

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC., AMAZON.COM SERVICES LLC,
Petitioner,

v.

NOKIA TECHNOLOGIES OY,
Patent Owner.

Case IPR2024-00799
Patent 9,473,602

**DECLARATION OF FRANCO LODATO
IN SUPPORT OF PATENT OWNER'S PRELIMINARY RESPONSE**

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I, Franco Lodato, declare as follows:

I. INTRODUCTION

1. I have been retained by Patent Owner Nokia Technologies Oy (“Patent Owner”) to provide expert opinions in connection with this *inter partes* review.

2. I am being paid at my standard consulting rate of \$650 per hour for my work in this matter. Additionally, I will be reimbursed for all expenses incurred. My compensation is not dependent on the outcome of this action, and I have no other interests in this matter or with any of the parties involved.

3. My opinions are also based on my education, training, research, experience, knowledge, personal and professional experience, and my investigation and study of relevant materials.

II. QUALIFICATIONS

1. My qualifications for forming the opinions set forth in this report are listed in this section and provided in my *curriculum vitae* (“CV”), attached hereto as Exhibit 2002. *See* Ex. 2002. My CV also includes a list of my publications.

2. I am an accomplished and globally recognized designer with experience in corporate, startup, and design consulting agencies across multiple industries, including mobile technologies.

3. I have extensive experience in full concept-to-market product design in multiple areas, including high-tech consumer goods. I was recognized as a

“Master Innovator” at Motorola- Google in 2004 and 2013 and hold 75 U.S. and International patents. For example, my innovations include the complete Motorola iDEN / Nextel product line from 2001 to 2006. I am a recipient of the prestigious Red Dot Award 2020 for Product Design and am a professional member of the U.S. National Academy of Inventors. I was also the subject of Jens Bernsen’s book, *Bionics in Action: The Design Work of Franco Lodato*, Motorola (2004).

4. Based on my work experience, described in my *curriculum vitae* and in more detail below, I am knowledgeable about wireless electronic device design and development, including the devices analyzed in this report and disclosed in the ’602 Patent.

5. I received a Bachelor of Science in Industrial Design from the Institute of Technology AJS (1984) in Caracas, Venezuela, followed by a Master of Science in Industrial Design from the Istituto Europeo di Design in Milan, Italy (1989). I also received an MIT Sloan Executive Business Certificate (2002), a Lean Six Sigma from Villanova University (2012), an honorary Ph.D. from Universidad Nueva Esparta (2016), and a Sustainability Professional Certificate from MIT (2023).

6. I have held the following academic positions: Associate Professor at the University of Montreal School of Design, Designer in Residence at the University of South Florida, Visiting Lecturer at the MIT Media Laboratory,

Research Associate at the Institute of Human and Machine Cognition, and Vice President of the Industrial Designers Society of America (IDSA), Florida Chapter.

7. I have been a named inventor on over 70 patents for innovative products in various fields, including consumer electronics, healthcare, personal grooming, luxury lifestyle, infant products, and wearables. My expertise in biomimicry and sustainability strategy applied to consumer products has earned me global recognition as a subject matter expert. As a trusted advisor, I provide consulting services to Fortune 500 companies, non-profits, and academia and serve as a strategy and growth consultant for C-suite executives.

8. I served as the Chief Designer of Integrated Digital Enhanced Network (iDEN) Technology for Motorola, Inc. in Cambridge, MA, from 1999-2005. During my time at Motorola, I established and headed product design processes for Motorola Personal Communication Systems (PCS) and later for iDEN Subscribers Group and Nextel and created overall design vision and strategy for Motorola PCS, iDEN technology portfolios (including special edition products). I also created, developed, and implemented a comprehensive product portfolio for Motorola CDMA and GSM global technologies, and conceived, designed, and developed the implementation of Sprint/Nextel's design strategy.

9. From 2005-2007, I served as the Vice President of Design Exploration and Advanced Development at Herman Miller in Holland, MI. In that role, I

spearheaded all stages of design exploration, research, and advanced development for future products and services, including integrating connectivity technologies such as Wi-Fi, Bluetooth, and radio-frequency identification (“RFID”).

10. From 2007-2009, I worked in the role of Vice President and Managing Director for Pininfarina SpA (an Italian Design Studio), in Turin, Italy and Ft. Lauderdale, FL. My responsibilities included directing the design, brand management, and business and marketing strategy for North and Latin American clients, as well as the development of numerous design products and concepts. I designed and developed several luxury project implementations for worldwide customers including Bombardier, Gulfstream, Challenger powerboats, Maserati, and Motorola.

11. From 2007-2010, I also served as the founder and Chief Creative Officer (CCO) of Bionics in Action, located in Weston, Florida. I founded this design atelier to facilitate collaboration with industry and academic partners implementing bio-design methodologies. While at Bionics in Action, I launched the Slider product with Motorola and developed handheld products using Android-based telemedicine applications in partnership with EOS Health, Motorola, Sprint/Nextel Networks, and the University of South Florida.

12. In 2010, I returned to Motorola Mobility as the Head of Product Innovation. In that role, which I held until 2013, I represented Motorola Mobility products and services for existing and new business engagements and provided support in overall project management. I also coordinated the detailed design of product components, such as the Motorola Nextel dual SIM and the first Android-based fitness watch.

13. From 2013-2015, I served as the Head of Wearable Technology for VSN Mobil Technologies Inc. (now Hoyos), in Ft. Lauderdale, FL. I developed and implemented the product platform strategy for wearable technology products through the creation and implementation of technology, in the areas of biometric health sensing and monitoring, sport dynamics, and telecommunications. Specific examples of wearable technology products include a 360-degree HD camera with 7 stack lenses and a device, system, and method for adjusting biometric sensing rate based on available energy. I also helped obtain 15 patents as a result of my work in that area, and I developed three Android and iOS Applications for wearable solutions in collaboration with Foxconn.

14. From 2015-2018, I provided product design and innovation consulting services for various consumer companies and businesses through my consulting company, Bionics in Action (now called Lodato Design). One of my clients was Skylabs in New York City, and I worked with them on projects for customers such

as Pepsi Co. Specifically, I helped explore the integration of relevant technologies into smart, connected devices, facilitated the engineering conceptualization and development of wearable and portable technologies, and delivered functional lab prototypes and IP proposals. Additionally, I have worked on individual projects, including collaborating with Prof. Walter Bender, former director and co-founder of MIT Media Lab, to implement a unique concept for an industrial design school in Wynwood, Miami.

15. Since 2017, I have been affiliated as a research associate member for the Institute for Human Machine Cognition (IHMC). My research efforts are focused on user interface design for new technologies in extreme environments (aerospace and underwater applications) using methodologies inspired by nature. Additionally, from 2018 to 2020 I worked as the Senior Vice President of Global Design for Kids2 Inc. in Atlanta, GA. I have global responsibility for industrial design, engineering, and research and development teams comprising 70 members around the globe. I leverage industrial design, user experience, research and development, and design principles to develop internal strategic growth plans.

16. From 2020 to 2023, I worked for Masimo Inc., a medical technology company in Irvine, California, as their Senior Director of Industrial Design and User Experience for their luxury products. I directed the strategic shift from B2B hospital solutions to B2C luxury wearables at Masimo, successfully redefining

brand perception and establishing the company in a competitive luxury market. I led efforts to educate consumers on medical-grade technology while differentiating products through premium materials, sustainable practices, and consumer-centric design. I formed strategic partnerships with luxury brands, created an intuitive user experience, and developed new distribution channels, effectively blending healthcare expertise with luxury market demands. I also spearheaded the launch of the Masimo Freedom Smartwatch, a flagship product showcasing the company's medical technology innovation.

17. Since 2023, I have been serving as the Senior Business and Design Advisor for Pininfarina. I developed a five-year innovation roadmap that expanded Pininfarina's presence in the U.S. by diversifying into architecture and lifestyle products, forming strategic partnerships with U.S. firms, and adapting the brand's European design language to American tastes while prioritizing sustainability and cross-industry innovation. I also mentored design teams to incorporate sustainable practices across all projects, with a focus on reducing environmental impact, innovating with eco-friendly materials, and ensuring economic viability and positioning Pininfarina as a leader in sustainable design.

A. Materials Considered

18. My opinions are based on my education, training, research, knowledge, and personal and professional experience. In connection with this report, I have reviewed the following:

- Ex. 1001 – U.S. Patent No. 9,473,602 (“the ’602 Patent”);
- Ex. 1002 – File History of the ’602 Patent;
- Ex. 1003 – Declaration of Steven Visser (“Visser” or “Ex. 1003”);
- Ex. 1004 – U.S. Patent Application Publication No. 2003/0222845 (“Nguyen”);
- Ex. 1005 – U.S. Patent No. 7,515,431 (“Zadesky”);
- Ex. 1006 – European Patent Application Publication No. 1,482,733 (“Oda”);
- Ex. 1007 – U.S. Patent No. 6,618,044 (“Gettemy”);
- Ex. 1008 – U.S. Patent Application Publication No. 2006/0121938 (“Hawkins”);
- Ex. 1010 – Haller, Design Secrets: Products 2;
- Ex. 1011 – U.S. Patent No. 7,787,618 (“the ’618 Patent”);
- Ex. 1012 – File History of the ’618 Patent;
- Ex. 1013 – File History of U.S. Patent 8,953,780;
- Ex. 1014 – File History of U.S. Patent 8,615,077;
- Ex. 1015 – V3-Razr Repair Manual, Motorola Technical Support Group;
- Ex. 1017 – Excerpts from Chris Lefteri, *Metals Materials for Inspirational Design*;

- Ex. 1018 – International Design Magazine, August 2022;
- Ex. 1019 – Innovation – Industrial Design Excellence Yearbook, Quarterly of the Industrial Designers Society of America;
- Ex. 1020 – File History of U.S. Patent 8,363,824;
- Ex. 2003 – U.S. Patent Publication No. 2004/0252220 (“Oda US Pub”); and
- Paper 1 – Petition for Inter Partes Review of U.S. Patent No. 9,473,602.

III. PERSON OF ORDINARY SKILL IN THE ART (POSITA)

19. I understand that the meanings of terms should be interpreted from the perspective of an individual with average skills in the relevant field.

20. I understand that the level of ordinary skill in the art may depend on factors such as: (A) the types of problems encountered in the field; (B) existing solutions to those problems; (C) how quickly innovations are made; (D) the complexity of the technology; and (E) the educational level of workers in the field. It's important to note that not every factor may be present in a specific situation, and some factors may be more significant than others.

21. Based on the materials and information I have reviewed and based on my experience in the technical areas relevant to the '602 Patent, a person of ordinary skill in the art at the time of the invention of the '602 Patent would have had either (1) a bachelor of science in industrial design or mechanical engineering and three years of experience designing mobile phones or (2) a master of science in

industrial design or mechanical engineering and two years of experience designing mobile phones. A person with a different degree but with additional relevant experience could still qualify if the additional experience compensates for the different educational background. A person with less experience designing mobile phones could still qualify if the person has additional education that compensates for their lesser experience.

22. I understand that Petitioner takes the position that the field of the '602 Patent is the form factor design of portable electronic devices and that a person with ordinary skill in the art would have had a (1) Bachelor's degree in industrial design, fine arts, or a similar field, and (2) at least two years of practical experience in industrial design. Additional experience can substitute for the level of education and vice-versa.

23. I acknowledge that the level of ordinary skill in the art for the Challenged Patent that I propose is similar to the definition proposed by Petitioner. I have surpassed both the Patent Owner's and the Petitioner's levels of ordinary skill in the art as of the conception date of the '602 Patent. Therefore, regardless of which level of skill in the art is applied, my analysis and conclusions in this report remain consistent.

IV. LEGAL STANDARD FOR PATENTABILITY

24. I use the legal principles below, of which counsel informed me, as a guide in formulating my opinions.

A. Claim Interpretation

25. My opinions concern what I believe the person of ordinary skill in the art would have understood the meaning of specific claim terms to be based on the patent documents.

26. I have learned that evaluating the legitimacy of a patent claim involves a two-step process. The first step entails interpreting the claim language accurately to establish its scope and significance. The second step involves comparing the properly interpreted claim to the alleged prior art to determine if the elements of the claim are satisfied by the prior art.

27. In order to understand the meaning of claim phrases, I began by carefully studying the patent. I focused on the claims themselves, followed by the background, detailed specifications, figures, and other patent content. After that, I examined the prosecution history to identify any clarifications or limitations that might be associated with claim terms. In certain cases, I also referred to other documents, such as references cited by the patent office.

28. I understand that during an inter partes review, claim terms should be interpreted based on their ordinary and customary meaning as understood by a person of ordinary skill in the relevant field, considering the entire disclosure at the

time of the invention. It's important not to interpret a specific example from the written description as part of the claim if the claim language is broader. Additionally, any special definition for a claim term must be clearly, deliberately, and precisely stated.

29. I have been informed that this standard is the same as that used in United States district courts, in which claim terms are given their ordinary and customary meaning as would be understood by a person of ordinary skill in the art at the time of the invention having taken into consideration the language of the claims, the specification, and the prosecution history of record under the *Phillips* claim construction standard.

B. Prior Art

30. It has been explained to me by Counsel that information that satisfies one of the categories of prior art outlined in 35 U.S.C. § 102 (pre-AIA) may be used in an invalidity analysis under §§ 102 or 103. If information is not classified correctly as prior art under one of the subsections of § 102 of the Patent Code, it may not form the basis of an anticipation or obviousness determination.

C. Anticipation

31. It has been explained to me by Counsel that a patent claim is invalid due to anticipation under 35 U.S.C. § 102 if each and every element of the patent claim is disclosed in a single asserted prior art reference. I am informed that such

disclosure may be either explicit or inherent. I also understand that a disclosure of an asserted prior art reference can be “inherent” if the missing element is necessarily present or is the inevitable outcome of the process and/or thing that is explicitly described in the asserted prior art reference.

32. I understand that for something to be considered as anticipatory prior art, it must also be enabling. This means that it should teach a person with average skills in that field how to create or execute the claimed invention without needing too much experimentation.

D. Obviousness

33. I have been informed that a patent claim is considered invalid under 35 U.S.C. § 103 (pre-AIA) if it would have been obvious to a person of ordinary skill in the relevant field in view of the prior art at the time the application was filed. In simpler terms, even if the claimed invention is not exactly described in a single prior art reference, a patent claim can be invalidated for obviousness if the differences between the claimed invention and the prior art are such that the overall subject matter would have been obvious at the time the invention was made to a person with ordinary skill in the relevant field.

34. I have been informed that when making a determination of obviousness, the following factors are considered: (i) determining the scope and content of the

prior art; (ii) ascertaining the differences between the prior art and the claims at issue; and (iii) resolving the level of ordinary skill in the pertinent art.

35. I understand that whether there are any relevant differences between the prior art and the claimed invention is to be analyzed from the view of a person of ordinary skill in the art at the time of the invention. For purposes of this IPR proceeding, I have used an alleged date of invention for the challenged claims of no later than March 29, 2006.

36. In analyzing the relevance of the differences between the claimed invention and the prior art, I understand that I must consider the impact, if any, of such differences on the obviousness or non-obviousness of the invention as a whole, not merely some portion of it.

37. The person of ordinary skill faced with a problem can utilize their experience and abilities to solve the problem and may also refer to any available prior art to aid in the solution.

38. I understand that a reference may be modified and/or combined with one or more other references and/or with the knowledge of one of ordinary skill in the art if such person of ordinary skill in the art would have found the modification and/or combination obvious. In other words, I understand that I do not need to look for precise teaching in the prior art directed to the subject matter of the claimed invention. I understand that I may take into account the inferences and creative steps

that a person of ordinary skill in the art would have employed in reviewing the prior art at the time of the invention.

39. In determining whether a piece of prior art could have been combined with other prior art or with other information within the knowledge of a person having ordinary skill in the art, it is my understanding that the following are examples of approaches and rationales that may be considered to support a conclusion of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of a known technique to improve similar devices, methods, or products in the same way;
- Applying a known technique to a known device, method, or product ready for improvement to yield predictable results;
- Applying a technique or approach that would have been “obvious to try” (choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success);
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to a person having ordinary skill in the art; or

- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

40. I understand that if the claimed invention combined elements known in the prior art and the combination yielded results that were predictable to a person of ordinary skill in the art at the time of the invention, then this evidence would make it more likely that the claim was obvious.

41. I understand that an invention would be considered obvious if a person with ordinary skills in the relevant field would have recognized an obvious benefit to the solutions attempted by the applicant, given the wide range of needs arising from advancements in the field. When there is a need for a design or market pressure to solve a problem and only a finite number of identified, predictable solutions exist, it would be obvious to a person with ordinary skills to try the known options. If a technique has been used to improve one device, and a person with ordinary skills in the field would recognize that it could improve similar devices in the same way, using the technique would be considered obvious.

42. I understand that a key inquiry is whether any improvement allegedly achieved by a claimed invention is more than the predictable use of prior art elements according to their established functions.

43. I understand that a claimed invention may be obvious if some teaching, suggestion, or motivation exists that would have led a person of ordinary skill in the art to combine the invalidating references. I also understand that this suggestion or motivation may come from sources such as explicit statements in the prior art, or from the knowledge of a person having ordinary skill in the art. Alternatively, any need or problem known in the field at the time and addressed by the patent may provide a reason for combining elements of the prior art.

44. I also understand that when there is a design need or market pressure, and there are a finite number of predictable solutions, a person of ordinary skill may be motivated to apply both his skill and common sense in trying to combine the known options in order to solve the problem.

45. I understand that a reason to modify or combine prior art may support an obviousness determination, provided there is a reasonable expectation of success. I further understand that whether a proposed modification or combination of the prior art has a reasonable expectation of success is determined at the time the invention was made.

46. On the other hand, if the combination of known elements yielded unexpected or unpredictable results, or if the prior art teaches away from combining the known elements, then this evidence would make it more likely that the claim that

successfully combined those elements was not obvious. I understand that hindsight must not be used when comparing the prior art to the invention for obviousness.

47. I am also aware that before concluding a claim is obvious, secondary considerations of non-obviousness, to the extent they exist, must be considered, such as: long-felt need, failure of others, copying by others, praise by others in the industry, licensing of the claimed invention, departure from accepted principles, widespread recognition by those in the art of the invention's significance, and commercial success. I understand that there must be a demonstrated nexus between the claimed invention and these secondary considerations for them to be considered.

V. OVERVIEW OF THE '602 PATENT

48. The '602 Patent, titled "Portable Electronic Device," relates generally to "form factor configuration of a portable electronic device." Ex. 1001, Cover, 1:18-21.

49. The '602 Patent recognized a desire at the time for "[u]ltra thin telephone products," and the emphasis on "mechanical thickness, allowing the feature set and industrial design to be adjusted to suit this goal." Ex. 1001, 1:23-34. The '602 Patent recognized a desire for "maintain[ing] aesthetic balance in proportions." Ex. 1001, 1:35-39.

50. The '602 Patent addresses the technological limitations associated with thickness of telephone products at the time by presenting several

embodiments of a “portable electronic device” in which different configurations provide for a reduction in thickness of the device.

51. The ’602 Patent presents solutions to the technical problem of reducing thickness in a device by providing for unique configurations of an engine section, a battery, and a user input section relative to one another. While the ’602 Patent depicts, as one example, a “flip-phone type of telephone comprising a first section 12 connected to a second section 14,” the ’602 Patent discloses that “features of the invention could be used in other types of portable electronic devices, such as a PDA or a hand-held gaming device.” Ex. 1001, 2:60-67. The ’602 Patent also discloses that “[t]he configurations shown in FIGS. 11-13 could be used in candy-bar style telephone handsets as well as flip-phone style handsets.” Ex. 1001, 5:58-60.

52. The ’602 Patent also notes that “the invention can be embodied in many alternate forms of embodiments,” and “[i]n addition, any suitable size, shape or type of elements or materials could be used.” Ex. 1001, 2:52-59.

53. The ’602 Patent discloses a “first housing member 28,” an “engine 30,” a “batter 32,” and a “user input section 34.” Ex. 1001, 3:27-32. The “first housing member 28 generally comprises a one-piece tubular member,” which “could be formed from an extruded member with holes punched into it after it is extruded.” Ex. 1001, 3:30-36.

54. The “user input section [34] generally comprises keymats 50, an EL backlight foil 52, a keymat dome sheet 54 and a keymat stiffener 56,” and “in alternate embodiments, any suitable user input section could be provided.” Ex. 1001, 3:54-62.

55. The “engine 30 generally comprises a printed circuit board, a transceiver, a processor, and a memory, among other components.” Ex. 1001, 3:63-65. The ’602 Patent discloses that “the width of the engine 30 is only about less than half the width 22 of the telephone.” Ex. 1001, 3:65-67.

56. The ’602 Patent goes on to provide additional details regarding the solutions to the technical problem of reducing thickness of the handheld device. Also shown in both FIGs. 7 and 8, the ’602 Patent shows that “[t]he battery 32 is located adjacent the lateral side of the engine 30 and is also about less than half the width 22 of the telephone.” Ex. 1001, 3:67-4:2. The ’602 Patent emphasizes the benefits of such a configuration, stating that, “[u]nlike conventional telephones which have the engine located above the battery, the configuration of the side-by-side engine/battery allows the battery and the engine to have a practical design thickness and still provide a reduced thickness 24 as compared to conventional flip-phones.” Ex. 1001, 4:2-7.

57. Underscoring the focus of the ’602 Patent on solving the problem of device thickness by way of providing a unique configuration of the battery, engine,

and user input section, the '602 Patent provides “alternate embodiments of positioning the battery relative to the engine” in FIGs. 11-13. Ex. 1001, 5:40-41.

58. The '602 Patent depicts, in FIG. 13, a configuration where the “battery 130 is about half the width of the tubular housing member 132,” and the “engine 134 comprises a portion 136 located at the lateral side of the battery 130 and another portion 138 located between the battery and the keypad 140.” Ex. 1001, 5:53-58. This configuration is consistent with a goal of the '602 Patent whereby a “split side-by-side configuration is provided” in which “the user input section is located directly opposite the battery without a substantial portion of the engine section therebetween.” Ex. 1001, 5:34-39.

59. The '602 Patent describes, with reference to FIGS. 11-13, a “one-piece metal tubular housing member 118” housing “components 112 [battery], 114 [engine], and 116 [keypad].” Ex. 1001, 5:42-48. The '602 Patent notes that “[t]he configurations shown in FIGS. 11-13 could be used in candy-bar style telephone handsets as well as flip-phone style handsets.” Ex. 1001, 5:58-60. The '602 Patent provides an example of a candy-bar style telephone handset, stating that “[c]andy-

bar shaped mobile phones can have smaller thicknesses, such as the Motorola SLIVR...” Ex. 1001, 1:31-33¹.

Ex. 1001, FIG. 13 (annotated)

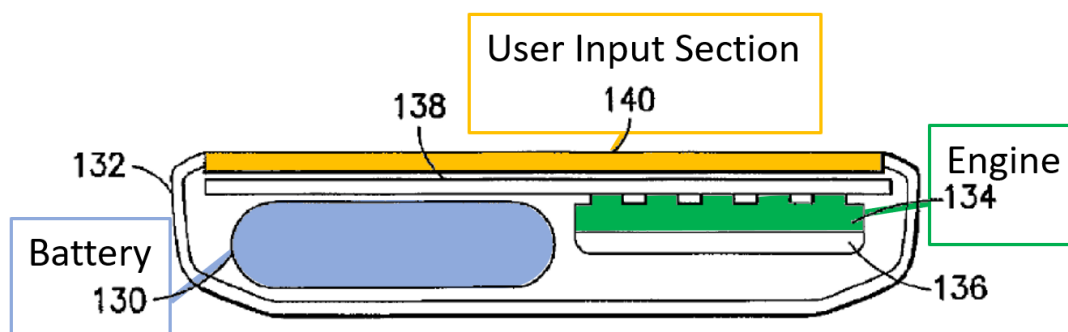


FIG. 13

60. The '602 Patent underscores that “the side-by-side positioning of the battery/engine can further allow a reduction in thickness of the handset versus conventional stacked battery/engine handsets.” Ex. 1001, 6:1-4. Therefore, invention of the '602 Patent is a novel and thinner structure than previously known or used, resulting in improved thickness reduction over prior systems.

VI. PROSECUTION HISTORY OF THE '602 PATENT

¹ It is my opinion that a person of ordinary skill in the art would have understood that reference to the “SLIVR” in the specification was a typo and intended instead to be a reference to the Motorola SLVR.

61. U.S. Patent Application No. 14/612,712 (“the ’712 application”) was filed February 3, 2015, as a continuation in a family of U.S. Patent Application No. 14/067,249 (“the ’249 application,” now U.S. Patent No. 8,953,780) filed October 30, 2013, U.S. Patent Application No. 13/741,781 (“the ’781 application,” now U.S. Patent No. 8,615,077) filed January 15, 2013, U.S. Patent Application No. 12/860,234 (“the ’234 application,” now U.S. Patent No. 8,363,824) filed August 20, 2010, and U.S. Patent Application No. 11/393,510 (“the ’510 application,” now U.S. Patent No. 7,787,618) filed March 29, 2006. Ex. 1002, pp. 2-67.

62. Claim 15 of the ’510 application was not limited to a flip-phone configuration, as it recited:

A mobile telephone, comprising:

an engine section comprising a printed circuit board, a transceiver, a processor and a memory;
a battery located adjacent the engine section; and
a user input section comprising a keypad located above the engine section and the battery, wherein the user input section is located directly opposite the battery without a portion of the engine section therebetween.

Ex. 1010, p. 23.

63. The ’712 application was filed with original claims 1-24, along with a preliminary amendment canceling claims 1-24 and presenting new claims 25-42.

Ex. 1002, pp. 20-23, 52-57. Claim 25 recited “a user input section located above

the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.” *Id.*

64. On the same day as the ’712 application was filed, the Applicant submitted an Information Disclosure Statement that contained, among several other references, U.S. Patent No 7,515,431 to Zadesky (“Zadesky”) (Ex. 1005) and documents regarding challenges to the validity of parent patent U.S. Patent No. 8,363,824. Ex. 1002, pp. 8-17.

65. A Non-Final Office Action was issued September 24, 2015, in which the Examiner identified that the “application [was] being examined under the pre-AIA first to invent provisions,” which I understand to mean that the application was governed by “pre-AIA first to invent provisions” based on its effective filing date. The Office Action issued double patenting rejections over U.S. Patent No. 8,953,780 and rejections under 35 U.S.C. §112 for antecedent basis related to “the portable electronic device” in claims 30 and 37. Ex. 1002, pp. 80-85. There was no mention of lack of written description support by the Examiner. *Id.*

66. The Applicant responded to the September 24, 2015, Office Action on December 28, 2015, with amendments to the claims to change “apparatus” in the preamble to “portable electronic device,” and amendments to the independent claims to replace “a hole through a front side of the housing” with “an opening between said exterior lateral sides of said one piece housing of the portable

electronic device.” Ex. 1002, pp. 103-112. The Applicant also added claims 43-60, including additional “portable electronic device” dependent claims and a set of claims directed to a “mobile phone.” *Id.* The Applicant asserted that the amendments overcame the double patenting rejections over U.S. Patent No. 8,953,780 and the indefiniteness rejections. *Id.*

67. A Final Office Action was issued March 31, 2016, in which the Examiner again identified that the “application [was] being examined under the pre-AIA first to invent provisions,” and maintained the double patenting rejections over U.S. Patent No. 8,953,780. Ex. 1002, pp. 667-676. The Examiner also rejected claims 36, 37, and 40 under pre-AIA 35 U.S.C. § 102(b) over “applicant’s cited reference US 2004/0252220 (Oda et al hereinafter Oda)” (“Oda US Pub”) which has a filing date of June 15, 2004 and a publication date of December 16, 2004. *Id.* The Examiner also rejected claims 36, 37, 40 and 41 under pre-AIA 35 U.S.C. § 102(b) over “applicant’s cited reference JP 2002-125031 (Hiroshi)” which appears to have a filing date of October 18, 2000 and a publication date of April 26, 2002. *Id.* The Examiner also rejected claims 38, 39 and 42 as unpatentable under pre-AIA 35 U.S.C. § 103(a) over Oda US Pub or Hiroshi. *Id.* Here, as in the previous Non-Final Office Action, the Examiner made no mention of lack of written description support. *Id.* Based on the filing and publication dates

of the cited references, the Examiner afforded the application the priority date of March 29, 2006, and never raised any concern over written description or priority.

68. The Applicant responded on May 27, 2016, with a terminal disclaimer over U.S. Patent 8,953,780 (*see* Ex. 1002, 703), and amended claim 36 to recite:

wherein the battery and engine section are configured to be housed in the housing section such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.

Ex. 1002, p. 694. The Applicant explained that paragraph [0028] of the originally-filed specification as well as Figs. 7-8 provided support for the amendment. Ex. 1002, p. 700. Paragraph [0028] of the originally-filed Specification (column 4 lines 2-7 of the '602 Patent) states:

Unlike conventional telephones which have the engine located above the battery, the configuration of the side-by-side engine/battery allows the battery and the engine to have a practical design thickness and still provide a reduced thickness 24 as compared to conventional flip-phones.

Ex. 1002, p. 46, ¶[0028]. In addition, the Applicant distinguished over the references by relying on the amended claim language, arguing that “there is no teaching or disclosure in Oda to provide the battery and engine section to be

housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.” Ex. 1002, 700. The Applicant argued the same over Hiroshi. Ex. 1002, 701.

69. In light of the amendment and arguments, a Notice of Allowance was mailed June 15, 2016. Ex. 1002, 710-734.

VII. PRIOR ART REFERENCES

A. Nguyen (Ex. 1004)

70. Nguyen, titled “Housing Configuration for Orientating a Surface Feature on a Handheld Computer,” is directed to “a handheld computer having a housing configuration that orients a surface feature.” Ex. 1004, ¶[0001].

B. Zadesky (Ex. 1005)

71. Zadesky, titled “Handheld Computing Device,” is directed to “enclosures of portable computing devices and methods of assembling portable computing devices.” Ex. 1005, 1:24-27.

C. Oda (Ex. 1006)

72. Oda, titled “Image pick-up device,” is generally directed to an “image pick-up device provided with a display portion displaying taken pictures.” Ex. 1006, ¶[0001].

D. Gettemy (Ex. 1007)

73. Gettemy is titled “Selectively Relocatable and Universal Interface Module with Circuitry for a Display Screen.” Ex. 1007, Cover.

74. Gettemy is generally directed to “a relocatable and universal interface module for a display device that can be installed in different portable computer system designs.” Ex. 1007, 1:9-13.

VIII. CLAIM CONSTRUCTION

75. I understand from Counsel that the claims are to be construed in light of the specification as would be read by a POSITA at the time the application was filed. I understand that the claim terms are given their ordinary and customary meaning as would be understood by a POSITA in the context of the entire disclosure.

76. For the purposes of this report and the arguments made herein regarding institution, I have relied on the ordinary and customary meanings of the claim terms. If instituted, I reserve the right to address constructions of the claim terms, if needed.

77. I understand that the Petition discusses possible constructions for the claimed “housing.” Petition, p. 12. While I reserve the right to address the construction of this term, if instituted, my analyses below do not change based on which interpretation of the claimed “housing” is adopted.

IX. THE PETITIONER’S ARGUMENTS

A. Ground 1 – Nguyen Does Not Render Obvious Claims 1, 11-12, and 15

78. Dr. Visser opines that Nguyen renders obvious Claims 1, 11-12, and 15 of the '602 Patent. Ex. 1003, ¶32; Petition, p. 12. I disagree for at least the following reasons.

1. **Nguyen fails to teach or suggest “a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.”**

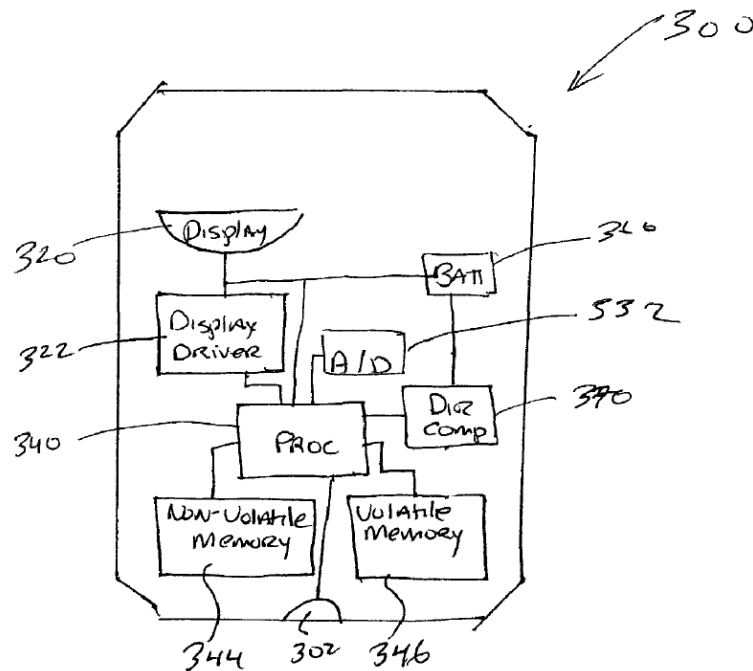
79. The Petition and Dr. Visser assert that Nguyen teaches “a user input section located above the engine section and a battery,” where “the user input section is located adjacent the battery and the engine section.” Petition, pp. 20-27; Ex. 1003, ¶¶53-59. I disagree.

80. Dr. Visser states conclusively that, because the “user input section, including the touch screen, alphanumeric input area, and buttons,” “are located on the front face,” the user input section is “above and adjacent to the internal components of the device, which include the engine section and the battery.” Ex. 1003, ¶57. But this conclusion stems from the erroneous assumption about the configuration of Nguyen’s internal components. It is my opinion that this conclusion is unsupported by Nguyen, finds no explanation in Dr. Visser’s declaration, and is not something that would have been obvious to a person of ordinary skill in the art at the time.

- (a) Nguyen is silent as to the relative locations of the internal components and, thus, does not teach a user input section that is adjacent both a battery and an engine section.

81. I disagree with Dr. Visser's assertion that any alleged "user input section" of Nguyen is "above and adjacent to" "the engine section and the battery." Nguyen is silent as to where each of the internal components of the handheld device is located relative to the other internal components. In fact, the only diagram in Nguyen that depicts the relevant components is a generic block diagram, which is not intended to depict exact placement of components. Specifically, Nguyen depicts, in FIG. 4, "a block diagram of a handheld computer," where the "handheld computer 300 includes a processor 340 coupled to a first memory 344 (non-volatile)," "a second memory 346 (volatile)," and a "display driver 322." Ex. 1004, ¶[0034]. Nguyen states that "[a] battery 360 may power multiple components with handheld computer 300." Ex. 1004, ¶[0035]. A person of ordinary skill in the art would not have understood FIG. 4 to be illustrating the placement of components within a housing or even relative to one another. Instead, FIG. 4 is a conceptual drawing illustrating various components that may be a part of the Nguyen device.

Ex. 1004, FIG. 4



82. Nguyen makes no mention of where, for example, the battery 360 is located within the handheld device relative to the display driver 322 nor the processor 340. Indeed, an interpretation of FIG. 4 involving attaching specific locations to each of the components is illogical because FIG. 4 includes “display 320,” which Nguyen describes as “a display assembly 320” that includes a “screen and digitizer.” Ex. 1004, ¶[0034]. A person of ordinary skill in the art would not have thought that the display 320 is limited to the area shown in FIG. 4 and would not have thought that the display 320 was constrained to the internal portion of the device. The person of ordinary skill in the art would have recognized that FIG. 4 depicts electrical communication between the various components of Nguyen’s

device but would not have recognized any additional information regarding the arrangement of those components. Nguyen is silent as to the configuration of its components.

83. A person of ordinary skill in the art would have further understood that the configuration of FIG. 4 was not an exact configuration of the internal components of the handheld devices because Nguyen depicts, in FIG. 4, a “directional component 370” that “may be communicatable to processor 340,” where “directional component 370 may correspond to lens 135,” and “may be provided on a slanted surface, such as on top slanted surface 140, extending between front face 110 and back 120, as shown in FIG. 2.” Ex. 1004, ¶[0036]. That is, Nguyen again depicts components in the block diagram of FIG. 4 that Nguyen explicitly discloses as being located on an exterior surface of the device and ***not internal*** to the device. Thus, as with the display 320, a person of ordinary skill in the art would not have thought that the directional component 370 of FIG. 4 was limited to the area in FIG. 4 and would not have thought that the directional component 370 was constrained to the internal portion of the device. Thus, the person of ordinary skill in the art would have understood FIG. 4 to be conceptual in nature.

84. Nguyen also appears intentional with its conceptual block diagram depiction of the internal components of the handheld device in FIG. 4. That is,

Nguyen discloses a total of four figures, including FIG. 1, FIG. 2, FIG. 3, and FIG. 4. Nguyen describes FIG. 1 as “a frontal view” of a “handheld device 100.” Ex. 1004, ¶[0022]. Nguyen describes FIG. 2 as “a back view” of a “handheld computer.” Ex. 1004, ¶[0025]. Nguyen describes FIG. 3 as “a side view” of “the handheld computer.” Ex. 1004, ¶[0029]. And then Nguyen describes FIG. 4 as “a block diagram of a handheld computer.” Ex. 1004, ¶[0034]. By referring to FIG. 4 as a “block diagram” and not with respect to any particular “view” of the handheld computer, Nguyen is intentionally not describing the specific location of the components in FIG. 4.

85. I note that, even if FIG. 4 were to be considered to depict the exact configuration of components of Nguyen which, it does not, no alleged “user input section” in FIG. 4 is not “located above” and “adjacent” both a “battery” and an “engine section” as is claimed in the ’602 Patent.

86. Accordingly, the positions of components relative to one another in FIG. 4 would not have suggested to the person of ordinary skill in the art how the components were positioned relative to one another inside the device of Nguyen. In this way, it is my opinion that Dr. Visser has failed to explain how the person of ordinary skill in the art would have recognized a teaching in Nguyen of a “user input section” that was located both above and *adjacent both* a “battery” and an “engine section.”

- (b) It would not have been obvious for the input section to be located above and adjacent to the engine section and battery.

87. Dr. Visser fails to explain why a person of ordinary skill in the art would have found it obvious to have any alleged user input section of Nguyen's handheld device located both "above" and "adjacent" both an "engine section" and a "battery." Dr. Visser glosses over the technological complexities of such an arrangement, and merely asserts that "it would have been obvious for the input section to be located above and adjacent to the engine section and battery because Nguyen teaches a compact form factor for its handheld device, where the internal components such as the engine and battery would have been in close proximity to the user input section on the front face." Ex. 1003, ¶58. Dr. Visser concludes that, "[g]iven the tight space constraints of a handheld device and the fact that Nguyen shows and describes a device with an input section covering nearly all of the front surface, it is obvious that the user input section is located above and adjacent to engine section and battery." *Id.* I disagree for several reasons.

88. I disagree with Petitioner's assertion that all components of a device are "in close proximity" to a front face of the device merely because they are part of the same device, or that a front face of the device has to be "in close proximity" to all components of the same device. Components being internal to a device, where the device has multiple, distinct, input sections on the front face would not

have led a person of ordinary skill in the art to conclude that **any** part of the front face was adjacent to any one of the components in particular (let alone that any part of the front face was adjacent **two** of the internal components). To the contrary, a person of ordinary skill in the art would have known that components could have and would have necessarily been arranged according to any number of configurations within the device at least due to technological limitations known to the person of ordinary skill in the art at the time.

89. Moreover, I disagree with Dr. Visser that Nguyen’s teaching of a “compact form factor” made it obvious that an alleged “user input section” “is located above and adjacent to” both an engine **and** a battery. Nguyen’s disclosure regarding size constraints associated with the handheld computer focuses on balancing the size of the display (i.e., length and width) and mechanical actuators that are typically placed on the same surface as the display, with the need for accommodating additional hardware components that provide additional functionalities. However, Nguyen’s disclosure regarding size constraints is silent as to device thickness and as to component placement.

90. For example, Nguyen recognizes that small sizes are “desired for handheld computers to enhance mobility.” Ex. 1004, ¶[0002]. Nguyen then identifies purported “constraints to how small a handheld computer can be for convenience of the user.” Ex. 1004, ¶[0002]. Nguyen states that “[m]ost handheld

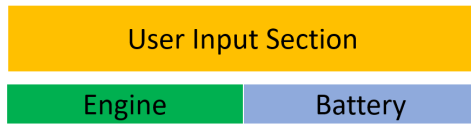
computers require a minimum size display,” and that the “minimum display size is set by balancing considerations such as mobility with the need for the user to view data, such as personal management information, pictures, and text pages.” Ex. 1004, ¶[0003]. Nguyen states that, “[f]or some handheld computers, the size of the display may also need to be large enough to provide character input mechanisms for the user.” *Id.* Nguyen goes on to state that “[t]he size of the handheld computer typically must also accommodate mechanical actuators, such as buttons or pivot switches,” and that those components “are typically placed on the same surface where the display is viewable to enable users to coordinate button actions with what is shown on the display.” Ex. 1004, ¶[0004].

91. Nguyen states that, “[a]s battery and printed circuit board technology becomes more advanced, the display size and mechanical actuators are increasingly becoming the primary factors that determine the size of the handheld computer,” noting that “[r]educing the length of the handheld computer requires sacrificing features of the display and/or buttons.” Ex. 1004, ¶[0005]. That is, Nguyen emphasizes that the display size (i.e., length and width) and mechanical actuators drive the size of a handheld computer. Nguyen does not discuss device thickness nor component placement.

92. Because of Nguyen’s disclosure regarding the display size (i.e., length and width) and mechanical actuators driving the size of a handheld computer, a

person of ordinary skill in the art would not have understood that any alleged user input section was necessarily above and adjacent any component internal to the handheld computer, let alone both a battery and an engine section. Indeed, the person of ordinary skill in the art would have understood that Nguyen sought the longest front face (i.e., for the display and mechanical actuators) possible while accommodating additional hardware components to provide additional functionalities. In order to accommodate additional hardware components to provide additional functionalities, a person of ordinary skill in the art would have understood that components were more likely stacked upon one another to fit within the form factor and preserve the functionality of the display and mechanical actuators – especially given the space needed behind the display and mechanical actuators for physical and circuit-specific components that support the display and mechanical actuators.

93. In comparison to the '602 Patent shown below, Nguyen provides no explicit teaching of where its battery, engine section, and any alleged user input section are configured relative to one another. Thus, in the comparison below, the Nguyen drawing is blank.



94. Indeed, as I explain below, the references cited by Petitioner, including Zadesky, Oda, and Gettemy, teach a stacked configuration of the battery and engine. In view of this, the person of ordinary skill in the art would have known that Nguyen's configuration was a stacked one. And, in view of Nguyen's disclosure regarding size constraints, a person of ordinary skill in the art would not have had a reason to modify Nguyen to have anything other than a stacked configuration.

95. As pointed out by the Petitioner and Dr. Visser, both Nguyen and Gettemy are directed to Palm devices. Petition, pp. 13, 90. Based on what Petitioner and Dr. Visser point out, a person of ordinary skill in the art would have thus thought the device of Nguyen had an internal configuration as disclosed in Gettemy. As I describe below, Gettemy discloses a stacked configuration. Accordingly, a person of ordinary skill in the art would have thought Nguyen had a stacked configuration of engine and battery, which does not result in a user input section that is located both above and adjacent both the battery and the engine section.

96. Finally, Dr. Visser fails to address the technological limitations at the time, which would have been well known to a person of ordinary skill in the art. For example, it was common knowledge at the time of the invention of the '602 Patent that placing a battery, or certain circuit components, too close to a display device could lead to damage to the display device. It was well understood by a person of ordinary skill in the art that batteries and various circuit components dissipated heat at high rates, making them unsuitable for placement near other heat-sensitive components, such as display devices. Additionally, it was known that display device technology was not advanced enough to withstand high rates of heat dissipation while also maintaining quality and reliability. Therefore, a person of ordinary skill in the art would have understood that placing a display device too close to a battery or particular circuit component, or both, would have resulted in degraded performance (e.g., warping or developing “hot spots”) and reduced reliability (e.g., shortened lifetime).

97. The delicate nature of circuit components was also common knowledge at the time of the invention of the '602 Patent, such that circuit components were commonly situated with a battery on the back of the device that protected the circuit components from any damage as a result of the device being dropped. Therefore, a person of ordinary skill in the art would have understood that placing a circuit component within a device without adequate protection from

drop-related damage would have resulted in significant or permanent damage to the device. The '602 Patent, recognizing this problem, provides housing members that “provide an increased strength than conventional housing designs” so that a “side-by-side positioning of the battery/engine” was possible, which also “allow[s] a reduction in thickness of the handset versus conventional stacked battery/engine handsets.” Ex. 1001, 5:61-6:4.

98. Given the knowledge possessed by a person of ordinary skill in the relevant field, it would not have been obvious, based on Nguyen, that any one of the display, alphanumeric input area, or buttons was both above and adjacent both the battery and any alleged engine section of Nguyen. Moreover, in view of the technological limitations known to the person of ordinary skill in the art, the person of ordinary skill in the art would not have been motivated to modify the stacked configuration of Nguyen to be a side-by-side configuration because such a configuration may have led to damage to Nguyen’s components.

2. Nguyen fails to teach or suggest “an engine section comprising a printed circuit board, a transceiver, a processor and a memory,” where the “user input section” is adjacent both a battery and the engine section.

99. Dr. Visser’s incomplete and failed analysis is underscored by Dr. Visser having further overlooked Nguyen’s teachings regarding the location of a wireless communication transmitter and wireless communication receiver. That is, I disagree with Dr. Visser’s assertion that “Nguyen teaches an engine section

comprising a printed circuit board, a transceiver, a processor and a memory” that leads to the conclusion that Nguyen teaches a “user input section” that is above and adjacent both a battery and the engine section. Ex. 1003, ¶50.

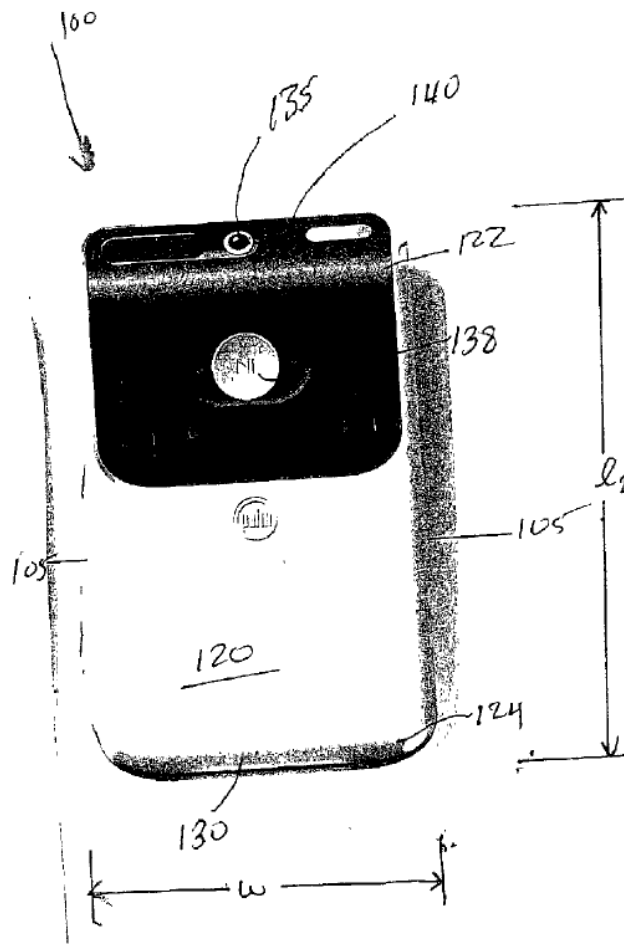
100. Dr. Visser asserts that “Nguyen further teaches that an engine section comprises a transceiver, for example, through its teaching that the handheld computer includes ‘a wireless communication transmitter’ and a ‘wireless communication receiver,’” citing to ¶39 of Nguyen, concluding that “[s]ince the device in Nguyen can both transmit and receive wireless communication, the device includes a transceiver, which is part of the engine section.” Ex. 1003, ¶50. However, Dr. Visser’s conclusory statements fail to account for the explicit teachings of Nguyen regarding the specific locations of a “wireless communication transmitter” and a “wireless communication receiver.”

101. Nguyen discloses that any “wireless communication transmitter” and “wireless communication” receiver is located on one of the slanted surfaces of the device, where the slanted surfaces are on the exterior of the device. *See* Ex. 1004, ¶[0039], Cls. 1, 3.

102. Nguyen states that surface features are located on the slanted surfaces. For example, in FIG. 2, Nguyen depicts a back view of a handheld computer or device 100. Ex. 1004, ¶[0025]. A “top slanted surface 140 may extend from back face 120 towards front face 110,” where “the top slanted surface 140 may be

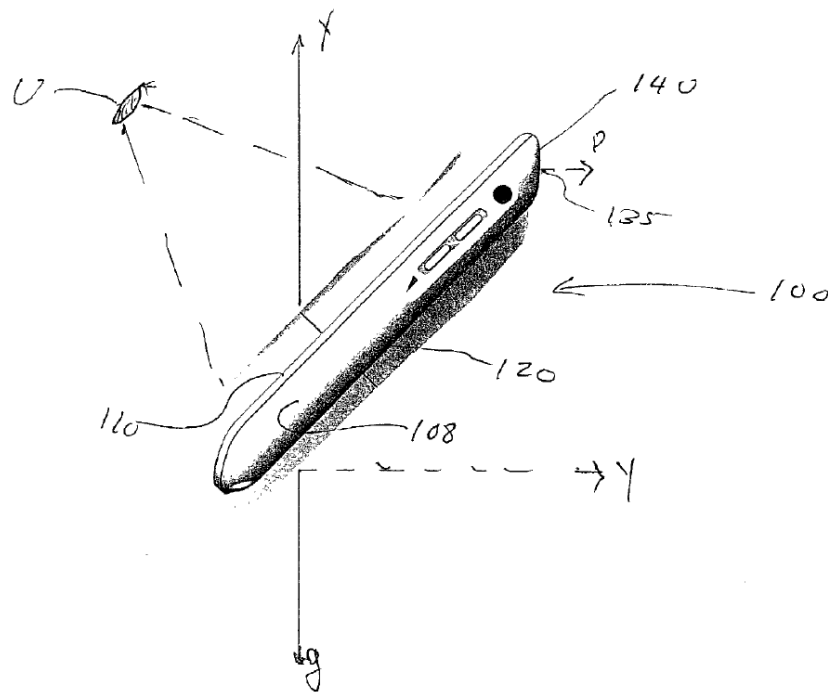
unitarily formed as part of the housing that includes back face 120.” Ex. 1004, ¶[0026]. A “directional surface feature” “may be provided on the top slanted surface 140,” and in FIG. 2, the “surface feature corresponds to a lens 135.” Ex. 1004, ¶[0027].

Ex. 1004, FIG. 2



103. Nguyen depicts, in FIG. 3, a “side view of the handheld computer.” Ex. 1004, ¶[0029]. Lens 135 can be seen on the exterior of the top slanted surface of the handheld computer in FIG. 3.

Ex. 1004, FIG. 3



104. Nguyen defines a wireless communication transmitter and a wireless communication receiver as a surface feature. For example, Nguyen explains that, while the embodiments described the use of “lens 135 as a surface feature on one of the slanted surfaces of handheld computer 100, other embodiments may use other components that are operationally affected by a direction in which that component is oriented,” including “examples of surface features that are affected by directional placement,” which are “a microphone, a light-beam projecting device, *a wireless communication transmitter, and a wireless communication receiver.*” Ex. 1004, ¶[0039]. To be clear, Nguyen discloses a “wireless

communication transmitter” and a “wireless communication receiver” as examples of “surface feature” components that are operationally affected by a direction in which the component is oriented, and the surface features are disclosed as being on an exterior surface of Nguyen’s device.

105. Dr. Visser fails to account for the additional disclosure in Nguyen that specifically places the “wireless communication transmitter” and the “wireless communication receiver” on an exterior surface of the device. Claim 1 of Nguyen is directed to a “handheld computer,” that comprises “a housing have a front face and a back face,” “at least a first surface extending between the front face and the back face,” where “the first surface [is] acutely angled with respect to at least one of the front face and the back face.” Ex. 1004, Cl. 1. The “handheld computer” of claim 1 also comprises “a component disposed at least partially on the first surface,” where the “component [is] operationally affected by a direction in which the component is oriented.” *Id.* Claim 3 of Nguyen further defines the “component” to be “selected from a group of devices consisting of a microphone, a light-beam projecting device, a wireless communication transmitter, and a wireless communication receiver.” Ex. 1004, Cl. 3. That is, Nguyen underscores that a wireless communication transmitter or a wireless communication receiver is disposed at least partially on a first surface that extends between the front face and the back face.

106. Dr. Visser provides no explanation for why a person of ordinary skill in the art would have concluded that the wireless communication transmitter or wireless communication receiver, which would be disposed at least partially on an exterior surface of the device, would be part of an “engine section,” let alone how or why the person of ordinary skill in the art would have concluded that such an engine section (i.e., comprising a printed circuit board, a transceiver, a processor, and a memory) would have been positioned within the device relative to any alleged user input section and battery in the manner required by the claims.

B. Ground 2 – Nguyen, Zadesky, and Oda Do Not Render Obvious Claims 1-7, 9-13, 15-28, 30-34, and 36

107. I understand that the Petition and Dr. Visser introduce Zadesky and Oda in Ground 2, arguing that a person of ordinary skill in the art would have been motivated to combine the teachings of the Nguyen, Zadesky, and Oda references to arrive at the claimed invention of the ’602 Patent. Petition, pp. 33-35. Not only do I disagree that the person of ordinary skill in the art would have been motivated to combine, or had a reasonable expectation of success in combining Nguyen, Zadesky, and Oda, Zadesky and Oda, like Nguyen, fail to teach or suggest the claimed configuration of components of the ’602 Patent.

108. As I explain above, Nguyen fails to teach or suggest a user input section that is both located above the engine section and a battery and located adjacent the battery and engine section. I understand that the Petitioner and Dr.

Visser rely on Zadesky to “reinforce[] Nguyen’s teaching regarding” “a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.” Ex. 1003, ¶146. Zadesky fails to provide such a teaching or suggestion at least because Zadesky teaches a stacked configuration. While Oda is not relied upon for a teaching of such features, I nonetheless address its shortcomings below.

1. **Zadesky fails to teach or suggest “a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.”**

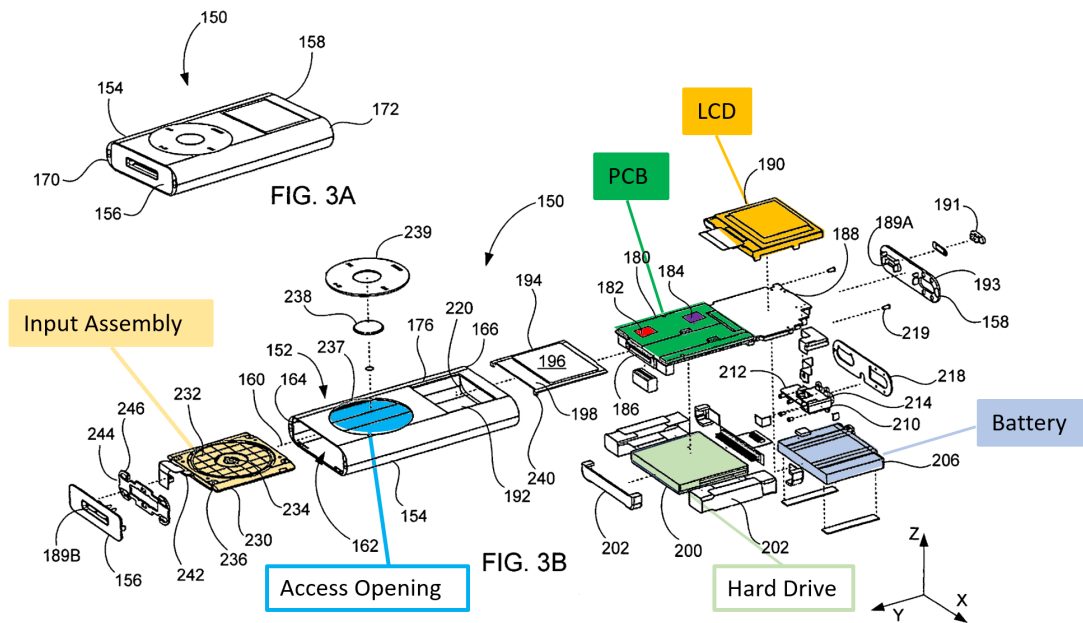
109. I understand that the Petition and Dr. Visser rely on Zadesky for alleged reinforcement of Nguyen’s purported teaching of a “user input section” that is both (1) “located above the engine section and a battery,” and (2) “located adjacent the battery and the engine section.” Ex. 1003, ¶146.

110. Not only does Zadesky fail to provide such a teaching, Zadesky explicitly discloses a different configuration of its internal components. Indeed, Zadesky discloses a stacked configuration of engine and battery.

111. Zadesky’s configuration of internal components precludes an input section being positioned above any circuitry and battery while also being adjacent both the circuitry and battery. Specifically, Zadesky discloses a hand held computing device, with diagrams depicting the device shown in FIGs. 3A and 3B (reproduced and annotated below). Ex. 1005, 11:36-43. The exploded view shown

in FIG. 3B demonstrates that, in the hand held computing device of Zadesky, an input assembly (shown in peach) is positioned in a lower half of the device so that access to the input assembly can be provided via an access opening (shown in turquoise). See Ex. 1005, 15:14-27, 15:37-40.

Ex. 1005, FIGs. 3A, 3B (annotated)



112. The internal components also include a printed circuit board 180 (or PCB; shown in green) that may include “a microprocessor 182, memory 184, a data port 186, and a switch 188.” Ex. 1005, 12:34-40. A “display 190 such as for example a liquid crystal display” or LCD is “mounted to the PCB 180” or floating. Ex. 1005, 12:49-63. As shown in the exploded view in FIG. 3B, after the PCB is guided into the body of the hand held device, the PCB appears to be positioned

behind or underneath the input assembly; the PCB also appears to be positioned behind the LCD.

113. The internal components also include a “**hard drive 200**” that is “located at the rear of the printed circuit board.” Ex. 1005, 13:17-36. The internal components also include a “**battery 206**” “which is located at the rear of the printed circuit board 180,” for example, attached to the backside of the PCB.” Ex. 1005, 13:37-49. That is, as is shown in the exploded view of FIG. 3B, once assembled, the battery of the handheld device is located underneath the PCB and in an upper portion (toward the top end) of the handheld device while the input assembly is located above the PCB and in a lower portion (toward the bottom end) of the handheld device. To be clear, the input assembly is located in a different end of the handheld device from the battery, and is located on an opposite side of the PCB from the battery. Thus, Zadesky’s configuration places any alleged engine section in a stacked configuration with the battery.

114. As is depicted in the comparison below, Zadesky discloses an entirely different configuration of components as compared to what is claimed in the ’602 Patent. Indeed, the “stacked battery/engine” configuration is specifically distinguished by the ’602 Patent, as the ’602 Patent explains that “the side-by-side positioning of the battery/engine can further allow a reduction in thickness of the handset versus conventional stacked battery/engine handsets.” Ex. 1001, 6:1-4. The

'602 Patent instead claims a user input section that is located both above and adjacent both a battery and an engine section.

See, e.g., Ex. 1001, Cls. 1, 15, 22; Ex. 1005, FIG. 3B



115. In view of Zadesky's explicit disclosure regarding the configuration of its internal components, and Zadesky's silence as to the claimed engine section, Zadesky fails to provide any teaching or suggestion of the claimed configuration of components. Therefore, it is my opinion that a person of ordinary skill in the art would not have found it obvious that Zadesky provided the uniquely claimed configuration in the '602 Patent and, therefore, Zadesky does not cure the defects of Nguyen.

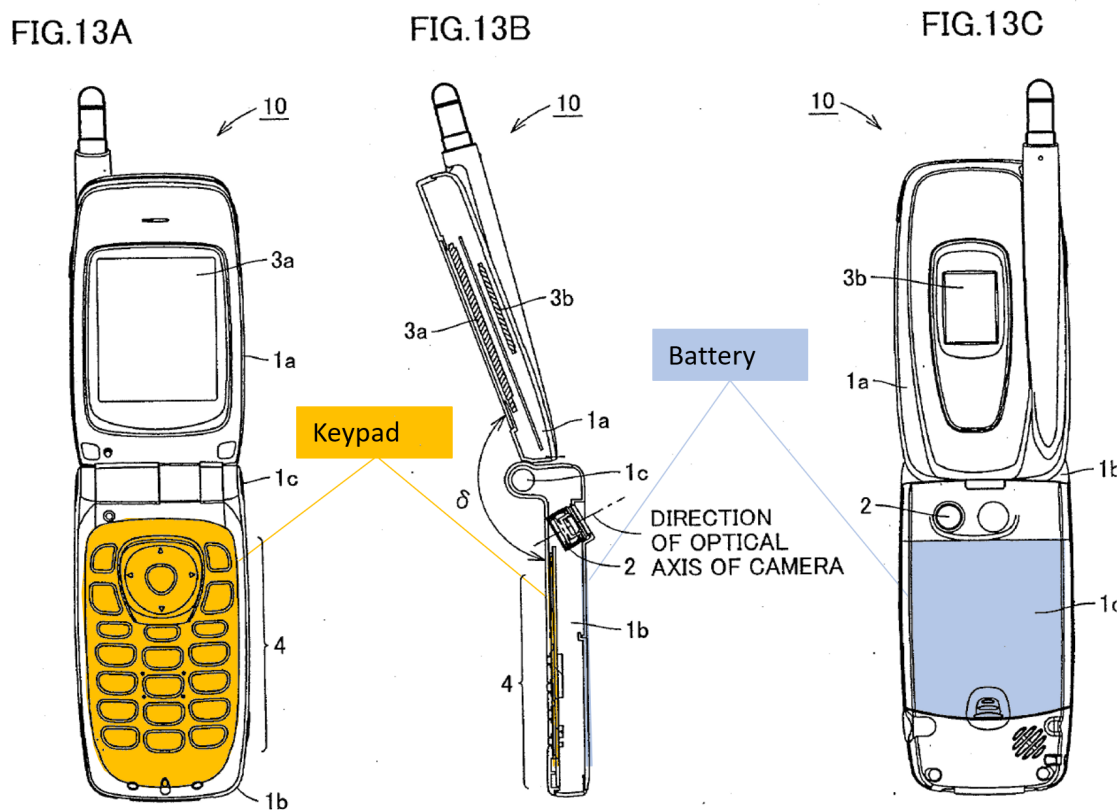
2. **Oda fails to teach or suggest “a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.”**

116. Like Zadesky, Oda fails to teach or suggest the unique configuration of components as claimed and taught by the '602 Patent.

117. While Oda is silent as to the internal configuration of its components (e.g., battery, microprocessor, etc.), Oda at least depicts a front view, side view, and rear view of various embodiments of its camera-equipped portable device.

118. For example, Oda depicts an example embodiment with reference to FIGs. 13A, 13B, and 13C (reproduced below). Ex. 1006, ¶¶[0077-0081].

Ex. 1006, FIGs. 13A, 13B, 13C (annotated)

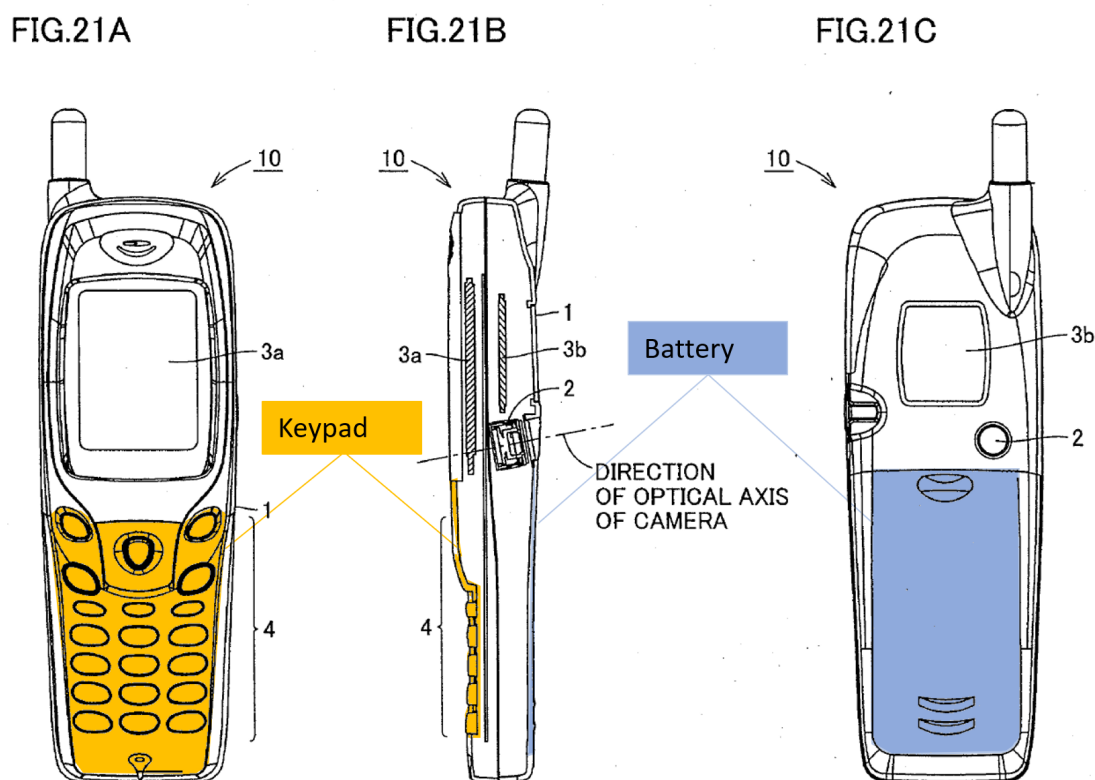


119. In FIG. 13A, Oda depicts a keypad (annotated in orange) that is on a front surface of the lower portion of the body of Oda's device. In FIG. 13C, Oda depicts a rear of the lower portion of the body of Oda's device, and, as annotated in

blue, a person of ordinary skill in the art would have understood that a battery was positioned on the rear of the lower portion of the device body. FIG. 13B, as annotated, shows that the keypad is on the front surface and the battery is positioned on the rear of Oda's device.

120. Oda depicts another example embodiment, shown in FIGs. 21A, 21B, and 21C (reproduced below). Ex. 1006, ¶¶[0099-0101].

Ex. 1006, FIGs. 21A, 21B, 21C (annotated)



121. In FIG. 21A, Oda depicts a keypad (annotated in orange) that is on a front surface of the lower portion of the body of Oda's device. In FIG. 21C, Oda

depicts a rear of the lower portion of the body of Oda’s device, and, as annotated in blue, a person of ordinary skill in the art would have understood that a battery was positioned on the rear of the lower portion of the device body. FIG. 21B, as annotated, shows that the keypad is on the front surface and the battery is positioned on the read of Oda’s device.

122. As depicted in the comparison below, Oda discloses an entirely different configuration of components as compared to what is claimed in the ’602 Patent. Indeed, the “stacked battery/engine” configuration is specifically distinguished by the ’602 Patent, as the ’602 Patent explains that “the side-by-side positioning of the battery/engine can further allow a reduction in thickness of the handset versus conventional stacked battery/engine handsets.” Ex. 1001, 6:1-4. The ’602 Patent instead claims a user input section that is located both above and adjacent both a battery and an engine section.

See, e.g., Ex. 1001, Cls. 1, 15, 22; Ex. 1006, FIGs. 13A-13C, 21A-21C



123. Because the person of ordinary skill in the art would have understood that Oda's device includes a keypad on a front surface and a battery on the rear of the device, and that the keypad and battery were separated by other components in Oda's device, the person of ordinary skill in the art would have understood that Oda's keypad is not located both above and adjacent both Oda's battery and any alleged engine section of Oda.

124. Accordingly, Oda does not teach or suggest the unique configuration of components as claimed and taught by the '602 Patent.

C. Ground 3 – Nguyen, Zadesky, Oda, and Gettemy Do Not Render Obvious Claims 1-36

125. I understand that the Petition and Dr. Visser introduce Gettemy in Ground 3 in an attempt to cure the above-described defects of Nguyen, Zadesky, and Oda, with respect to the unique configuration of components as claimed and taught by the '602 Patent. Petition, pp. 90-91, 96-97. Gettemy, like the other references, fails to teach or suggest the uniquely claimed configuration of components of the '602 Patent because Gettemy, in fact, teaches a stacked configuration, as I detail below.

1. **Gettemy fails to teach or suggest “a user input section located above the engine section and a battery, wherein the user input section is located adjacent the battery and the engine section.”**

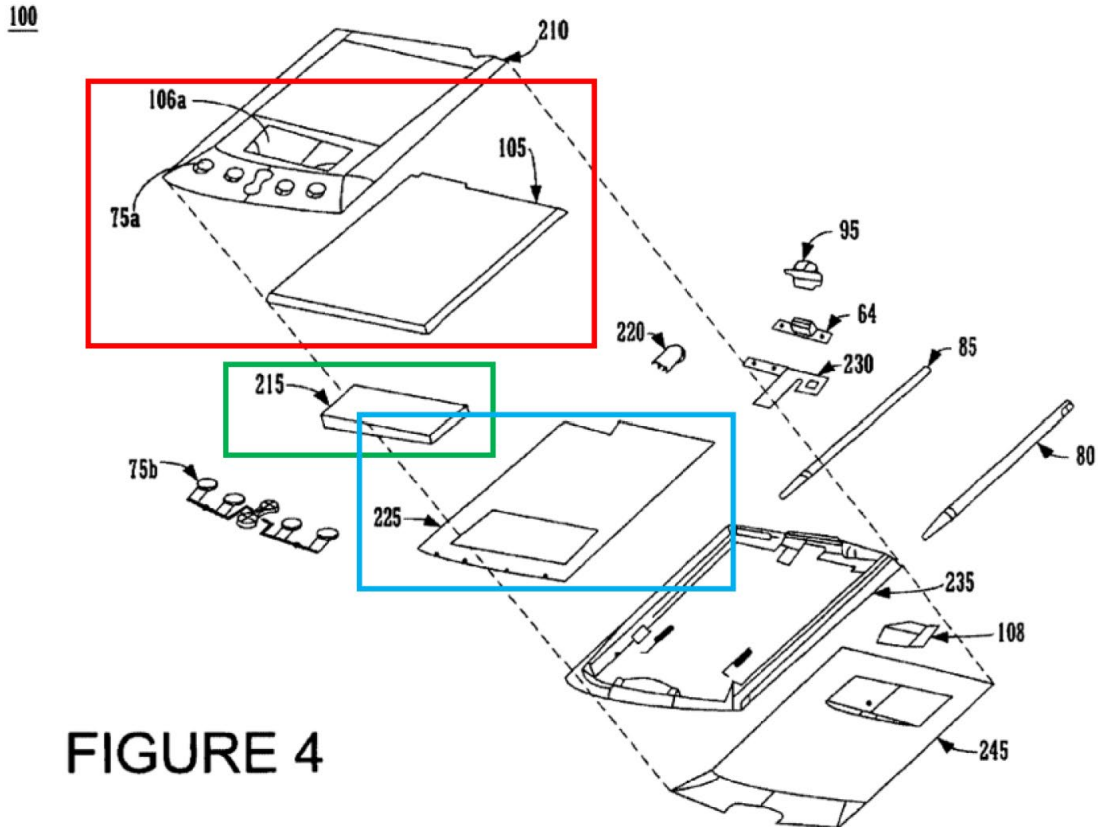
126. In each of the several embodiments described and depicted in Gettemy, a single “user input section” is not located above any engine section and battery, and *also* located adjacent both the battery and engine section. Indeed, Gettemy teaches a stacked configuration of engine and battery.

127. In FIG. 4, Gettemy depicts an exploded view of the portable computer system, in which the “flat panel display device 105” “fits into front cover 210,” a “battery 215 provides electrical power,” and the system includes a “flexible circuit 230” and a “printed circuit (PC) board 225 containing electronics and logic (e.g., memory, communication bus, processor, etc.). Ex. 1007, 5:37-54. In the embodiment shown in FIG. 4 of Gettemy, the display device 105 appears to be positioned onto PC board 225, with battery 215 also positioned on the PC board 225, where the display device 105 is not above and adjacent battery 215.

128. Petitioner annotated FIG. 4 to allege that the “touch screen display 105” (shown in red) is the user input section, battery 215 (shown in green) is the battery, and PCB 225 (shown in blue) is the alleged engine section. Petition, pp. 96-97. I’ve reproduced Petitioner’s annotated version of FIG. 4 below. According to Gettemy and Petitioner’s annotations, the alleged user input section (105, red) is positioned on the alleged engine section (PCB, blue) next to battery 215 (green). Accordingly, the battery is in a stacked configuration with the alleged engine

section, and the alleged user input section is not located *both* above and adjacent the battery.

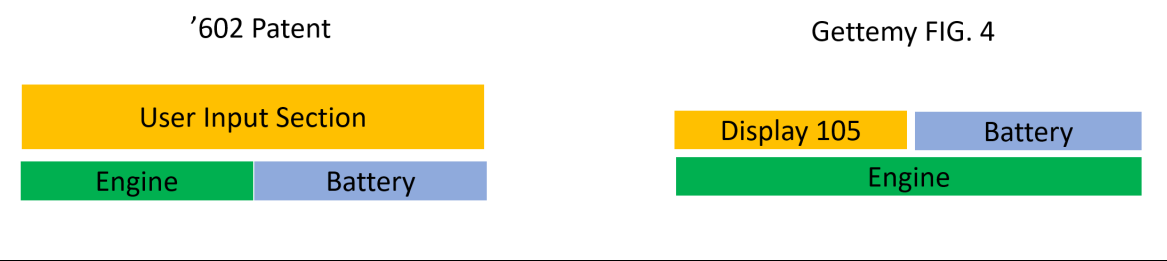
Ex. 1007, FIG. 4 (annotated by Petitioner)



129. As depicted in the comparison below, Figure 4 of Gettemy discloses an entirely different configuration of components as compared to what is claimed in the '602 Patent. Indeed, the “stacked battery/engine” configuration is specifically distinguished by the '602 Patent, as the '602 Patent explains that “the side-by-side positioning of the battery/engine can further allow a reduction in

thickness of the handset versus conventional stacked battery/engine handsets.” Ex. 1001, 6:1-4. The ’602 Patent instead claims a user input section that is located both above and adjacent both a battery and an engine section.

See, e.g., Ex. 1001, Cls. 1, 15, 22; Ex. 1007, Figure 4



130. FIG. 4 of Gettemy does not indicate to the person of ordinary skill in the art that the display device 105 is located both above and adjacent battery 215, Gettemy explains that “alpha-numeric device 106” has “holes 75a for receiving buttons 75b.” Ex. 1007, 5:39-40. Based on the depiction in FIG. 4 where the “buttons 75b” are forward and away from the “holes 75a,” a person of ordinary skill in the art would not have considered FIG. 4 to be an exact depiction of how the components of FIG. 4 assembled. Accordingly, a person of ordinary skill in the art would not have viewed FIG. 4 and thought the display device 105 was above and adjacent battery 215 in the assembled configuration. Moreover, because battery 215 is positioned on the alleged engine section (PCB), a person of ordinary skill in the art would have understood that Gettemy’s device had a stacked configuration of battery and alleged engine section regardless of what is alleged to be the user input section.

131. In FIG. 8A, Gettemy shows a back or bottom side of the display device 105 in another embodiment. In the embodiment in FIG. 8A, the “interface module 620 is positioned in a location behind (below) display device 105 and coupled to interface module 620 using first flexible circuit 630.” Ex. 1007, 9:17-27. In this manner, space is available “adjacent to display device 105, and thus a component 820 (e.g. a battery) can be installed in the available space.” *Id.*

132. Petitioner annotated FIG. 8A to allege that the display device 105 (the alleged user input section, red) is “located directly adjacent the battery and the engine section.” Petition, pp. 97-98. I’ve reproduced FIG. 8A as annotated by Petitioner below.

Ex. 1007, FIG. 8A (annotated by Petitioner (Petition, p. 98))

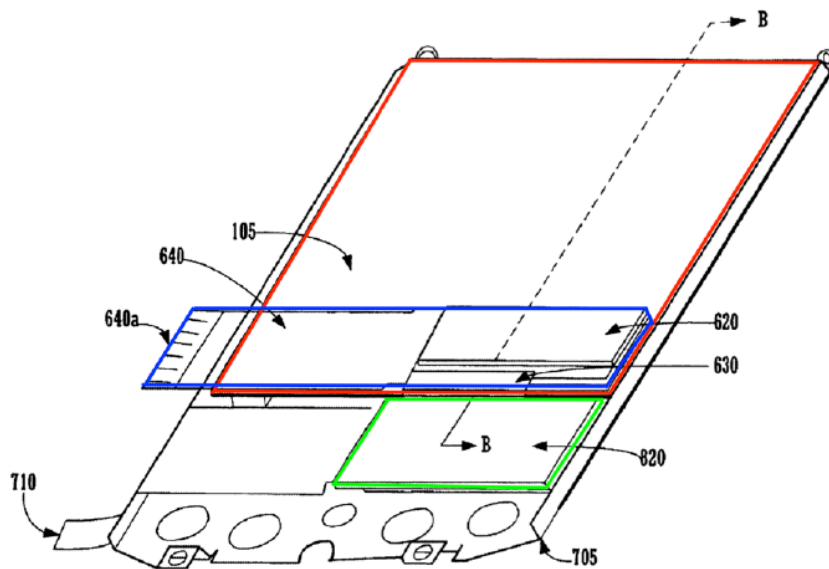


FIGURE 8A

133. As can be seen in FIG. 8A, the alleged user input section (display device 105, red) is not both above and adjacent the battery 820 (highlighted in green by Petitioner). Accordingly, a person of ordinary skill in the art would have concluded that Gettemy’s display device 105 (red) is not located *both* above and adjacent the battery 820 (green).

134. As depicted in the comparison below, FIG. 8A of Gettemy, as alleged by Petitioner, discloses a user input section (display device 105, according to Petitioner), that is not located both above and adjacent both the battery 820 and the alleged engine section (flexible circuit, according to Petitioner). The ’602 Patent instead claims a user input section that is located both above and adjacent both a battery and an engine section.

See, e.g., Ex. 1001, Cls. 1, 15, 22; Ex. 1007, FIG. 8A



135. It is my opinion that, in view of the disclosure of Gettemy, including the various embodiments depicted and described in Gettemy, a person of ordinary skill in the art would not have found it obvious that any single “user input section” in Gettemy’s device was positioned above a battery and any alleged engine section,

and was also positioned adjacent to both the battery and the alleged engine section, in the manner disclosed and claimed in the '602 patent.

D. The stacked configuration is disclosed by references distinguished in prosecution.

136. The Applicant distinguished over the Oda US Pub and Hiroshi references in prosecution, arguing that there is not a teaching or disclosure in either to “provide the battery and engine section to be housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.” Ex. 1002, 700-701. It is my opinion that both Oda US Pub and Hiroshi disclose a stacked configuration like Nguyen, Gettemy, Zadesky, and Oda.

137. U.S. Pub. No. 2004/0252220 (“Oda US Pub”) (Ex. 2003) and JP 2002-125031 (“Hiroshi”) (Ex. 1002, pp. 377-386 (Japanese), 387-400 (English)) were cited by the Applicant in an IDS and subsequently relied on by the Examiner in a March 31, 2016, Final Office Action. Ex. 1002, pp. 670-674.

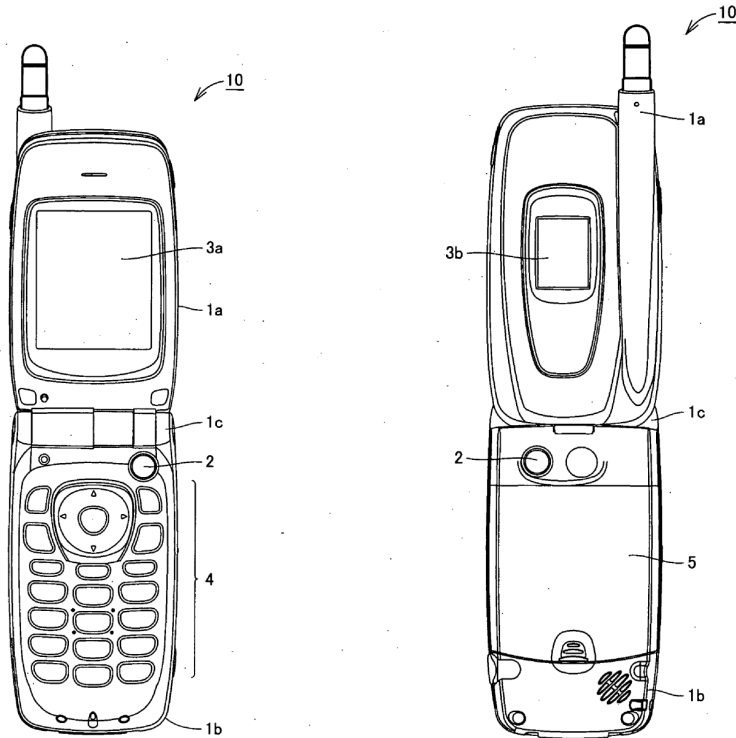
138. Oda US Pub bears substantial similarity to the Oda reference relied upon in Petitioner’s second and third grounds, and discloses a “foldable portable instrument with camera,” where a “plurality of input buttons 4” is arranged on one side of the device, while the “battery cover 5” is arranged on the other side of the device. Ex. 2003, ¶¶[0026], [0033]. That is, because the input buttons are on the front and the battery is on the back of the device in Oda US Pub, Oda US Pub

teaches a stacked configuration of battery and engine such that the input buttons are not above and adjacent the battery as well as the engine.

Ex. 2003, FIGs. 1, 4

FIG.1

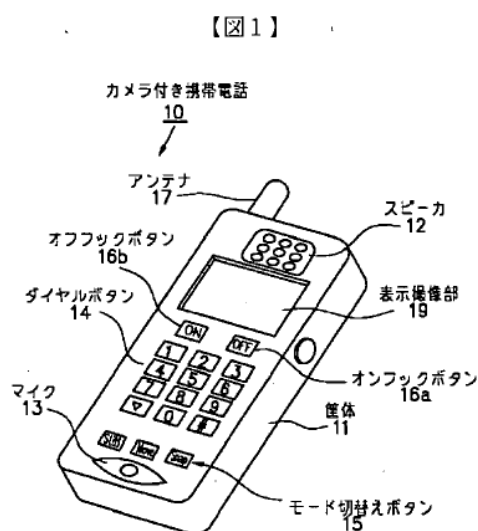
FIG.4



139. As I explained above, the Applicant distinguished Oda US Pub in its response to the March 31, 2016 Final Office Action, arguing “there is no teaching or disclosure in Oda to provide the battery and engine section to be housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the battery and the engine section.” Ex. 1002, p. 700. The Examiner subsequently allowed the application. Ex. 1002, pp. 710-734.

140. Hiroshi also teaches a stacked configuration of battery and engine such that the input buttons are not above and adjacent the battery as well as the engine. Hiroshi teaches a “camera cell phone 5” with a “display part 6c” and a “numeric keypad 6d,” where the “numeric keypad 6d” is arranged on a front of the device. Ex. 1002, p. 389 (Hiroshi, ¶[0005]).

Ex. 1002, p. 384 (Hiroshi, Fig. 1)



141. As I explained above, the Applicant also distinguished Hiroshi in its response to the March 31, 2016 Final Office Action, stating that “there is no teaching or disclosure in Hiroshi to provide the battery and engine section to be housed in the housing such that the user input section is located above the engine section and the battery, and wherein the user input section is located adjacent the

battery and the engine section.” Ex. 1002, p. 701. The Examiner subsequently allowed the application. Ex. 1002, pp. 710-734.

142. Petitioner states that Nguyen and Gettemy are directed to Palm devices. Petition, pp. 13, 90. Several Palm-related references were cited in Information Disclosure Statements by the Applicant and considered by the Examiner during prosecution of the ’602 Patent. Ex. 1002, pp. 11-13, 89-91. I’ve reproduced the IDS marked as considered below, with annotations to highlight where Palm-related art was submitted. *Id.*

Ex. 1002, p. 89 (annotated)

INFORMATION DISCLOSURE CITATION FORM FOR PATENT APPLICATION (FORM PTO-1449) (Substitute)		Docket No. 891.0013.U5(US)		Serial No.: 14/612712	
		Applicant(s): Claus H. Jorgensen		Filing Date: herewith	
		Group: 2656			
U.S. PATENT DOCUMENTS					
Examiner Initials	Document Number (Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name of Patentee or Applicant	Class	Sub-class
	US-				
	US-				
	US-				
	US-				
FOREIGN PATENT DOCUMENTS					
Examiner Initials	Document Number (Country Code-Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name Of Patentee of Applicant	Translation? Yes/No/n/a	
	- -				
	- -				
	- -				
OTHER DOCUMENTS (Author (Capitalize), Title, Date, Pages, Etc., if known)					
Fadell, Tony, "Apple seriously considered building an iPhone with hardware keyboard", MAC Daily News, April 30, 2012, 13 pgs.					
"Getting Started", Zire™ 31, Palm One, Inc., 2003, 104 pgs.					
"palmOne Zire 31 Review", Brighthand Smartphone News & Review, April 27, 2004, 4 pgs.					
"Repairing TomTom ONE Back Cover", Fixit, 2003, 4 pgs.					
"Sendo M550 Manual, CE0168" Sendo, 2003, 50 pgs.					
"User Guide for the Kyocera SoHo Phone", Kyocera 82K5867-1EN, Rev. 002, 2004, 59 pgs.					
"Sprint PCS Vision Phone VI-3155i by okia", Sprint PCS® Service, Sprint 2005, 208 pgs.					
"The Birth of the iPhone – Excerpt from Jony Ive: The Genius Behind Apple's Greatest Products", Kahney, Leander, January 7, 2014, 30 pgs.					
"Motomanual V176 GSM", Motorola, 2006, 77 pgs.					
"Operating Instructions X800 Symbian OS Smartphone, Panasonic, 2005, 194 pgs.					
"Meet the Nokia N72: the Multimedia Computer that Looks as Good as It Performs", Press Release, April 2006, 2 pgs.					
"Microsoft and Nokia Collaborate to Help Ensure Consumers Can Enjoy Digital Music Anywhere", Press Release, February 14, 2005, 2 pgs.					
"Multifunctional Mobiles Make the World Go Round", Press Release, June 6, 2006, 4 pgs.					
"Nokia 3250: A music phone with a twist", Press Release, September 27, 2005, 2 pgs.					
"Nokia Announces Convergence Devices for Mobile TV and the Digital Home at Nokia Mobility Conference 2005", PRNewswire, Barcelona, Spain, 2005, 3 pgs.					
"Nokia Launches Mobile Music Solution for Operators Worldwide", Nexus 5, February 14, 2005, 3 pgs.					
"Nokia N90 voted European Media Phone of the Year", Press Release, August 16, 2005, 2 pgs.					
"The world's first integrated DVB-H mobile device makes prime time any time", Press Release, November 2, 2005, 3 pgs.					
"Two Nseries multimedia devices receive prestigious commendation from Popular Science magazine", Press Release, November 8, 2005, 3 pgs.					
"Part of the Nokia Nseries high performance multimedia range, the Nokia N90 brings Carl Zeiss optics into the mobile arena", Press Release, April 27, 2005, 4 pgs.					
Examiner's Signature: /Tuan Nguyen/			Date Considered: 09/18/2015		
Initial if reference was considered, whether or not citation is in conformance with MPEP. Mark through citation if not considered. Include a copy of this citation form with your next correspondence to the Applicant(s).					

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

Ex. 1002, p. 91 (annotated)

INFORMATION DISCLOSURE CITATION FORM FOR PATENT APPLICATION (FORM PTO-1449) (Substitute)		Docket No. 891.0013.U5(US)		Serial No.: 14/612712	
		Applicant(s): Claus H. Jorgensen		Filing Date: herewith	
		Group: 2656			
U.S. PATENT DOCUMENTS					
Examiner Initials	Document Number (Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name of Patentee or Applicant	Class	Sub-class
FOREIGN PATENT DOCUMENTS					
Examiner Initials	Document Number (Country Code-Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name Of Patentee of Applicant	Translation? Yes/No/n/a	
OTHER DOCUMENTS (Author (Capitalize), Title, Date, Pages, Etc., if known)					
	Blackberry 857 – Enterprise Edition – Blackberry Series Specifications, Blackberry 857 launched November 2000, document retrieved 5/30/2014 from http://www.cnet.com/products/blackberry-857-enterprise-edition-blackberry-series/ , 3 pages				
	Blackberry 957 – Enterprise Edition – Blackberry – 5MB Series Specifications, Blackberry 957 launched November 2000, document retrieved 5/30/2014 from http://www.cnet.com/products/blackberry-957-enterprise-edition-blackberry-series/ , 2 pages				
	Zire 31. (2013, December 20). In Wikipedia, The Free Encyclopedia. Retrieved 14:47, May 30, 2014, from http://en.wikipedia.org/w/index.php?title=Zire_31&oldid=586990828 , 3 pages				
	Zire 72. (2013, March 12). In Wikipedia, The Free Encyclopedia. Retrieved 14:49, May 30, 2014, from http://en.wikipedia.org/w/index.php?title=Zire_72&oldid=543613308 , 3 pages				
	Motorola Razr. (2014, May 29). In Wikipedia, The Free Encyclopedia. Retrieved 14:52, May 30, 2014, from http://en.wikipedia.org/w/index.php?title=Motorola_Razr&oldid=610567906 , 12 pages				
	Jony Ive : the genius behind Apple's greatest products [Summary], Book published November 2013, Summary retrieved May 30, 2014, from http://lccn.loc.gov/2013037927 , 2 pages				
	Photographic images of iPod Mini with cover removed, iPod Mini announcement: January 6, 2004, iPod Mini released on February 20, 2004, 1 page				
	Photographic images of Palm One Zire 31 (front/back, and with cover removed), Palm One Zire 31 released: April 2004, 1 page				
	Photographic images of iPod Nano (front/back, and with cover removed), iPod Nano released: September 2005, 1 page				
	Photographic images of Nokia 9300 (front/back, and with cover removed), Nokia 9300 announcement: 2004, Nokia 9300 launched 2004-2005, 1 page				
Examiner's Signature: /Tuan Nguyen/			Date Considered: 09/18/2015		
Initial if reference was considered, whether or not citation is in conformance with MPEP. Mark through citation if not considered. Include a copy of this citation form with your next correspondence to the Applicant(s).					

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

143. I also provide below the IDS marked as considered by the Examiner in which Zadesky (Ex. 1005, U.S. Patent 7,515,431) was cited. Ex. 1002, p. 88.

Ex. 1002, p. 88 (annotated)

INFORMATION DISCLOSURE CITATION FORM FOR PATENT APPLICATION (FORM PTO-1449) (Substitute)		Docket No.: 891.0013.U5(US)		Serial No.: 14/612712	
		Applicant(s): Claus H. Jorgensen			
		Filing Date: herewith		Group: 2656	
U.S. PATENT DOCUMENTS					
Examiner Initials	Document Number (Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name of Patentee or Applicant	Class	Sub-class
	US-DES. 427,171	06-27-2000	Frye et al.	D14	138
	US-2005/0282593 A1	12-22-2005	Spence et al.	455	575.3
	US-2003/0199290 A1	10-23-2003	Viertola	455	575.1
	US-2001/0034242	10-2001	Takagi, Hisamitsu	455	550
	US-2004/0253508 A1	12-16-2004	Kohri et al.	429	100
	US-6,219,257 B1	04-17-2001	Arnold	361	814
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	US-6,128,184	10-03-2000	Ito et al.	361	681
	US-6,317,315 B1	11-13-2001	Lee et al.	361	681
	US-6,805,998 B2	10-19-2004	Jenson et al.	429	162
	US-6,920,344 B2	07-19-2005	Jang	455	575.5
	US-6,933,981	08-23-2005	Kishida et al.	348	375
	US-7,010,121	03-07-2006	Wennemer et al.	379	433.01
	US-7,336,228 B2	02-26-2008	Lu et al.	343	702
	US-7,515,431 B1	04-07-2009	Zadesky et al.	361	752
	US-7,522,889 B2	04-21-2009	Wulff et al.	455	90.3
	US-7,630,741 B2	12-08-2009	Siddiqui et al.	455	575.1
	US-2004/0204009 A1	10-14-2004	Cheng et al.	455	550.1
	US-2003/0100275 A1	05-29-2003	Hsu et al.	455	90
	US-2006/0233356 A1	10-19-2006	Lu et al.	379	433.01
FOREIGN PATENT DOCUMENTS					
Examiner Initials	Document Number (Country Code-Number-Kind Code)	Publication Date (MM-DD-YYYY)	Name Of Patentee of Applicant	Translation? Yes/No/n/a	
	GB 2 383 472 A	06/25/2003	Vertu Limited	Abstract	
	EP-1209880-A3	02-05-2003	Nokia Corporation		
	EP-1533983-A1	05-25-2005	LG Electronics Inc.		
	GB-2391740-A	02-11-2004	Matsushita Electrical Industrial Co. Ltd.		
	JP-2005-318064-A	11-10-2005	Toshiba Corp		
	EP-1496672-A1	01-12-2006	Matsushita Electric Industrial Co., Ltd.		
	EP-1 617 313-A2	01-18-2005	LG Electronics, Inc.		
	WO-95/31048-A1	11-16-1995	Daniels, John J.		
OTHER DOCUMENTS (Author (Capitalize), Title, Date, Pages, Etc., if known)					
Examiner's Signature: /Tuan Nguyen/			Date Considered: 09/18/2015		
Initial if reference was considered, whether or not citation is in conformance with MPEP. Mark through citation if not considered. Include a copy of this citation form with your next correspondence to the Applicant(s).					

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

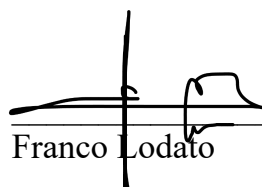
X. CONCLUSION

144. In signing this declaration, I recognize that this declaration will be filed as evidence in a contested case 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 the case.

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 this 30th day of October, 2024.

Respectfully submitted,



Franco Lodato