSA would not

have considered Baker to be relevant when seeking to develop the locking mechanism of the '689 patent.

2. Dane is not analogous art to the '689 patent.

21. In my opinion, U.S. Pub. No. 2011/0000916 ("Dane," **Exhibit 1036**) is neither in the same field of endeavor as, nor reasonably pertinent to, the subject matter of the claims of the '689 patent.



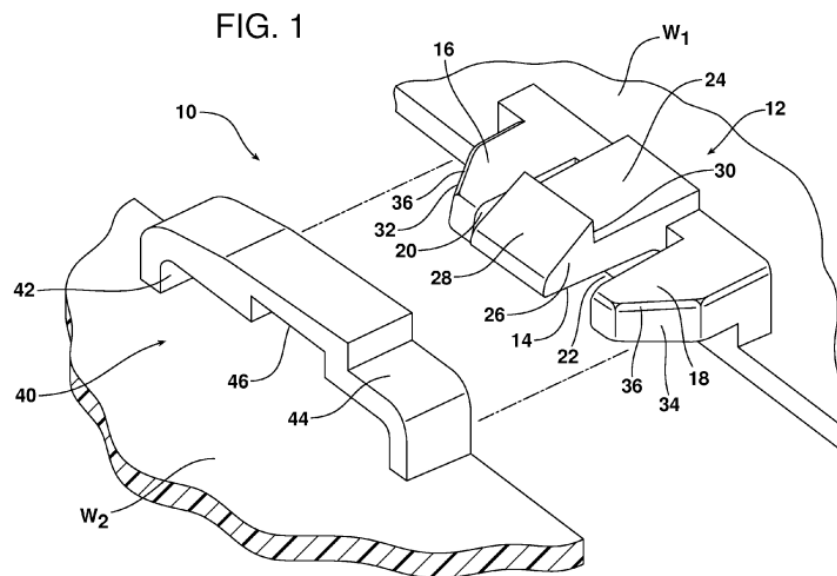
22. Dane describes a closure latch for a lid of a storage container, which is not a mechanism for attaching one container to another.

23. The device described in Dane is intended only to prevent opening of a lid, and not to interlock two potentially heavy storage cases which must remain locked together, even during transit, requiring that the latching mechanism resist far larger stresses.

24. In my opinion, a POSA would recognize the inherent differences between lid closures such as those described in Dane and mechanisms for interlocking two or more storage containers together when stacked, such that a POSA would not have considered Dane to be relevant when seeking to develop the locking mechanism of the '689 patent.

3. Peniche is not analogous art to the '689 patent.

25. In my opinion, U.S. Pub. No. 2016/0236592 (“Peniche,” **Exhibit 1037**) is neither in the same field of endeavor as, nor reasonably pertinent to, the subject matter of the claims of the '689 patent.



26. Peniche describes a buckle for connecting two workpieces, which is not a mechanism for attaching one container to another. In the context of Peniche, a POSA would understand that a “workpiece” is a structure which is intended to

abut a second structure, where the claimed buckle is primarily intended to prevent separation of the two structures in the abutment direction.

27. The device described in Peniche is intended only to connect two pieces of material (i.e., two plastic or metal pieces) in constructing an assembly, and not to interlock two potentially heavy storage cases which must remain locked together. The device of Peniche requires only a single attachment head inserted into a corresponding receiver for engagement, which would not create a connection that is strong enough to prevent separation of two storage containers, and would be likely to result in failure if applied to stackable storage containers like those of the '689 Patent.

28. In my opinion, a POSA would recognize the inherent differences between the buckle mechanism described in Peniche and mechanisms for interlocking two or more storage containers together when stacked, such that a POSA would not have considered Peniche to be relevant when seeking to develop the locking mechanism of the '689 patent.

VI. SUPPORT FOR MERIDIAN'S SUBSTITUTE CLAIMS

29. I have also reviewed the priority documents and associated translations cited in the Revised Motion. I am of the opinion that the substitute claims, as set forth in Appendix A of the Revised Motion, are fully supported by the disclosures

of the '878 Application and the CN '361 Application to which priority is claimed. It is my opinion that the substitute claims do not introduce new matter and are otherwise valid.

VII. THE SUBSTITUTE CLAIMS ARE NOT ANTICIPATED BY OR OBVIOUS OVER THE REFERENCES IDENTIFIED BY THE PETITIONER

30. It is my opinion that substitute claims 21-40 are not anticipated by or obvious over any of the art of record and overcome all the grounds of unpatentability set forth by Petitioner.

A. Substitute Independent Claims 21 and 34 Are Not Anticipated By Duvigneau, Or Obvious Over Duvigneau Alone Or In Combination With Any Other Cited Art.

31. Substitute independent claims 21 and 34 are not anticipated by Duvigneau, or obvious over Duvigneau alone or when combined within any other art cited by Petitioner, including art cited in the Petition and Petitioner's Opposition.¹

¹ While Dane (**Exhibit 1036**) and Peniche (**Exhibit 1037**) were cited in Petitioner's Opposition, it is my understanding that these references were provided as alleged teachings of limitations that are not present in the substitute claims of Meridian's Revised Motion to Amend. It is my opinion that Dane and Peniche are not relevant to the scope of the substitute claims of Meridian's Revised Motion to Amend, and therefore are not discussed in detail within this declaration.

32. As discussed in greater detail below, it is my opinion that, because Duvigneau does not teach all of the elements of substitute independent claims 21 and 34, Duvigneau cannot anticipate, or render obvious, this substitute claim.

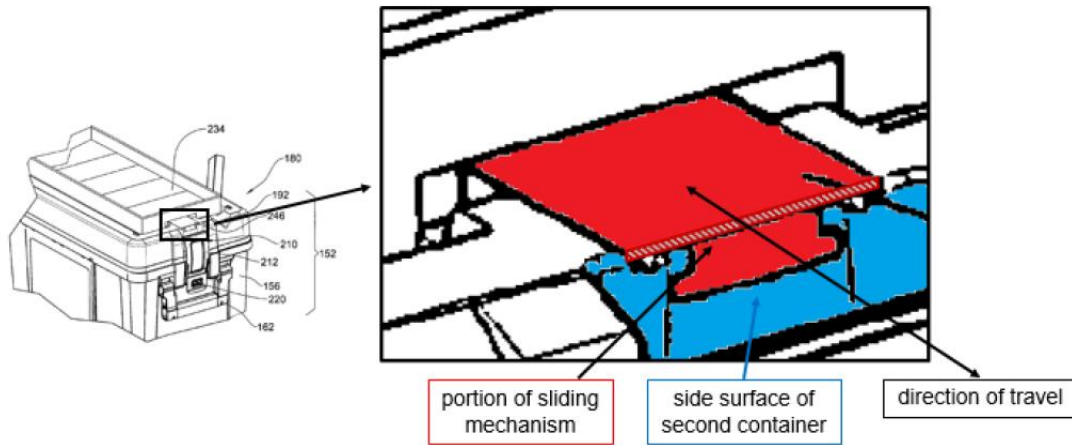
33. As discussed in greater detail below, Petitioner also does not make a credible argument that a POSA would be motivated to change the teachings of Duvigneau to include the elements taught by the '689 patent.

34. Indeed, Petitioner's expert indicated that there was nothing wrong with the Duvigneau product (**Exhibit 2014**, 70:15-72:3, 76:4-77:5, 79:20-80:2, 83:4-19, 85:16-86:10), which would leave a POSA with no motivation to make the changes needed in order to read upon the '689 patent.

35. It is therefore my opinion that substitute claims 21 and 34 are also not obvious over Duvigneau, even when combined with other art cited by Petitioner, as discussed herein.

1. Duvigneau does not teach that the sliding mechanism “*extends laterally away from a side wall of the second container when the sliding mechanism is disengaged from the locking groove and wherein the portion of the sliding mechanism is coplanar with the side wall of the second container when the sliding mechanism is engaged with the locking groove.*”

36. Petitioner alleges that the surface highlighted in blue in the annotation of Figure 6 is “*the side wall*” of the storage container:



EX1007, FIG. 6 (cropped and annotated).

(Petition, Paper 2 at 31).

37. In my opinion, a POSA would understand that the plain and ordinary meaning of “*a side wall of the second storage container*” to mean a side wall of the body of the storage container, *i.e.*, one of the four side walls of the storage container².

² With respect to my deposition testimony regarding the definition of a storage container (**Exhibit 1038** at 196:17-200:1), where I state that “the storage container...is the four sides and a bottom, plus a lid that sits on top,” it is not my opinion that all storage bags are not “storage containers” within the meaning of the ’689 Patent. It is possible for a bag to be a container within the meaning of the ’689 Patent, because the definition of a container set forth in the ’689 Patent only

This is consistent with the teachings of the '689 Patent.

38. The '689 Patent states that the “[f]irst storage container 10...may comprise a container portion 102 that contains opposing side walls and a bottom portion defining an interior space.” (**Exhibit 1001** at col. 2, lines 59-67). The '689 Patent also states that the “[s]econd storage container 20...similarly may comprise a container portion 110 that contains opposing side walls and a bottom portion defining an interior space.” (*Id.* at col. 3, lines 1-12). Reading the '689 Patent, it would be clear to a POSA that, consistent with the plain and ordinary meaning, a side wall or side surface refers to one of the four side walls of the body of the first or second storage container.

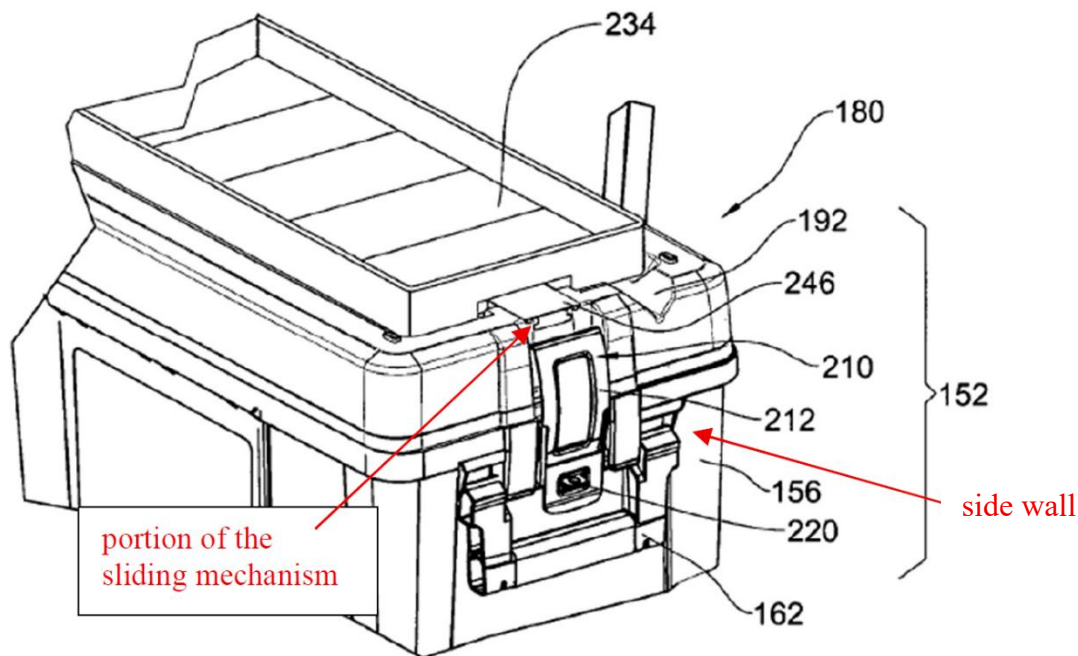
39. The blue part is not a “*side wall*” because it is not one of the four side walls of the container body.

40. When looking at the side wall of the Duvigneau container, the portion

requires that the container have opposing side walls and a bottom portion. (**Exhibit 1001** at col. 2, lines 59 through col. 3, line 12). A bag that has a bottom surface and four sidewalls could, therefore, be considered a storage container under the '689 Patent, and my opinion that Duvigneau does not teach the elements of the claims of the '689 Patent is not premised on whether the bag 230 is a storage container.

of the sliding mechanism is not coplanar with **the side wall** of the second container when the sliding mechanism is engaged with the locking groove.

41. Rather, the portion of the sliding mechanism sits inward relative to the side wall of the container.



(Duvigneau, FIG. 6 (annotated)).

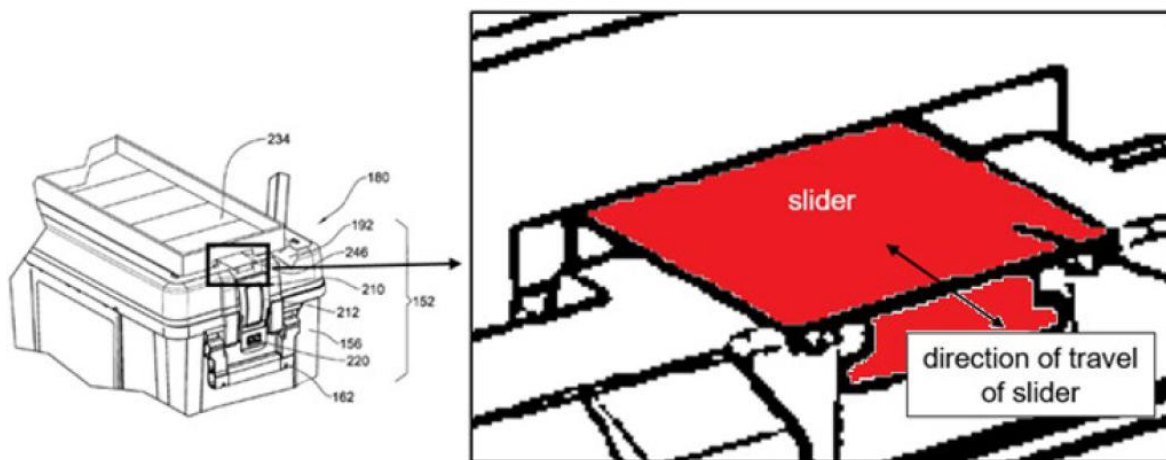
42. In my opinion, Duvigneau cannot teach a sliding mechanism that is coplanar with **the side wall** of the second container as recited in substitute claims 21 and 34, because the sliding mechanism of Duvigneau is recessed from the side wall of the second container and therefore not in the same plane as the second container.

2. Duvigneau does not teach a “*sliding mechanism with a slider.*”

43. In my opinion, Duvigneau does not teach a “sliding mechanism with a

slider.”

44. Petitioner states that “Duvigneau discloses cover 180 of base cabinet 152 includes ‘a sliding latch 246’ (*“sliding mechanism”*), which comprises ‘a slider’ shown in red in annotated Figure 6”:



EX1007, FIG. 6 (cropped and annotated).

45. The identified *“slider”* as annotated in Figure 6 is the entire sliding latch 246. (Petition, Paper 2 at 31-32).

46. In my opinion, a POSA would understand the *“sliding mechanism”* to be distinct from a *“slider,”* because the specification and claims of the ’689 Patent separately refer to these as two separate components (or, at the very least, refer to the slider as a sub-component of the sliding mechanism).

47. Duvigneau teaches that the sliding latch 246 is received and slidable

within a slot. (Exhibit 1007 at para. [0057]). No further detail regarding the structure of the sliding latch 246 is provided. It is therefore my opinion that the “sliding mechanism” and the “slider” of Duvigneau are one and the same—there is no component of the sliding latch 246 of Duvigneau that could be considered a “slider.”

48. In my opinion, because substitute claims 21 and 34 require that the slider and the sliding mechanism are two different components, Duvigneau does not teach the slider element of substitute claims 21 and 34.

3. Duvigneau does not teach that “*the second storage container comprises a slot and a support arm extending across a width of the slot perpendicular to a direction of travel of the slider, the slider being configured to overlay and translate along a top surface of the support arm.*”

49. In my opinion, Duvigneau does not teach that “the second storage container comprises a slot and a support arm extending across a width of the slot perpendicular to a direction of travel of the slider, the slider being configured to overlay and translate along a top surface of the support arm.”

50. It is my understanding that Petitioner’s Opposition does not assert that Duvigneau alone teaches a support arm extending across a width of the slot perpendicular to a direction of travel of the slider.

51. I am nonetheless of the opinion that Duvigneau does not disclose this limitation of substitute claims 21 and 34. Duvigneau provides two rails within the

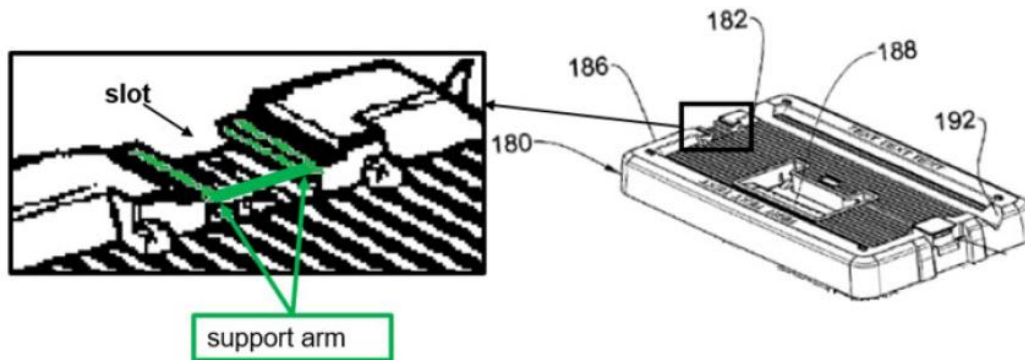
slot, each extending **along** the depth of the slot in a direction parallel with the direction of travel of the sliding mechanism. There is no structure in Duvigneau within the slot that is perpendicular to the direction of travel of the slider.

52. I am also of the opinion that, because Duvigneau does not teach a support arm extending across the slot perpendicular to the direction of travel of the slider, Duvigneau necessarily cannot teach a slider that overlays and translates along such a support arm.

53. It is therefore my opinion, that Duvigneau does not teach this element of substitute claims 21 and 34.

(a) Baker does not cure this deficiency of Duvigneau.

54. Petitioner's Opposition asserts that the combination of Duvigneau with Baker teaches a support arm extending across a width of the slot perpendicular to a direction of travel of the slider, because it would have been obvious to modify Duvigneau to include an arm extending perpendicular to the direction of travel of the slider "to create an abutment edge or backstop to engage with the slider and prevent overextension." (Opposition, Paper 31, p. 12). An annotation of FIG. 5 showing this resulting modification is provided in the Opposition:



(*Id.*).

55. This arm extending along a back, or internal, edge of the slot of Duvigneau, to serve as a backstop for the sliding latch 246, is not a support arm.

56. First, a POSA would understand that a “support arm” within the meaning of the ’689 Patent is a component or structure that extends across the slot to hold up or serve as a foundation for the slider. The abutment between the sliding latch 246 and the modified perpendicular arm at the back edge of the slot is not supporting the sliding latch 246 in any way. Moreover, the support arm described in the ’689 patent is intended to provide a rigid structure used when lifting multiple heavy storage containers by placing the hands within the aforementioned slots. In no way does the device of Baker provide this provision, particularly when used in combination with Devigneau.

57. Additionally, the sliding latch 246 could not overlay and translate along this perpendicular arm.

58. In my opinion, the sliding latch 246 cannot overlay the arm if the arm—according to Petitioner’s logic—serves as a backstop to prevent overextension of the sliding latch 246. The perpendicular arm could not prevent overextension if the sliding latch 246 was overlying the perpendicular arm, as this would prevent the two components from coming into abutting contact in such a way that would prevent further inward movement of the sliding latch 246.

59. Similarly, the sliding latch 246 cannot translate along a component, *i.e.*, the perpendicular arm, while also abutting said component. It is my opinion that this is a structural and functional impossibility.

60. In my opinion, Duvigneau—even when combined with Baker—does not disclose this element of substitute claims 21 and 34.

4. Duvigneau and Frydenberg do not disclose or suggest “*at least one guiding rib project[ing] from the top surface of the support arm and extend[ing] along at least a portion of the depth of the support arm in the direction of travel of the slider, the at least one guiding rib engaging with at least one guiding slot of the slider to enable translation of the slider along the support arm,*” as recited in substitute claim 21.

61. The limitation regarding “at least one guiding rib” is at least partially recited in claims 9 and 10 of the ’689 Patent, which Petitioner alleges is obvious over Duvigneau in view of Frydenberg.

62. In my opinion, neither Duvigneau nor Frydenberg disclose or suggest

that “at least one guiding rib project[ing] from the top surface of the support arm and extend[ing] along at least a portion of the depth of the support arm in the direction of travel of the slider, the at least one guiding rib engaging with at least one guiding slot of the slider to enable translation of the slider along the support arm.”

63. First, the structure of the sliding mechanism of Frydenberg is completely different from that of the '689 patent and is intended only to maintain closure of a plastic container. This is a far less demanding application than that described in the '689 patent which is intended to maintain a connection between heavy storage containers during transit.

64. For example, the Petition alleges that rail 18 is comparable to the “guiding rib” and the rail 18 could be placed on the support arm of Duvigneau “because Frydenberg discloses that the rail can be ‘attached to the edge of most any kind of structure.’” (Petition, Paper 2 and 67-68). However, this additional rail 18 is unnecessary.

65. In the context of the arms extending along the sides of the slot of Duvigneau, these are the primary tracks that enable the sliding latch 246 to translate within the slot. Inclusion of rail 18 on top of these arms would not serve any purpose, except to narrow the track along which the sliding latch 246 translates. There would therefore be no motivation to include such a feature which would add unnecessary

material, complicate the manufacture, and add cost to the design, especially when said feature would not provide any functional change or improvement.

66. As it pertains to the modified perpendicular arm of Duvigneau and Baker, addition of the rails 18 from Frydenberg would still be unnecessary. First, the arms along the side of the slot would be present, making inclusion of rails 18 to enable translation of the sliding latch 246 redundant. Second, these rails 18 would serve no function on the perpendicular portion of the arm because the sliding latch 246 does not slide along the perpendicular arm.

67. Moreover, given the size of the alleged support arm of Duvigneau, addition of a further feature like the rail 18 of Frydenberg would also not be feasible. First, the alleged support arm of Duvigneau would be quite thin, having a very small material thickness which makes it extremely difficult to attempt to add rail 18 of Frydenberg to this component. The same is true for the alleged slider 246 of Duvigneau which also has a very thin material thickness, making it extremely difficult to add the mating feature to rail 18 to the slider 246. Such a localized and dramatic change in material thickness to both components would undoubtedly cause manufacturing difficulties, resulting in increased component cost and a high likelihood of warping which would cause problems with assembly and binding during sliding. Additionally, the small thickness of these components would result

in low strength and susceptibility to fracture in service.

68. As such, a POSA would not have had any reason to modify Duvigneau, as the system of Duvigneau is already inherently capable of facilitating translation of the sliding latch 246 with its unmodified structure. Any attempt to incorporate the aforementioned features of Frydenberg with the device of Duvigneau would increase manufacturing costs with no benefit to the device.

69. Additionally, no comprehensive explanation is given regarding exactly how Duvigneau could be modified to include the teachings of Frydenberg. Petitioner makes only conclusory statements that the two could be combined, but provides no practical or reasonable explanation for how a POSA would do so.

70. In my opinion, Duvigneau and Frydenberg (together or in further combination with Baker), do not disclose or suggest this element of substitute claim 21.

5. Duvigneau, Morel, and Weng do not disclose or suggest “*at least one beveled block project[ing] from the top surface of the support arm and engaging at least one recess of the slider to arrest outward movement of the slider when the slider is disengaged from the locking groove,*” as recited in substitute claim 21.

71. The limitation regarding “at least one beveled block” is at least partially recited in claim 8 of the '689 Patent, which Petitioner alleges is obvious over Duvigneau in view of Morel and Weng.

72. In my opinion, Duvigneau, Morel, and Weng do not disclose or suggest that “the support arm further comprises at least one beveled block projecting from the top surface of the support arm and engaging at least one recess of the slider to arrest outward movement of the slider when the slider is disengaged from the locking groove.”

73. A POSA would not have had any motivation to combine Duvigneau, Morel, and/or Weng as alleged in the Petition. For example, the sliding track assembly of Weng requires only a simple obstruction to stop both outward and inward motion and not a sloped entry surface for receiving a bevel. Also, Morel is intended to provide multiple V-shaped contact surfaces to prevent sliding motion while providing a multitude of different positioning points.

74. This is entirely different than the single stop surfaces of the block described in the ‘689 patent which are used only to stop outward motion. Also, the Petitioner gives no explanation of how these references could even be combined to achieve the claimed device.

75. Additionally, no comprehensive explanation is given regarding exactly how Duvigneau could be modified to include the teachings of Morel and Weng. Petitioner makes only conclusory statements that the references could be combined, but provides no practical or reasonable explanation for how a POSA would do so.

76. In fact, there would be significant difficulties in modifying the support arm of Duvigneau—whether it be the portions along the sides of the slot or the portion extending across the slot—in view of Morel and Weng to achieve the beveled block recited in substitute claim 21. As discussed above, support arm of Duvigneau is quite thin, having a very small material thickness which makes it extremely difficult to incorporate the features of either Morel or Weng to simulate a beveled block on this component. The same is true for the alleged slider 246 of Duvigneau which also has a very thin material thickness, making it extremely difficult to add the mating feature to this alleged beveled block. Such a localized and dramatic change to both components would undoubtedly cause manufacturing difficulties, resulting in increased component cost and a high likelihood of warping which would inhibit proper function. Additionally, the small size of these components would result in low strength and susceptibility to fracture in service.

77. In my opinion, therefore, there is no reason that a POSA would seek to combine Duvigneau, Morel, and Weng in the manner indicated, and the combination of these references does not disclose or suggest this limitation of substitute claim 21.

6. Duvigneau does not teach “*a reinforcing rib project[ing] from the top surface at a rear edge of the support arm such that the slider abuts the reinforcing rib when the slider is engaged with the locking groove.*”

78. In my opinion, Duvigneau does not disclose or suggest “a reinforcing

rib project[ing] from the top surface at a rear edge of the support arm such that the slider abuts the reinforcing rib when the slider is engaged with the locking groove.”

79. Duvigneau does not teach a feature that extends across the slot perpendicular to the direction of travel of the sliding latch 246. And, in my opinion, the combination of Duvigneau and Baker set forth in Petitioner’s Opposition also does not disclose or suggest the reinforcing rib of substitute claims 21 and 34 where the reinforcing rib projects from the perpendicular support arm along the width thereof.

80. While I disagree, as previously stated, that Duvigneau and Baker teach a support arm as recited in substitute claims 21 and 34, nothing in Duvigneau and/or Baker suggests inclusion of an additional reinforcing rib as substitute claims 21 and 34 recite. The Petitioner alleges that the perpendicular support arm taught by Duvigneau and Baker is intended to abut and prevent overextension of the sliding mechanism 246. Inclusion of a reinforcing rib on said support arm, also for this purpose, would be redundant.

81. In my opinion, this element of substitute claims 21 and 34 is not taught by Duvigneau, even in combination with Baker.

7. Duvigneau and Frydenberg do not disclose or suggest that “*the slider comprises a first side having a first guide portion and a second opposed side having a second guide portion, wherein the first guide portion and the second guide portion are received*”

within a first guiding groove and a second guiding groove, respectively, defined within the slot to enable translation of the slider along the support arm,” as recited in substitute claim 34.

82. The limitation regarding “a first guide portion and ... a second guide portion” is at least partially recited in claim 11 of the ’689 Patent, which Petitioner alleges is obvious over Duvigneau in view of Frydenberg.

83. In my opinion, neither Duvigneau nor Frydenberg disclose or suggest that “the slider comprises a first side having a first guide portion and a second opposed side having a second guide portion, wherein the first guide portion and the second guide portion are received within a first guiding groove and a second guiding groove, respectively, defined within the slot to enable translation of the slider along the support arm.”

84. First, the structure of the sliding mechanism of Frydenberg is completely different from that of the ’689 patent and is intended only to maintain closure of a plastic container. This is a far less demanding application than that described in the ’689 patent which is intended to maintain a connection between heavy storage containers during transit.

85. For example, the Petition alleges that T-rail includes guiding grooves that could be placed on respective sides of the support arm (Petition, Paper 2 at 69), but provides no explanation as to why such a modification would be necessary.

86. Duvigneau already includes tracks extending along the side of the slot that permit translation of the sliding latch 246 within the slot. Inclusion of an additional feature, like the guide portions and guiding grooves recited in substitute claim 34 would not serve any functional purpose. There would be no motivation to modify the tracks along with the sliding latch 246 translates to include a groove therein when the sliding latch 246 is already capable of moving along the tracks along the sides of the slot as they are currently structured.

87. Moreover, given the size of the sliding latch 246 of Duvigneau, incorporation of additional guide portions would also not be feasible. As discussed above, sliding latch of Duvigneau is quite thin, having a very small material thickness which makes it extremely difficult to incorporate additional guide portions to this component. Such additions would cause a localized and dramatic change in material thickness which would cause manufacturing difficulties, resulting in increased component cost and a high likelihood of warping which would inhibit proper function. Additionally, the small thickness of this component would result in low strength and susceptibility to fracture in service.

88. As such, a POSA would not have had any reason to modify Duvigneau, as the system of Duvigneau is already inherently capable of facilitating translation of the sliding latch 246 with its unmodified structure. Any attempt to incorporate the

aforementioned features of Frydenberg with the device of Duvigneau would also increase manufacturing costs with no benefit to the device.

89. Additionally, no comprehensive explanation is given regarding exactly how Duvigneau could be modified to include the teachings of Frydenberg. Petitioner makes only conclusory statements that the two could be combined, but provides no practical or reasonable explanation for how a POSA would do so.

90. In my opinion, Duvigneau and Frydenberg (together or in further combination with Baker), do not disclose or suggest this element of substitute claim 21.

B. Substitute Independent Claims 21 and 34 Are Not Obvious Over Brocket and Heinrichs, Together Or In Further Combination With Any Other Cited Art.

91. Substitute independent claims 21 and 34 are not obvious over Brocket and Heinrichs³, together or in further combination with other art cited by Petitioner, including art cited in the Petition and Petitioner's Opposition.¹

³ It is my understanding that Petitioner has not addressed Brocket and Heinrichs in its Opposition to Meridian's Contingent Motion to Amend. However, because Brocket and Heinrichs are discussed as prior art in the Petition, I am including my analysis of these references to be fully responsive to both documents relevant to Meridian's Revised Motion to Amend.

92. As discussed in greater detail below, it is my opinion that, because Brocket and Heinrichs do not disclose or suggest all of the elements of substitute independent claims 21 and 34, the substitute claims are not obvious over Brocket and Heinrichs.

1. Brocket and Heinrichs do not disclose or suggest that “*the second container comprises a sliding mechanism with a slider that selectively engages the at least one locking groove to connect and hold the first storage container to the second storage container, wherein a portion of the slider extends laterally away from a side wall of the second container when the slider is disengaged from the locking groove and wherein the portion of the slider is coplanar with the side wall of the second container when the slider is engaged with the locking groove,*” as recited in substitute claims 21 and 34.

93. In my opinion, Brocket and Heinrichs do not disclose or suggest that “the second container comprises a sliding mechanism with a slider that selectively engages the at least one locking groove to connect and hold the first storage container to the second storage container, wherein a portion of the slider extends laterally away from a side wall of the second container when the slider is disengaged from the locking groove and wherein the portion of the slider is coplanar with the side wall of the second container when the slider is engaged with the locking groove.”

94. As an initial matter, a POSA would not have had any motivation to combine Brocket and Heinrichs.

95. First, while Petitioner alleges that “[a] POSA would have had reason to

modify Bocket to replace its locking mechanism with the locking mechanism taught by Heinrichs” because “the choice of locking mechanism would have been a matter of simple design choice” (Petition, Paper 2 at 80), substituting the pivotable latch of Bocket with the sliding catch mechanism of Heinrichs would render Bocket inoperable.

96. In my opinion, a POSA would recognize that there is no feasible manner in which the sliding catch mechanism of Heinrichs could be implemented on the storage container of Bocket in a manner that would be operable. The catch mechanism of Heinrichs has multiple components, many of which move in a direction perpendicular to the sliding direction, adding complexity to the design. This is contrary to the locking mechanism of Bocket, which is simple, requires fewer components and would be less expensive to manufacture.

97. Additionally, the locking mechanism of Heinrichs does not even meet the limitations of the claimed locking mechanism. For example, Heinrichs does not disclose or suggest a “**locking groove**” for mating with the sliding mechanism.

98. Petitioner alleges that the keyhole 74 teaches the “**locking groove**” but, in my opinion, a POSA would recognize that the keyhole 74 has an entirely different structure from the claimed locking groove and therefore functions in an entirely distinct manner.

99. Indeed, the clearance between the bolt and keyhole of Heinrichs is required in the design and would result in unacceptable lateral motion if used in an attempt to lock a slider as described in the '689 patent. In fact, it therefore teaches away from use in such an application.

100. Moreover, the locking bolt 72 does not “*extend laterally away from a side wall of the second container*” within the meaning of substitute claims 21 and 34.

101. The locking bolt 72 extends towards the midline of the structure of Heinrichs, rather than away from the midline of the storage box as is implicit in the aforementioned limitation of claims 21 and 34.

102. Thus, in my opinion, there is no motivation to combine Brocket and Heinrichs, and, even if there were, because the Petitioner does not identify a locking mechanism that includes all of the elements of these claims, Petitioner does not establish that claims 21 and 34 are taught by Brocket and Heinrichs.

2. Brocket and Heinrichs do not disclose or suggest “*a sliding mechanism with a slider*,” as recited in substitute claims 21 and 34.

103. In my opinion, Brocket and Heinrichs do not disclose or suggest “a sliding mechanism with a slider.”

104. While Petitioner states that “[a] POSA would have understood locking

bolt 72 teaches the claimed ‘*slider*’” (Petition, Paper 2 at 84), Petitioner also alleges that the locking bolt 72 teaches the “*sliding mechanism*.” (Petition, Paper 2 at 81-82). Moreover, this locking bolt moves in a direction which is perpendicular to the locking and unlocking directions of the slider taught in the ‘689 patent.

105. Petitioner fails to identify how the locking bolt 72 as applied as the slider is different in any way from the locking bolt as applied as the sliding mechanism.

106. In my opinion, a POSA would understand the slider and sliding mechanism to comprise two distinct mechanisms.

3. Bocket and Heinrichs do not disclose or suggest that “*the second storage container comprises a slot and a support arm extending across a width of the slot perpendicular to a direction of the travel of the slider, the slider being configured to overlay and translate along a top surface of the support arm,*” as recited in substitute claims 21 and 34.

107. In my opinion, Bocket and Heinrichs do not disclose or suggest that “the second storage container comprises a slot and a support arm extending across a width of the slot perpendicular to a direction of the travel of the slider, the slider being configured to overlay and translate along a top surface of the support arm.”

108. Petitioner alleges that the device 78 that pivots to move the locking bolt 72 teaches the claimed support arm, but this moving component cannot be considered a “*support arm*” within the meaning of substitute claims 21 and 34.

109. The structure of the device 78 is entirely distinct from the claimed support arm, at least because the device 78 is a movable component whereas the claimed support arm remains stationary.

110. Moreover, the device 78 cannot be said to extend across a slot. Just because the device 78 is disposed within a beam 60 does not mean that it necessarily is within a “*slot*” as Petitioner alleges.

111. In my opinion, because Petitioner has failed to identify a structure that would comprise a “*support arm*,” Petitioner does not establish that all of the elements of substitute claims 21 and 34 are taught by Brocket and Heinrichs.

4. Brocket and Heinrichs do not disclose or suggest “*at least one guiding rib project[ing] from the top surface of the support arm and extend[ing] along at least a portion of the depth of the support arm in the direction of travel of the slider, the at least one guiding rib engaging with at least one guiding slot of the slider to enable translation of the slider along the support arm*,” as recited in substitute claim 21.

112. The limitation regarding “at least one guiding rib” is at least partially recited in claims 9 and 10 of the ’689 Patent, which Petitioner does not assert is obvious over Brocket and Heinrichs. It is my understanding that Petitioner therefore concedes that Brocket and Heinrichs do not disclose or suggest a guiding rib, which is consistent with my analysis of these references.

113. In my opinion, Brocket and Heinrichs do not disclose this limitation of

substitute claim 21.

5. Brocket and Heinrichs do not disclose or suggest “*at least one beveled block project[ing] from the top surface of the support arm and engaging at least one recess of the slider to arrest outward movement of the slider when the slider is disengaged from the locking groove,*” as recited in substitute claim 21.

114. The limitation regarding “at least one beveled block” is at least partially recited in claim 8 of the ’689 Patent, which Petitioner does not assert is obvious over Brocket and Heinrichs. It is my understanding that Petitioner therefore concedes that Brocket and Heinrichs do not disclose or suggest a beveled block, which is consistent with my analysis of these references.

115. In my opinion, Brocket and Heinrichs do not disclose this limitation of substitute claim 21.

6. Brocket and Heinrichs do not disclose or suggest “*a reinforcing rib project[ing] from the top surface at a rear edge of the support arm such that the slider abuts the reinforcing rib when the slider is engaged with the locking groove.*”

116. In my opinion, Brocket and Heinrichs do not disclose or suggest “a reinforcing rib project[ing] from the top surface at a rear edge of the support arm such that the slider abuts the reinforcing rib when the slider is engaged with the locking groove.”

117. There is no feature in Brocket or Heinrichs that spans across the slot perpendicular to the direction of the slider. It is therefore my opinion that Brocket

and Heinrichs do not disclose any component that could be considered a reinforcement rib as recited in substitute claims 21 and 34.

118. In my opinion, Brocket and Heinrichs do not disclose or suggest this element of substitute claims 21 and 34.

7. Brocket and Heinrichs do not disclose or suggest that “*the slider comprises a first side having a first guide portion and a second opposed side having a second guide portion, wherein the first guide portion and the second guide portion are received within a first guiding groove and a second guiding groove, respectively, defined within the slot to enable translation of the slider along the support arm,*” as recited in substitute claim 34.

119. The limitation regarding “a first guide portion” and “a second guide portion” is at least partially recited in claim 11 of the ’689 Patent, which Petitioner does not assert is obvious over Brocket and Heinrichs. It is my understanding that Petitioner therefore concedes that Brocket and Heinrichs do not disclose or suggest first and second guide portions, which is consistent with my analysis of these references.

120. In my opinion, Brocket and Heinrichs do not disclose this limitation of substitute claim 34.

C. Substitute Dependent Claims.

121. In my opinion, none of the art discussed herein—alone or in combination—disclose or suggests the elements of substitute dependent claims 22-33 and 35-40.

122. It is my understanding that the substitute dependent claims cannot be anticipated or obvious because each substitute dependent claim depends from an independent claim which is not anticipated or obvious.

123. For example, because all of the elements of substitute independent claim 21 must be present in substitute dependent claims 22-33, and all of the limitations of substitute independent claim 34 must be present in substitute dependent claims 35-40. Thus, for the reasons cited with regard to substitute claims 21 and 34, substitute claims 22-33 and 35-40 are not anticipated or obvious.

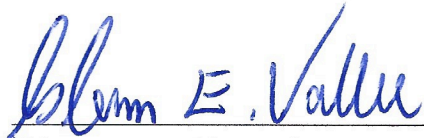
124. Substitute dependent claims 22-33 and 35-40 are also independently patentable for at least the reasons set forth in my May 14, 2026 declaration. (**Exhibit 2012**).

VIII. CONCLUSION

125. In signing this Declaration, I recognize that this Declaration will be filed as evidence in an *inter partes* review before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in this case and that cross-examination will take place within the United States. If cross-examination is required, I will appear for cross-examination within the United States within the time allotted.

126. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on this 8th day of September, 2026, in Melbourne, FL.



Glenn E. Vallee, Ph.D., P.E.