

EXHIBIT 1002

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Hydration Labs, Inc. d/b/a Bevi,
Petitioner

v.

Smart Soda Holdings, Inc.,
Patent Owner

U.S. Patent No. 11,724,927
Filing Date: August 9, 2022
Priority Date: March 3, 2021
Issue Date: August 15, 2023
Title: On Demand Function Beverage Dispenser

DECLARATION OF PETE WOLSKI

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I, Pete Wolski, declare as follows:

I. ASSIGNMENT

1. I have been retained on behalf of Hydration Labs, Inc. d/b/a Bevi (“Bevi” or “Petitioner”) to offer technical opinions related to U.S. Patent No. 11,724,927 (“The 927 Patent”) (EX1001). I understand that Bevi is requesting the Patent Trial and Appeal Board (“PTAB” or “Board”) to institute a post-grant review (“PGR”) proceeding of the 927 Patent.
2. I have been asked to provide my independent analysis of the 927 Patent in light of the prior art cited in this declaration. Bevi has specifically asked for my analysis from the perspective of a POSITA in the beverage dispensing industry.
3. I am not and never have been, an employee of Bevi. I received no compensation for this declaration beyond my normal hourly compensation based on my time actually spent analyzing the ’927 Patent, the prior art cited below, and issues related thereto, and I will not receive any added compensation based on the outcome of this PGR or other proceeding involving the 927 Patent.

II. QUALIFICATIONS

4. I have been personally involved in the beverage dispensing industry for over 20 years. I have a wealth of experience in the development and functionality of post-mix beverage dispensers. I have managed teams of engineers that were responsible for the research and development of beverage dispensers for a leading industry player.

5. I received my Bachelors of Science in mechanical engineering in 1984 from Syracuse University.

6. From 1993 to 2001, I held a number of key technical roles including Director of Engineering and Quality and Vice President of Engineering for IMI Cornelius where I managed

a team of engineers responsible for product development. IMI Cornelius is an industry leader in the design and manufacture of commercial beverage dispensing and ice making equipment.

7. From 2001 to 2002, I was promoted to Executive Vice President of Engineering for IMI Cornelius where I was responsible for all engineering and research and development programs managed within the US division. During that time, products developed included state of the art post-mix soda fountain dispensers, dispensing valves, post-mix juice dispenser, frozen carbonated beverage dispensers, among others.

8. In addition, I was assigned direct management of IMI Cornelius' patent portfolio beginning in 2001 and concluding in 2007. During that time, I was responsible for the maintenance of approximately 263 patents assigned to the company and for applying for and acquiring intellectual property rights. My duties also included the management and coordination of outside legal counsel including coordinating any defense against patent infringement claims by other entities. I also was in charge of preventing infringement of third-party patents.

9. From 2002 to 2005, I was again promoted to Executive Vice President of Products, Services, and Technology where I was given greater responsibility within the company assuming responsibility for all product and general marketing, program management, technical field service and training, as well as all engineering and research and development. As such, I was keenly aware of the state of beverage dispensing technology in the industry at the time.

10. In 2005, I moved away from managing the day to day engineering of beverage dispensers and managed the market development for IMI Cornelius while retaining the program management of all product development. I worked with many large companies introducing beverage programs and new products for companies like McDonald's, Coca-Cola, PepsiCo, and Yum! Brands.

11. Since 2014, I have offered my services as an independent consultant providing business and product development advice to many global brands.

12. My curriculum vitae is included as Appendix A.

13. I am being compensated at my customary hourly rate of \$330. This compensation is unrelated to the outcome of this matter.

14. Based on my work experience, described above and in detail in my curriculum vitae, I am knowledgeable about post-mix beverage dispensing including the functionality of individual components of post-mix beverage dispensers.

15. I am over the age of 18 and am competent to write this declaration. I have personal knowledge, or have developed knowledge, of the technologies discussed in this declaration based upon my education, training, or experience with the matters discussed herein.

III. SUMMARY OF CONCLUSIONS

16. This Declaration explains the conclusions that I have formed based on my analysis. To summarize those conclusions:

- **Ground A:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 1–5, 7–14, 16–18 of the 927 Patent are anticipated by Cimatti.
- **Ground B:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 1–5, 7, 9–20 of the 927 Patent are anticipated by Bethuy.
- **Ground C:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 1–3, 5–15, 17, 18 of the 927 Patent are anticipated by the SmartWell Dispenser.

- **Ground D:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 6 and 15 of the 927 Patent are rendered obvious by Cimatti, Bethuy, and O’Laughlin.
- **Ground E:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 6 and 15 of the 927 Patent are rendered obvious by Cimatti, Bethuy, and Wallace.
- **Ground F:** Based upon my knowledge and experience and my review of the prior art in this declaration, the claims 19 and 20 of the 927 Patent are rendered obvious by Cimatti, Bethuy, Shannon, and Holler.

IV. MATERIALS CONSIDERED

17. In forming my opinions, I have reviewed and am familiar with the ’286 Patent and its prosecution history, the materials cited herein, and exhibits to the Petition

V. UNDERSTANDING OF GOVERNING LAW

18. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to forming my opinions. My understanding of the law is as follows.

19. I understand that a patent claim may be “anticipated” if each element of that claim is present either explicitly or inherently in a single prior art reference, and that the elements should be arranged in the reference as in the claim. I understand that for a claimed limitation to be inherently present, the prior art reference need not expressly disclose the limitation, so long as the claimed limitation necessarily flows from a disclosure in the reference.

20. I understand that that a patent claim can be considered to have been obvious to a person of ordinary skill in the art at the time of the claimed invention. This means that, even if all of the requirements of a claim are not found in a single prior art reference, the claim is not patentable if

the differences between the prior art and the subject matter in the claim would have been obvious to a person of ordinary skill in the art at the time of the claimed invention.

21. I understand that a determination of whether a claim would have been obvious should be based upon several factors, including, among others: (i) the level of ordinary skill in the art at the time of the claimed invention; (ii) the scope and content of the prior art; (iii) what differences, if any, existed between the subject matter of the claimed invention and the prior art; and (iv) secondary considerations of non-obviousness.

22. I understand that a single reference can render a patent claim obvious if any differences between that reference and the claims would have been obvious to a person of ordinary skill in the art. Alternatively, the teachings of two or more references may be combined in the same way as disclosed in the claims, if such a combination would have been obvious to one having ordinary skill in the art. In determining whether a combination based on either a single reference or multiple references would have been obvious, it is appropriate to consider, among other factors:

- a. whether the teachings of the prior art references disclose known concepts combined in familiar ways, and when combined, would yield predictable results;
- b. whether a person of ordinary skill in the art could implement a predictable variation, and would see the benefit of doing so;
- c. whether the claimed elements represent one of a limited number of known design choices, and would have a reasonable expectation of success by those skilled in the art;
- d. whether a person of ordinary skill would have recognized a reason to combine known elements in the manner described in the claim;

- e. whether there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent; and/or
- f. whether the innovation applies a known technique that had been used to improve a similar device or method in a similar way.

23. I understand that that in considering obviousness, I should keep in mind that a person of ordinary skill in the art has ordinary creativity and is not an automaton.

24. I understand that in considering obviousness, it is improper to determine obviousness using the benefit of hindsight derived from the patent being considered.

VI. PERSON OF ORDINARY SKILL IN THE ART

25. A person of ordinary skill in the art (“POSITA”) at the time of the effective filing date would have had at least a B.S. degree in mechanical engineering or electrical engineering (or equivalent experience) and would have had at least two years of practical experience with designing beverage dispensers.

VII. RELEVANT PRIOR ART

26. The prior art that I have reviewed and relied upon in this declaration are as follows:

- U.S. Pub. No. 2020/0122994 (hereinafter “*Cimatti*”) published on April 23, 2020 and priority to October 22, 2018.
- U.S. Pub. No. 2016/0368752 (hereinafter “*Bethuy*”) published on December 22, 2016 and priority to August 31, 2016
- SmartWell Dispenser on sale as early as April 23, 2019.
- U.S. Pub. No. 2016/0280526 (hereinafter “*O’Laughlin*”) published on September 29, 2016 and priority to March 23, 2015.

- EP1788916 (hereinafter “*Wallace*”) published on April 8, 2009 and priority to August 6, 2004.
- U.S. Patent No. 5,012,955 (hereinafter “*Shannon*”) published on May 7, 1991 and priority to October 30, 1989.
- U.S. Pub. No. 2007/0012719 (hereinafter “*Holler*”) published on January 18, 2007 and priority to June 2, 2005.

VIII. RELEVANT BEVERAGE DISPENSING TECHNOLOGY

27. The first commercial use of a machine to automatically dispense soft drinks occurred at the 1933 World’s Fair when Coca-Cola introduced the first automatic drink dispenser. The dispenser model was named the Dole Master Dispenser and was manufactured by The Dole Valve Company as shown below. The introduction of the Dole Master Dispenser was the beginning of the development of beverage dispensers that create and dispense soft drinks on-premise for immediate consumption.



The Dole Master Dispenser.

28. User interfaces also evolved from simple lever actuated approaches to multi button portion selector panels and LED based communications. For example, in 2009, Coca-Cola introduced the Freestyle dispenser that used a touchscreen interface to allow a consumer to select a customized beverage.



29. Also, as early as 2009, the industry explored adding nutraceuticals such as vitamins and medicines as an option when dispensing beverages.

IX. THE 927 PATENT

30. The 927 Patent generally describes a beverage dispenser that allows a user to select a flavor and “function” to be added to a beverage that is to be dispensed. In particular, the 927 Patent describes displaying a user interface with “a flavor selection area and a function selection area.” 927 Patent at claim 1. The beverage dispenser receives the user input, “chooses from the multiple selectable reservoirs,” and dispenses the beverage. *Id.* The functions “include at least one of relax, energize, immunize, or muscle.” *Id.* at claim 3. FIG. 11 illustrates the process for dispensing the beverage:

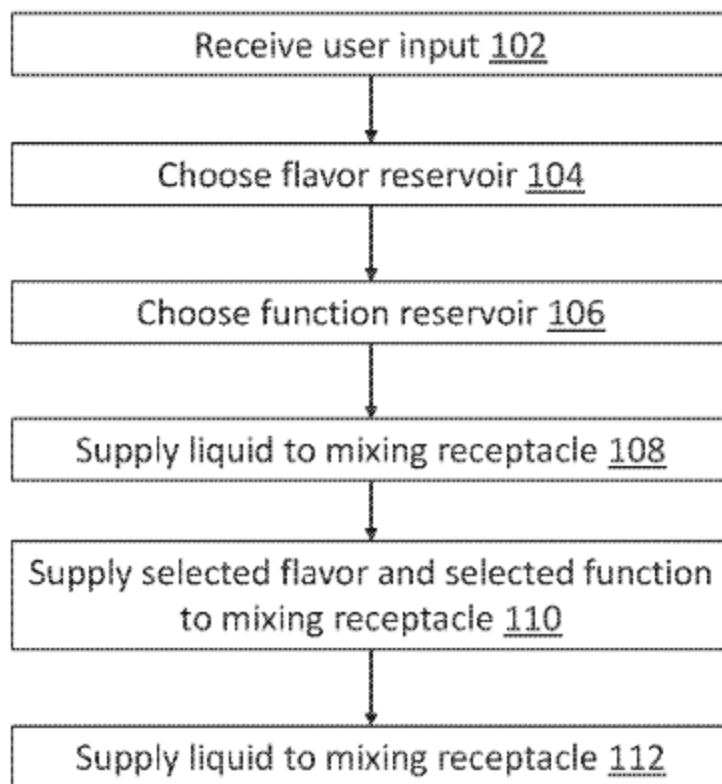


FIG. 11

X. SUMMARY OF THE RELEVANT PROSECUTION HISTORY

31. In the first and only office action for the 927 Patent, the examiner rejected claims 1–18 for non-statutory double patenting with U.S. Patent 11,407,630 (the “630 Patent”). Ex. 1014. The examiner indicated that claims 19 and 20 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten into independent form. The applicant filed a terminal disclaimer to overcome the double patenting rejection and claims 1–20 were allowed. The examiner never rejected the Challenged Claims under 35 U.S.C. §§ 102 or 103.

32. The 927 Patent application claims priority to Application No. 17/190,665, which issued as the 630 Patent. During prosecution of the 630 Patent, the examiner rejected some of the pending claims under 35 U.S.C. §§ 102 and 103 over *Beavis* (U.S. Pub. No. 2013/0292407) and

an Official Notice.¹ Ex. 1015. However, the examiner indicated that claims 5 and 10–15 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten into independent form. The applicant amended the independent claims to incorporate the limitations of claim 5, which, as originally filed, read:

The control system of claim 1, wherein a concentration of a dietary supplement included in the selected function that is included in the enhanced flavored mixture is at least five times larger than a concentration of the dietary supplement included in the selected flavor that is included in the enhanced flavored mixture.

In the next action, an *Ex Parte Quayle* action, the examiner objected to the drawings, but indicated that the pending claims were allowable.

XI. EFFECTIVE FILING DATE

33. The 927 Patent issued from Application No. 17/884,074, which was filed on August 9, 2022. Application No. 17/884,074 claimed priority to Application No. 17/190,665, which was filed on March 3, 2021. Thus, the earliest priority date and effective filing date of the 927 Patent is March 3, 2021.

XII. CLAIM CONSTRUCTION

34. I understand that the terms should of the Challenged Claims should be construed “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.200(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). For this proceeding, I

¹ The Official Notice indicated that claim 6 was “an obvious design choice to a person of ordinary skill in the art.” Non-final Office Action (September 22, 2021), p. 4, U.S. Application No. 17/190,665. Claim 6, which, as originally filed, read: “The control system of claim 1, wherein the selected function included in the enhanced flavored mixture includes a dietary supplement in a quantity greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for the dietary supplement.” The applicant did not object to the Official Notice when responding to the Office Action.

understand that the Petitioner does not believe any claim constructions are needed. Petitioner reserves the right to respond to any constructions offered by Patent Owner or adopted by the Board in accordance with due process.

XIII. DETAILED PRIOR ART DISCUSSION

35. *Cimatti* (U.S. Pub. No. 2020/0122994) was published on April 23, 2020 and has a priority date of October 22, 2018. *Cimatti* is prior art as of October 22, 2018 under 35 U.S.C. § 102(a)(2). In the addition, *Cimatti* is prior art as of April 23, 2020 under 35 U.S.C. § 102(a)(1). *Cimatti* discloses a prior art beverage dispenser and “a method for dispensing a custom beverage.” *Cimatti*, paragraph [0004]. *Cimatti* describes that “a user may select flavoring by pressing one or more of user input selections 528.” *Id.* at [0239]. The beverage dispenser includes “functional ingredients,” such as “minerals, vitamins, electrolytes, energy, calm, protein, fiber, vitamins, antioxidants, sweeteners and other functional ingredients.” *Id.* at [0120].

36. *Bethuy* (U.S. Pub. No. 2016/0368752) was published on December 22, 2016 and has a priority date of August 31, 2016. *Bethuy* is prior art as of August 31, 2016 under 35 U.S.C. § 102(a)(2). In addition, *Bethuy* is prior art as of December 22, 2016 under 35 U.S.C. § 102(a)(1). *Bethuy* discloses a prior art beverage dispenser that “vends beverages that may be made from hot, cold or carbonated water, and everything from plain filtered water, to standard soft drinks, to fully custom beverages that are designed by the customer.” *Bethuy*, paragraph [0005]. *Bethuy* describes that “user[s] may optionally select a nutritional supplement mix, like immune boost, energy boost, multi-vitamin, etc., select their relative percentages, and then vary the amount, maybe according to body weight.” *Id.* at [0006].

37. The SmartWell Dispenser is a prior art beverage dispenser that allows users to dispense custom water-based beverages. The SmartWell Dispenser includes a touchscreen display that allows users to dispense their selected beverage. The SmartWell Dispenser dispenses still or

sparkling water. In addition, the SmartWell Dispenser allows users to select flavors, sweeteners, and enhancements such as Vitamin C, electrolytes, and caffeine, to create their beverage. The SmartWell Dispenser is described in several videos posted and available on YouTube and Vimeo (Exs. 1005 and 1006, collectively, “SmartWell Videos”) and in printed marketing materials (Ex. 1007–1009, collectively, “SmartWell Publications”). The earliest of the SmartWell Videos were published on YouTube and Vimeo and was publicly accessible on April 23, 2019.

38. The SmartWell Dispenser is prior art under 35 U.S.C. § 102(a)(1) because the SmartWell Dispenser was in public use, on sale, and otherwise available to the public before the effective filing date of the 927 Patent. *See* 35 U.S.C. § 102(a)(1). I understand that “[a]n offer for sale, sale, or public use, if [before the effective filing date of the patent application], will bar patenting of the product, even if the sale was not authorized by the patentee.” *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 866 (Fed. Cir. 2010) (citing *In re Cavaney*, 761 F.2d 671, 675 (Fed. Cir. 1985); *see also Helsinn Healthcare S.A. v. Teva Pharm. USA, Inc.*, 139 S.Ct. 628, 633–34 (2019) (“[W]e presume that when Congress reenacted the same language [‘on sale’] in the AIA, it adopted the earlier judicial construction of that phrase.”). The SmartWell Dispenser was on sale as early April 23, 2019, as evidenced by the SmartWell Videos advertising the dispenser.²

39. The 927 Patent is invalid under 35 U.S.C. § 102 as anticipated by the SmartWell Dispenser, the SmartWell Videos, and the SmartWell Publications. The SmartWell Videos and the SmartWell Publications are additional references that can be properly considered under 35 U.S.C. § 102. The additional references, the SmartWell Videos and the SmartWell Publications, simply “show that the claimed subject matter, as disclosed [by the SmartWell Dispenser], was in

² Petitioner reserves the right to seek additional discovery to obtain affidavits from Elkay, the owners of the SmartWell Dispenser.

the public's possession" before the effective filing date. I understand that the following case law is relevant: *In re Donohue*, 766 F.2d 531, 534 (Fed. Cir. 1985) (citing *In re Samour*, 571 F.2d 559, 563 (CCPA 1978)) (considering multiple references for a § 102 is proper when the additional references are relied on to show that the primary reference discloses the claimed subject matter); *see also* MPEP § 2131.01(I). The SmartWell Videos and the SmartWell Publications document that each limitation of the Challenged Claims are taught by the SmartWell Dispenser. Further, even if the SmartWell Publications were published after the priority date of the 927 Patent, which Petitioner does not concede, I understand that the SmartWell Publications are "acceptable as evidence of characteristics of prior art products," namely, the SmartWell Dispenser. *Ex Parte Lisziwicz*, 2010 WL 1607520, Appeal 2010-000027 (PTAB 2010) (citing *In re Wilson*, 311 F.2d 266, 268 – 69 (CCPA 1962) ("The board considered that the publication was properly cited to show a state of fact. After reading the entire publication, so do we. It [is] clearly a discussion of the properties of polyurethane foam products generally, products made by the processes of the prior art of record in this case.... As evidence of the characteristics of prior art foam products, however, we know of no reason in law why it is not acceptable.")).

40. In addition, I understand that the SmartWell Videos are printed publications under 35 U.S.C. § 102(a)(1). The SmartWell Videos, listed below, are authentic and were publicly accessible as of April 23, 2019 and January 12, 2020, respectively. Regarding authenticity, I understand that there is significant and reliable evidence that the SmartWell Videos are what they purport to be. Fed. R. Evid. 901(b)(4). Identical copies of each SmartWell Video were posted on both YouTube and Vimeo on the same day. Each SmartWell Video remains posted on YouTube and Vimeo. Further, in numerous cases, I understand that Google Custodians of

Record have given sworn testimony that “[a]s explained on YouTube’s support website, the date listed under a video is the date it was published and, if the video was posted publicly, that is the date on which it became available to anyone for viewing. See, e.g., *London Luxury LLC v. E & E Co., Ltd.*, Petition for Post-Grant Review of U.S. Patent No. 10,820,376, PGR2021-00083 (May 12, 2021); see also YouTube Help, Schedule Video Publish Time (<https://support.google.com/youtube/answer/1270709?hl=en>) (“When you make a video public on YouTube, the date on the watch page is based on Pacific Standard Time (PST). If you want a certain date to show beneath your video, upload your video on that date.”).

41. Regarding public accessibility, MPEP § 2128 states that “[a]n electronic publication, including [digital video], is considered to be a ‘printed publication’ within the meaning of 35 U.S.C. § 102(a)(1) provided the publication was accessible to persons concerned with the art to which the document relates.” MPEP § 2128(II)(A) (citing *In re Wyer*, 655 F.2d 221, 227 (CCPA 1981) (videos are considered printed publications provided that they are “accessible to persons concerned with the art to which the [videos] relates”)). The SmartWell Videos were posted on April 23, 2019 and January 12, 2019 and publicly accessible and available as of that date. MPEP § 2128(II)(B) (“Prior art disclosures on the Internet or on an online database are considered to be publicly available as of the date the item was publicly posted.”).

42. Further, the SmartWell Publications are printed publications under 35 U.S.C. § 102(a)(1). The SmartWell Publications were accessible as early as April 23, 2019, when the SmartWell Dispenser was on sale. In addition, the SmartWell Publications, User Manual and Troubleshooting, include 2020 copyright dates and were published and accessible by the end of 2020.

43. The following is a list of all the SmartWell prior art:

Reference	Dates	Prior Art Basis
SmartWell Video (available on Vimeo at https://vimeo.com/384394240 and available on YouTube at https://www.youtube.com/watch?v=4wdn3hHft9c)	January 12, 2020	§ 102(a)(1)
SmartWell Video (available on Vimeo at https://vimeo.com/332051430 and available on YouTube at https://www.youtube.com/watch?v=SgebX-WIceI)	April 23, 2019	§ 102(a)(1)
SmartWell Publication, User Manual	April 23, 2019	§ 102(a)(1)
SmartWell Publication, Troubleshooting	April 23, 2019	§ 102(a)(1)
SmartWell Publication, Flavors	April 23, 2019	§ 102(a)(1)

44. The SmartSoda JuLi Touch is a prior art beverage dispenser with a “touch screen” that dispenses “unlimited alkaline, sparkling mineral water and up to 10 types of vitamin-infused flavored sparkling waters and sodas.” Ex. 1016. The SmartSoda JuLi Touch was available for sale as of December 24, 2019.

45. The SmartSoda JuLi Touch is prior art under 35 U.S.C. § 102(a)(1) because the SmartSoda JuLi Touch was in public use, on sale, and otherwise available to the public more than 1 year before the effective filing date of the 927 Patent. *See* 35 U.S.C. § 102(a)(1) and (b); *see also Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1433 (Fed. Cir. 1997) (“The relevant inquiry is whether there was a definite sale or offer for sale of the claimed invention prior to the critical date, defined as one year prior to the U.S. filing date to which the application was entitled.”). Since the SmartSoda JuLi Touch was on sale as of December 24, 2019, the SmartSoda JuLi Touch is prior art.³

46. *O’Laughlin* (U.S. Pub. No. 2016/0280526) was published on September 29, 2016 and has a priority date of March 23, 2015. *O’Laughlin* is prior art as of March 23, 2015 under 35

³ Petitioner reserves the right to seek additional discovery from Smart Soda Holdings, Inc. regarding sales activities.

U.S.C. § 102(a)(2). In addition, *O’Laughlin* is prior art as of September 29, 2016 under 35 U.S.C. § 102(a)(1). *O’Laughlin* discloses a prior art “a vending machine” with “a nutritional supplement supply arranged to provide a powdered nutritional supplement to the container.” *O’Laughlin* at [0004].

47. *Wallace* (EP 1788916B1) was published on April 8, 2009 and has a filing date of August 6, 2004. *Wallace* is prior art as of August 6, 2004 under 35 U.S.C. § 102(a)(2). In addition, *Wallace* is prior art as of April 8, 2009 under 35 U.S.C. § 102(a)(1). *Wallace* describes the additional functionality of adding vitamins or nutraceuticals while dispensing a beverage. *Wallace*, paragraph [0005]. *Wallace* recognized that dispensers needed to allowable dosages and the consumer may want to vary the amount of the dose. *Id.* at [0022].

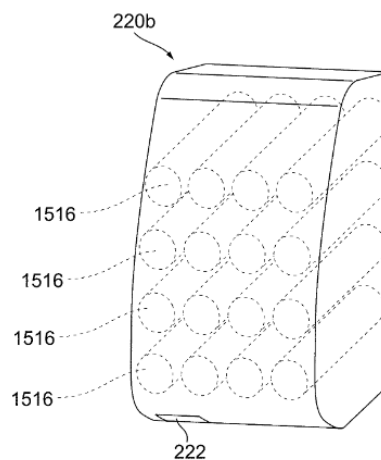
48. *Shannon* (U.S. Patent No. 5,012,955) was issued on May 7, 1991 and has a priority date of October 30, 1989. *Shannon* is prior art as of October 30, 1989 under 35 U.S.C. § 102(a)(2). In addition, *Shannon* is prior art as of May 7, 1991 under 35 U.S.C. § 102(a)(1). *Shannon* discloses “a syrup dispensing system” that uses sensors “to measure the rate of flow of the syrup.” *Shannon*, Abstract.

49. *Holler* (U.S. Pub. No. 2007/0012719) was published on January 18, 2007 and has a priority date of June 2, 2005. *Holler* is prior art as of June 2, 2005 under 35 U.S.C. § 102(a)(2). In addition, *Holler* is prior art as of January 18, 2007 under 35 U.S.C. § 102(a)(1). *Holler* discloses a “dispensing mechanism” that can include “[a]rtificially sweetened flavored ingredients” and “nutraceuticals.” *Holler*, Abstract and paragraph [0069].

XIV. CIMATTI ANTICIPATES CLAIMS 1–5, 7–14, AND 16–18

A. CLAIM 1

50. Limitation [1.0]: Cimatti discloses “beverage dispensers and beverage dispensing systems to create and dispense a custom beverage.” *Cimatti*, paragraph [0001].⁴ *Cimatti* discloses that the beverage dispensers can include “**a control system 206** connected to a communication network 210,” “**one or more processors 1501**, which may execute instructions of a computer program,” and a “[u]ser interface 500 [that] may include **an electronic display screen 502** for displaying information to a customer *Id.* at [0121], [0210], [0293]. *Cimatti* discloses “**one or more of flavoring sources 134** [that] can be **a container or cartridge** that is emptied and re-filled with fresh ingredients daily. In an aspect, one or more of flavoring sources 134 can be **a vacuum sealed cartridge** that includes fresh ingredients.” *Id.* at [0144]. An exemplary embodiment includes “[c]artridge dispenser 220 b can contain **numerous cartridges 1516 each containing a different beverage flavor** [as seen below in Figure 8] or ingredient giving the consumer additional choices for a beverage. The cartridge 1516 can include one or more beverage ingredients, wherein the beverage ingredients may be selected from the list comprising: syrup, paste, powder, granules, or other compositions.” *Id.* at [0170].



51. **FIG. 8**

⁴ All emphasis added unless indicated otherwise.

52. Limitation [1.1]: *Cimatti* discloses “**a user interface 500** that includes **user input selections** that can be used as part of a user interface on user interface 500,” and that the “[u]ser interface 500 may include **an electronic display screen 502 for displaying information to a customer.**” *Id.* at [0113], [0121]. *Cimatti* discloses that “[a]t step 322, the beverage dispenser can present beverage recipe options to the user.” *Id.* at [0236]. *Cimatti* states:

[S]hown in FIG. 57, **a user may select flavoring by pressing one or more of user input selections 528**. A user can select orange grapefruit flavoring by selecting user input selection 528 a, a user can select lemon mint flavoring by selecting user input selection 528 b, a user can select raspberry lime flavoring by selecting user input selection 528 c, a user can select cucumber flavoring by selecting user input selection 528 d, a user can select lemon lime flavoring by selecting user input selection 528 e, a user can select peach flavoring by selecting 528 f.

Id. at [0239].

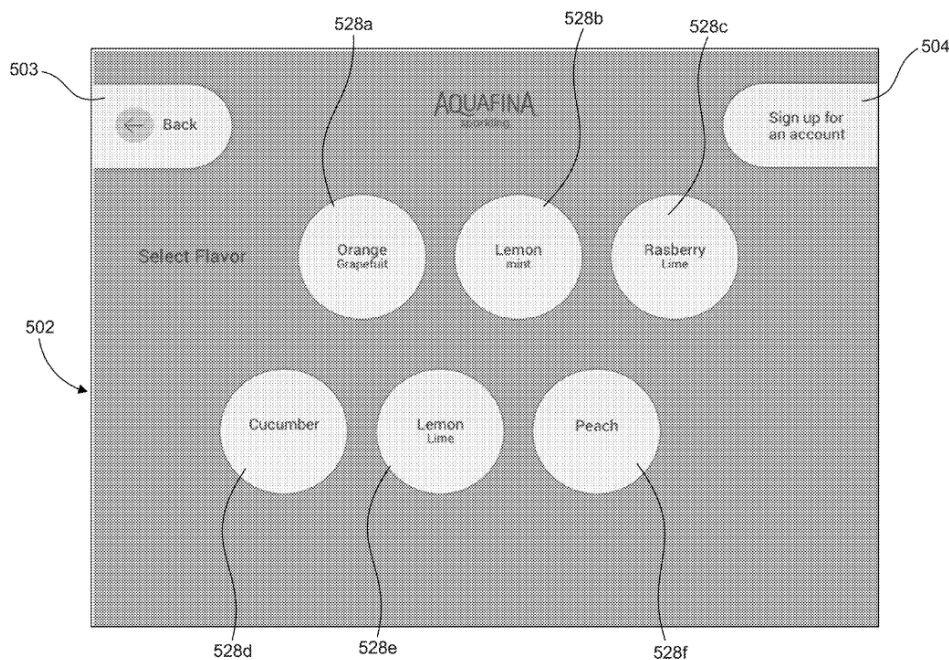


FIG. 57

Cimatti discloses that:

At step 326, **a selection of one or more custom ingredients to a beverage may be received via input from the user**. . . . Additionally, the ingredients can include minerals such as boron, phosphorus, titanium, chromium, manganese, **iron**, cobalt, nickel, copper, **zinc**, molybdenum, cadmium, aluminum. . . . The ingredients can also include additives such as **vitamins, electrolytes, energy, calm, protein**, fiber, **vitamins**, antioxidants, sweeteners and other **functional ingredients** such as: calcium, sodium, potassium, bicarbonate, magnesium, **caffeine**, fiber, **protein**, taurine, ribose, omega 3, or any combination thereof.

Id. at [0238].

53. Limitations [1.2], [1.3], [1.4], and [1.5]: See my analysis for limitations [1.0]-[1.1] above.

54. Limitations [1.6] and [1.7]: Cimatti discloses that “[a]t step 332, the **interface can send electronic signals to the valves** to cause the dispenser to dispense the custom beverage **according to the selected recipe** from step 306.” *Id.* at [0248]. Cimatti discloses that “[f]lavoring sources 134 can contain **flavor concentrates** for mixing with a diluent to create a beverage. **Each of flavoring sources 134 can include a valve 140 for connection to the beverage dispensing system 10.**” Cimatti at [0142]. The reference also discloses the use of cartridges that contain different ingredients:

Side housing 220 can include a cartridge dispenser 220 b to dispense ingredient cartridges 1516, such as are described in U.S. Pat. No. 9,272,827, issued Mar. 1, 2016, which is incorporated herein by reference in its entirety. **Cartridge dispenser 220 b can contain numerous cartridges 1516 each containing a**

different beverage flavor or ingredient giving the consumer additional choices for a beverage. . . . Additionally, the cartridges 1516 can hold other ingredients or flavors, such as nutrients or vitamins.

Cimatti at [0170].

55. Limitations [1.8]: Cimatti discloses:

At step 344, *a modification of one or more custom ingredients to a beverage may be received via input from the user. . . .* Additionally, the ingredients can include minerals such as boron, phosphorus, titanium, chromium, manganese, **iron**, cobalt, nickel, copper, **zinc**, molybdenum, cadmium, aluminum. . . . The ingredients can also include additives such as **vitamins, electrolytes, energy, calm, protein**, fiber, **vitamins**, antioxidants, sweeteners and other **functional ingredients** such as: calcium, sodium, potassium, bicarbonate, magnesium, **caffeine**, fiber, **protein**, taurine, ribose, omega 3, or any combination thereof. In an aspect, at step 344 *a user can modify the temperature, flavor and or flavor intensity, and/or carbonation level of the custom beverage.*

Id. at [0254]. Given that the consumer is allowed to select and customize the beverage selection, Cimatti discloses functions having the concentration of a dietary supplement in a “selected function” is greater than that of the concentration of the dietary supplement in a “selected flavor.” Indeed, Cimatti does not provide any express restriction on how the ratio of dietary supplement can be added to a beverage. For example, a user may select lemon (Cimatti at [0170]) which will include some amount vitamins naturally. However, Cimatti discloses the ability for a user to select a vitamin additive which can be a greater concentration in than what was included in the lemon flavoring.

56. *Cimatti* discloses that “***Ingredients chosen on user interface 500 can be mixed*** at dispensing nozzle 170 and in a user's container to create a customized beverage.” *Id.* at [0130]. *Cimatti* states that “Additive sources 148 can be fluidly connected to nozzle 170 via additive conduits 156 so that ***the respective additives can be dispensed with a non-sparkling diluent or a sparkling diluent*** into a user's container, cup, or pitcher to dispense a beverage.” *Id.* at [0162].

57. Limitation [1.9]: *Cimatti* discloses “[a]t step 332, the interface can send electronic signals to the valves to ***cause the dispenser to dispense the custom beverage*** according to the selected recipe from step 306,” and “[a]t step 310, the beverage dispenser can receive confirmation that the user wishes to proceed with dispensing the beverage at the displayed cost. For example, ***a command to dispense the custom beverage may be received via input from the user*** to confirm the beverage selection.” *Id.* at [0248] and [0228]. Based on the disclosures in *Cimatti*, a POSITA would understand that a dispensed beverage could include a flavoring and a selected additive.

B. CLAIMS 2 AND 11

58. Limitation [2.0]: Claim 11 depends on claim 10 but similarly requires that “a concentration of the dietary supplement included in the selected flavor is zero.”

59. *Cimatti* discloses that the “beverage dispenser 10 can allow any user to dispense plain water, i.e., filtered water without any additional ingredients, additives, or flavorings, without identifying or authenticating the user.” *Id.* at [0134]. See limitation [1.8] (“[A] user can modify the temperature, flavor and or flavor intensity, and/or carbonation level of the custom beverage.”).

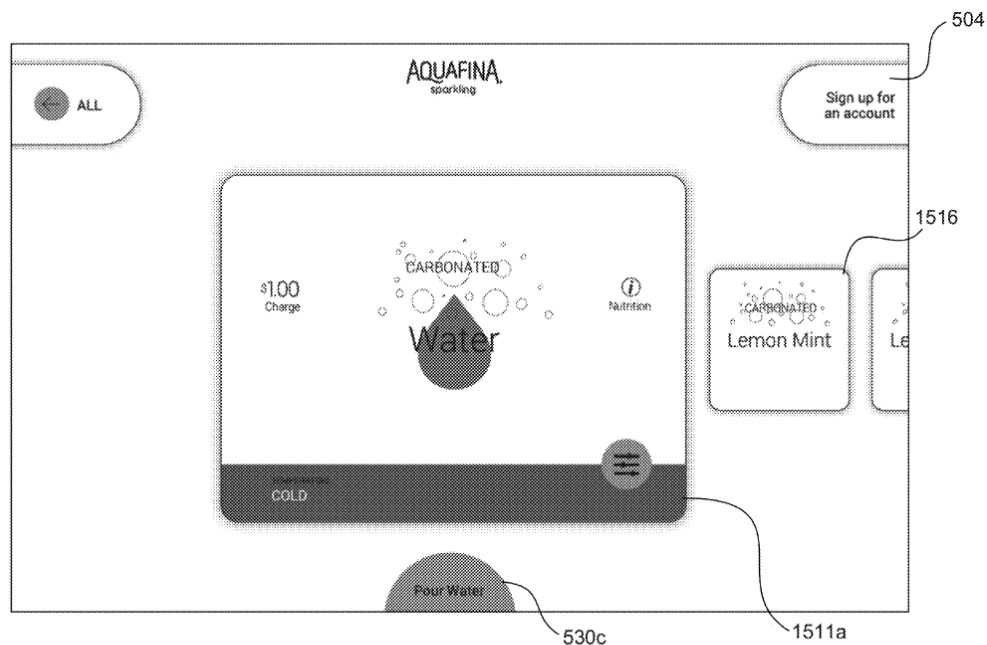


FIG. 86

60. *Cimatti* identifies a number of different types of additives including the following:

The ingredients can also include additives such as **vitamins**, **electrolytes**, **energy**, **calm**, **protein**, fiber, **vitamins**, antioxidants, sweeteners and other **functional ingredients** such as: calcium, **sodium**, potassium, bicarbonate, magnesium, **caffeine**, fiber, **protein**, taurine, ribose, omega 3, or any combination thereof. In an aspect, at step 344 **a user can modify the temperature, flavor and or flavor intensity, and/or carbonation level of the custom beverage.**

Id. at [0254]. There are a number of beverage flavorings in *Cimatti* that do not naturally include caffeine, protein, omega 3 or other additives contemplated to be dispensed in the beverage dispenser described in *Cimatti*. As seen in Figure 34A, the beverage does not include sodium and protein which could be additive if the user selects the option:

The screenshot shows a mobile application interface for a drink. At the top, the status bar displays 'GS', '9:41 AM', and '51%'. Below the status bar is a navigation bar with a back arrow and the text 'Drink Detail'. The main content area features the title 'Carbonated Lemon Kiwi' above a 'Nutritional Facts' table. The table lists the following information:

Nutritional Facts		
Serving Size	20 fl oz (591 mL)	
Calories	10	
	% Daily Value	
Total Fat	0g	0%
Sodium	0g	0%
Total Carbohydrate	0g	0%
Sugars	0g	
Protein	0g	

FIG. 34A

C. CLAIMS 3 AND 12

61. Limitation [3.0]: Claim 12 depends on claim 10 but similarly requires that “wherein the selectable functions include at least one of relax, energize, immunize, or muscle.” I understand “[w]hen a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001). Limitations [3.0] and [12.0] recite multiple “selectable functions” as alternatives. Thus, for limitations [3.0] and [12.0] to be anticipated, the prior art need only disclosed one of the selectable exemplary functions recited.

62. The 927 Patent provides examples of dietary supplements that would satisfy the functions recited in claim 3. For example, the 927 Patent describes the following:

For example, when the selected function is **relax**, the circuitry 48 may be choose as the function reservoir one of the multiple selectable reservoirs 35 including at least one of cannabidiol (CBD), Rhodiola rosea, melatonin, glycine, ashwagandha, L-theanine, B vitamins, or kava. Similarly, when the selected

function is **energize**, the circuitry 48 may choose as the function reservoir one of the multiple selectable reservoirs 35 including at least one of caffeine, coenzyme Q10 (CoQ10), B vitamins, iron, creatine, citrulline, Rhodiola rosea, or ashwagandha. When the selected function is **immunity**, the circuitry 48 may choose as the function reservoir one of the multiple selectable reservoirs 35 including at least one of vitamin C, B vitamins, vitamin E, vitamin A, vitamin D, folate, folic acid, iron, selenium, zinc, elderberry, echinacea. When the selected function is **muscle**, the circuitry 48 may choose as the function reservoir one of the multiple selectable reservoirs 35 including at least one of protein, amino acids, or creatine.

927 Patent at [4:10–27].

63. *Cimatti* discloses “[t]he ingredients can also include additives such as vitamins, electrolytes, **energy**, **calm**, **protein**, fiber, **vitamins**, **antioxidants**, sweeteners and **other functional ingredients**.” *Cimatti* at [0254]. Accordingly, for example, a POSITA would understand that the vitamin additives would satisfy the claimed “relax”, “energize” or “immunity” function in claim 3. The protein additive in *Cimatti* discloses the “muscle” function in claim 3.

D. CLAIMS 4 AND 13

64. Limitation [4.0]: See my analysis for limitations [1.0]–[1.9] and [3.0]. Claim 13 depends from claim 12 with the preamble “The method of claim 12, wherein:” I understand “[w]hen a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown* at 1351. Limitations [4.1]–[4.4] and [13.1]–[13.4] recites multiple “selected functions” as alternatives. Thus, for limitations [4.1]–[4.4] and [13.1]–

[13.4] to be anticipated, the prior art need only disclose one of the selected exemplary functions recited.

65. Limitations [4.1] and [13.1]: *Cimatti* discloses:

Cartridge dispenser 220 b can contain ***numerous cartridges 1516 each containing a different beverage flavor or ingredient giving the consumer additional choices for a beverage.*** The ***cartridge 1516 can include one or more beverage ingredients,*** wherein the beverage ingredients may be selected from the list comprising: syrup, paste, powder, granules, or other compositions. Additionally, ***the cartridges 1516 can hold other ingredients or flavors, such as nutrients or vitamins.*** In another aspect, ***the cartridges 1516 can include different liquid flavors/ingredients.*** The liquid flavors/ingredients may be created by condensed liquids that pack the essence of a beverage with the full power of healthy ingredients and nutrients. . . . Additionally, ***the liquid flavors/ingredients may include a functional ingredient*** that includes minerals, ***vitamins***, electrolytes, energy, ***calm***, protein, fiber, ***vitamins***, antioxidants, sweeteners and other functional ingredients such as: calcium, sodium, potassium, bicarbonate, magnesium, caffeine, fiber, protein, taurine, ribose, omega 3, or any combination thereof. Additionally, without departing from the invention, the liquid flavors/ingredients may include any combination of fruit or flavor base, ***functional ingredients*** with herbs and spices or vegetables, or ***functional ingredients with minerals and/or vitamins.***

Cimatti at [0170]. *Cimatti* states that “[a]s shown in FIGS. 34A-34B, customer device 202 can provide nutritional information for a selected beverage recipe and or a dispensed beverage. The nutritional information can automatically update based on the selected ingredients and amount of the dispensed beverage.” *Id.* at [0272].

Vitamin D	100%
Calcium	100%
Iron	100%
Potassium	100%
Vitamin C	100%
Magnesium	100%
Pantothenic Acid	100%
Vitamin B6	100%
Vitamin B12	100%
Zinc	100%
<p>Not a significant source of other nutrients. *Percent Daily Values are based on a 2,000 calorie diet.</p> <p>Ingredients Water, Citric Acid, Calcium Phosphate, Potassium Phosphate, Vitamin C, Natural Flavors, Vitamin B5, Calcium Pantothenate, Vitamin E(Alpha-Tocopheryl Acetate), Vitamin B6 (Pyridoxine Hydrochloride), Vitamin A Palmitate.</p>	

FIG. 34B

66. Limitations [4.2] and [13.2]: *Cimatti* discloses:

Cartridge dispenser 220 b can contain ***numerous cartridges 1516 each containing a different beverage flavor or ingredient giving the consumer additional choices for a beverage.*** The ***cartridge 1516 can include one or more beverage ingredients,*** wherein the beverage ingredients may be selected from the list comprising: syrup, paste, powder, granules, or other compositions. Additionally, ***the cartridges 1516 can hold other ingredients or flavors, such as nutrients or vitamins.*** In another aspect, ***the cartridges 1516 can include different liquid flavors/ingredients.*** The liquid flavors/ingredients may be created by condensed liquids that pack the essence of a beverage with the full power of healthy ingredients and nutrients. . . . Additionally, ***the liquid flavors/ingredients may include a functional ingredient*** that includes minerals, ***vitamins***, electrolytes, ***energy***, calm, protein, fiber, ***vitamins***, antioxidants, sweeteners and other functional ingredients such as: calcium, sodium, potassium, bicarbonate, magnesium, ***caffeine***, fiber, protein, taurine, ribose, omega 3, or any combination thereof. Additionally, without

departing from the invention, the liquid flavors/ingredients may include any combination of fruit or flavor base, **functional ingredients** with herbs and spices or vegetables, or **functional ingredients with minerals and/or vitamins**.

Id. at [0170]. *Cimatti* discloses “Additionally, the ingredients can include minerals such as boron, phosphorus, titanium, chromium, manganese, **iron**, cobalt, nickel, copper, zinc, molybdenum, cadmium, aluminum.” *Id.* at [0139]. See limitation [4.1].

67. Limitations [4.3] and [13.3]: *Cimatti* discloses:

Cartridge dispenser 220 b can contain **numerous cartridges 1516 each containing a different beverage flavor or ingredient giving the consumer additional choices for a beverage**. The **cartridge 1516 can include one or more beverage ingredients**, wherein the beverage ingredients may be selected from the list comprising: syrup, paste, powder, granules, or other compositions. Additionally, **the cartridges 1516 can hold other ingredients or flavors, such as nutrients or vitamins**. In another aspect, **the cartridges 1516 can include different liquid flavors/ingredients**. The liquid flavors/ingredients may be created by condensed liquids that pack the essence of a beverage with the full power of healthy ingredients and nutrients. . . . Additionally, **the liquid flavors/ingredients may include a functional ingredient** that includes minerals, **vitamins**, electrolytes, energy, calm, protein, fiber, **vitamins**, antioxidants, sweeteners and other functional ingredients such as: calcium, sodium, potassium, bicarbonate, magnesium, caffeine, fiber, protein, taurine, ribose, omega 3, or any combination thereof. Additionally, without departing from the invention, the liquid flavors/ingredients may include any combination of fruit or flavor base, **functional ingredients** with herbs and spices or vegetables, or **functional ingredients with minerals and/or vitamins**.

Cimatti at [0170]. *Cimatti* discloses “Additionally, the ingredients can include minerals such as boron, phosphorus, titanium, chromium, manganese, **iron**, cobalt, nickel, copper, **zinc**, molybdenum, cadmium, aluminum.” *Id.* at [0139]. See limitation [4.1].

68. Limitations [4.4] and [13.4]: *Cimatti* discloses:

Cartridge dispenser 220 b can contain ***numerous cartridges 1516 each containing a different beverage flavor or ingredient giving the consumer additional choices for a beverage.*** The ***cartridge 1516 can include one or more beverage ingredients,*** wherein the beverage ingredients may be selected from the list comprising: syrup, paste, powder, granules, or other compositions. Additionally, ***the cartridges 1516 can hold other ingredients or flavors, such as nutrients or vitamins.*** In another aspect, ***the cartridges 1516 can include different liquid flavors/ingredients.*** The liquid flavors/ingredients may be created by condensed liquids that pack the essence of a beverage with the full power of healthy ingredients and nutrients. . . . Additionally, ***the liquid flavors/ingredients may include a functional ingredient*** that includes minerals, vitamins, electrolytes, energy, calm, ***protein***, fiber, vitamins, antioxidants, sweeteners and other functional ingredients such as: calcium, sodium, potassium, bicarbonate, magnesium, caffeine, fiber, ***protein***, taurine, ribose, omega 3, or any combination thereof. Additionally, without departing from the invention, the liquid flavors/ingredients may include any combination of fruit or flavor base, ***functional ingredients*** with herbs and spices or vegetables, or ***functional ingredients with minerals and/or vitamins.***

Cimatti at [0170].

E. CLAIMS 5 AND 14

69. Limitation [5.0]: Claim 14 depends on claim 12 but similarly requires “the selectable functions include relax, energize, and immunize.” See my analysis for limitation [3.0].

F. CLAIM 7

70. Limitation [7.0]: Cimatti states that “shown in FIGS. 88-89, beverage dispenser 204 can display a “Sparkling” toggle switch 1521 to allow a user to add or remove carbonation from the beverage recipe.” Id. at [0240].

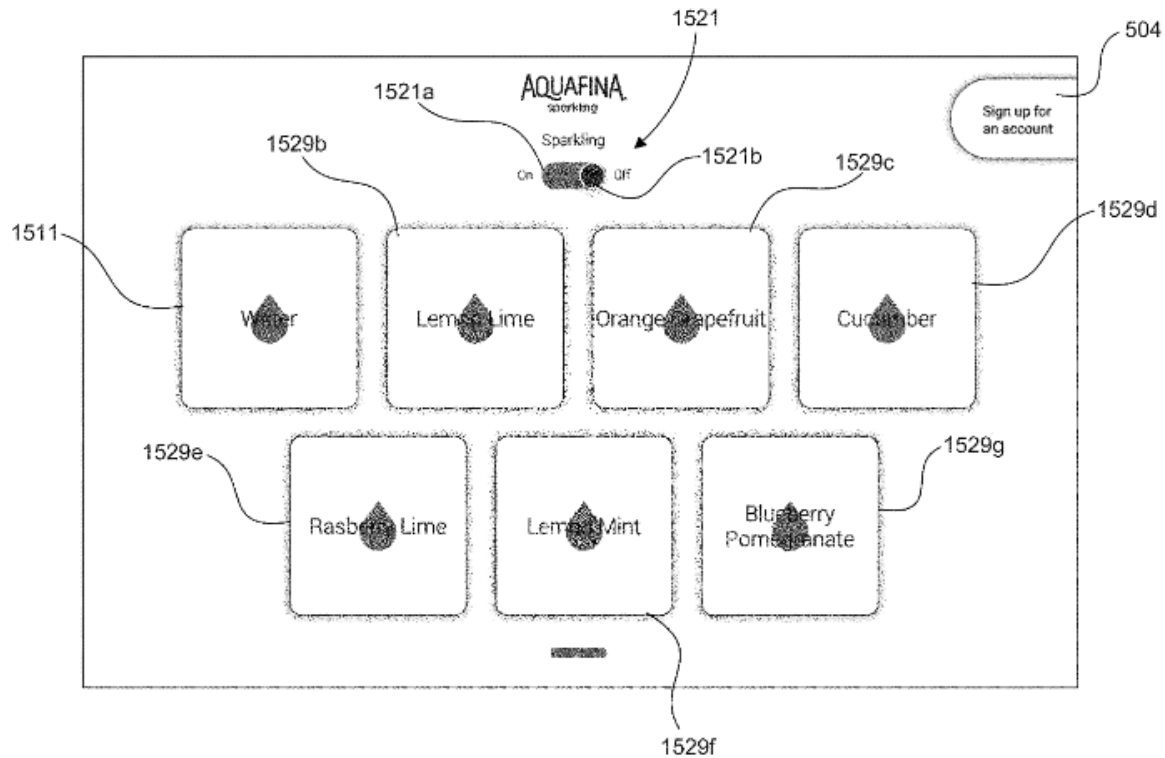


FIG. 89

Cimatti discloses that “[a] user can select **no carbonation** by selecting user input selection 520 d, a user can select **low carbonation** by selecting user input selection 520 c, a user can select regular carbonation by selecting user input selection 520 b, and a user can select **maximum carbonation** by selecting user input selection 520 a.” *Id.* at [0241].

G. CLAIM 8

71. Limitation [8.0]: *Cimatti* states that:

[S]hown in FIGS. 88-89, beverage dispenser 204 can display a “Sparkling” toggle switch 1521 to allow a user to add or remove carbonation from the beverage recipe. If “Sparkling” toggle switch is in position 1521 a for “On,” beverage dispenser 204 can display user input selection 1511 a “carbonated water”, user input selection 1528 b “carbonated lemon lime,” user input selection 1528 c “carbonated orange grapefruit,” user input selection 1528 d “carbonated cucumber,” user input selection 1528 e “carbonated raspberry lime,” user input selection 1528 f

“carbonated lemon mint,” and user input selection 1528 g “carbonated blueberry pomegranate.” If “Sparkling” toggle switch is in position 1521 b for “Off,” beverage dispenser 204 can display user input selection 1511 “water”, user input selection 1529 b “lemon lime,” user input selection 1529 c “orange grapefruit,” user input selection 1529 d “cucumber,” user input selection 1529 e “raspberry lime,” user input selection 1529 f “lemon mint,” and user input selection 1529 g “blueberry pomegranate.” ***In response to a selection, the beverage dispenser 204 can highlight the selected icon to indicate the selected flavoring to be added.***

Id. at [0292].

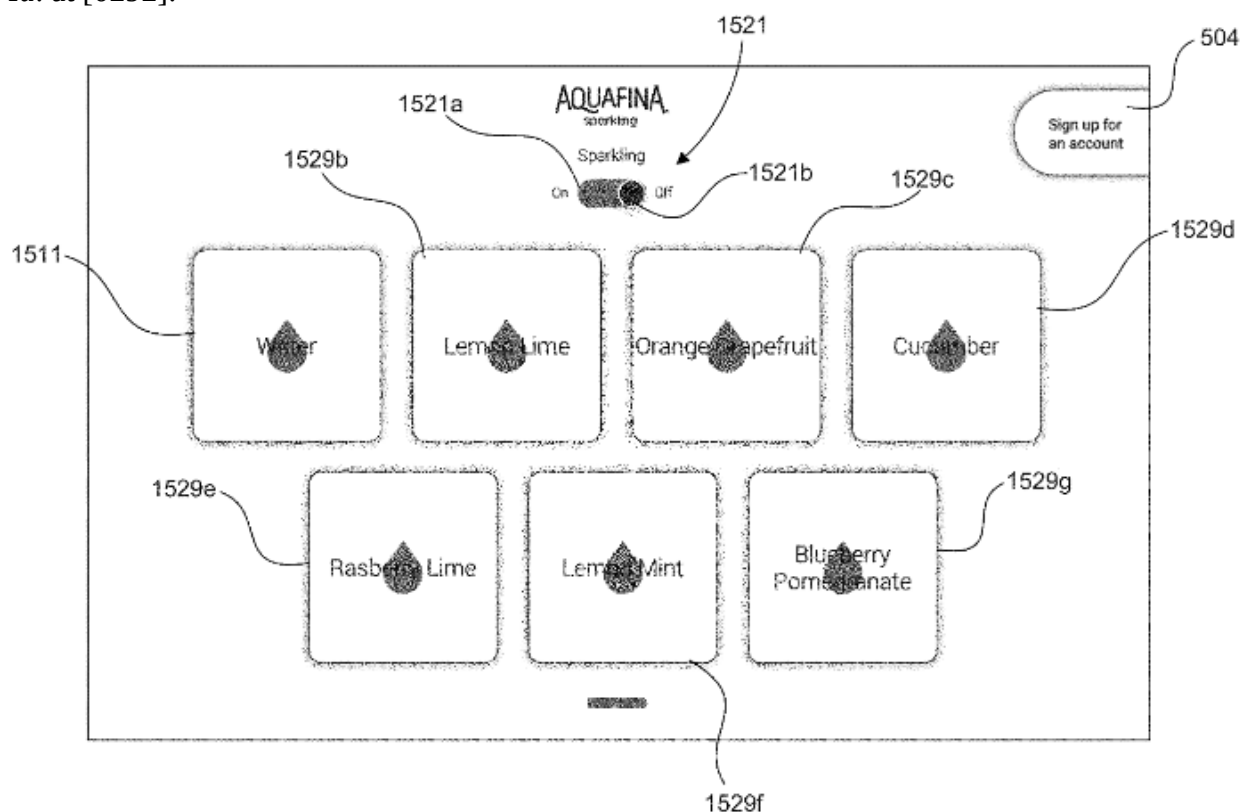


FIG. 89

Cimatti discloses that “[t]he manner in which a user engages the interface of the beverage dispensing system to select and/or dispense a beverage can vary. FIG. 22 illustrates ***an example method for modifying a customized beverage recipe after dispensing a beverage.***” *Id.* at [0251]. *Cimatti* discloses that “[a]fter a user selects a recipe button, beverage dispenser 204 can display customization screens, as shown in FIGS. 55, 57-60, 67, 68, 74, 82, 87, 88, 89.

Beverage dispenser 204 can display **a carbonation button 520**, a temperature button 524, a flavor button 528, and a pour button 530.” *Id.* at paragraph [0285]. A POSITA would understand that the beverage dispenser could be designed in a variety of ways including allowing the user to make the water selection after the selected flavor and selected function.

H. CLAIM 9

72. Limitation [9.0]: See my analysis for limitation [7.0].

I. CLAIM 10

73. Limitation [10.0]: *Cimatti* states that “FIG. 21 is a process flow diagram of an example method for dispensing a beverage according to various aspects of the invention.” *Cimatti* at [0029].

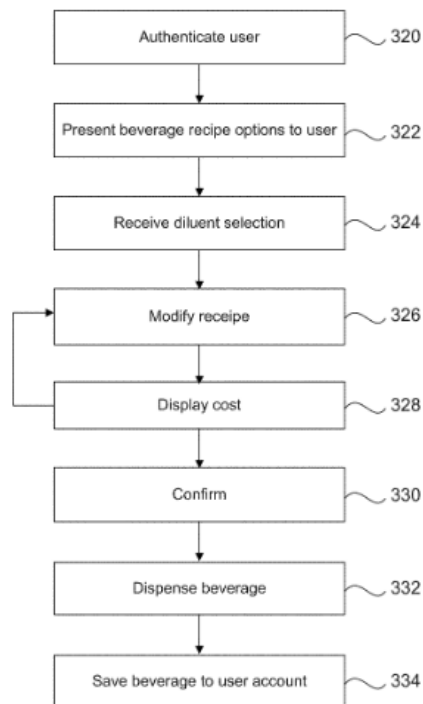


FIG. 21

74. Limitation [10.1]: See my analysis for limitation [1.1].

75. Limitations [10.2] and [10.3]: See my analysis for limitations [1.6] and [1.7].

76. Limitation [10.4]: *Cimatti* discloses that “[i]ngredients chosen on user interface 500 can be ***mixed at dispensing nozzle 170 and in a user's container*** to create a customized beverage.”

Cimatti at [0130]. See limitations [1.6] and [1.7] (“At step 332, the ***interface can send electronic signals to the valves to cause the dispenser to dispense the custom beverage*** according to the selected recipe from step 306.”).

77. Limitation [10.5]: See my analysis for limitation [1.8].

78. Limitation [10.6]: See my analysis for limitation [1.9].

J. CLAIM 16

79. Limitation [16.0]: *Cimatti* discloses:

In an aspect, ***refrigeration system 160 can include a cooler 162 to cool fluid within one or more of refrigerated sparkling diluent conduit 146 a and refrigerated still diluent conduit 144 a***. The cooler 162 can be positioned within lower housing portion 130 or within upper housing portion 110. In an aspect, the cooler 162 can be a cold plate or a coil cooler. In another aspect, the cooler 162 can be a water bath 118 and a portion of refrigeration system 160 can generate an ice bank in water bath 118.

Cimatti at [0136]. *Cimatti* discloses that:

The refrigeration system 160 can operate on a conventional vapor compression cycle to maintain the fluid diluents and fluid concentrates at a desired temperature. In the vapor compression cycle, the refrigerant in the vapor phase is compressed in a compressor resulting in an increase in temperature and pressure. Next, the hot, high-pressure refrigerant is circulated through a heat exchanger—a condenser—where it is cooled by heat transfer to the surrounding air. Because of the heat transfer to the surrounding air, the refrigerant condenses back to a liquid from the gas phase. The refrigerant then passes through a throttling device that reduces the pressure and temperature of the refrigerant. The cold refrigerant leaves the throttling device and enters a second heat exchanger—an evaporator—that provides cooled air to the area to be refrigerated. Heat transfer between the

evaporator and area to be refrigerated causes the refrigerant to evaporate or change from a saturated mixture of liquid and vapor into a superheated vapor. The vapor leaving the evaporator is then drawn back into the compressor to repeat the cycle. *Cimatti* at [0135].

K. CLAIM 17

80. Limitation [17.0]: *Cimatti* discloses that “sparkling is defined as dissolved or infused gas bubbles. The infused gas can be carbon dioxide, nitrogen, or a mixed gas. For example, “sparkling water” is water having infused gas bubbles.” *Cimatti* at [0140]. *Cimatti* discloses that “[i]n order to form sparkling water or soda, ***diluent (water) is mixed with pressurized gas.*** Sparkling diluent conduit 146 can be fluidly connected to gas mixing chamber 137, where pressurized gas is supplied to the diluent from gas tank 136.” *Id.* at [0150].

Cimatti discloses that:

In an aspect, gas mixing chamber 137 can include a liquid/gas contactor membrane unit including a cylindrical tube containing hollow fiber membranes. Diluent can be pumped into the space about the exterior of the hollow membranes. Nitrogen gas or nitrogen/carbon dioxide gas at a set pressure as determined by a supply regulator can be passed into the interior of the hollow fiber membrane from where it permeates through the membrane and the permeate nitrogen or nitrogen/carbon dioxide contacts the diluent on the exterior of the membrane and infuses into the diluent. *Id.* at [0153]

L. CLAIM 18

81. Limitation [18.0]: See my analysis for limitation [17.0].

XV. BETHUY ANTICIPATES CLAIMS 1–5, 7, AND 9-14, AND 16-20

A. CLAIM 1

82. Limitation [1.0]: *Bethuy* discloses “***a personal computer (PC) containing a processor or processors and memory 101*** may communicate with the touch screen display 100 to receive

and transmit information related to the information acquired by the display 100 and/or delivered by the PC 101.” *Bethuy* at [0050]. *Bethuy* discloses that “the user may select an option ***presented on the touch screen display 100*** which may then be transmitted to the PC 101.” *Id.* at [0052]. *Bethuy* recites:

A beverage dispensing system comprising: ***a plurality of reservoirs*** holding a respective plurality of separate ingredients to be used in customizable beverage recipes; ***a dosing system, interconnected to the plurality of reservoirs, for controlling a concentration of any ingredient*** among the plurality of separate ingredients; ***a controller coupled to the dosing system***, for receiving user preferences for a beverage and ***controlling the dosing system to select any combination among the plurality of separate ingredients according to the user preferences, such that the dosing system controls selection of certain combinations and concentrations among the plurality of separate ingredients based on the user preferences to form one or more selected ingredients***; and a dispense nozzle in communication with the dosing system, for independently receiving each selected ingredient and water, mixing the one or more selected ingredients and the water within the dispense nozzle and dispensing the beverage that has been mixed in the dispense nozzle.

Id. at claim 1.

83. Limitation [1.1]: *Bethuy* discloses that “***the user interface may display drink possibilities*** that can be made in the specific machine that the customer is using” and that “[t]he beverage selection and customization process may utilize ***a touch screen display 100 to effectuate communication between the vending machine and a user***. Such communication enables the user to directly control the composition of a dispensed beverage.” *Id.* at [0010] and [0053]. *Bethuy* states that:

[A] display screen, such as shown in FIG. 7, may be used to allow the user to select one or multiple supplemental fluids to add to the beverage. For example, the user selects kiwi,

mango and orange fruit juice concentrates to be added to the custom beverage. The user then has the option to customize the ratio in which the supplemental fluids are added. The user may designate that the final combination of supplemental fluid contain 47% kiwi, 28% orange, and 25% mango fruit juice concentrates.

Id. at [0077]. *Bethuy* discloses that “the user may optionally select a **nutritional supplement mix, like immune boost, energy boost, multi-vitamin**, etc., select their relative percentages, and then vary the amount, maybe according to body weight.” *Id.* at [0006].

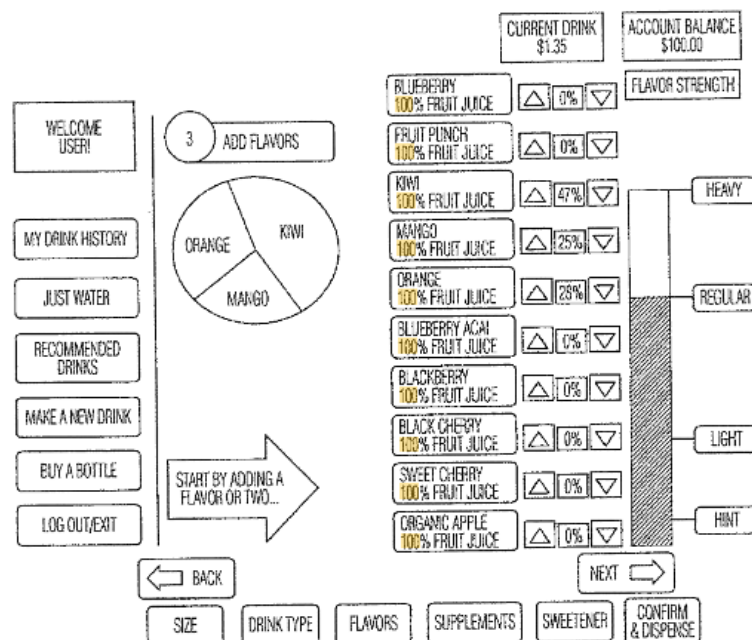


FIG. 6

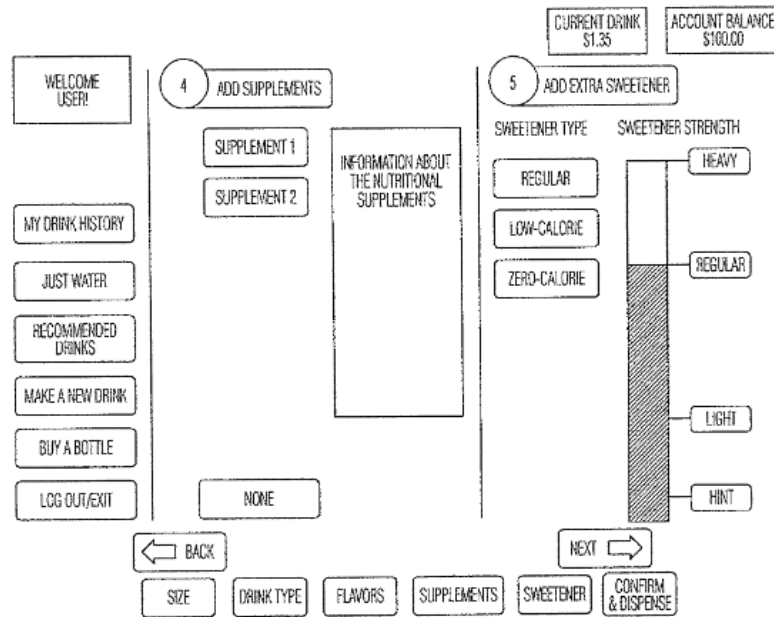


FIG. 7

84. Limitation [1.2]: See my analysis for limitation [1.1].

85. Limitation [1.3]: *Bethuy* discloses that:

After selecting supplemental fluids in a unique combination as per the user's desire, nutritional supplements may be added to the beverage through a display image as shown in FIG. 7. Nutritional supplements in liquid, powder, or other form may be added to the beverage or the total fluid volume dispensed in a fixed quantity, mass, or in a quantity proportional to a property of the beverage or the user's desire. For example, the user may choose a twenty fluid ounce beverage with a nutritional supplement. The total mass of supplement dispensed may be a fixed mass such as one gram. In another implementation, the mass of nutritional supplement may be proportional to the user's desired supplementation or proportional to the volume of the twenty ounce beverage.

Bethuy at [0079]. *Bethuy* discloses that “the user may optionally select a **nutritional supplement mix, like immune boost, energy boost, multi-vitamin**, etc., select their relative percentages, and then vary the amount, maybe according to body weight.” *Id.* at [0006].

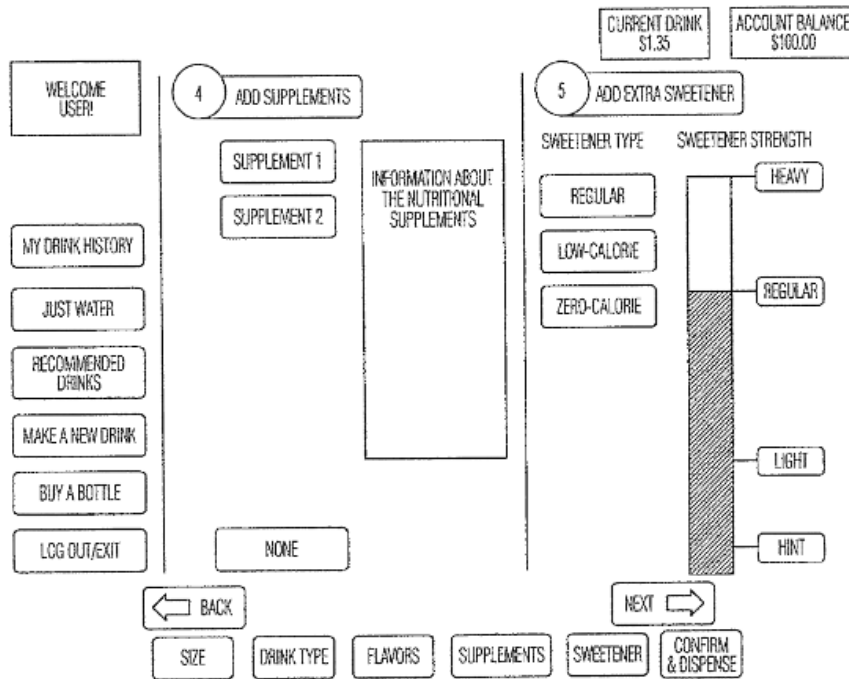


FIG. 7

86. Limitation [1.4]: See my analysis for limitation [1.1].

87. Limitation [1.5]: See my analysis for limitation [1.3].

88. Limitation [1.6] and [1.7]: *Bethuy* discloses that:

[T]he user may select an option presented on the touch screen display 100 which may then be transmitted to the PC 101. ***PC 101 may then interpret the user's input and convert the input to a format and/or language intelligible to the PLCs 103, 104. The PC 101 may then transmit information necessary to accomplish the desire of the user to the PLCs 103, 104 via an Ethernet router 102.***

Bethuy at [0052]. *Bethuy* also discloses that:

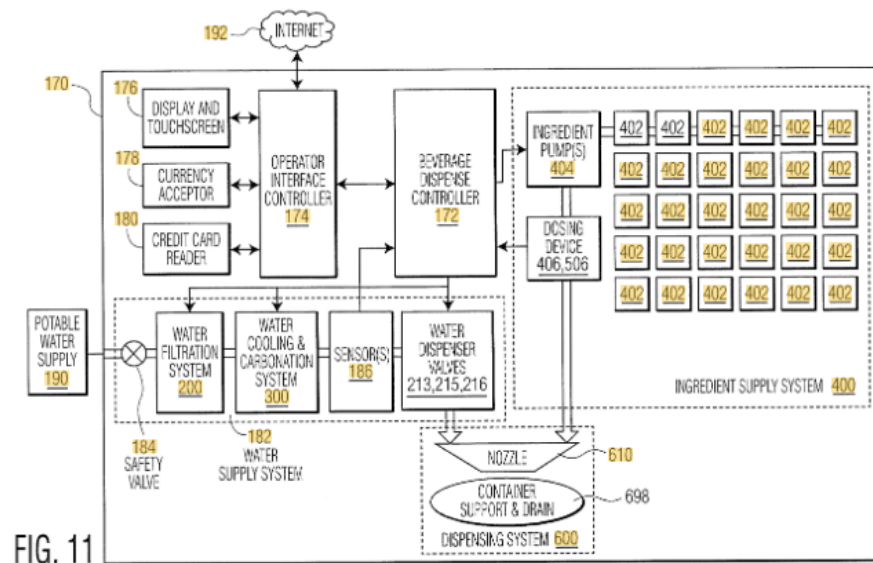
In an implementation ***the PLC 103 controls a relay 105 connected to a solenoid valve 124 to effectuate the controlled flow of fluid and/or gas through the solenoid manifold 113.*** Alternative implementations may include single or multiple relays of varying types including solid state relays, polarized relays, latching relays, reed relays, or other means to control or directly influence the actuation of a valve or the flow of fluid. Other implementations may also include single or multiple valves actuated by pneumatic, hydraulic, electrical, and/or other mechanical means.

For example, *the user's input after being communicated to the PLC 103 via the PC 101 and/or Ethernet router 102 may be effectuated by the activation of a relay 105 which activates a solenoid valve 124 allowing fluid to pass for an amount of time directly related to the user's input.* Further, the user's input after being communicated to the PLC 103 via the PC 101 and/or Ethernet router 102 may be effectuated by the activation of a relay 105 which activates the solenoid valve 124 allowing fluid to pass for an amount of volume based on feedback from one or more flow sensors directly related to the user's input.

Id. at [0053]. *Bethuy* also discloses:

The ingredient supply system 400 may *include ingredient reservoirs 402*, ingredient pumps 404, dosing device 406, 506 and a controller 172. . . Ingredients of the present disclosure may be packaged in a plurality of reservoirs 402, as shown in FIGS. 11, 15B and 19B. In an implementation, the reservoirs 402 may be bag-in-box packages. . . *By adding any two or more ingredients, such as flavors and supplements at various amounts*, an infinite combination of flavors and benefits may be achieved to obtain a wide variety of health benefits customized to a user's preference(s) (e.g., received as user input by system 170 via display and touchscreen 176).

Id. at [0129]–[0130].



89. Limitation [1.8]: *Bethuy* discloses that “***the user may optionally select a nutritional supplement mix***, like immune boost, energy boost, multi-vitamin, etc., select their relative percentages, and then ***vary the amount***, maybe according to body weight,” and that “***the supplements can be used separately*** (i.e., not combined with other ingredients) for other specific benefit.” *Id.* at [0006] and [0131]. *Bethuy* discloses that “[a] ***custom mix ratio beverage*** may also be created.” *Id.* at [0007]. *Bethuy* discloses that “[t]he ***beverage dispensing system 170 dispenses beverages as a fully customized recipe based on user preference***, dispensing one drink at a time.” *Id.* at [0135]. *Bethuy* states that:

Nutritional supplements in liquid, powder, or other form may be added to the beverage or the total fluid volume ***dispensed in a fixed quantity, mass, or in a quantity proportional to a property of the beverage or the user's desire***. For example, the user may choose a twenty fluid ounce beverage with a nutritional supplement. The total mass of supplement dispensed may be a fixed mass such as one gram. In another implementation, ***the mass of nutritional supplement may be proportional to the user's desired supplementation or proportional to the volume of the twenty ounce beverage***.

Id. at [0079]. Given that the consumer is allowed to select and create a “custom mix ratio beverage,” *Bethuy* discloses “a concentration of a dietary supplement included in the selected function” that “is larger than a concentration of the dietary supplement included in the selected flavor.”

The 927 Patent describes that the “selected flavor” can include “no flavors.” 927 Patent at [8:24–29]. *Bethuy* discloses that “***the supplements can be used separately*** (i.e., not combined with other ingredients) for other specific benefit.” *Bethuy* at paragraph [0131] (emphasis added). Since *Bethuy* discloses that “supplements can be used separately (i.e., not combined with other ingredients),” for example flavors, *Bethuy* discloses that “a concentration of a dietary supplement

included in the selected function” that “is larger than a concentration of the dietary supplement included in the selected flavor.”

90. Limitation [1.9]: *Bethuy* discloses that “the final screen may allow the user to **initiate the vending** by pressing a button or through similar means of actuation.” *Id.* at [0081]. *Bethuy* states that:

FIG. 10 illustrates a process through which **a controller may effectuate the dispense of a customized beverage**. In an implementation, the process initializes upon the establishment of communication between all controlling devices 138. The process continues with the confirmation of successful communion. If successful, the process continues and controller subroutines are activated 139. Following this, the controller waits to receive data encompassing the information necessary to dispense a beverage 140. When the information is received, the clean process 144 performs a pre-determined cleaning algorithm which may include the use of hot water to clean lines before dispense. **The type of water 141 desired is selected and appropriate dispense volumes are calculated. Then a ratio of the total beverage volume is dispensed and a process determines whether or not syrup was requested.** If syrup was requested a pour syrup 145 algorithm controls the dispense of the desired volume of single or multiple syrups. If syrup was not requested or upon completion of the pour syrup process 145, the remaining beverage volume is dispensed. Following this event the post clean 142 process performs a cleaning algorithm to clean fluid paths and the controller or controllers wait to receive the data necessary to dispense another beverage. At any point in the process described above, a stop command 143 may interrupt the process immediately moving said process to the post clean 142 event.

Id. at [0096].

B. CLAIMS 2 AND 11

91. Limitations [2.0] and [11.0]: Claim 11 depends from claim 10 but similarly requires “wherein a concentration of the dietary supplement included in the selected flavor is zero.” *Bethuy* discloses that “[t]he user can then simply order from this list, order plain filtered water, a

standard soft drink, favorite or top selling recipes recommended by the machine, or design a totally new custom beverage.” *Id.* at [0006]. *Bethuy* discloses that “***the supplements can be used separately*** (i.e., not combined with other ingredients) for other specific benefits.” *Id.* at [0131]. *Bethuy* states that:

[T]he user selects kiwi, mango and orange fruit juice concentrates to be added to the custom beverage. ***The user then has the option to customize the ratio in which the supplemental fluids are added.*** The user may designate that the final combination of supplemental fluid contain 47% kiwi, 28% orange, and 25% mango fruit juice concentrates.

Id. at paragraph [0077]. *See* limitation [1.8]. A POSITA would understand based on the teaching that a user could add any number of different supplements to the drink where there may be combinations where the selected flavor does not have any additive ingredient. For example, a user could selected a flavor such as “Blueberry” that has 100% fruit juice as seen in Figure 6. The selected flavor would not naturally have any sweetener that could be added “like cane/agave syrup, or a low calorie sweetener, like stevia or monk fruit extract.” *Bethuy* at [0006]. Accordingly, *Bethuy* discloses a concentration of the dietary supplement included in the selected flavor is zero.

C. CLAIMS 3 AND 12

92. Limitations [3.0] and [12.0]: Claim 12 depends from claim 10 but similarly requires “wherein the selectable functions include at least one of relax, energize, immunize, or muscle.” As discussed earlier, for limitations [3.0] and [12.0] to be anticipated, the prior art need only disclose one of the selectable exemplary functions recited.

Bethuy discloses that “the user may optionally select a nutritional supplement mix, like ***immune boost, energy boost, multi-vitamin***, etc., select their relative percentages, and then vary the amount, maybe according to body weight.” *Id.* at [0006]. *Bethuy* states that:

[A] few ingredients may deliver many benefits. For example, the beverage dispensing system 170 may include various supplements as ingredients. In an implementation, ***a user seeking an immunity boosting formula may specify a preference for a combination of a multi-vitamin supplement (which may be beneficial once a day) with an anti-oxidant supplement (which may be beneficial with every beverage, i.e., more than once a day) and Echinacea to create an immunity formula.*** In another implementation, ***a user may specify a preference for a combination of caffeine (which may be beneficial for energy) with a B vitamin blend (which may be beneficial for focus and concentration) for an enhanced energy beverage.*** In other implementations, the supplements can be used separately (i.e., not combined with other ingredients) for other specific benefits. The various ingredients provide for many possible beverages to be created from a few ingredients. The various supplements may be in the form of highly-concentrated natural ingredients that are shelf-stable for at least one year without the use of artificial ingredients or preservatives. The supplements may include, but are not limited to, ***proteins, vitamins, multi-vitamins, anti-oxidants, Echinacea, caffeine or any combination thereof.*** Non-limiting examples of supplements may include, for example, at least one of one or more vitamins, antioxidants, minerals, fiber, essential fatty acids, amino acids, probiotics, digestive enzymes, appetite suppressants, electrolytes, anti-acids (such as ginger and papaya), protein, glucosamine and chondroitin, CoQ10, curcumin, collagen, chemical extracts, brewer's yeast, spirulina, bee pollen, royal jelly, herbs caffeine, ***as well as any other natural or man-made herbs or extracts than can be placed into a format dispensable by the systems of the present disclosure.***

Id. at [0131].

D. CLAIMS 4 AND 13

93. Limitation [4.0]: See limitations [1.0]–[1.9] and [3.0]. Claim 13 depends from claim 12 with the preamble “The method of claim 12, wherein:” As discussed earlier, for limitations [4.1]–[4.4] and [13.1]–[13.4] to be anticipated, the prior art need only disclose one of the selected exemplary functions recited.

94. Limitations [4.1] and [13.1]: *Bethuy* states that:

[A] few ingredients may deliver many benefits. For example, the beverage dispensing system 170 may include various supplements as ingredients. In an implementation, a user seeking an immunity boosting formula may specify a preference for a combination of a multi-vitamin supplement (which may be beneficial once a day) with an anti-oxidant supplement (which may be beneficial with every beverage, i.e., more than once a day) and Echinacea to create an immunity formula. In another implementation, a user may specify a preference for a combination of caffeine (which may be beneficial for energy) with a **B vitamin blend** (which may be beneficial for focus and concentration) for an enhanced energy beverage. In other implementations, the supplements can be used separately (i.e., not combined with other ingredients) for other specific benefits. The various ingredients provide for many possible beverages to be created from a few ingredients. The various supplements may be in the form of highly-concentrated natural ingredients that are shelf-stable for at least one year without the use of artificial ingredients or preservatives. The supplements may include, but are not limited to, proteins, **vitamins**, **multi-vitamins**, anti-oxidants, Echinacea, caffeine or any combination thereof. ***Non-limiting examples of supplements may include***, for example, at least one of one or more **vitamins**, antioxidants, minerals, fiber, essential fatty acids, amino acids, probiotics, digestive enzymes, appetite suppressants, electrolytes, anti-acids (such as ginger and papaya), protein, glucosamine and chondroitin, CoQ10, curcumin, collagen, chemical extracts, brewer's yeast, spirulina, bee pollen, royal jelly, **herbs** caffeine, ***as well as any other natural or man-made herbs or extracts than can be placed into a format dispensable by the systems of the present disclosure.***

Bethuy at [0131].

95. Limitations [4.2] and [13.2]: *Bethuy* states that:

[A] few ingredients may deliver many benefits. For example, the beverage dispensing system 170 may include various supplements as ingredients. In an implementation, a user seeking an immunity boosting formula may specify a

preference for a combination of a multi-vitamin supplement (which may be beneficial once a day) with an anti-oxidant supplement (which may be beneficial with every beverage, i.e., more than once a day) and Echinacea to create an immunity formula. In another implementation, ***a user may specify a preference for a combination of caffeine (which may be beneficial for energy) with a B vitamin blend (which may be beneficial for focus and concentration) for an enhanced energy beverage.*** In other implementations, the supplements can be used separately (i.e., not combined with other ingredients) for other specific benefits. The various ingredients provide for many possible beverages to be created from a few ingredients. The various supplements may be in the form of highly-concentrated natural ingredients that are shelf-stable for at least one year without the use of artificial ingredients or preservatives. The supplements may include, but are not limited to, proteins, ***vitamins, multi-vitamins***, anti-oxidants, Echinacea, ***caffeine*** or any combination thereof. Non-limiting examples of supplements may include, for example, at least one of one or more ***vitamins***, antioxidants, ***minerals***, fiber, essential fatty acids, amino acids, probiotics, digestive enzymes, appetite suppressants, electrolytes, anti-acids (such as ginger and papaya), protein, glucosamine and chondroitin, ***CoQ10***, curcumin, collagen, chemical extracts, brewer's yeast, spirulina, bee pollen, royal jelly, herbs ***caffeine, as well as any other natural or man-made herbs or extracts than can be placed into a format dispensable by the systems of the present disclosure.***

Id. at [0131].

96. Limitations [4.3] and [13.3]: *Bethuy* states that:

[A] few ingredients may deliver many benefits. For example, the beverage dispensing system 170 may include various supplements as ingredients. In an implementation, ***a user seeking an immunity boosting formula may specify a preference for a combination of a multi-vitamin supplement (which may be beneficial once a day) with an anti-oxidant supplement (which may be beneficial with every beverage, i.e., more than once a day) and Echinacea to create an immunity formula.*** In another implementation, a user may specify a preference for

a combination of caffeine (which may be beneficial for energy) with a B vitamin blend (which may be beneficial for focus and concentration) for an enhanced energy beverage. In other implementations, the supplements can be used separately (i.e., not combined with other ingredients) for other specific benefits. The various ingredients provide for many possible beverages to be created from a few ingredients. The various supplements may be in the form of highly-concentrated natural ingredients that are shelf-stable for at least one year without the use of artificial ingredients or preservatives. The supplements may include, but are not limited to, proteins, **vitamins, multi-vitamins, anti-oxidants, Echinacea**, caffeine or any combination thereof. Non-limiting examples of supplements may include, for example, at least one of one or more **vitamins, antioxidants, minerals**, fiber, essential fatty acids, amino acids, probiotics, digestive enzymes, appetite suppressants, electrolytes, anti-acids (such as ginger and papaya), protein, glucosamine and chondroitin, CoQ10, curcumin, collagen, chemical extracts, brewer's yeast, spirulina, bee pollen, royal jelly, herbs caffeine, **as well as any other natural or man-made herbs or extracts than can be placed into a format dispensable by the systems of the present disclosure.**

Id. at [0131].

97. Limitations [4.4] and [13.4]: *Bethuy* states that:

[A] few ingredients may deliver many benefits. For example, the beverage dispensing system 170 may include various supplements as ingredients. In an implementation, a user seeking an immunity boosting formula may specify a preference for a combination of a multi-vitamin supplement (which may be beneficial once a day) with an anti-oxidant supplement (which may be beneficial with every beverage, i.e., more than once a day) and Echinacea to create an immunity formula. In another implementation, a user may specify a preference for a combination of caffeine (which may be beneficial for energy) with a B vitamin blend (which may be beneficial for focus and concentration) for an enhanced energy beverage. In other implementations, the supplements can be used separately (i.e., not combined with other ingredients) for other specific benefits. The various

ingredients provide for many possible beverages to be created from a few ingredients. The various supplements may be in the form of highly-concentrated natural ingredients that are shelf-stable for at least one year without the use of artificial ingredients or preservatives. The supplements may include, but are not limited to, **proteins**, vitamins, multi-vitamins, anti-oxidants, Echinacea, caffeine or any combination thereof. Non-limiting examples of supplements may include, for example, at least one of one or more vitamins, antioxidants, minerals, fiber, essential fatty acids, **amino acids**, probiotics, digestive enzymes, appetite suppressants, electrolytes, anti-acids (such as ginger and papaya), **protein**, glucosamine and chondroitin, CoQ10, curcumin, collagen, chemical extracts, brewer's yeast, spirulina, bee pollen, royal jelly, herbs caffeine, as well as any other natural or man-made herbs or extracts than can be placed into a format dispensable by the systems of the present disclosure.

Id. at [0131].

E. CLAIMS 5 AND 14

98. Limitation [5.0]: Claim 14 depends from claim 12 but similarly requires “wherein the selectable functions include relax, energize, and immunize.” See my analysis for limitation [3.0].

F. CLAIM 7

99. Limitation [7.0]: *Bethuy* discloses that:

An implementation may use display images such as shown in FIG. 4-9 for the beverage customization process. For example, a user utilizes a display image such as shown in FIG. 5 to select a desired drink volume. In one implementation, a beverage volume may range from about six fluid ounces to about sixty four fluid ounces or any similar volume related to a personal beverage container. ***The user then has option to select a main fluid type such as regular cold water, carbonated water, and hot water.*** However, other implementations may include main fluid types other than water such as a solution of water and ethanol alcohol.

Bethuy at [0077].

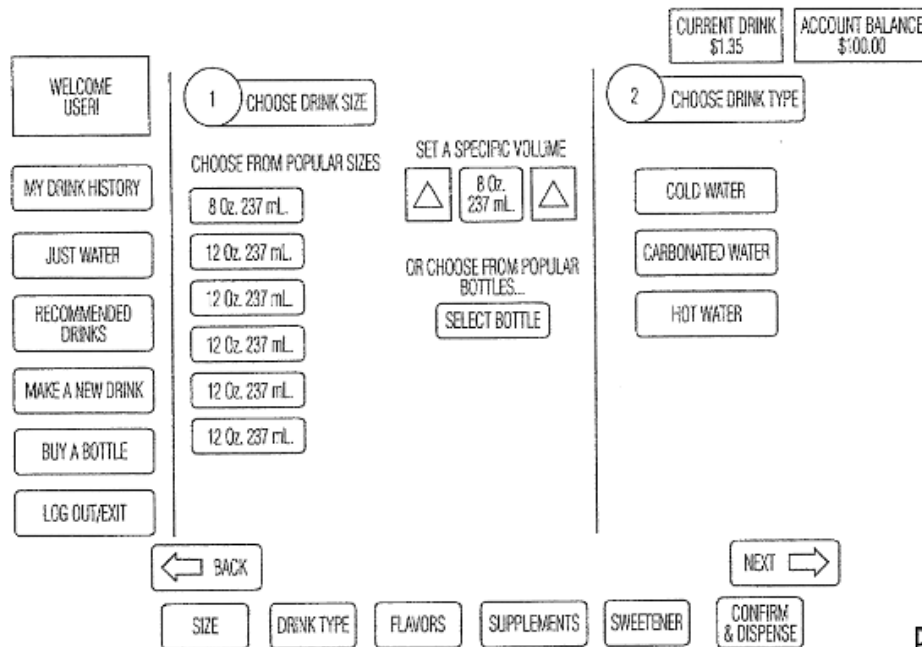


FIG. 5

G. CLAIM 9

100. Limitation [9.0]: See my analysis for limitation [8.0].

H. CLAIM 10

101. Limitation [10.0]: Bethuy states that:

FIG. 10 illustrates a process through which a controller may effectuate the dispense of a customized beverage. In an implementation, the process initializes upon the establishment of communication between all controlling devices 138. The process continues with the confirmation of successful communion. If successful, the process continues and controller subroutines are activated 139. Following this, the controller waits to receive data encompassing the information necessary to dispense a beverage 140. When the information is received, the clean process 144 performs a pre-determined cleaning algorithm which may include the use of hot water to clean lines before dispense. The type of water 141 desired is selected and appropriate dispense volumes are calculated. Then a ratio of the total beverage volume is dispensed and a process determines whether or not syrup was requested. If syrup was requested a pour syrup 145 algorithm controls the dispense of the

desired volume of single or multiple syrups. If syrup was not requested or upon completion of the pour syrup process 145, the remaining beverage volume is dispensed. Following this event the post clean 142 process performs a cleaning algorithm to clean fluid paths and the controller or controllers wait to receive the data necessary to dispense another beverage. At any point in the process described above, a stop command 143 may interrupt the process immediately moving said process to the post clean 142 event.

Bethuy at [0096].

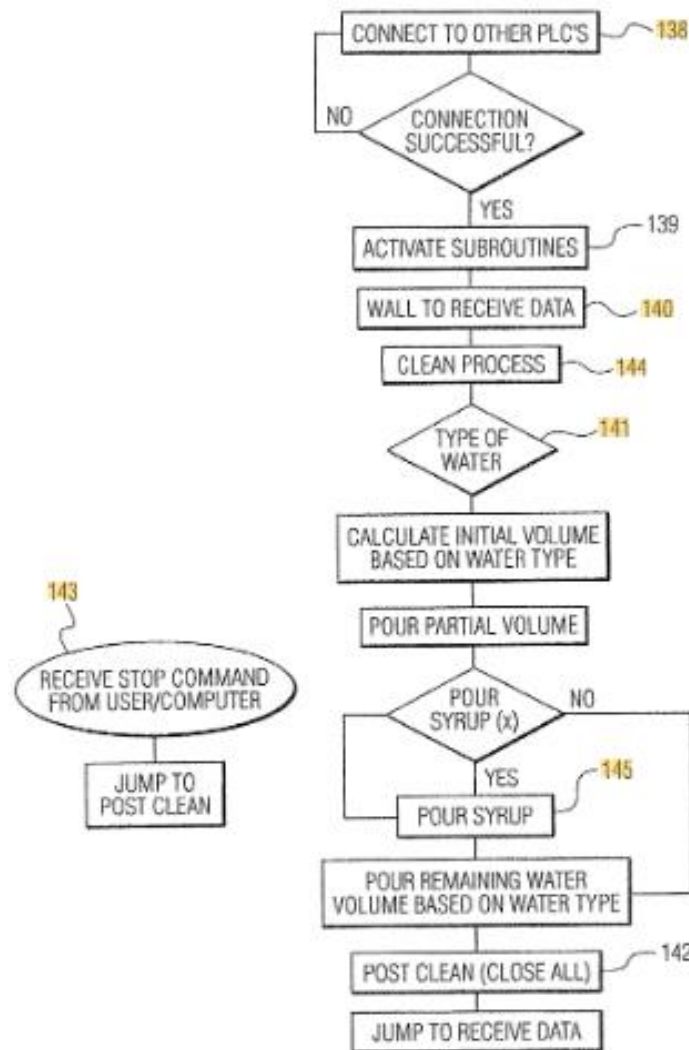


FIG. 10

102. Limitation [10.1]: See my analysis for limitations [1.0]–[1.5].

103. Limitations [10.2] and [10.3]: See analysis for limitations [1.6] and [1.7].

104. Limitation [10.4]: *Bethuy* discloses:

Next, a dispensing system 600 is described, according to an implementation, as shown in FIGS. 11, 25, 26, 27A-27D, 28A-28E and 29. The beverage dispensing system 170 of the present disclosure may use a dispenser system 600 ***which may include a nozzle 610 comprised of a cone nozzle 611 and an ingredient funnel 620, and at least one outlet tube 630.*** Optionally, dispenser 600 may include a cover 640, or multiple outlet tubes 630-1, 630-2, as shown in FIGS. 25 and 26. Cone nozzle 611 incorporates a staggered layout of ingredient outlets 613 in apertures located around a central rinse outlet 612 positioned in an aperture at an apex of cone nozzle 611 as shown in FIGS. 27A, 28D and 29.

Bethuy at [0158]. See limitations [1.6] and [1.7]. *Bethuy* discloses:

One implementation may utilize a combination of solenoid manifolds 113 to control the flow of fluid from unique and separate inflow paths to a common outflow path. For example, ***a six line manifold may contain six normally closed solenoid valves, each preventing a given fluid from entering the manifold.*** When a given solenoid valve is energized, fluid that was previously blocked by the solenoid flows through the manifold. Multiple solenoid valves 112 may actuate during overlapping time intervals allowing one or more fluids to enter the manifold through unique fluid paths and depart through a common path.

Bethuy at [0066]. *Bethuy* states “the PLC 103 controls a relay 105 connected to a ***solenoid valve 124 to effectuate the controlled flow of fluid and/or gas through the solenoid manifold 113.***” *Id.* at [0053].

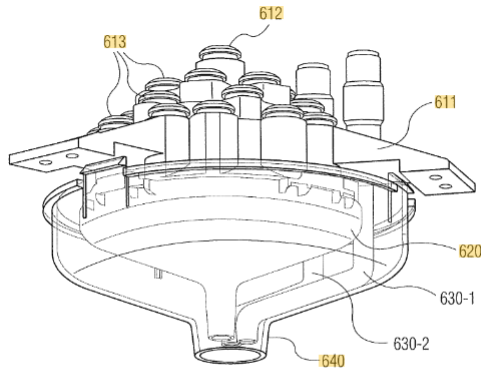


FIG. 26

Additionally, “[a] **mixing manifold** may be incorporated that is first cleaned with an automatic clean cycle. This purges any drips that may have leaked into the manifold during the period between vending cycles. **The mixing manifold multi-path solenoid valve on the end** that is normally open to the machine drain is connected to the drain.” *Bethuy* at [0008].

105. Limitation [10.5]: See my analysis for limitations [1.6]–[1.8].

106. Limitation [10.6]: *Bethuy* discloses that “[t]he user can then simply order from this list, order plain filtered water, a standard soft drink, favorite or top selling recipes recommended by the machine, or design a totally new custom beverage.” *Bethuy* at [0006]. *Bethuy* discloses that “the user's input after being communicated to the PLC 103 via the PC 101 and/or Ethernet router 102 may be effectuated by the activation of a relay 105 which activates a solenoid valve 124 allowing fluid to pass for an amount of time directly related to the user's input.” *Id.* at [0053].

Further, the reference discloses:

Ingredient dosing for the customization process of the beverage dispensing system 170 may include a relatively low-cost peristaltic pump with a direct current (DC) motor used as the ingredient pump 404. . . . There are several methods that can be used to accurately dose highly-concentrated ingredients with the use of a peristaltic pump, or any similar positive displacement pump.

Id. at [0138]. *Bethuy* discloses:

One implementation may utilize a combination of solenoid manifolds 113 to control the flow of fluid from unique and separate inflow paths to a common outflow path.

For example, **a six line manifold may contain six normally closed solenoid valves, each preventing a given fluid from entering the manifold.** When a given solenoid valve is energized, fluid that was previously blocked by the solenoid flows through the manifold. Multiple solenoid valves 112 may actuate during overlapping time intervals allowing one or more fluids to enter the manifold through unique fluid paths and depart through a common path.

Bethuy at [0066].

I. CLAIM 16

107. Limitation [16.0]: *Bethuy* discloses that:

The temperature of **the chilled product** may range from about 60.degree. F. to 32.degree. F. For example, **fluid may enter a combination water chiller, carbonator, and syrup chiller** designed for soda-fountain style machines 118. Fluid exiting from the chilled water path then follows a path connected to a one way valve 124 and then to a normally closed solenoid valve located on a manifold. When the solenoid is activated, **the chilled water flows through the manifolds 113, flow meter 114, and 3-way solenoid 115 directly to dispense.** Other implementations may incorporate the use of one or more fluid paths and/or valves to control the flow of fluid from a fluid treatment device such as a water chiller and effectuate the dispense or disposal of said fluid. Carbonated fluid exiting the fluid treatment apparatus may follow a fluid path directly or indirectly connected to the dispense nozzle and the fluid path may be regulated by a device such as a needle valve 134 or through the use of an inline compensator or similar device. In another example, syrup may traverse a syrup chilling line and flow through a manifold 113, flow meter 114, and 3-way solenoid 115 to a dispensing nozzle.

Id. at [0062]. See limitation [1.0].

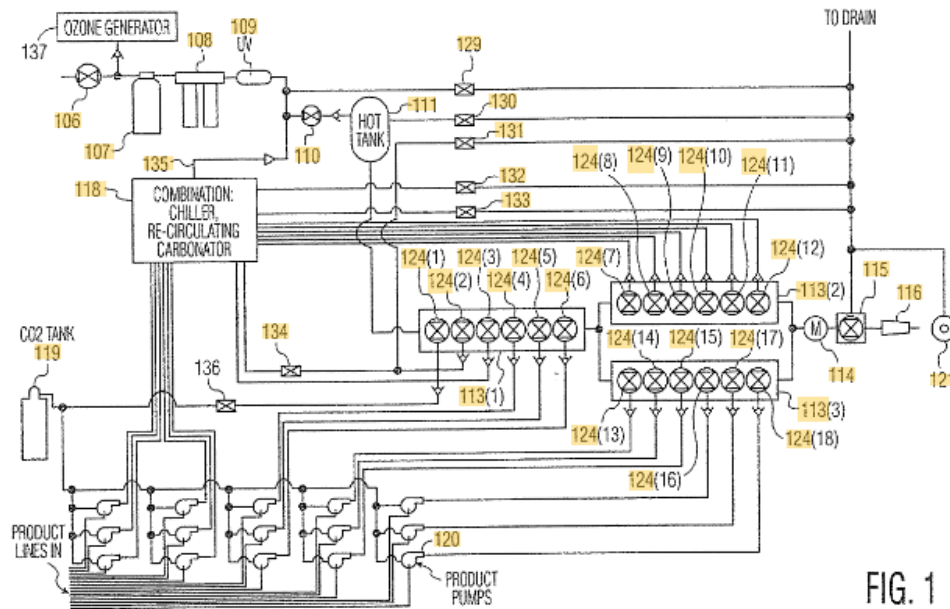


FIG. 1

J. CLAIM 18

108. Limitation [18.0]: See my analysis for limitations [1.0] and [17.0].

K. CLAIM 19

109. Limitation [19.0]: Bethuy discloses that:

[T]he PLC 103 controls a relay 105 connected to a solenoid valve 124 to effectuate the controlled flow of fluid and/or gas through the solenoid manifold 113. Alternative implementations may include single or multiple relays of varying types including solid state relays, polarized relays, latching relays, reed relays, or other means to control or directly influence the actuation of a valve or the flow of fluid. Other implementations may also include single or multiple valves actuated by pneumatic, hydraulic, electrical, and/or other mechanical means. ***For example, the user's input after being communicated to the PLC 103 via the PC 101 and/or Ethernet router 102 may be effectuated by the activation of a relay 105 which activates a solenoid valve 124 allowing fluid to pass for an amount of time directly related to the user's input. Further, the user's input after being communicated to the PLC 103 via the PC 101 and/or Ethernet router 102 may be effectuated by the activation of a relay 105 which activates the solenoid valve 124 allowing fluid to***

pass for an amount of volume based on feedback from one or more flow sensors directly related to the user's input.

Bethuy at [0053]. *Bethuy* discloses the use of “[t]he one or more sensors 186 may be of any type useful for monitoring flowing liquids, such as, without being limited to, flowmeters, thermometers, pressure sensors or rheometers.” *Id.* at [0099]. Further, *Bethuy* describes “[a]n initial mapping process is performed wherein each ingredient may be mapped to measure the quantity dispensed per pulse in order to determine a conversion factor. . . . In operation, a pulse counter dosing device 506 is attached to each ingredient pump 404, and ***controller 172 controls the speed of ingredient pump 404 using output 505 based on the pulse count and map 509 between pulse count and amount dispensed to determine how many pulses to dispense.***” *Id.* At [0152]. *Bethuy* discloses other methods to count pulses of ingredients being dispensed. *See id.* at [0153]–[0155]. *Bethuy* recites:

A beverage dispensing system comprising: a plurality of reservoirs holding a respective plurality of separate ingredients to be used in customizable beverage recipes; a dosing system, interconnected to the plurality of reservoirs, for controlling a concentration of any ingredient among the plurality of separate ingredients; a controller coupled to the dosing system, for receiving user preferences for a beverage and controlling the dosing system to select any combination among the plurality of separate ingredients according to the user preferences, such that the dosing system controls selection of certain combinations and concentrations among the plurality of separate ingredients based on the user preferences to form one or more selected ingredients; and a dispense nozzle in communication with the dosing system, for independently receiving each selected ingredient and water, mixing the one or more selected ingredients and the water within the dispense nozzle and dispensing the beverage that has been mixed in the dispense nozzle.

Id. at claim 1. *Bethuy* states that:

FIG. 10 illustrates a process through which a controller may effectuate the dispense of a customized beverage. In an implementation, the process initializes upon the establishment of communication between all controlling devices 138. The process continues with the confirmation of successful communion. If successful, the process continues and controller subroutines are activated 139. **Following this, the controller waits to receive data encompassing the information necessary to dispense a beverage 140.** When the information is received, the clean process 144 performs a pre-determined cleaning algorithm which may include the use of hot water to clean lines before dispense. The type of water 141 desired is selected and appropriate dispense volumes are calculated. **Then a ratio of the total beverage volume is dispensed and a process determines whether or not syrup was requested. If syrup was requested a pour syrup 145 algorithm controls the dispense of the desired volume of single or multiple syrups.** If syrup was not requested or upon completion of the pour syrup process 145, the remaining beverage volume is dispensed. Following this event the post clean 142 process performs a cleaning algorithm to clean fluid paths and the controller or controllers wait to receive the data necessary to dispense another beverage. At any point in the process described above, a stop command 143 may interrupt the process immediately moving said process to the post clean 142 event.

Bethuy at [0096].

L. CLAIM 20

110. Limitation [20.0]: *Bethuy* discloses using:

[S]et supplement volumes to static volumes or “shots.” The shots may be of the same volume for an 8 oz drink and a 32 oz drink. A user may select one shot or more than one. Such other approaches may include setting the summation of supplemental fluid taste, viscosity, or other properties to meet the desire of the user.

Id. at [0078]. *Bethuy* states that:

After selecting supplemental fluids in a unique combination as per the user's desire, nutritional supplements may be added to the beverage through a display image as shown in FIG. 7. ***Nutritional supplements in liquid, powder, or other form may***

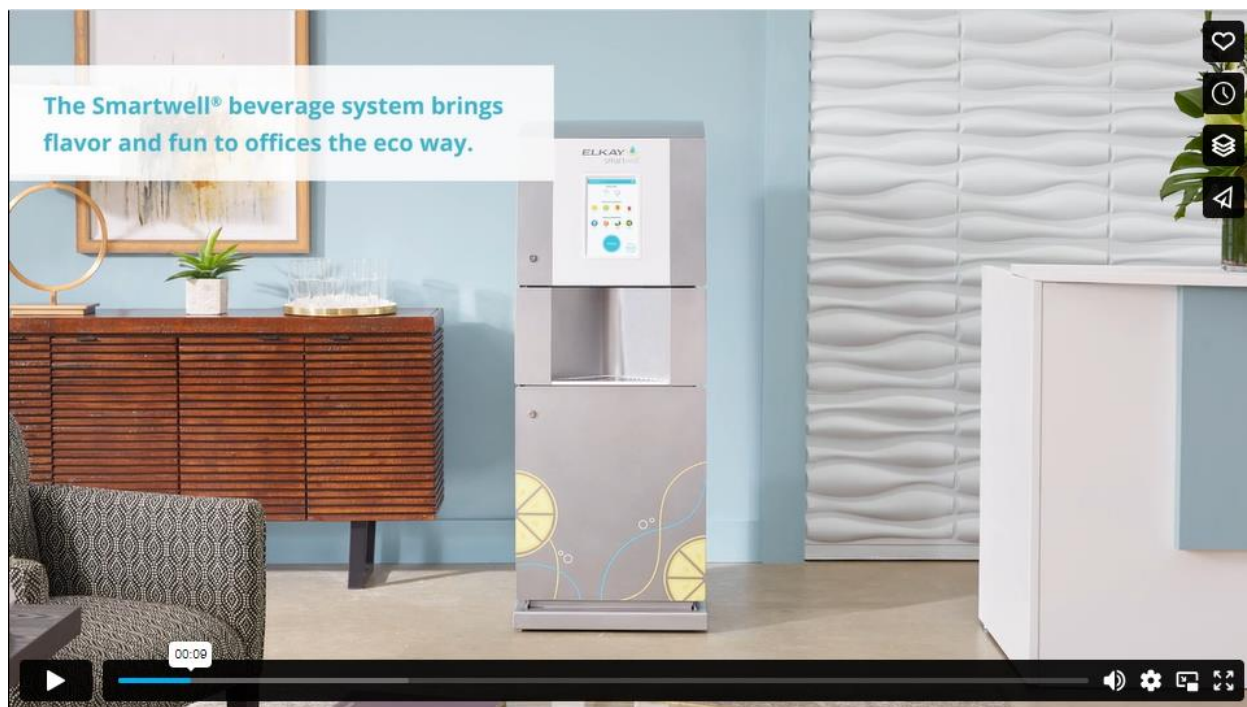
be added to the beverage or the total fluid volume dispensed in a fixed quantity, mass, or in a quantity proportional to a property of the beverage or the user's desire. For example, the user may choose a twenty fluid ounce beverage with a nutritional supplement. *The total mass of supplement dispensed may be a fixed mass such as one gram.* In another implementation, *the mass of nutritional supplement may be proportional to the user's desired supplementation or proportional to the volume of the twenty ounce beverage.* The user may also have the option of adding a sweetener to the custom beverage. The sweetener may consist of ingredients such as cane sugar, stevia, agave sugar, monk fruit extract, Luo Han Guo or other sweeteners. These sweeteners may be added to the custom beverage in a manner similar to that described for supplements.

Id. at [0079]. For example, “[b]everage ingredients may be stocked in the machine in one of two ways, both in highly concentrated forms.” *Id.* at [0005]. A POSITA using the disclosures in *Bethuy* would understand that could set the amount of selected flavor and selected function to be any amount including between fifteen and twenty-five milligrams.

XVI. SMARTWELL DISPENSER ANTICIPATES CLAIMS 1–3, 5–15, 17, AND 18

A. CLAIM 1

111. Limitation [1.0]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:09.



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:13.

4.1 Replacing a Pouch

The unit is factory preset for the location of the startup.

Note: *A small amount of citric acid is injected into each drink. This citric acid acts as a flavor enhancer, so each drink gives you the best experience and true fruit flavor.*

The beverage dispenser holds eight pouches.

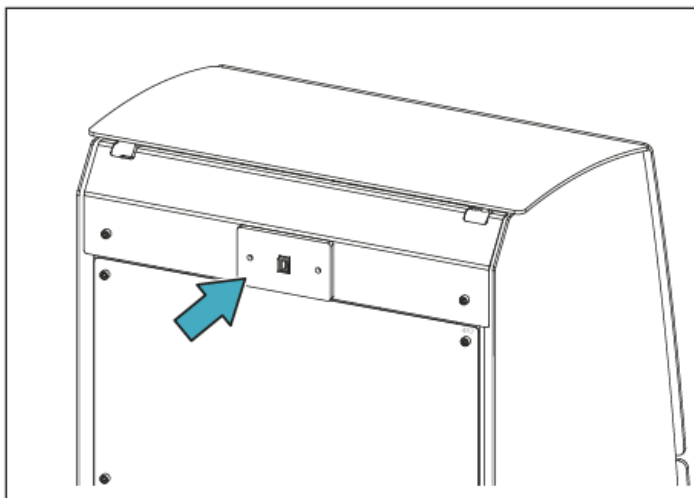
- One slot for the Citric Acid pouch.
- Four slots for the selected flavor pouches.
- One slot for the Sweetener pouch.
- Two slots for selected enhancements.

Ex. 1007, Smartwell Publication, User Manual, at p. 8.

3.1 Initial Settings

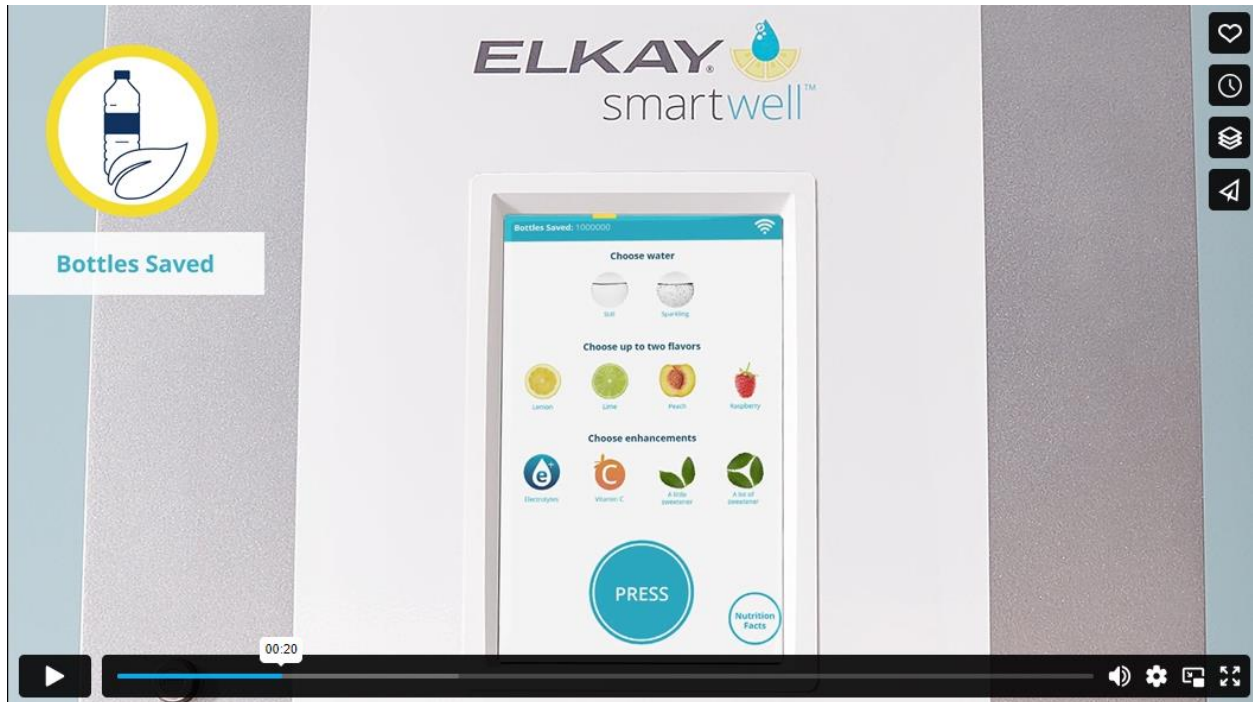
If the unit was unplugged or disconnected for a long period of time, it may need to be set up again. Follow these steps to connect it to the Internet, confirm the Date/Time for reporting, and install pouches, if needed. Skip any of these steps in the process if they are not applicable.

1. If not already connected, connect an Internet router's Ethernet cable to the Smartwell or connect the unit to the Internet through the Wi-Fi extender as described in the next step.



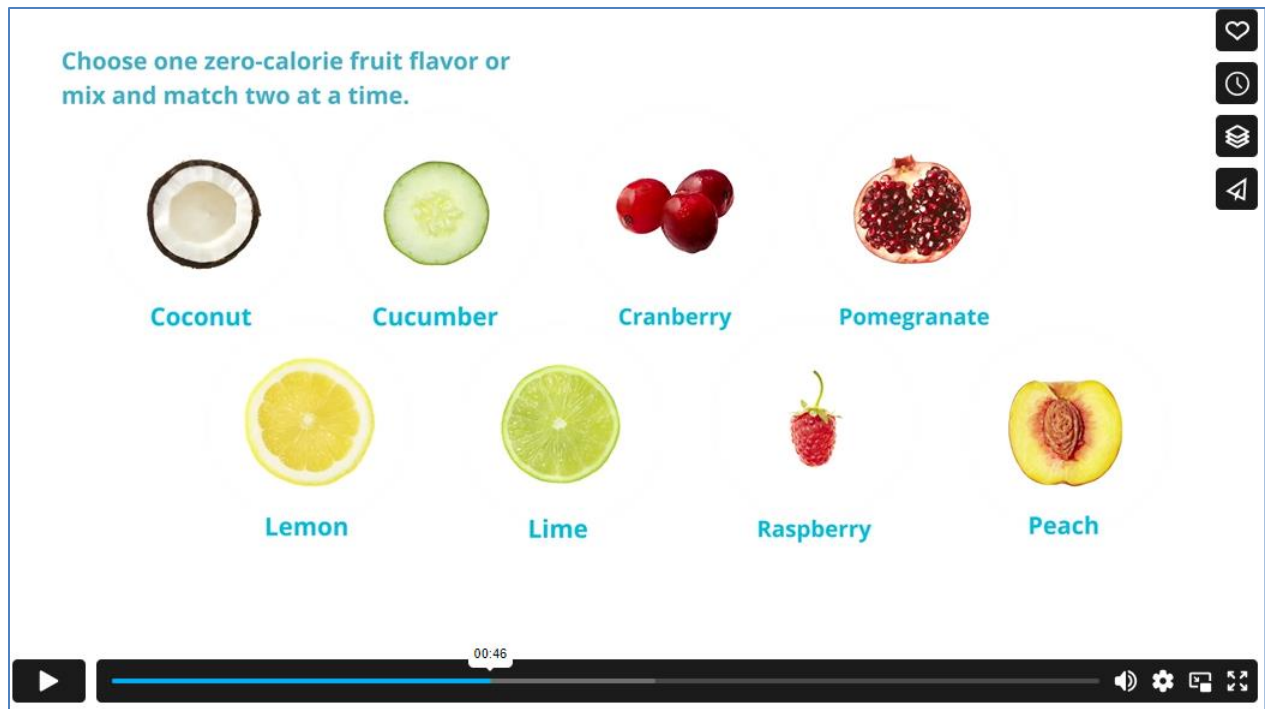
Id. at p. 5. Given that the SmartWell Dispenser discloses a touch screen and can connect to the Internet, a POSITA understand that the SmartWell Dispenser discloses a processor.

112. Limitation [1.1]:



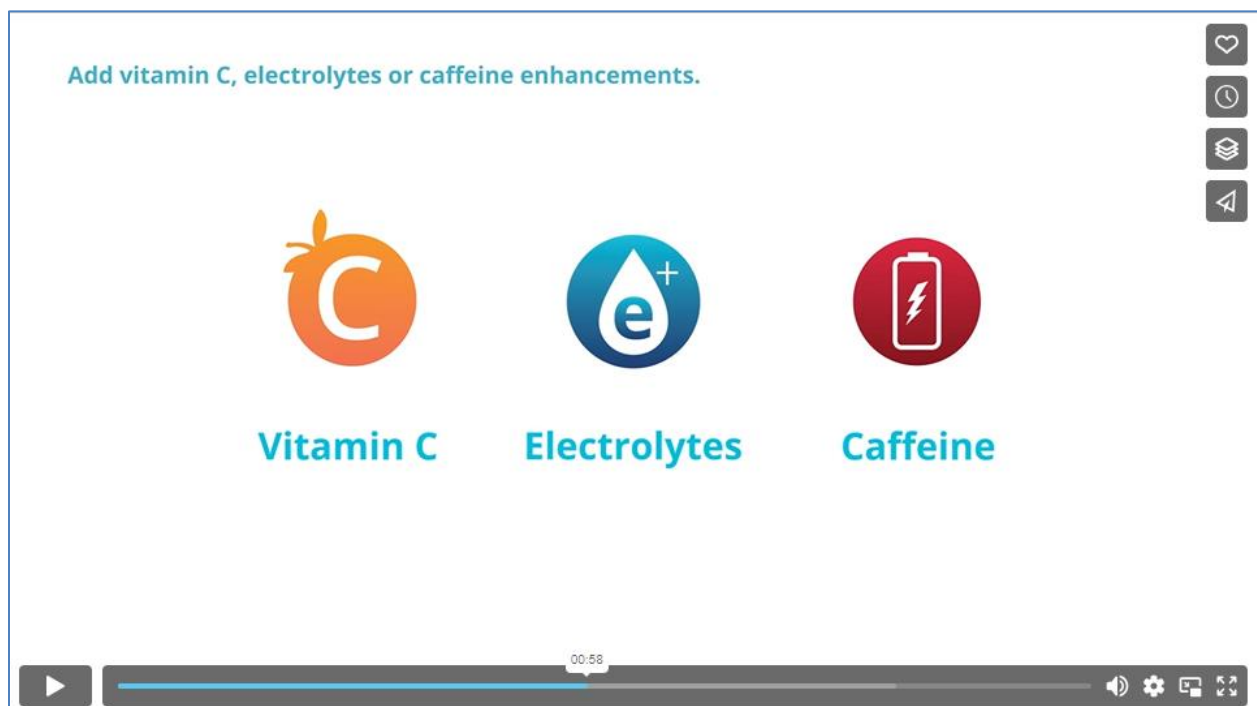
Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:20.

113. Limitation [1.2]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:46. See limitation [1.1].

114. Limitation [1.3]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:58.



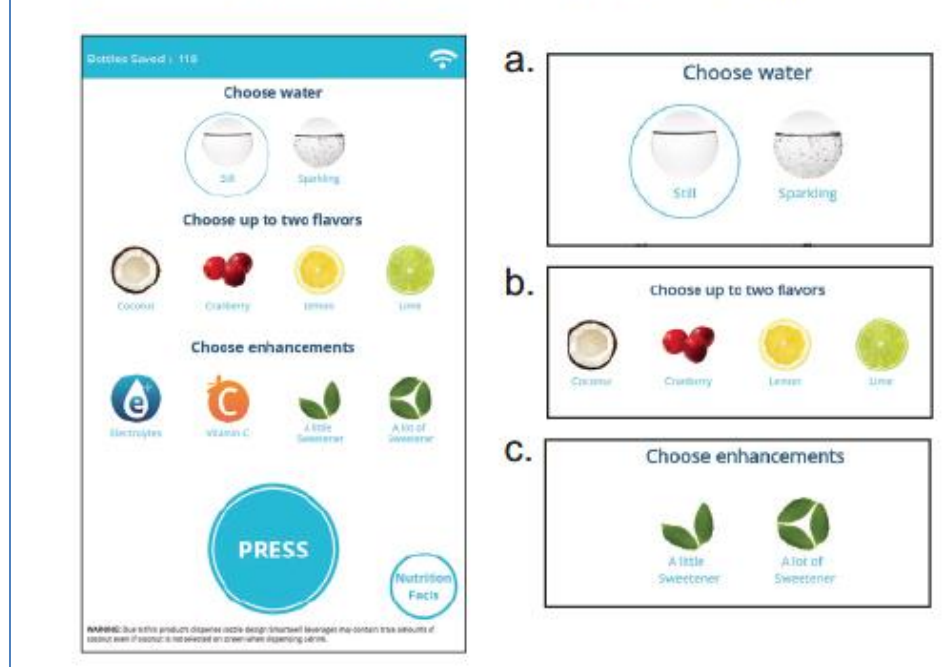
Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:52. See limitation [1.1].

115. Limitations [1.4] and [1.5]:



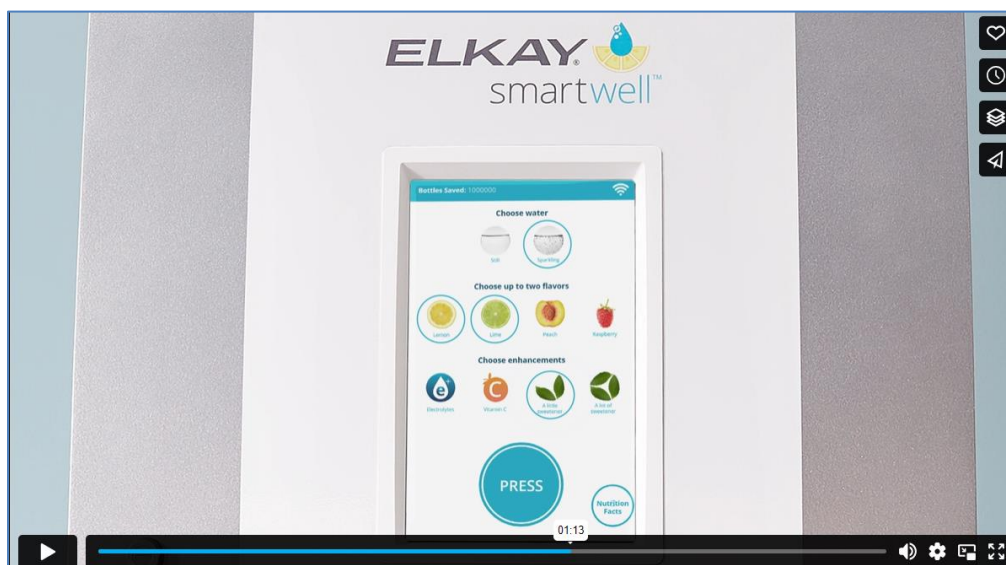
Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:13.

2. From the Home screen make the desired selection.
 - a. Still or Sparkling.
 - b. Select up to two available flavors.
 - c. Select up to two available enhancements.

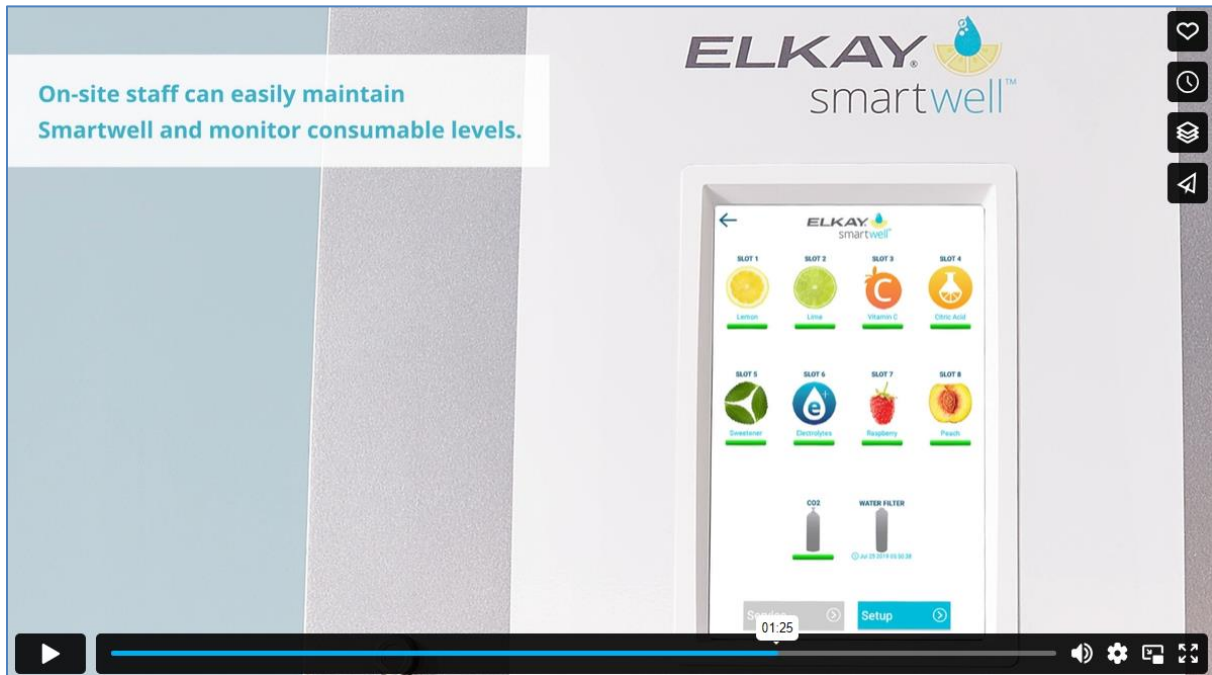


Ex. 1007, SmartWell Publication, User Manual at p. 7. See limitations [1.1]–[1.3].

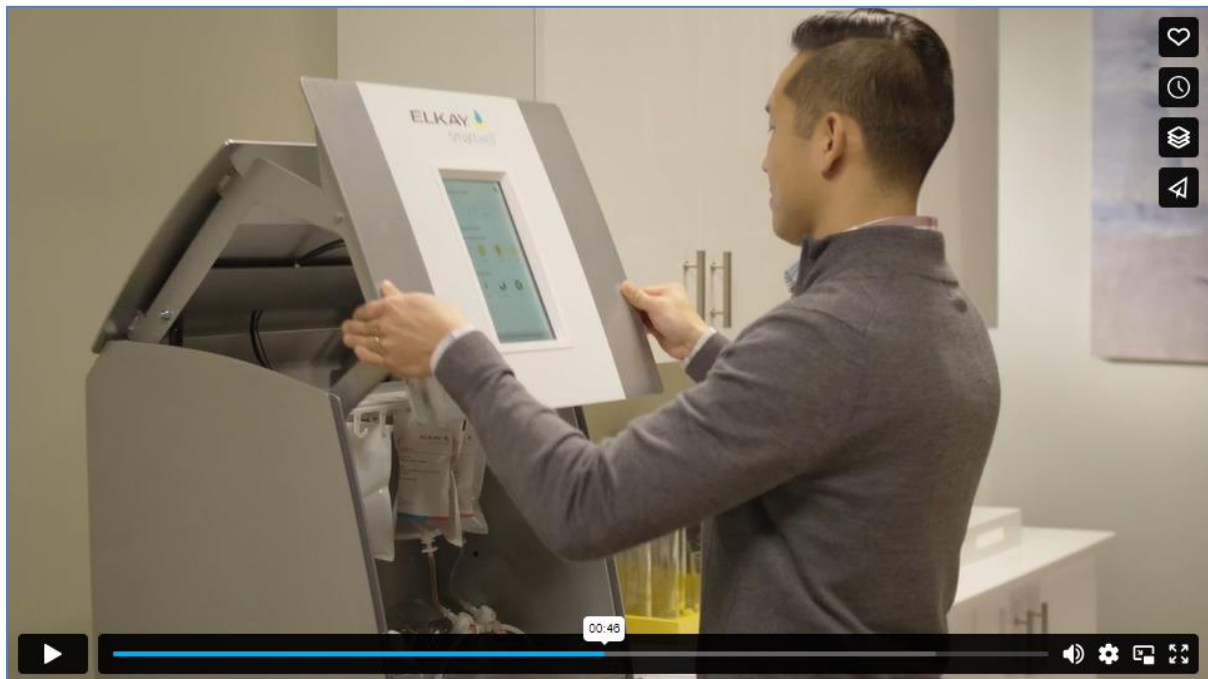
116. Limitation [1.6] and [1.7]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 01:13.



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 01:25.



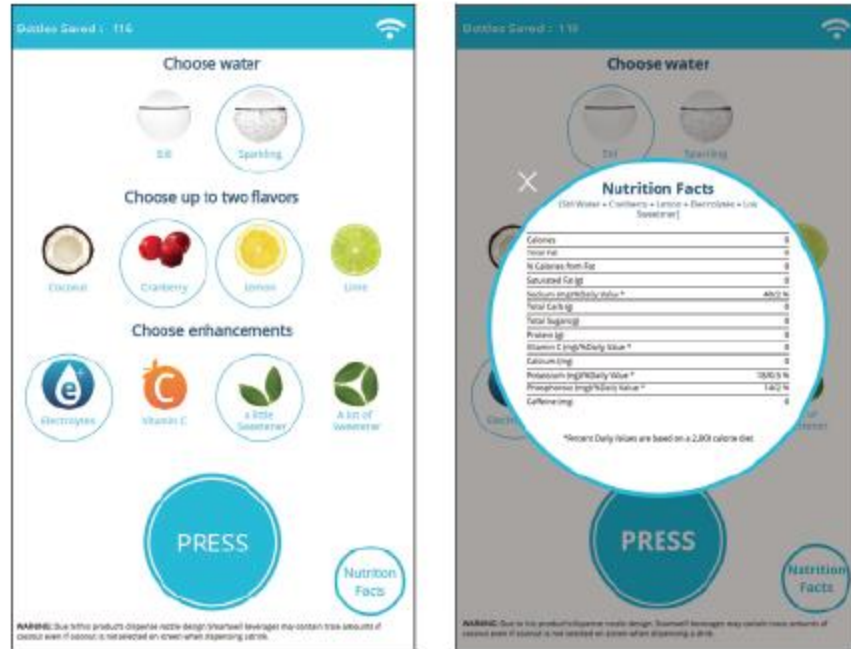
Ex. 1006, Smartwell Video, April 29, 2019, (<https://vimeo.com/332051430>) at 00:45. Given that the SmartWell Dispenser discloses “multiple selectable reservoirs,” and allows consumers to select “flavors” and “functions,” a POSITA would know the SmartWell Dispenser discloses “choos[ing] from the multiple selectable reservoirs,” based on the user input.

117. Limitation [1.8]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 01:13.

5. For nutritional facts on the selections that are made, press the Nutrition Facts button. Press the "X" to return to the Home screen.



Ex. 1007, SmartWell Publication, Manual at p.7. See limitations [1.2] and [1.3]. Based on a review of nutritional information for flavors that used in the SmartWell Dispenser, the flavors may include some natural sweetener, but the sweetener enhancement would likely have a higher concentration of the dietary supplement. The same is true for the concentration of electrolytes or vitamin C in an enhancement option.

118. Limitation [1.9]:

3. Touch and hold the PRESS button to begin dispensing the selection. The PRESS button will change to HOLD.



4. While the unit is dispensing a beverage, the HOLD button will continue to be displayed. Stop touching the HOLD button to stop dispensing.



Ex. 1007, SmartWell Publication, Manual at p.7.

B. CLAIMS 2 AND 11

119. Limitations [2.0] and [11.0]: Claim 11 depends from claim 10, but recites “wherein a concentration of the dietary supplement included in the selected flavor is zero.”

Lemon

8oz Serving Size

Ingredients: Filtered Water, Natural Flavor,
Citric Acid

Calories	0
Total Fat (g)	0
% Calories from Fat	0
Saturated Fat (g)	0
Sodium (mg) / % Daily Value*	0
Total Carb (g)	0
Total Sugars (g)	0
Protein (g)	0
Vitamin C (mg) / % Daily Value*	0
Calcium (mg)	0
Potassium (mg) / % Daily Value*	0

*Percent Daily Values are based on a 2,000
calorie diet.

Lime

8oz Serving Size

Ingredients: Filtered Water, Natural Flavor,
Citric Acid

Calories	0
Total Fat (g)	0
% Calories from Fat	0
Saturated Fat (g)	0
Sodium (mg) / % Daily Value*	0
Total Carb (g)	0
Total Sugars (g)	0
Protein (g)	0
Vitamin C (mg) / % Daily Value*	0
Calcium (mg)	0
Potassium (mg) / % Daily Value*	0

*Percent Daily Values are based on a 2,000
calorie diet.

Raspberry

8oz Serving Size

Ingredients: Filtered Water, Natural Flavor,
Citric Acid

Calories	0
Total Fat (g)	0
% Calories from Fat	0
Saturated Fat (g)	0
Sodium (mg) / % Daily Value*	0
Total Carb (g)	0
Total Sugars (g)	0
Protein (g)	0
Vitamin C (mg) / % Daily Value*	0
Calcium (mg)	0
Potassium (mg) / % Daily Value*	0

*Percent Daily Values are based on a 2,000
calorie diet.

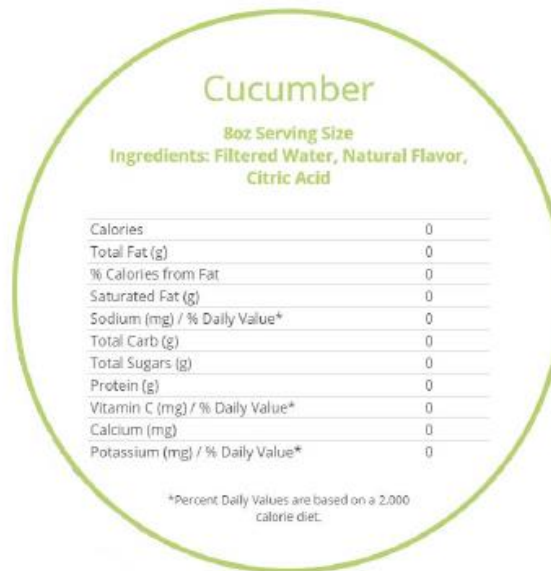
Peach

8oz Serving Size

Ingredients: Filtered Water, Natural Flavor,
Citric Acid

Calories	0
Total Fat (g)	0
% Calories from Fat	0
Saturated Fat (g)	0
Sodium (mg) / % Daily Value*	0
Total Carb (g)	0
Total Sugars (g)	0
Protein (g)	0
Vitamin C (mg) / % Daily Value*	0
Calcium (mg)	0
Potassium (mg) / % Daily Value*	0

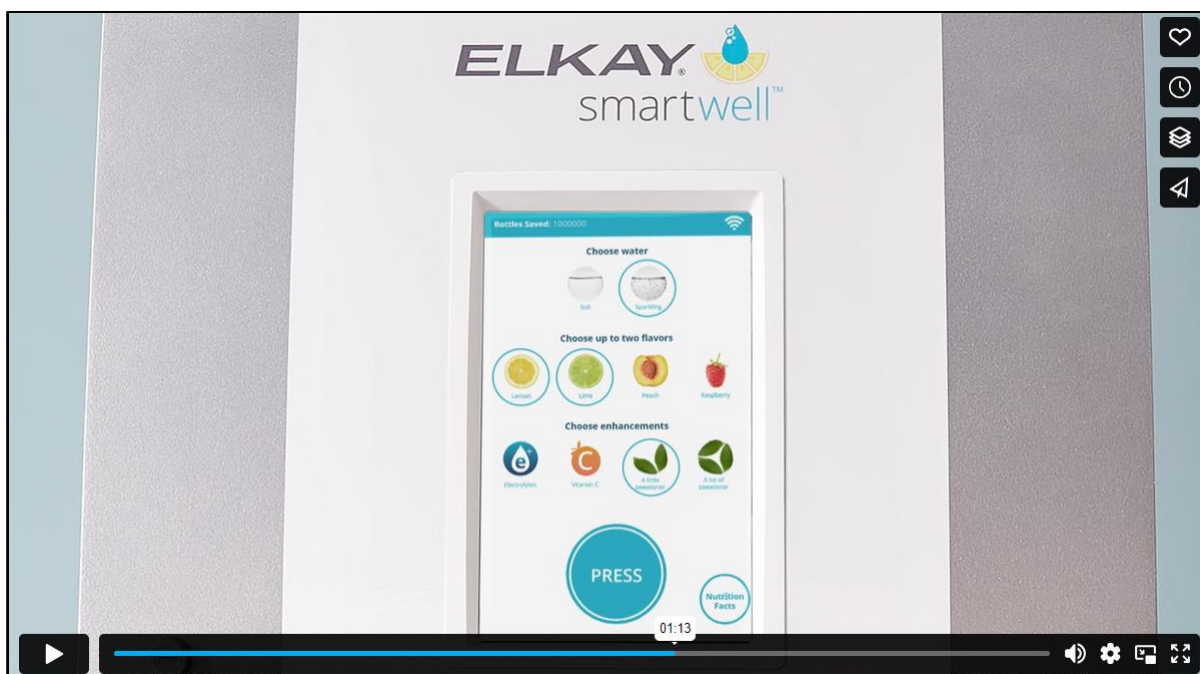
*Percent Daily Values are based on a 2,000
calorie diet.



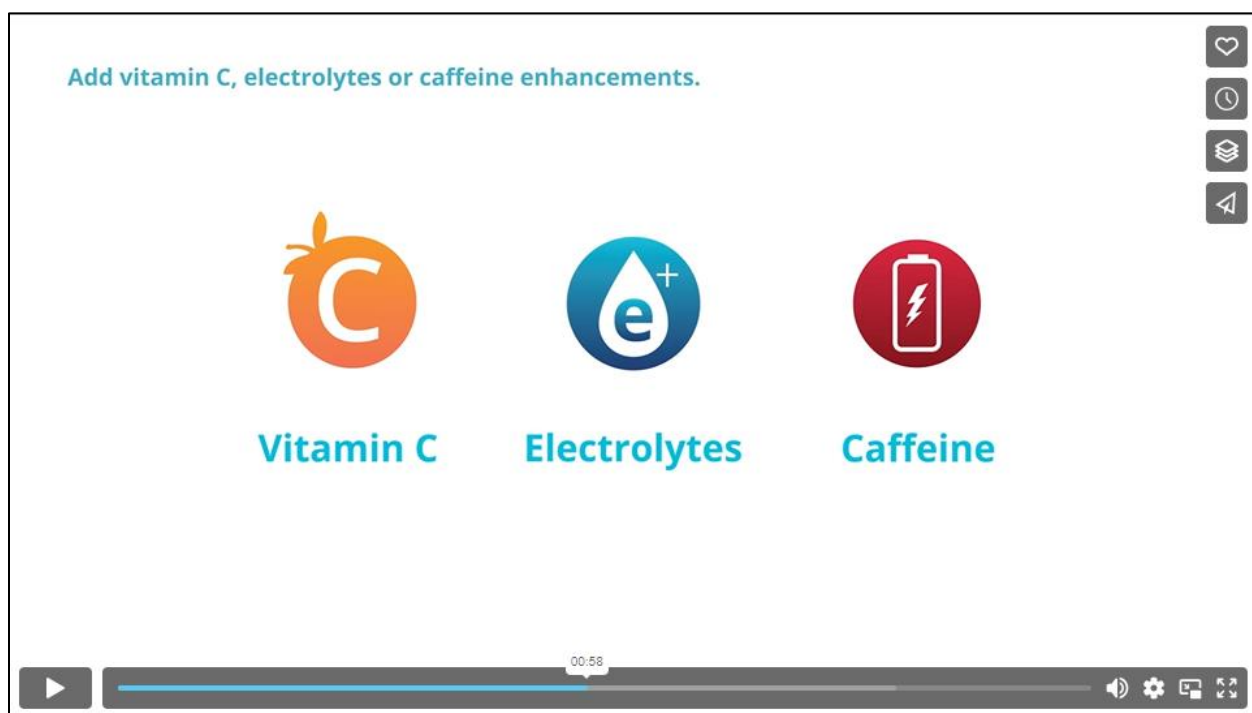
Ex. 1009, SmartWell Publication, Flavors at p. 2 and 3. As seen above, the flavors that may be served in a SmartWell dispenser may have zero protein, calcium, vitamin C and/or potassium.

C. CLAIMS 3 AND 12

120. Limitations [3.0] and [12.0]: Claim 12 depends from claim 10 but similarly requires “wherein the selectable functions include at least one of relax, energize, immunize, or muscle.”



Ex., 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 01:13.



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 00:58.

D. CLAIMS 5 AND 14

121. Limitations [5.0] and [14.0]: Claim 14 depends from claim 12 but similarly requires “wherein the selectable functions include relax, energize, and immunize.” See my analysis for limitation [3.0].

E. CLAIM 6 AND 15

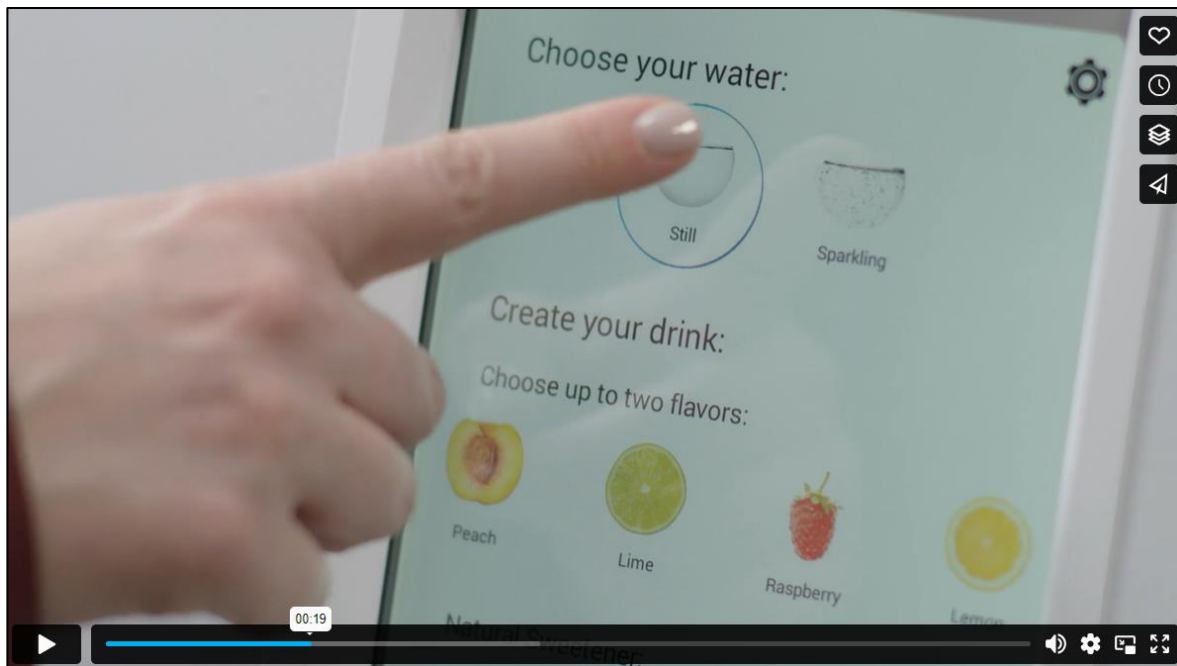
122. Limitations [6.0] and [15]: Claim 15 depends from claim 10, but recites “wherein the selectable functions include relax, energize, and immunize.”

<div><div>Natural Sweetener</div><div>8oz Serving Size</div><div>Ingredients: Filtered Water, Stevia, Citric Acid</div><table><tr><td>Calories</td><td>0</td></tr><tr><td>Total Fat (g)</td><td>0</td></tr><tr><td>% Calories from Fat</td><td>0</td></tr><tr><td>Saturated Fat (g)</td><td>0</td></tr><tr><td>Sodium (mg) / % Daily Value*</td><td>0</td></tr><tr><td>Total Carb (g)</td><td>0</td></tr><tr><td>Total Sugars (g)</td><td>0</td></tr><tr><td>Protein (g)</td><td>0</td></tr><tr><td>Vitamin C (mg) / % Daily Value*</td><td>0</td></tr><tr><td>Calcium (mg)</td><td>0</td></tr><tr><td>Potassium (mg) / % Daily Value*</td><td>0</td></tr></table><div>*Percent Daily Values are based on a 2,000 calorie diet.</div></div>	Calories	0	Total Fat (g)	0	% Calories from Fat	0	Saturated Fat (g)	0	Sodium (mg) / % Daily Value*	0	Total Carb (g)	0	Total Sugars (g)	0	Protein (g)	0	Vitamin C (mg) / % Daily Value*	0	Calcium (mg)	0	Potassium (mg) / % Daily Value*	0	<div><div>Vitamin C</div><div>8oz Serving Size</div><div>Ingredients: Filtered Water, Ascorbic Acid, Citric Acid</div><table><tr><td>Calories</td><td>0</td></tr><tr><td>Total Fat (g)</td><td>0</td></tr><tr><td>% Calories from Fat</td><td>0</td></tr><tr><td>Saturated Fat (g)</td><td>0</td></tr><tr><td>Sodium (mg) / % Daily Value*</td><td>0</td></tr><tr><td>Total Carb (g)</td><td>0</td></tr><tr><td>Total Sugars (g)</td><td>0</td></tr><tr><td>Protein (g)</td><td>0</td></tr><tr><td>Vitamin C (mg) / % Daily Value*</td><td>83 / 72%</td></tr><tr><td>Calcium (mg)</td><td>0</td></tr><tr><td>Potassium (mg) / % Daily Value*</td><td>0</td></tr></table><div>*Percent Daily Values are based on a 2,000 calorie diet.</div></div>	Calories	0	Total Fat (g)	0	% Calories from Fat	0	Saturated Fat (g)	0	Sodium (mg) / % Daily Value*	0	Total Carb (g)	0	Total Sugars (g)	0	Protein (g)	0	Vitamin C (mg) / % Daily Value*	83 / 72%	Calcium (mg)	0	Potassium (mg) / % Daily Value*	0
Calories	0																																												
Total Fat (g)	0																																												
% Calories from Fat	0																																												
Saturated Fat (g)	0																																												
Sodium (mg) / % Daily Value*	0																																												
Total Carb (g)	0																																												
Total Sugars (g)	0																																												
Protein (g)	0																																												
Vitamin C (mg) / % Daily Value*	0																																												
Calcium (mg)	0																																												
Potassium (mg) / % Daily Value*	0																																												
Calories	0																																												
Total Fat (g)	0																																												
% Calories from Fat	0																																												
Saturated Fat (g)	0																																												
Sodium (mg) / % Daily Value*	0																																												
Total Carb (g)	0																																												
Total Sugars (g)	0																																												
Protein (g)	0																																												
Vitamin C (mg) / % Daily Value*	83 / 72%																																												
Calcium (mg)	0																																												
Potassium (mg) / % Daily Value*	0																																												

Ex. 1009, SmartWell Publication, Flavors at p. 4.

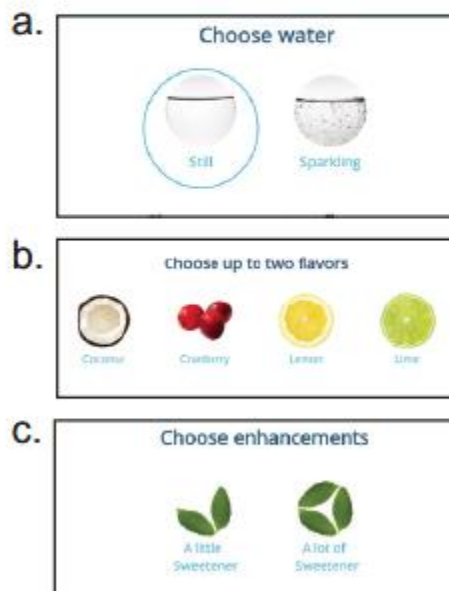
F. CLAIM 7

123. Limitation [7.0]:



Ex. 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 0:19.

2. From the Home screen make the desired selection.
 - a. Still or Sparkling.
 - b. Select up to two available flavors.
 - c. Select up to two available enhancements.



Ex. 1007, SmartWell Publication, Manual at p. 7.

G. CLAIM 8

124. Limitation [8.0]:

3. Touch and hold the PRESS button to begin dispensing the selection. The PRESS button will change to HOLD.



4. While the unit is dispensing a beverage, the HOLD button will continue to be displayed. Stop touching the HOLD button to stop dispensing.



Ex. 1007, SmartWell Publication, Manual at p.7. A POSITA would understand that a consumer could make a water selection or change their water selection after the flavors and enhancements have been selected.

H. CLAIM 9

125. Limitation [9.0]: See my analysis for limitation [7.0].

I. CLAIM 10

126. Limitation [10.0]: See my analysis for limitations [1.0]–[1.3] and [1.9].

127. Limitation [10.1]: See my analysis for limitations [1.0]–[1.5].

128. Limitations [10.2] and [10.3]: See my analysis for limitations [1.6] and [1.7].

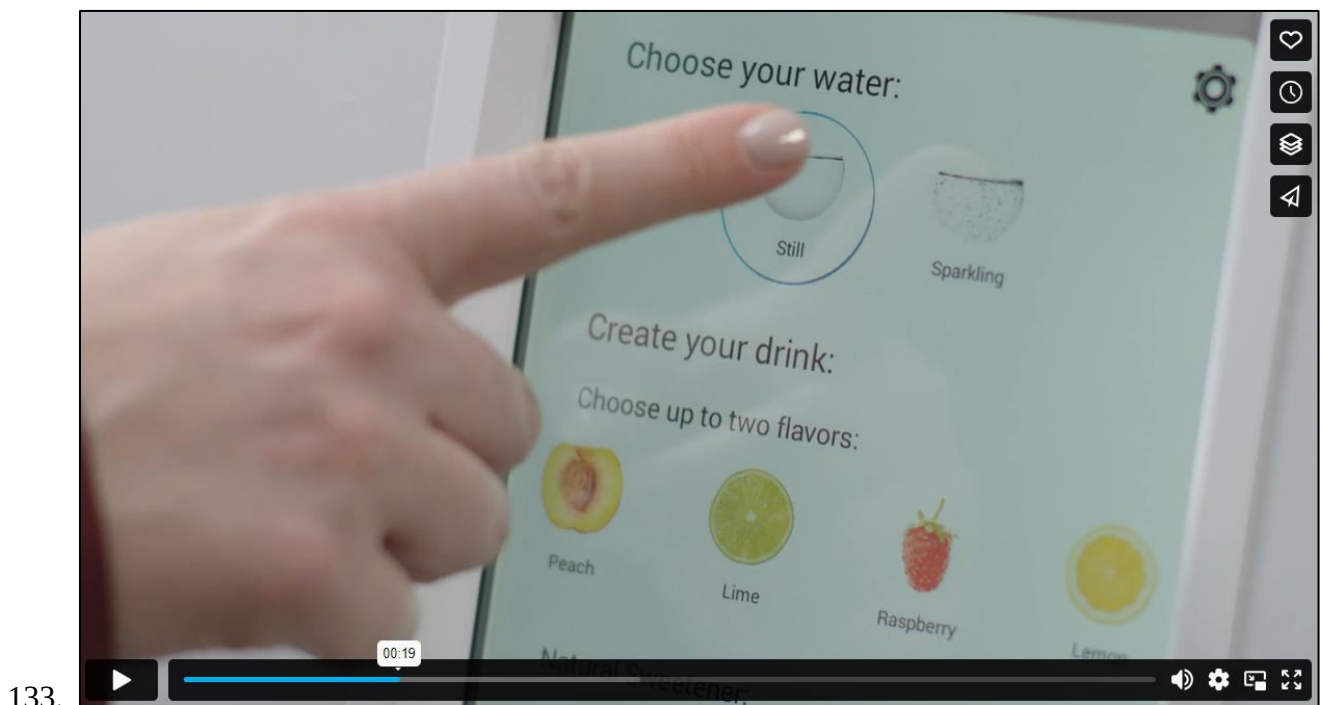
129. Limitation [10.4]: See my analysis for limitations [1.6] and [1.7].

130. Limitation [10.5]: See my analysis for limitations [1.6]–[1.8].

131. Limitation [10.6]: See my analysis for limitation [1.9].

J. CLAIM 17

132. Limitation [17.0]:



Ex., 1005, SmartWell Video, January 12, 2020 (<https://vimeo.com/384394240>) at 0:19.

Sparkling Water Sputtering or Not Dispensing

If still water is dispensing in place of sparkling water or sparkling water is not dispensing correctly, follow these steps to restore sparkling water:

1. Turn off the CO₂ tank by turning the knob clockwise.
2. Place a large receptacle in the alcove and dispense still water for 20 seconds.
3. Select sparkling water and press touch screen to dispense. This will clear the CO₂ gas from the line and unit will start dispensing still water.
4. Continue dispensing still water for 20 seconds.
5. Reboot the unit and wait for the home screen to appear.
6. Turn on the CO₂ tank by turning the knob counterclockwise.
7. Select sparkling water and press touch screen to dispense.
8. Dispense two to three 8-oz. glasses of sparkling water to ensure the CO₂ is optimally mixed with the water.

Ex., 1008, SmartWell Publication, Troubleshooting at p. 3.

K. CLAIM 18

134. Limitation [18.0]: See my analysis for limitations [1.0] and [17.0].

XVII. SMARTSODA JULI TOUCH ANTICIPATES CLAIMS 1-20

135. The SmartSoda JuLi Touch anticipates claims 1–20. Thus, claims 1–20 are invalid under 35 U.S.C. § 102.⁵ I understand the JuLi Touch was available or marketed at least one year before the priority date of the 927 Patent.

XVIII. CIMATTI, BETHUY, AND O’LAUGHLIN RENDER CLAIMS 6 AND 15 OBVIOUS

A. CLAIM 6 AND 15

136. *Cimatti* and *Bethuy* both anticipate claims 1 and 10. See *Cimatti*, limitations [1.0]–[1.9] and [10.0]–[10.6]; *Bethuy*, limitations [1.0]–[1.9] and [10.0]–[10.6]. *Cimatti* and *Bethuy* in view of *O’Laughlin* render claims 6 and 15 obvious.

⁵ Petitioner reserves the right to seek additional discovery from Smart Soda Holdings regarding the anticipation of claims 1–20.

137. Limitation [6.0]: Claim 15 depends from claim 10 but similarly requires “wherein the selected function includes a dietary supplement in a quantity that is greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for the dietary supplement.”

O’Laughlin discloses that a “single serving of protein powder is between about 20 grams and 35 grams of protein powder.” The Recommended Dietary Allowance of protein for a 19–70 year old male is 56 grams per day. FOOD AND NUTRITION BOARD, INSTITUTE OF MEDICINE, NATIONAL ACADEMY OF SCIENCES, DIETARY REFERENCE INTAKES (DRIs): RECOMMENDED DIETARY ALLOWANCES AND ADEQUATE INTAKES, TOTAL WATER AND MACRONUTRIENTS (2011) <https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t4/?report=objectonly>.

Because *O’Laughlin* discloses 35 grams of protein powder, *O’Laughlin* discloses “a dietary supplement in a quantity” that is 62.5%, which is “greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for” protein. Cimatti discloses “**one or more of flavoring sources 134** [that] can be **a container or cartridge** that is emptied and re-filled with fresh ingredients daily. In an aspect, one or more of flavoring sources 134 can be **a vacuum sealed cartridge** that includes fresh ingredients.” Cimatti at [0144]. An exemplary embodiment includes “[c]artridge dispenser 220 b can contain **numerous cartridges 1516 each containing a different beverage flavor** or ingredient giving the consumer additional choices for a beverage. **The cartridge 1516 can include one or more beverage ingredients, wherein the beverage ingredients may be selected from the list comprising:** syrup, paste, **powder**, granules, or other compositions.” Id. at [0170]. Also, *Bethuy* discloses that:

After selecting supplemental fluids in a unique combination as per the user's desire, nutritional supplements may be added to the beverage through a display image as shown in FIG. 7. **Nutritional supplements in liquid, powder, or other form may be added to the**

beverage or the total fluid volume dispensed in a fixed quantity, mass, or in a quantity proportional to a property of the beverage or the user's desire. For example, the user may choose a twenty fluid ounce beverage with a nutritional supplement. The total mass of supplement dispensed may be a fixed mass such as one gram. In another implementation, the mass of nutritional supplement may be proportional to the user's desired supplementation or proportional to the volume of the twenty ounce beverage.

Bethuy at [0079]. *Bethuy* discloses that “the user may optionally select a **nutritional supplement mix, like immune boost, energy boost, multi-vitamin**, etc., select their relative percentages, and then vary the amount, maybe according to body weight.” *Id.* at [0006].

Cimatti, *Bethuy*, and *O’Laughlin* can be combined “according to known methods to yield predictable results.” MPEP § 2143. *Cimatti*, *Bethuy*, and *O’Laughlin* are analogous art in the same field of endeavor, specifically beverage dispensing. Also, as illustrated above, *Cimatti* and *Bethuy* both expressly provide option to dispense an ingredient in powder form. *O’Laughlin* merely discloses “a dietary supplement in a quantity that is greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for the dietary supplement.” A POSITA would expect and predict that combining the teachings of *Cimatti*, *Bethuy*, and *O’Laughlin* would lead to the control system recited by claim 6.

Further, as stated by the Non-final Office Action, mailed September 22, 2021 during prosecution of the 630 Patent, claim 6 is “an obvious design choice to a person of ordinary skill in the art.” The 927 Patent does not state that the limitations of claim 6 “provides an advantage, is used for a particular purpose, or solves a stated problem.” Non-final Office Action (September 22, 2021), p. 4, U.S. Application No. 17/190,665.

XIX. CIMATTI, BETHUY, AND WALLACE RENDER CLAIMS 6 AND 15 OBVIOUS

A. CLAIM 6 AND 15

138. *Cimatti* and *Bethuy* both anticipate claims 1 and 10. See *Cimatti*, limitations [1.0]–[1.9] and [10.0]–[10.6]; *Bethuy*, limitations [1.0]–[1.9] and [10.0]–[10.6]. *Cimatti* and *Bethuy* in view of *Wallace* render claims 6 and 15 obvious.

139. Limitation [6.0]: Claim 15 depends from claim 10 but similarly requires “wherein the selected function includes a dietary supplement in a quantity that is greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for the dietary supplement.”

Wallace discloses “[w]hen nutraceuticals and other health products are being dispensed, for example vitamin supplements or health beneficiary products (for example glucosamine) then **there is generally a recommended allowable dose and consumers may want to have a varying amount up to this dose.**” *Wallace* at [0022]. *Wallace* discloses that:

Linear stepper motors 29, 30 are **selectively movable in response to a signal from the control unit 15 on input of a command to the customer interface**, specifying an additional ingredient be added to the beverage. The stepper motors 29, 30 may **draw into, and pump from, the syringe measurement element 23, 24 a varying amount of ingredient, dependant on the concentration of the ingredient and the amount required by the customer.**

Id. at [0038]. A POSITA would know that the “recommended allowable dose” disclosed by *Wallace* is equivalent to a Recommended Dietary Allowance. A POSITA would also know that if a consumer can vary the dose amount up to the recommended allowable dose, as disclosed by *Wallace*, a consumer could vary the dose to be “greater than or equal to 50% of a daily Recommended Dietary Allowances (RDA) for the dietary supplement,” as recited by claim 6. *Cimatti*, *Bethuy*, and *Wallace* are analogous art in the same field of endeavor, specifically beverage dispensing.

XX. CIMATTI, BETHUY, SHANNON, AND HOLLER RENDER CLAIMS 19 AND 20 OBVIOUS

140. *Cimatti* and *Bethuy* both anticipate claim 10. See *Cimatti*, limitations [10.0]–[10.6]; *Bethuy*, limitations [10.0]–[10.6]. *Cimatti* and *Bethuy* in view of *Shannon* render claim 19 obvious. *Cimatti*, *Bethuy*, and *Shannon* in view of *Holler* render claim 20 obvious

A. CLAIM 19

141. Limitation [19.0]: *Cimatti* discloses that:

After selecting the flavoring, the user may select the intensity of the flavoring. For example, a user can select user input selection 528aa for ***light flavoring***, user input selection 528bb for ***regular flavoring***, or user input selection 528cc for ***strong flavoring***. When a user selects light flavoring, beverage dispenser dispenses less flavoring concentrate than when the user selects regular flavoring. When a user selects strong flavoring, beverage dispenser dispenses more flavoring concentrate than when the user selects regular flavoring.

Cimatti at [0239]. *Shannon* discloses that:

As a key feature of the instant invention, a determination is made at the beginning of each dispensing cycle as to the flow rate of the syrup being dispensed. When the three-way valve 28 switches to pressurize the pump 12 with the pressure source 32, dispensing is again actuated upon opening of the valve 18 under control of the microprocessor 44. Immediately upon commencement of the dispensing cycle, ***the syrup level 46 in the neck 26 drops below the sensor 34, passing a ground signal to the microprocessor 44 and indicating time T0. Shortly thereafter, the syrup level 46 passes below the sensor 36, presenting a second output signal to the microprocessor 44, indicating time T1. The elapse time of T1-T 0 is that period of time necessary to dispense the small volume of***

syrup in the neck 26 between the sensors 34, 36. The microprocessor may then quickly determine the flow rate of the syrup from the system as a whole, independent of temperature variations or the like within the system. Having made this determination, the microprocessor can then adjust pressure of the regulatable pressure source 32 during the remainder of the dispensing cycle to assure that a full measure of syrup is dispensed during the cycle. The adjustment can, of course, be modified by increasing or decreasing the pressure head. It is contemplated that the control unit 44 will cause the next dispensing cycle to commence at the pressure level adjusted for the previous dispensing cycle such that adjustments of pressure will be minimized. In any event, it will be appreciated that at the very beginning of the dispensing cycle the flow rate is determined and, knowing the dispensing cycle will be the fixed amount of time of actuation of the valve 18, the pressure head will be adjusted to assure full volume dispensing.

Shannon at [4:33–66]. Further, *Shannon* recites “The syrup dispenser system as recited in claim 10, further comprising a source of pneumatic pressure in communication with said pump for imposing a pressure head on said reservoir of syrup, **said second means controlling said source of pneumatic pressure to regulate said pressure head as a function of said period of time required for depleting said fixed volume of syrup between said sensors and commencement of said dispensing cycle.**” *Id.* at claim 11. *Cimatti*, *Bethuy*, and *Shannon* are analogous art in the same field of endeavor, specifically beverage dispensing. *Cimatti*, *Bethuy*, and *Shannon* can be combined to “apply[] a known technique to a known device ready for improvement to yield predictable results.” MPEP § 2143. A POSITA would understand that the sensors disclosed by *Shannon* could be combined with the dispensing system disclosed by *Bethuy* and *Cimatti*.

Further, a POSITA would understand that the sensors disclosed by *Shannon* could be used “to control the control valve is based on” the level readings from the sensors.

B. CLAIM 20

142. Limitation [20.0]: *Holler* discloses:

Nutrition Facts: Serving size 8 fl oz, calories 50, total fat 0 g, sodium 0 mg, total carbohydrates 13 g, sugar 13 g, protein 0 g, vitamin A 10%, vitamin B3 10%, vitamin B5 10%, vitamin B6 10%, vitamin B12 10%, vitamin C 60%, vitamin E 10%, astragalus 25 mg, Siberian ginseng 25 mg.

Holler at paragraph [0075]. *Holler* discloses:

Nutrition Facts: Serving size 8 fl oz, calories 40, total fat 0 g, sodium 0 mg, total carbohydrate 9 g, sugar 8 g, protein 0 g, vitamin B3 25%, vitamin B5 25%, vitamin B6 25%, vitamin B12 25%, vitamin C 100%, rosemary 20 mg, chamomile 20 mg, hibiscus 20 mg, lavender 20 mg, rose hips 20 mg.

Holler at [0078]. *Holler* is analogous art to *Cimatti*, *Bethuy*, and *Shannon* because *Holler* is also in the field of beverage dispensing. A POSITA would understand that the mass of dietary supplement disclosed by *Holler* could be substituted into the beverage dispensers disclosed by *Cimatti* and *Bethuy*.

Signed:



Pete Wolski

Dated:

10/2/23

Place:

Highland Park, IL