

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

QR SWITCH, LLC,

Plaintiff,

v.

**WALMART INC., WAL-MART STORES
EAST, LP, WAL-MART STORES
TEXAS, LLC, WAL-MART.COM USA,
LLC, SAM'S EAST, INC., and SAM'S
WEST, INC.,**

Defendants.

Civil Action No. 2:25-cv-64

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff QR Switch, LLC (hereinafter “QR Switch”) files this Complaint for Patent Infringement (“Complaint”) against Defendants Sam’s East, Inc. (“Sam’s East”), Sam’s West, Inc. (“Sam’s West”) (collectively, “Sam’s Club”), and Walmart Inc., Wal-Mart Stores East, LP, Wal-Mart Stores Texas, LLC, Wal-Mart.com USA, LLC (collectively, “Walmart”) (collectively with Sam’s Club, “Defendants”). QR Switch alleges, based on personal knowledge with respect to its own actions and upon information and belief with respect to all others’ actions, as follows:

INTRODUCTION

1. The two patents at issue are United States Patent Nos. 8,532,632 (“’632 Patent”) and 9,294,542 (“’542 Patent”) (collectively, the “Patents-In-Suit”). The ’632 Patent is titled “Cell-phone Changing an Electronic Display that Contains a Barcode,” and the ’542 Patent is titled

“Systems and Methods for Changing an Electronic Display that Contains a Barcode.” The Patents-In-Suit arise from technologies conceived by Dr. Wesley Boudville (“Dr. Boudville”).

2. Dr. Boudville graduated from high school at the age of 14, and in 1982 graduated from The University of Western Australia at the age of 17 with a Bachelor of Science degree in Physics with honors. In 1998, Dr. Boudville graduated from the California Institute of Technology with a PhD in Physics. Dr. Boudville is a lifelong inventor who has been granted many patents including the Patents-In-Suit.

3. The Patents-In-Suit cover the methods used by Defendants to enable customers to pay at the pump for gasoline through smartphone applications (“Accused Instrumentalities”). A QR code is presented to the customer on a monitor embedded and/or built into the gasoline pump. This QR code is designed to be scanned by the camera of, and an application on, a smartphone and decoded. Following certain inputs on the smartphone, Defendants configure their systems to update the images on the monitor embedded and/or built into the gasoline pump. This method provides feedback to and engages the customer as the customer makes use of Defendants’ systems.

4. Usage of Dr. Boudville’s inventions is beneficial and valuable to Defendants. Customers of Defendants experience increased convenience, security, and ease of access when fueling at Defendants’ gas stations. Walmart+ and Sam’s Club members also receive discounted fuel

prices and members-only gas pricing.¹ The Accused Instrumentalities, via the Walmart and Sam’s Club apps, allow customers to fuel without “shuffling for [their] . . . credit cards or cash,” and “remove” [a] point of friction for [Defendants’] members by allowing secure purchases and eliminating paper receipts with the ease and convenience of the app[s].”² Walmart+ subscribers and Sam’s Club members alike both receive these benefits, and Defendants receive significant membership fee revenues from Walmart+ and Sam’s Club subscribers.³ Defendants are well-aware that customers “continue to crave quick and safe shopping experiences,” and that their use of the Accused Instrumentalities allows them to offer that to their customers.⁴ In 2020, Defendants noted that Sam’s Club’s member adoption rate of Scan & Go technology had doubled since 2019, and Walmart’s 2023 Annual Report suggests that Defendant’s membership revenue has steadily increased over the last several years.⁵

¹ The webpage for Walmart+ along with the listings for individual Sam’s Club fuel stations advertise discounted gas prices for subscribers and members. *See* Walmart+, available at <https://www.walmart.com/plus> (last visited Dec. 4, 2024) (“Member savings on fuel;” “Save 10¢ per gallon at 13,000+ stations nationwide including Exxon, Mobil, Walmart & Murphy. Plus, access member prices at Sam’s Club fuel centers.”); *See, e.g.*, Sam’s Club Fuel Center in Tyler, Texas, available at <https://www.samsclub.com/local/fuel-center/tyler-tx-sams-club/8284> (last visited Dec. 4, 2024) (“Fuel up your vehicle at discounted prices at your Tyler Sam’s Club. In addition to members-only gas prices, Plus members earn 5% back in Sam’s Cash when they purchase gas anywhere with their Mastercard. For a quick and hassle-free experience, pay at the pump using Scan & Go.”)

² #LoveAtFirstScan: How We’re Continuing to Fuel Innovation with Scan & Go, Walmart (Sept. 17, 2020), available at <https://corporate.walmart.com/about/samsclub/news/2020/09/18/loveatfirstscan-how-were-continuing-to-fuel-innovation-with-scan-go>.

³ Walmart 2023 Annual Report (Mar. 17, 2023), at 63, available at https://s201.q4cdn.com/262069030/files/doc_financials/2023/ar/Walmart-10K-Reports-Optimized.pdf.

⁴ #LoveAtFirstScan: How We’re Continuing to Fuel Innovation with Scan & Go, Walmart.

⁵ *See id.*; Walmart 2023 Annual Report (Mar. 17, 2023), at 63, available at https://s201.q4cdn.com/262069030/files/doc_financials/2023/ar/Walmart-10K-Reports-Optimized.pdf.

5. Dr. Boudville's company, QR Switch, seeks a fair and reasonable royalty from Defendants for use of the patented technology beginning with Defendants' first infringement through expiration of the Patents-In-Suit.

THE PARTIES

QR SWITCH

6. QR Switch is a California limited liability company organized and existing under the laws of California. QR Switch is the owner by assignment of all of the Patents-In-Suit and also the owner of all rights to enforce the Patents-In-Suit including the right to past damages. The Patents-In-Suit were originally owned by Dr. Boudville until Dr. Boudville, a member of QR Switch, assigned the Patents-In-Suit to QR Switch.

WALMART

7. Defendant Walmart Inc. is a Delaware corporation with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716, and may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201. Walmart Inc. is registered to do business in the State of Texas and has been since at least October 29, 1974.

8. Defendant Wal-Mart Stores East, LP is a Texas limited partnership with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716, and may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201. Wal-Mart Stores East, LP is registered to do business in the State of Texas and has been since at least January 8, 2002.

9. Defendant Wal-Mart Stores Texas, LLC is a Texas limited liability company with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716, and may

be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201. Wal-Mart Stores Texas, LLC is registered to do business in the State of Texas and has been since at least June 26, 2007.

10. Defendant Wal-Mart.com USA, LLC is a California limited liability company with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716, and may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201. Wal-Mart.com USA, LLC is registered to do business in the State of Texas and has been since at least October 16, 1974.

11. Each of the Walmart Defendants conducts business operations within the Eastern District of Texas, where they make use of the Accused Instrumentalities, on information and belief, in at least 26 different locations, including locations in Longview, Tyler, and Sherman.

12. Walmart additionally operates distribution centers in the Eastern District of Texas in Palestine and Sanger.

SAM'S CLUB

13. Defendant Sam's East is an Arkansas corporation with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716. Sam's Club may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201. Sam's East is registered to do business in the State of Texas and has been since at least March 7, 2000.

14. Defendant Sam's West is an Arkansas corporation with its principal place of business at 702 Southwest 8th Street, Bentonville, Arkansas 72716. Sam's Club may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

Sam's West is registered to do business in the State of Texas and has been since at least January 14, 2011.

15. Each of the Sam's Club Defendants conducts business operations within the Eastern District of Texas, where they make use of the Accused Instrumentalities, on information and belief, in at least 11 different locations, including locations in Longview, Tyler, and Sherman.

JURISDICTION AND VENUE

16. This is an action arising under the patent laws of the United States. This Court has exclusive subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

17. This Court has personal jurisdiction over Defendants in this action because each has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over each Defendant would not offend traditional notions of fair play and substantial justice. Defendants, directly and/or through subsidiaries or intermediaries, have committed and continue to commit acts of infringement in this District by, among other things, using the Accused Instrumentalities and thereby infringing the Patents-In-Suit. Each Defendant also has conducted and continues to conduct business in the State of Texas. Each Defendant is registered to do business in the State of Texas, has offices and facilities in the State of Texas, and actively directs its activities (including those that are infringing) to customers located in the State of Texas. Defendants' commercial presence in the State of Texas and this District is significant and intentional—both generally and with regard to the specific acts of infringement raised in this action. This Court has specific personal jurisdiction over each Defendant.

18. Defendants have gas stations located throughout the State of Texas and this District in which the Accused Instrumentalities are used. For example, the Walmart Defendants have, on

information and belief, at least 26 facilities located in the Eastern District of Texas, including in Longview, Tyler, and Sherman, and the Sam's Club Defendants have, on information and belief, at least 11 facilities located in the Eastern District of Texas, including in Longview, Tyler, and Sherman. Each Defendant, at these facilities and others throughout the State of Texas and this District, has committed acts of infringement as set forth herein.

19. Venue is proper in this judicial district under 28 U.S.C. §§ 1391(b), (c), (d), and 1400(b). Each Defendant is registered to do business in the State of Texas, has offices and facilities in the State of Texas, and intentionally directs its activities to customers located in the State of Texas. As stated above in Paragraphs 17-18, each Defendant has a regular and established place of business in this District. Further, each Defendant, at each of its regular and established places of business in this District, has committed and continues to commit acts of infringement of the Patents-In-Suit as shown below.

TECHNOLOGICAL BACKGROUND

20. This lawsuit relates in part to Defendants' use of quick-response codes typically referred to as "QR codes." QR codes are a two-dimensional matrix barcode invented in the 1990s for labeling automobile parts. Below is an example of a QR code.



A QR code typically features black squares on a white background readable by imaging devices such as cameras using QR code decoding processing.

21. By 2011, QR codes began being used in the United States for sales and marketing. For example, one source reported as many as 14 million mobile users in the United States scanned

a QR code in June 2011:

In June 2011, 14 million mobile users in the US – that’s about 6.2% of the total mobile audience in that country – scanned a QR or bar code on their mobile device, according to a study by comScore. The study found that the users are most likely to scan codes found in newspapers/magazines and on product packaging and do so while at home or in a store.

Among mobile users who scanned a QR or bar code on their mobile devices in June, 58.0 percent did so from their home, while 39.4 percent did so from a retail store and 24.5 percent did so from a grocery store. Nearly 20 percent scanned a QR code while at work, while 12.6 percent did so outside or on public transit and 7.6 percent did so while in a restaurant.

The study also found that these scanners were more likely to be men (60.5% of scanners) and aged 18 to 34 (53.4%) and have a household income of \$100,000 or above (36.1%).

“QR codes demonstrate just one of the ways in which mobile marketing can effectively be integrated into existing media and marketing campaigns to help reach desired consumer segments,” says Mark Donovan, comScore senior vice president of mobile. “For marketers, understanding which consumer segments scan QR codes, the source and location of these scans, and the resulting information delivered, is crucial in developing and deploying campaigns that successfully utilize QR codes to further brand engagement.”

14m Americans scanned QR and bar codes with their mobiles in June 2011, Internet Retailing (Aug. 16, 2011, 8:03 PM), available at <https://web.archive.org/web/20160405065521/http://internetretailing.net/2011/08/14m-americans-scanned-qr-and-bar-codes-with-their-mobiles-in-june-2011> (archived by Wayback Machine on Apr. 5, 2016).

22. The typical usage of QR codes in 2011, as evidenced for example by the article in the paragraph above, was scanning a QR code in a newspaper, magazine, or product packaging. The focus, as articulated by Mark Donovan in the article above, was what information could be delivered to the scanning device, e.g., the mobile phone. Successful use of QR codes involved

delivery of information after scanning to the scanning device. QR codes themselves were statically displayed.

23. The prior art technological limitations are described in the Patents-In-Suit:

One and two dimensional barcodes are now in common use. The two dimensional barcode in particular has seen popular deployment in signs posted at various locations. A common encoding is the use of the QR code.

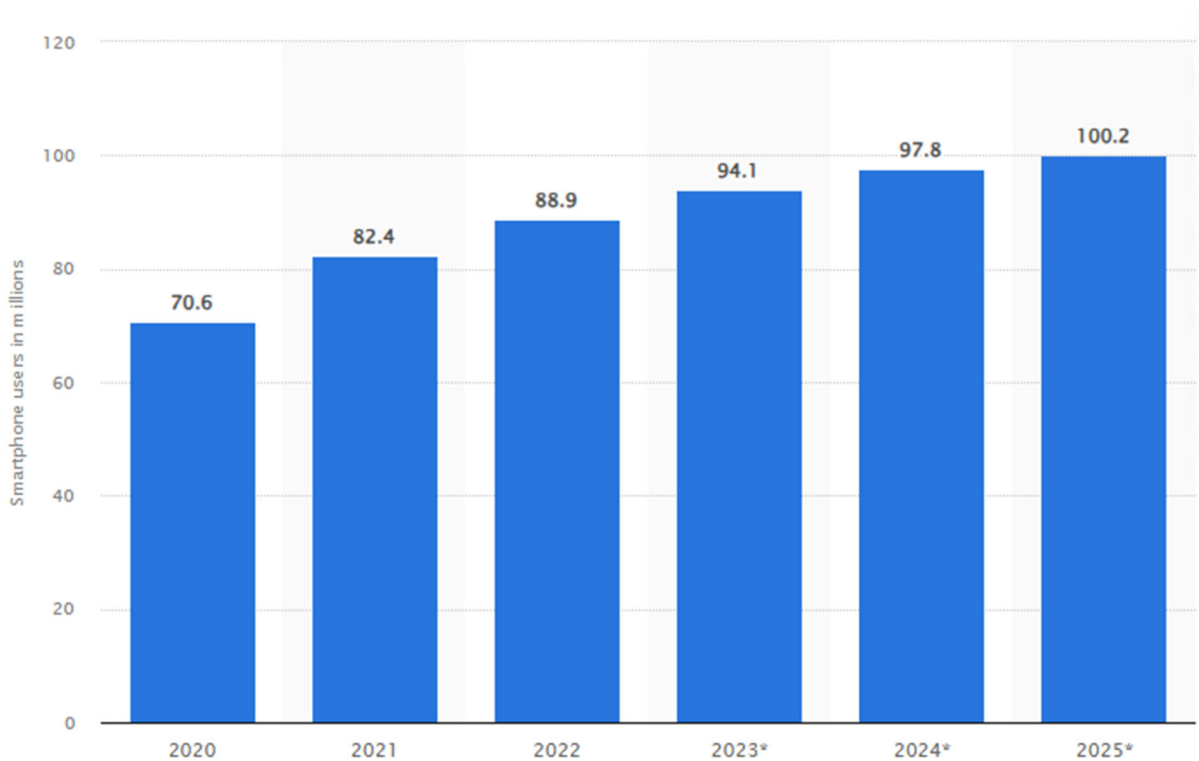
Typically, the 2d barcode encodes a URL. A common usage is for a user with a cellphone that has a camera to take a picture of the 2d barcode. Software on the cellphone decodes this to the URL. If the cellphone has (wireless) Internet access, it then goes out on the Internet to that address and downloads the webpage and displays it on the cellphone, in a browser. The user can interact with it as a standard webpage.

A barcode may be preferred over the display of the URL in human readable text, because the latter needs the mobile user to read it and type it into her cellphone browser. The small size of the cellphone screen and the awkwardness of typing letters on the cellphone make the input of the URL error prone.

Hitherto, it appears that from the granted patents and patents pending, as well as general knowledge of the state of the art, that such displays of 2d barcodes are usually in permanent form. For example, printed on a poster or piece of paper.

'542 Patent at 1:23-44.

24. The usage of QR codes via smartphone has significantly increased. The chart below, for example, reflects an estimate of the number of smartphone users that will use a QR code scanner on their mobile devices from 2020-2025.



Number of smartphone users in the United States who used a QR code scanner on their mobile devices from 2020 to 2025 (Dec. 2022), Statista, available at <https://www.statista.com/statistics/1297768/us-smartphone-users-qr-scanner/>. The COVID-19 pandemic spurred at least some of the QR code usage growth.

25. The usage of printed, static QR codes persists, but more sophisticated technological systems using QR codes, such as Defendants' pay-at-the-pump systems, are now being deployed. QR codes are increasingly being displayed on screens (such as monitors) rather than static print media.

26. There are numerous ways in which a system could be configured to display a QR code on the screen and there are many benefits to doing so. The Patents-In-Suit describe and cover novel and nonobvious technological improvements to systems using barcodes for advertising and marketing. These technological improvements are described and claimed in the Patents-In-Suit.

THE PATENTS-IN-SUIT

27. The inventions described by the '632 Patent and '542 Patent are technological improvements in the use of barcodes for sales and marketing. Each Defendant incorporates the inventions disclosed in the '632 Patent and '542 Patent through, for example, usages of the Accused Instrumentalities including the Walmart app and Sam's Club app.

28. The '632 Patent issued on September 10, 2013. The term of the '632 Patent was adjusted or extended under 35 U.S.C. 154(b) by 150 days. The application resulting in the issuance of the '632 Patent was filed on May 16, 2011. Dr. Boudville is the named inventor of the '632 Patent. QR Switch is the owner by assignment of the '632 Patent. The '632 Patent is attached as Exhibit A.

29. The '632 Patent issued after a full and thorough examination, including two rejections that were overcome. The prior art considered by the examiner included patents and printed publications. *See* '632 Patent at "References Cited" (listing United States patents, Foreign Patent documents, and a PCT report); 1:6-29 (listing background prior art). The examiner specifically cited United States Patent Application Nos. 2010/0116888 (a patent application to Asami) ("Asami") and 2012/0311623 (a patent application to Davis) ("Davis").

30. The patentee clearly showed how the claimed inventions differed from the prior art (including the prior art cited by the Examiner). The patentee originally filed claims defined by the scope of the claims in the original application. *See* May 16, 2011 Application (Claims 1-11). The patentee then submitted a preliminary amendment such that claims 12-33 were pending. Included in the preliminary filings was the disclosure of prior art identified and known by the patentee including the results of an international search. In a December 13, 2012 Office Action, the examiner rejected all pending claims under 35 U.S.C. § 102(e) as anticipated by Davis. In response, the

patentee argued in part that the relevant prior art did not concern barcodes or teach the “retrieve information from the website” and “adapted to displayed the retrieved website” limitations of the claims. In a December 12, 2013 Office Action, the examiner again rejected all pending claims under 35 U.S.C. § 102(b) as anticipated by Asami. The patentee disagreed and argued that Asami did not disclose the “a controller adapted to retrieve images from a website” or “a barcode display device that is adapted to display images and one or more barcodes from the website” related limitations of the claims. Instead, Asami taught changing the screen simply based on the approach of a user. The patentee contended that “the connection of the barcode display device to the internet results in significant effect” because “internet connectivity allows the user to alter the screen in a variety of ways.” The patentee further noted limitations from then pending claims 13, 21, and 32 were not taught by Asami.

31. The examiner entered a Notice of Allowance and identified pages 1-4 of patentee’s May 1, 2013 Response to Office Action as the statement of reasons for allowance.

32. The ’542 Patent issued on March 22, 2016. The term of the ’542 Patent was adjusted or extended under 35 U.S.C. 154(b) by 169 days. The application resulting in the issuance of the ’542 Patent was filed on April 30, 2012. The ’542 Patent claims priority to United States Patent Application No. 13,068,782 (filed on May 16, 2011)—the application resulting in the issuance of the ’632 Patent. Dr. Boudville is the named inventor of the ’542 Patent. QR Switch is the owner by assignment of the ’542 Patent. The ’542 Patent is attached as Exhibit B.

33. The ’542 Patent issued after a full and thorough examination, including a rejection that was overcome. The prior art considered by the examiner was extensive. *See* ’542 Patent at “References Cited” (listing United States patents, Foreign Patent documents, and a PCT report); 1:6-29 (listing background prior art). The examiner specifically cited United States Patent

Application Nos. 2011/0101086 (a patent application to Yach) (“Yach”) and 2009/006009 (a patent application to Kindberg) (“Kindberg”) and identified the following references as “not relied upon” but “pertinent” to patentee’s disclosure: 2011/0068173 (a patent application to Powers) (“Powers”), 2011/0295502 (a patent application to Faengar) (“Faengar”), 2012/0223131 (a patent application to Lim) (“Lim”), 2014/0365900 (a patent application to Chu) (“Chu”), and 2004/0046014 (a patent application to Russell) (“Russell”).

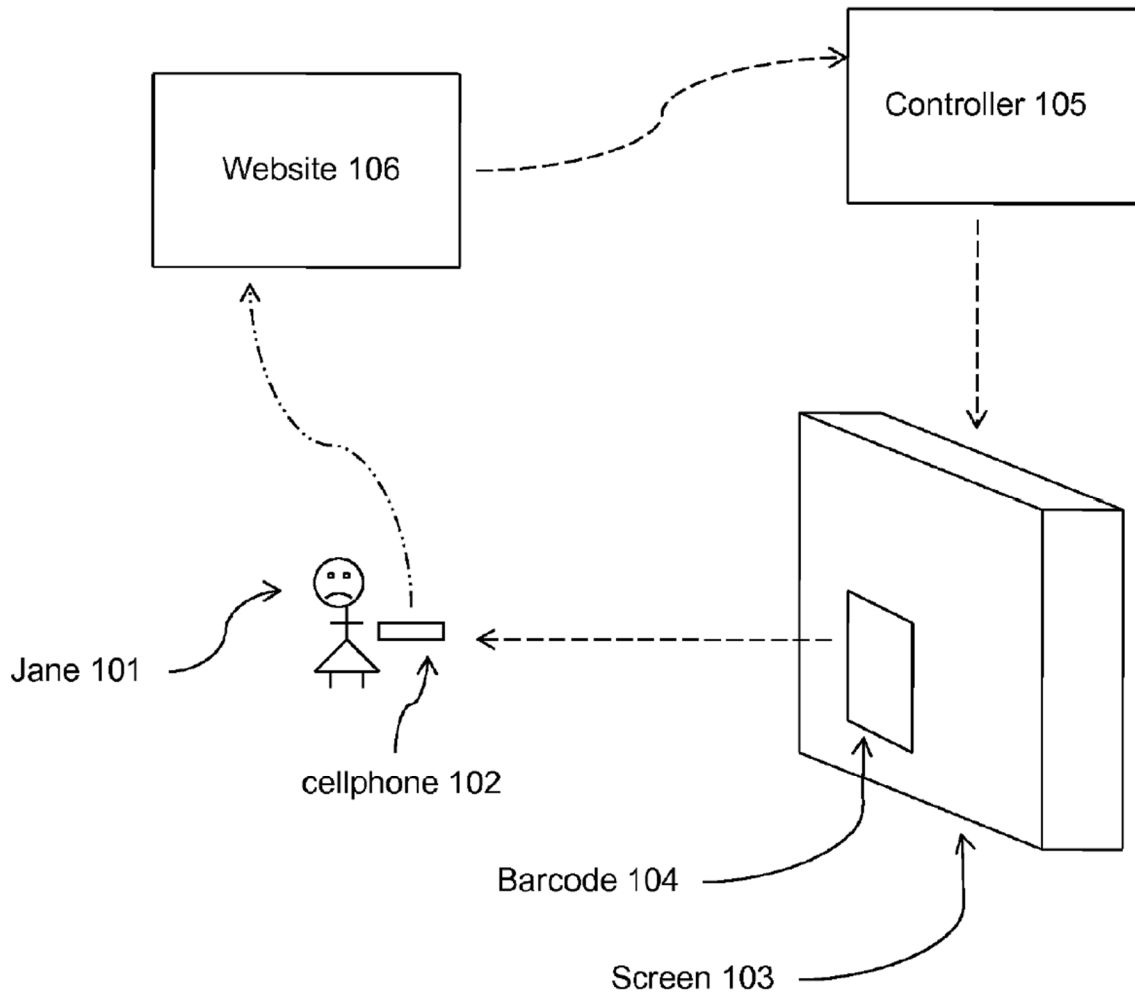
34. The patentee again showed the Examiner how the claimed inventions differed from the prior art. The patentee originally filed claims defined by the scope of the claims in the original application. *See* November 13, 2013 Application (Claims 1-22). The patentee then submitted preliminary amendments such that claims 1-20 were ultimately pending. Again, the preliminary filings included prior art of which the patentee was aware including international search results. In a July 1, 2015 Office Action, the examiner rejected all pending claims under 35 U.S.C. § 103 as obvious over Yach in view of Kindberg. In response, the patentee amended the claims and argued that Yach did not teach that the controller updates images on a monitor that shows the barcode as claimed. The examiner subsequently entered a Notice of Allowance.

35. The ’632 Patent and ’542 Patent disclose novel methods that include the use of an electronic computing device in connection with a dynamic electronic display capable of presenting a barcode for scanning. The Abstract of each Patent-In-Suit states the following:

A cellphone with a camera takes a photo of a barcode in a screen that can show different images. The barcode is decoded into a URL, and the cellphone uses wireless Internet access to visit the website of the URL. The website then makes a different image that also has a barcode of a URL, and sends it to the screen for display. This can increase the interactivity of the screen and its value to advertisers. Several users with cellphones might simultaneously interact with the screen in this manner.

'542 Patent at Abstract; *see also id.* at 1:47-55 (same).

36. The patentee used the figure below to illustrate some of the technological features and functionality of the claimed inventions.



'542 Patent at Figure 1; *see id.* at 1:64-65 (“Fig. 1 shows Jane using her cellphone to read and change the screen display”). The '542 Patent contains the following description of the technological components and usage of the Fig. 1 system including usage of the controller at the screen to responsively update the screen’s image:

Let Jane be a user with a cellphone that has a camera. FIG. 1 shows Jane **101** using her cellphone **102**. She is near Screen **103**. This can be an electronic screen that shows an image. The screen can be controlled by Controller **105**. The controller **105** can be a computer, or can contain a computer, that sends various control commands to Screen **103**, including the image to be shown. Often, Controller **105** is in close proximity with Screen **103**. It might communicate with Screen **103** by wired or wireless means. Or, in another implementation, Controller **105** and Screen **103** might be combined into one device; akin to a personal computer and its screen.

Screen **103** can be an active or passive display. Active means that it illuminates its image, so that the latter can be seen without an external light source. Light comes from the image. Passive means that the image elements absorb and reflect incident light from an external source to form an image seen by Jane.

Screen **103** shows some image, where this includes Barcode **104**. This is typically a 2 dimensional barcode. Often, the rest of the image can be something of semantic meaning to Jane. (Though a degenerate case is where the image only consists of Barcode **104**.) The meaning induces her to point the camera of the cellphone at Barcode **104** and take a picture.

The cellphone has software that decodes the image into a URL. The cellphone is assumed to have wireless access to the Internet, such that it goes to the URL address, which is at Website **106**, and downloads the webpage at that address and displays it in the cellphone's screen, possibly in a web browser. Between cellphone **102** and Website **106** are several machines, like those of the cellphone network and, once the signal goes on the Internet, various Internet routers. These are omitted for clarity, because they can be considered to just passively pass the signal through, and do not take an active role in this invention.

According to an embodiment of the present disclosure, Website 106 instead of or in addition to replying to cellphone 102 with a webpage, now sends a signal to Controller 105. The Controller 105 then makes a change in the image on Screen 103.

There might be various relay machines between Website **106** and Controller **105**. These are omitted in the figures for clarity, but those skilled in art will understand that such various relay machines can be implemented.

37. Figure 2 of the Patents-In-Suit is focused on the “Screen 201” that is said to correspond to “Screen 103” of Figure 1. Figure 2 provides additional disclosure concerning the technological usage and features of the claimed inventions:

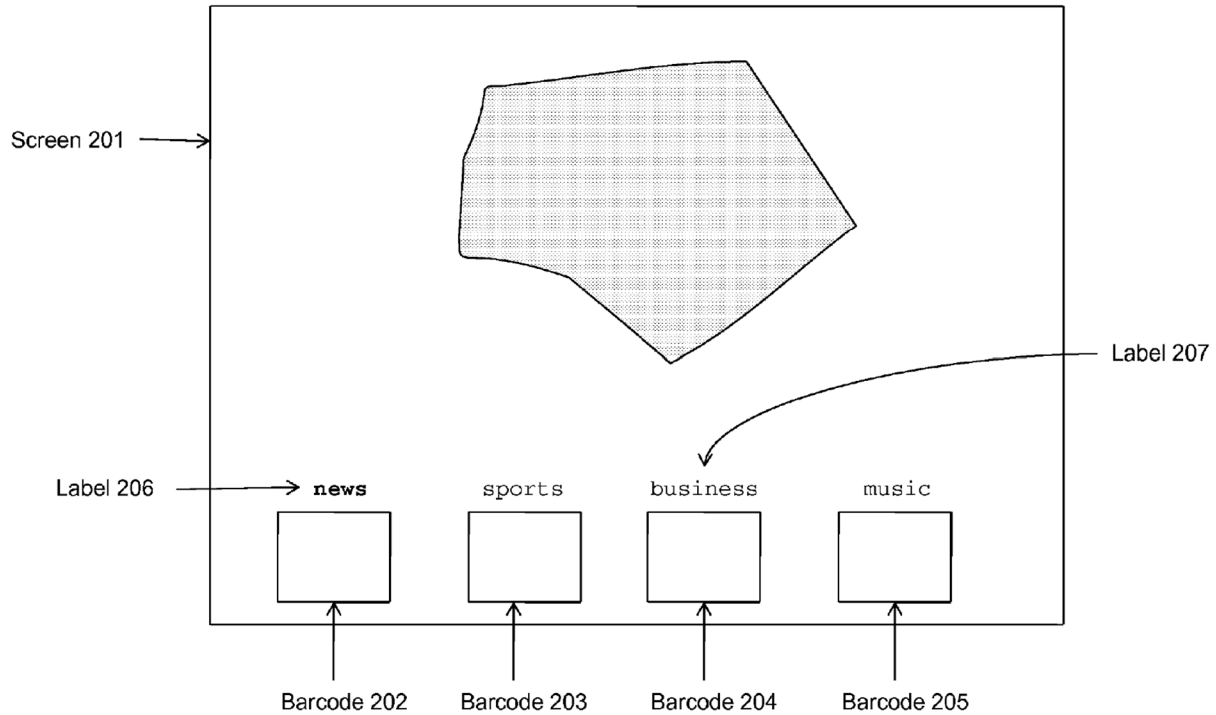


Figure 2 is described as follows by the patentee:

FIG. 2 shows an example of usage. We are looking directly at Screen **201** (which corresponds to Screen **103** in FIG. 1). There is some image in the center of the screen. This could be a static image or video, depending on the screen’s functionality. Across the bottom are 4 barcodes, Barcode 202, Barcode 203, Barcode 204 and Barcode 205. Above each barcode is text telling of the choices available to Jane for changing what is shown. One of these labels, Label 206, is in bold compared to the other labels, indicating that this is the current type of information being shown. If Jane wants to change to ‘business’, she would use her cellphone to take a picture of Barcode 204, which is under Label 207 and transmit it to Website 106. Whereupon, possibly with some delay, instituted in part perhaps by hardware and communication limitations, the main image would change, Label 206 would not be in bold, and Label 207 would now be in bold.

'542 Patent at 5:19-34. Different applications of the underlying claimed technology are possible.

See id. at 5:35-6:21.

38. The general flow of information is designed to be unidirectional:

The embodiments of the present disclosure differs from other ideas using bidirectional interaction between cellphone 102 and Screen 103. Suggestions have included the use of infrared, Bluetooth or Near Field Communication. All these involve the deployment of some type of receiver or transceiver on, in or near Screen 103, and associated with that screen.

In contrast, the overall unidirectional flow of information in this invention is indicated by the dashed arrows of FIG. 1. We say overall, because earlier we indicated the possibility that Website **106** might return a webpage to cellphone **102**, and when Jane does something on that page and returns her results to Website **106**, then the latter makes an image. With this caveat, it can be seen that the overall flow is largely unidirectional. But the main point about the unidirectionality is that it holds true in the interaction between Screen **103** and cellphone **102**.

'542 Patent at 3:37-53. The unidirectional design of the system may be beneficial:

The unidirectional nature of this invention reduces the cost of the screen, because there is no transceiver. So there is less upfront hardware cost. The ongoing maintenance cost is also less, because there is no transceiver to fail or degrade. This can be nontrivial. Screens might be deployed in outdoor conditions, partially exposed to inclement weather, and also to the risk of vandalism or accident.

'542 Patent at 4:8-15.

39. Another benefit provided by the claimed inventions is enabling and encouraging interaction between the user (e.g., Jane) and the display with the barcode:

One usage of the embodiments of the present disclosure could be to induce greater interaction between Jane and the advertising display on Screen **103**. If she can cause a change in the display, this involvement ability and possible entertainment value to her and others nearby, might cause her to linger near and continue to interact with the screen. It could also cause the other observers to stay and watch the screen, or also to interact using their cellphones.

'542 Patent at 5:6-13.

40. The patentee explains the following above the examples and disclosures in the specification of the Patents-In-Suit:

The examples set forth above are provided to give those of ordinary skill in the art a complete disclosure and description of how to make and use the embodiments of the methods of the present disclosure, and are not intended to limit the scope of what the inventors regard as their disclosure. Modifications of the above-described modes for carrying out the disclosure may be used by persons of skill in the art, and are intended to be within the scope of the following claims. All patents and publications mentioned in the specification may be indicative of the levels of skill of those skilled in the art to which the disclosure pertains. All references cited in this disclosure are incorporated by reference to the same extent as if each reference had been incorporated by reference in its entirety individually.

'542 Patent at 7:33-46.

41. The '632 Patent includes method claim 14.

14. An interactive method comprising:

providing a monitor for displaying images from a website and one or more barcodes according to instructions received from a controller, the one or more barcodes comprising an encoded uniform resource locator (URL);

providing an electronic computing device having an Internet access;

scanning the barcode provided on the monitor with the electronic computing device;

decoding the scanned barcode with a decoding software on the electronic computing device;

accessing a website according to the URL decoded from the barcode;

sending inputs, by the user, from the electronic computing device to the website; and

updating, by the controller, the images and/or the one or more barcodes on the monitor according to inputs by the user.

'632 Patent at 7:46-60; 8:32-49.

42. Claim 14 is a technologically improved method providing interactivity including displaying images from a website including “one or more barcodes” comprising “encoded uniform resource locators (URLs).” The method provides and makes use of technology to scan and decode the URL and access a website according to the URL. The method further provides for sending inputs by the user to the website and “updating, by the controller, the images and/or one or more barcodes on the monitor according to the inputs by the user.”

43. Method claim 14 includes dependent claims 15-22. The dependent claims include further technological improvements to the claimed inventions. The dependent claim-improved systems and methods provide, among other things, for the capability of a plurality of devices interacting with the website, security related functionality for the website, barcodes corresponding to different URLs, and physically locating the monitor where is cannot be touched or reach by the user (yet remain interactive).

44. The '542 Patent includes method claim 13:

13. An interactive method comprising:

providing a controller adapted to retrieve images from a website;
and

providing a monitor for displaying the images from the website and one or more barcodes according to instructions received from the controller, the one or more barcodes comprising an encoded uniform resource locator (URL),

wherein

the one or more barcodes on the monitor are configured to be scanned and decoded by a decoding software associated with an electronic computing device having an Internet access,

the electronic computing device is distinct from the controller,

the one or more barcodes correspond to a website to be accessed via the decoded URL,

the website is configured to receive inputs from the electronic computing device, and

the controller is configured to update the images on the monitor corresponding to inputs the website receives from the electronic computing device.

'542 Patent at 7:66-8:22; 8:59-9:13.

45. Method claim 13 is a technologically improved method providing interactivity including providing and making use of a controller to retrieve and display images from a website including “one or more barcodes” comprising “encoded uniform resource locators (URLs).” The method provides and makes use of barcodes configured to be scanned and decoded by a device “distinct from the controller.” The barcodes are configured to provide for access to a website and the website is configured to receive inputs. The controller is configured to “update the images on the monitor corresponding to the input the website receives” from the user.

46. Method claim 13 includes dependent claims 14-19. The dependent claims include further technological improvements to the claimed inventions. The dependent claim-improved systems and methods provide, among other things, for the capability of a plurality of devices interacting with the website, security related functionality for the website, barcodes corresponding to different URLs, and physically locating the monitor where is cannot be touched or reach by the user (yet remain interactive).

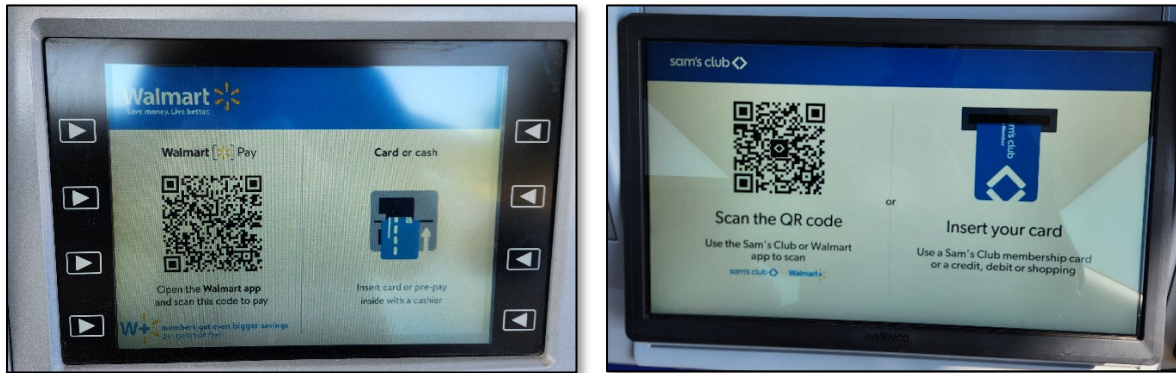
47. The Patents-In-Suit including the inventions claimed therein have been recognized as valuable improvements in the relevant technological field. Third-party companies have paid Dr. Boudville consideration for a covenant related to the Patents-In-Suit. In addition, many patents have cited the Patents-In-Suit (or their respective patent applications) as relevant prior art including

patents issued to technology companies such as Google, Meta, and IBM. The Google patent (U.S. Patent No. 9,873,043, “Methods, systems, and media for enhancing multiplayer game sessions with asymmetric information”) relates to usage of a user device to read an image of machine-readable code (such as a QR code) displayed on a server device to access a URL associated with a multiplayer gaming session. The Meta patent (U.S. Patent No. 11,321,551, “Detecting a scan using on-device sensors”) relates to detection of whether a scannable code (such as a QR code) has been scanned by a scanning device by a device containing a display of the scannable code. The IBM patent (U.S. Patent No. 11,526,571, “Requesting an IP address using a non-textual based graphical resource identifier”) relates to accessing a web resource by interpreting a non-textual graphical resource.

DEFENDANTS’ INFRINGEMENT OF THE PATENTS-IN-SUIT

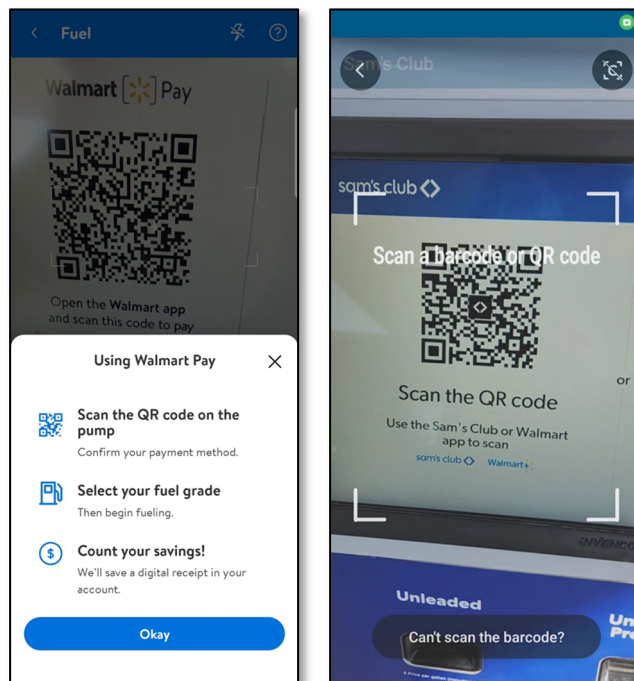
48. Defendants each infringe at least one claim of the Patents-In-Suit. For example, each Defendant performs the steps of Claim 14 of the ’632 Patent and Claim 13 of the ’542 Patent. *See, e.g.,* Help with Scan & Go: Scan & Go Fuel Purchase, available at https://help.samclub.com/app/answers/detail/a_id/2845#Fuel_Purchase_Flow (last visited Dec. 4, 2024).

49. Each Defendant provides both a controller and monitor for displaying the claimed images and barcodes.



The images above are photographs taken of monitors at Defendants’ gasoline pumps and include images and at least one barcode (i.e., the QR code). The monitors’ displays are generated by at least one controller that has retrieved the relevant images and barcodes from a website. Each of the QR codes comprise an encoded URL. A video showing monitors at Sam’s Club gasoline pumps that include images and at least one barcode comprising an encoded url can be found at Walmart’s “#LoveAtFirstScan: How We’re Continuing to Fuel Innovation with Scan & Go” webpage.⁶

50. The QR codes provided by Defendants are configured to be scanned and decoded by electronic computing devices such as smartphones with Internet access. Defendants provide apps to facilitate this process as shown below.



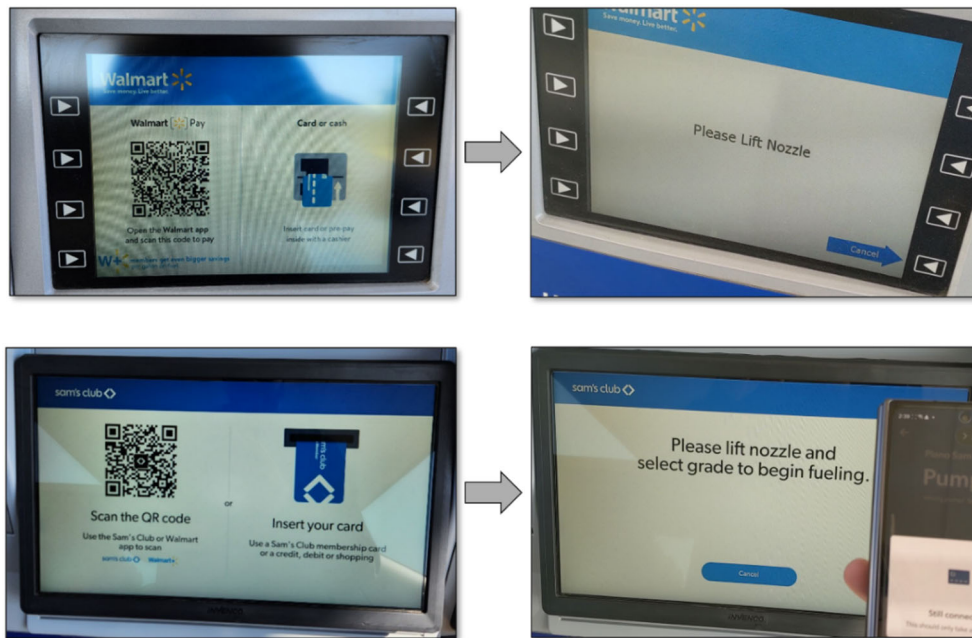
The screenshot on the left is from the Walmart app and the screenshot on the right is from the Sam’s Club app. Both apps include software designed to scan (including through the device’s

⁶ See *supra* n.2.

camera) and decode QR codes. A video showing the usage of the Sam’s Club app to scan and decode a QR code can be found at Walmart’s “#LoveAtFirstScan: How We’re Continuing to Fuel Innovation with Scan & Go” webpage.⁷

51. The URL encoded by Defendants in the QR code is associated with a website and is used by the relevant device to access the website. The relevant Defendants’ website is configured to receive inputs from the relevant device as initiated by the user. Both the Walmart and Sam’s Club apps, for example, provide for payment information and other data to be sent to the relevant website following the scanning and decoding of the URL encoded in the QR code.

52. The Defendants’ controller is configured to update the images and/or barcodes on the above-described monitor corresponding to the inputs the relevant website receives from the user’s device. An example in which Defendants’ controller updates the images and/or barcodes corresponding to the inputs received from the user’s device is illustrated in the photographs below.



⁷ See supra n.2.

The first row of photographs above reflects Walmart’s “updating” in accordance with the claims, and the second row of photographs above reflects Sam’s Club’s “updating” in accordance with the claims. A video showing Defendants’ “updating” in accordance with the claims can be found at Walmart’s “#LoveAtFirstScan: How We’re Continuing to Fuel Innovation with Scan & Go” webpage.⁸

COUNT I
INFRINGEMENT OF U.S. PATENT NO. 8,532,632

53. QR Switch references and incorporates by reference the preceding paragraphs of this Complaint as if fully set forth herein.

54. QR Switch is the sole owner of the ’632 Patent and possesses rights to past damages.

55. All claims of the ’632 Patent are valid and enforceable and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

56. Defendants have directly infringed and continue to directly infringe the ’632 Patent by, among other things, making use of the Accused Instrumentalities in the United States and this District as described above in Paragraphs 48-52 (Defendants’ Infringement of the Patents-In-Suit). Defendants’ use of the Accused Instrumentalities in the United States and this District satisfies each and every limitation of at least Claim 14 of the ’632 Patent.

57. Defendants also have indirectly infringed and continue to indirectly infringe the ’632 Patent as described above in Paragraphs 48-52 (Defendants’ Infringement of the Patents-In-Suit). Defendants’ indirect infringement includes both infringement by inducement and contributory infringement.

⁸ See *supra* n.2.

58. Defendants have actual notice of the '632 Patent since at least the service of this Complaint, and know at least from the Complaint that the Accused Instrumentalities practice the steps of at least Claim 14 of the '632 Patent.

59. Defendants induce patent infringement with knowledge that the inducing acts would cause infringement, or Defendants were willfully blind to the possibility that their inducing acts would cause infringement. Defendants specifically intended and were aware that the normal and customary use of each of Defendants' pay-at-the-pump app-based systems would infringe the '632 Patent. Below is an example of Defendants' acts of inducement.

How it Works

Walmart and Sam's Club Fuel Stations

From the Walmart app:

1. Select **Services** at the bottom of the page.
2. Select **Member prices on fuel**.
3. Select **Pay at Pump**.
4. Scan the QR code on the pump screen.
5. Select your payment method in Walmart Pay.
6. Select your **fuel grade**.
7. Start pumping.
8. You'll get an e-receipt in the Walmart app when finished.
 - You can view your receipt any time by going to your Walmart account and selecting **Purchase history**.

*See Walmart+ Benefits – Fuel Discounts.*⁹

60. Defendants also have indirectly infringed the '632 Patent by providing, using, selling, and/or offering for sale a component of the claimed method or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to

⁹ Available at <https://www.walmart.com/help/article/walmart-benefits-fuel-discounts/b85623bb273a41979488aa9cbdb1b4c9> (last visited Nov. 7, 2024).

be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity suitable for substantial non-infringing use.

61. Defendants performed the acts that constitute induced infringement and contributory infringement with knowledge of the '632 Patent and with the knowledge that the relevant acts would constitute induced and contributory infringement. Defendants have been aware (and on notice) of the '632 Patent since at least the filing of this action and have continued to infringe.

62. As a result of Defendants' infringement, QR Switch has suffered and continues to suffer damages. QR Switch is entitled to recover from Defendants the damages QR Switch sustained as a result of Defendants' wrongful and infringing acts in an amount no less than a reasonable royalty together with interest and costs as fixed by this Court together with increased damages up to three times under 35 U.S.C. § 284.

63. Defendants' infringement of the '632 Patent is and continues to be deliberate and willful because Defendants were and are on notice of the '632 Patent at least as early as service of the Complaint, yet Defendants continue to infringe the '632 Patent. This case should be deemed an exceptional case under 35 U.S.C. § 285, and if so, QR Switch is entitled to recover its attorney's fees.

64. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '632 Patent.

COUNT II
INFRINGEMENT OF U.S. PATENT NO. 9,294,542

65. QR Switch references and incorporates by reference the preceding paragraphs of this Complaint as if fully set forth herein.

66. QR Switch is the sole owner of the '542 Patent and possesses rights to past

damages.

67. All claims of the '542 Patent are valid and enforceable and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

68. Defendants have directly infringed and continue to directly infringe the '542 Patent by, among other things, making use of the Accused Instrumentalities in the United States and this District as described above in Paragraphs 48-52 (Defendants' Infringement of the Patents-In-Suit). Defendants' use of the Accused Instrumentalities in the United States and this District satisfies each and every limitation of at least Claim 13 of the '542 Patent.

69. Defendants have also indirectly infringed and continue to indirectly infringe the '542 Patent in the United States as described above in Paragraphs 48-52 (Defendants' Infringement of the Patents-In-Suit). Defendants' indirect infringement includes both infringement by inducement and contributory infringement.

70. Defendants have actual notice of the '542 Patent since at least the service of this Complaint, and know at least from the Complaint that the Accused Instrumentalities practice the steps of at least Claim 13 of the '542 Patent.

71. Defendants induce patent infringement with knowledge that the inducing acts would cause infringement, or Defendants were willfully blind to the possibility that their inducing acts would cause infringement. Defendants specifically intended and were aware that the normal and customary use of each Defendants' pay-at-the-pump app-based system would infringe the '542 Patent. Below is an example of Defendants' acts of inducement.

How it Works

Walmart and Sam's Club Fuel Stations

From the Walmart app:

1. Select **Services** at the bottom of the page.
2. Select **Member prices on fuel**.
3. Select **Pay at Pump**.
4. Scan the QR code on the pump screen.
5. Select your payment method in Walmart Pay.
6. Select your **fuel grade**.
7. Start pumping.
8. You'll get an e-receipt in the Walmart app when finished.
 - You can view your receipt any time by going to your Walmart account and selecting **Purchase history**.

See Walmart+ Benefits – Fuel Discounts.¹⁰

72. Defendants also have indirectly infringed the '542 Patent by providing, using, selling, and/or offering for sale a component of the claimed method or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity suitable for substantial non-infringing use.

73. Defendants performed the acts that constitute induced infringement and contributory infringement with knowledge of the '542 Patent and with the knowledge that the relevant acts would constitute induced and contributory infringement. Defendants have been aware (and are on notice) of the '542 Patent since at least the filing of this action and have continued to infringe.

74. As a result of Defendants' infringement, QR Switch has suffered and continues to suffer damages. QR Switch is entitled to recover from Defendants the damages QR Switch

¹⁰ Available at <https://www.walmart.com/help/article/walmart-benefits-fuel-discounts/b85623bb273a41979488aa9cbdb1b4c9> (last visited Nov. 7, 2024).

sustained as a result of Defendants' wrongful and infringing acts in an amount no less than a reasonable royalty together with interest and costs as fixed by this Court together with increased damages up to three times under 35 U.S.C. § 284.

75. Defendants' infringement of the '542 Patent is and continues to be deliberate and willful because Defendants were and are on notice of the '542 Patent at least as early as service of the Complaint, yet Defendants continue to infringe the '542 Patent. This case should be deemed an exceptional case under 35 U.S.C. § 285, and if so, QR Switch is entitled to recover its attorney's fees.

76. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '542 Patent.

JURY DEMAND

77. QR Switch demands, pursuant to Federal Rule of Civil Procedure 38, a trial by jury on all issues so triable.

PRAYER FOR RELIEF

78. QR Switch respectfully requests that the Court:

- A. Enter a judgment in favor of QR Switch that the Defendants have and are infringing the Patents-In-Suit;
- B. Enter a judgment in favor of QR Switch that Defendants' infringement has been willful;
- C. Enter a judgment and order requiring Defendants to pay QR Switch its damages for Defendants' infringement of the Patents-In-Suit under 35 U.S.C. § 284;

- D. Enter a judgment and order finding that this is an exceptional case and awarding QR Switch enhanced damages and its costs, attorney's fees, and expenses, whether under 35 U.S.C. § 285 or otherwise;
- E. Award pre-judgment and post-judgment interest on the damages awarded at the highest rate allowed by law;
- F. Award a compulsory ongoing royalty;
- G. Order an accounting of all damages; and
- H. Grant QR Switch any and all other and further relief, general and special, at law or in equity, as the Court deems just and equitable.

Dated: January 22, 2025

Respectfully submitted,

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