IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

SLINGSHOT PRINTING LLC, Plaintiff, v. HP INC., Defendant.	C.A. No. 6:19-cv-00363 **Jury Trial Demanded**

COMPLAINT

Plaintiff Slingshot Printing LLC ("Slingshot" or "Plaintiff"), files this complaint for patent infringement against Defendant HP Inc. ("HP" or "Defendant"), under 35 U.S.C. § 271 *et. seq*., as a result of HP's unauthorized use of Slingshot's patents, and alleges as follows:

THE PARTIES

1. Slingshot is a limited liability company organized and existing under the laws of Delaware, with its principal place of business at 8455 Colesville Road, Suite 830, Silver Spring, MD 20910.

2. On information and belief, HP is a Delaware corporation with a principal place of business at 1501 Page Mill Road, Palo Alto, CA 94304.

3. On information and belief, HP formally registered to do business in the state of Texas under Texas SOS file Number 0012093906 in May 1998, and, since at least

as early as 2016, HP has had an established place of business in this judicial district with a physical office at 3800 Quick Hill Rd #100, Austin, TX 78728.

JURISDICTION AND VENUE

4. This is a civil action for infringement of United States Patent Nos.: 6,137,502; 6,213,587; 7,014,299; and 7,244,015 (collectively, the "patents-in-suit" or "asserted patents"). True and correct copies of the patents are attached as Exhibits 1-4, respectively.

5. This action arises under the patent laws of the United States, 35 U.S.C. § 100 *et seq.*, generally, and 35 U.S.C. §§ 271(a), specifically.

6. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 28 U.S.C. § 1338.

7. HP is subject to this Court's specific and general personal jurisdiction, in accordance with due process and/or the Texas Long Arm Statute because, in part, HP "[r]ecruits Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state." *See* Tex. Civ. Prac. & Rem. Code § 17.042.

8. Additionally, this Court has specific personal jurisdiction over HP because it committed and continues to commit acts of infringement in this judicial district in violation of 35 U.S.C. § 271(a). In particular, HP has made, used, offered to sell, and sold products and systems in this judicial district, including infringing thermal inkjet printers and thermal inkjet print cartridges.

9. In addition, and on information and belief, HP is subject to the Court's general jurisdiction because it regularly conducts and solicits business, or otherwise

engages in other persistent courses of conduct in this district, and/or derives substantial revenue from the sale and distribution of goods and services provided to individuals and businesses in this district.

10. In sum, this Court has specific and general personal jurisdiction over HP because, *inter alia*, HP, on information and belief: (1) has substantial, continuous, and systematic contacts with this State and this judicial district; (2) owns, manages, and operates facilities in this State and this judicial district; (3) enjoys substantial income from sales in this State and this judicial district; (4) employs Texas residents in this State and this judicial district, and (5) markets products in this State and judicial district.

11. Venue is proper pursuant to 28 U.S.C. §§ 1391 and 1400, at least because HP, either directly or through its agents, has committed acts of infringement in this district, and has a regular and established place of business in this district.

12. On information and belief, HP maintains a significant physical presence in this district that is an established place of business of Defendant. Specifically, HP has a large corporate office at 3800 Quick Hill Rd #100, Austin, TX 78728 ("Austin Office"), which is within this judicial district. Affixed to the exterior of the Austin Office is large and clear signage that reads "HP" as seen in the image below:

Source: Google Streetview of 3800 Quick Hill Road (attached as Exhibit 5) (https://www.google.com/maps/@30.4700385,-97.6860037,3a,75y,339.27h,89.01t/data= !3m7!1e1!3m5!1s1Y6-J_EubV2V98_XmOH_NA!2e0!6s%2F%2Fgeo1.ggpht.com%2Fcbk %3Fpanoid%3D1Y6-J_EubV2V98_XmOH_NA%26output%3Dthumbnail%26cb_client%3Dmaps_sv.tactile.gps%26thumb%3D2%26w%3D203%26h%3D100%26yaw%3D137.1953%26pitch%3D0%26thumbfov%3D100!7i16384!8i8192).

13. On information and belief, HP uses the Austin Office as a regular and established place of business because this location is where numerous important employees work, including, but not limited to a Director of IT, a Director of Governmental Affairs, software and hardware engineers, and other engineers.

14. Additionally, HP's website lists fifty-one H-1B labor condition applications for persons employed in Austin, Texas. *See* Exhibit 6 (http://www.hp.com/hpinfo/). Thus, the workers in Austin are highly specialized and important to the regular operation of HP because workers holding an H-1B visa are employed in a specialty occupation that requires a "theoretical and practical application

of a body of highly specialized knowledge . . . and attainment of a bachelor's or higher degree in the specific specialty. . . . " *See generally* 8 U.S.C. § 1184.

15. Moreover, HP lists several positions on its website for careers in Austin, Texas, including the exemplary one seen in the screenshot below:

See Exhibit 7 (https://h30631.www3.hp.com/job/bengaluru/cyber-security-engineer/3544/8853709).

16. On information and belief, HP owns real estate in the Austin, Texas region including properties at 7501 N. Capital of Texas Highway, TX 78731; 3301 Hibbets Rd, Austin, TX 78721; 14231 Tandem Blvd, Austin, TX 78728; and 14219 Tandem Blvd, Austin, TX 78728.

17. Additionally, HP operates the HP Partners First Program. *See generally,* Exhibit 8 (HP Partners First Program Brochure). The program is a partnership agreement between HP and retailers throughout the area that "is focused on being first in sales, speed and solutions, offering a comprehensive framework that encompasses a broad range of partner motions." A portion of the program is detailed in the infographic below:

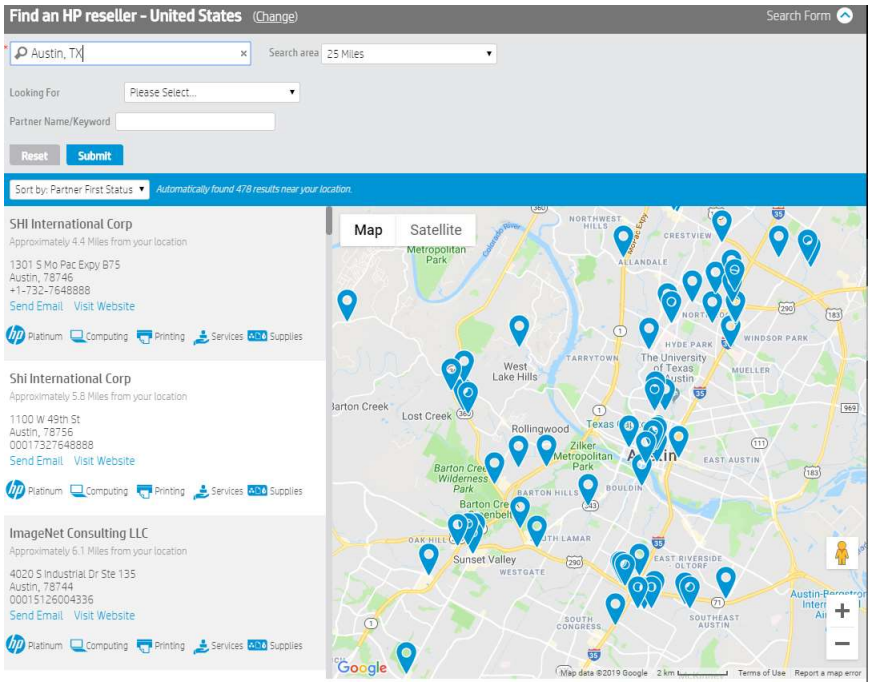
Exhibit 8 at page 10.

18. The HP Partners First Program includes three tiers of partnership: Silver, Gold, and Platinum. At every level, the partners are required to enter into a formal Partner agreement with HP, and provide Sales Certified Printing, Computing and Supplies. *Id.* at 11. Additionally, HP provides market development funds to Platinum members. *Id.* at 15.

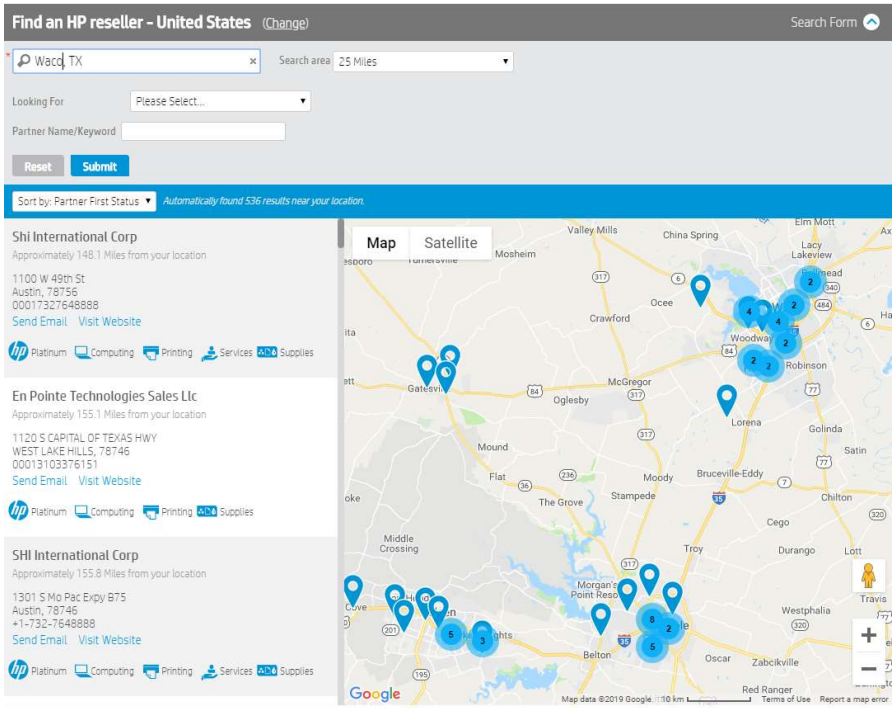
19. Moreover, "HP places great value in partnership with reseller partners contributing significantly towards HP's business revenue. Visibility of partner's business are critical component towards fine-tuning of collaborative sales effort." *Id* at 44.

20. Through this HP Partners First Program, HP has hundreds of partners physically located throughout this district, including but not limited to contracted HP partners in Waco, Austin, and San Antonio. Indeed, the HP website provides consumers with the ability to search for resellers based on cities or zip codes in this

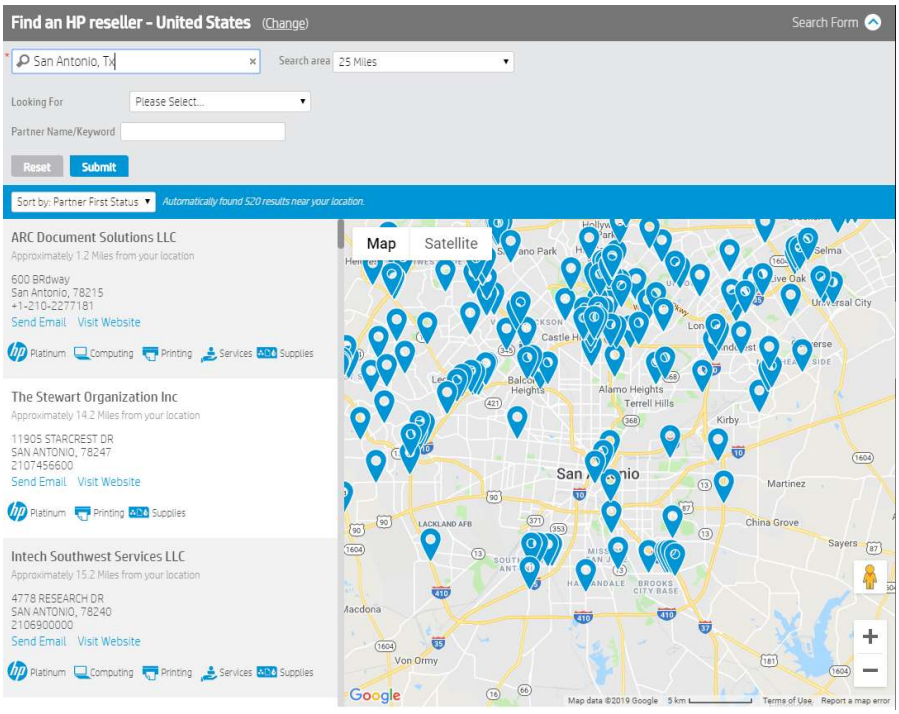
district. Conducting a simple search on HP's website of Waco, Austin, and San Antonio yields the results seen in the screenshots on the following pages:



Austin, Texas



Waco, Texas



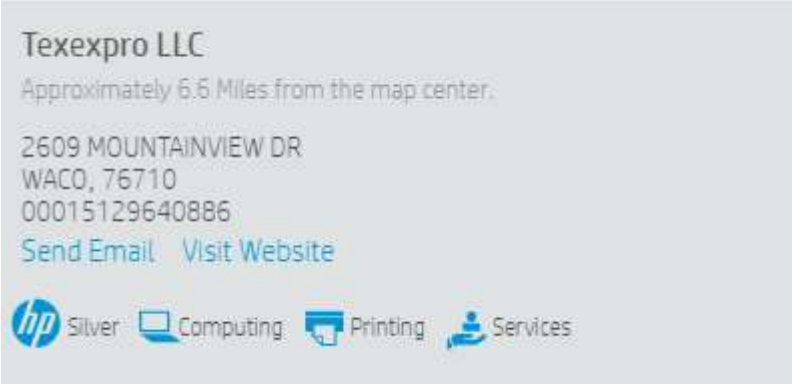
San Antonio, Texas

21. A search of the Austin, Texas area in this portal yields at least fifty-nine partners participating in the HP Partners First Program. Fifteen of those partners are platinum partners. All of the platinum partners offer HP Computing, Printing, Services, and Supplies to consumers in the Austin area.

22. By way of example, ImageNet Consulting is listed as a Platinum Partner selling printing services, as seen in the screenshot below:

According to ImageNet Consulting's website, the company offers several printers for sale including the HP PageWide Pro MFP P57750 and HP PageWide Managed E55650dn. Both of which are infringing inkjet printers. *See* Exhibit 9 (http://www.imagenetconsulting.com/products/copiers-printers-scanners/workteam-printers/).

23. Likewise, a targeted search of the Waco, Texas area yields at least seven partners participating in the HP Partners First Program. All of those partners are Silver partners of the HP Partners First Program, and at least one of those silver members offers HP Computing, Printing, and Supplies to consumers in the Waco area. By way of further example, Texexpro LLC is listed as a Silver Partner Selling printing services, as seen in the screenshot below:

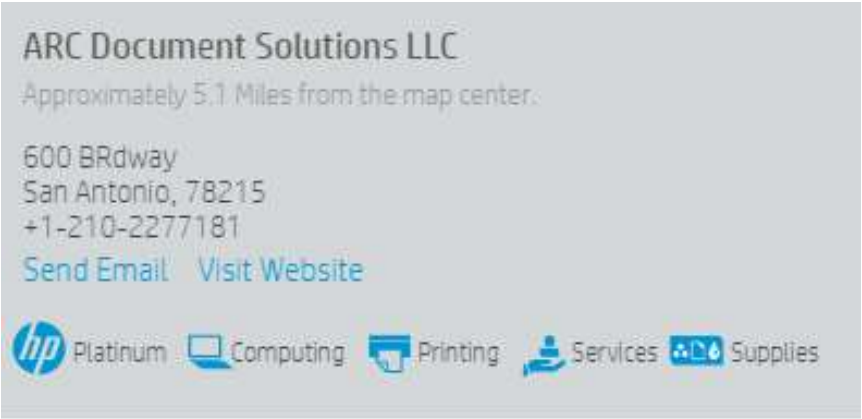


According to Texexpro LLC'S website, the company offers several printers for sale including the HP OfficeJet 4650, an infringing inkjet printer. *See* Exhibit 10 (https://www.texexpro.com/copy-of-products).

24. Additionally, a targeted search of the San Antonio, Texas area yields at least fifty-five partners participating in the HP Partners First Program. Seventeen of

those partners are platinum partners. All of the platinum partners offer HP Computing, Printing, Services, and Supplies to consumers in the San Antonio area.

25. By way of example, ARC Document Solutions LLC is listed as a Platinum Partner Selling printing services as seen in the screenshot below:



According to ARC Document Solutions LLC's website, the company offers several printers for sale including the HP PageWide Enterprise Color 556dn Color Printer, HP PageWide Pro 750dw Color Printer, and the HP PageWide Pro 452dw Color Printer, all of which are infringing inject printers. *See* Exhibit 11 (http://shop.arcsupplies.com/store/c-527-ink-printers.aspx).

26. Moreover, consumers in this district are able to purchase infringing thermal inkjet printers and cartridges directly from HP through its online website at https://store.hp.com/us/en. HP, directly and/or through its agents, advertises in this district, and through its website and other websites, offers to sell, sells and/or distributes its products in this district, and/or has induced the sale and use of its products in this district.

27. Accordingly, upon information and belief, HP, either directly or through its agents, distributes, markets, delivers and sells, among other products, infringing inkjet printers and inkjet cartridges within this judicial district through the HP Partners First Program; through many stores in Waco, Austin, and San Antonio and the surrounding area, such as Best Buy, S.P. Richards Co., Staples Inc., and Frys Electronics; and directly to consumers through its online store front at https://store.hp.com/us/en.

28. On information and belief, HP, through at least its website and its partners, has substantial sales of products, including infringing inkjet printers and cartridges, in this district, and an established and substantial business presence in this district. On information and belief, HP sells its products, including infringing inkjet printers and cartridges, online through the Internet for delivery in this district, and through stores located in this district.

29. On information and belief, HP derives substantial revenue from the sale of infringing inkjet printers and inkjet cartridges distributed to, and within this district.

30. On information and belief, HP has previously litigated at least one patent infringement case before this court without contesting jurisdiction and venue in *Iron Oak Technologies, LLC v. HP Inc.*, Case No. 17-cv-1068, W.D. Texas.

THE PATENTS-IN-SUIT

Lexmark International, Inc.

31. The patents-in-suit arise from Lexmark International, Inc.'s ("Lexmark") many years of researching, designing and developing innovative and proprietary inkjet printer and inkjet cartridge technologies.

32. Lexmark was formed in 1991 when IBM divested a number of its hardware manufacturing operations, including printer and printer supply operations. Since that time, Lexmark became a leading developer, manufacturer and supplier of printing solutions including thermal inkjet printers, and their associated supplies and services. Lexmark developed and owned most of the technology for its inkjet printers and associated supplies, and that differentiated Lexmark from a number of its major competitors.

33. Lexmark's research and development activity focused on, *inter alia*, inkjet printers and printer supplies. The process of developing new technology products is complex and requires innovative designs and engineering that anticipate customer needs and technological trends. Lexmark's research and development expenditures were $375 million in 2009, $423 million in 2008, $401 million in 2007, $371 million in 2006, $336 million in 2005, $312 million in 2004, $266 million in 2003, $247 million in 2002, $246 million in 2001, $217 million in 2000, and $184 million in 1999.

34. Lexmark's intellectual property was one of its major assets, and ownership of its innovative and proprietary inkjet printer and inkjet cartridge technology was important to its competitive position. As of April 2013, Lexmark held approximately 1,500 inkjet patents worldwide. Lexmark was recognized as an industry leader in inkjet printer and inkjet cartridge technology.

35. Upon information and belief, the current estimated industry-wide revenue for inkjet printer hardware and associated supplies exceeded $20 billion in the United

States alone. On information and belief, in 2018, HP's annual U.S. revenue in the inkjet printer hardware and associated supplies exceeded $6 billion.

36. In its business strategy to transition from a hardware-centric company to an end-to-end solutions company, Lexmark entered into discussions for the sales of its hardware-based inkjet-related research and development assets.

37. Recognizing the tremendous value of Lexmark's intellectual property, in 2013, Funai Electric Co. Ltd. ("Funai") acquired Lexmark's inkjet technology and assets, including the patents-in-suit for approximately $100 million.

38. Funai assigned to Slingshot all substantial rights, title and interest in the patents-in-suit.

The Invention of the Patents-in-Suit

39. Most of the early printers that could be used with personal computers were noisy impact printers, including dot-matrix and daisy-wheel printers. Both were introduced in the early 1970s. Dot-matrix printers worked by driving printhead pins into an ink-infused ribbon to get ink onto the page, and daisy-wheel printers worked by driving a wheel of pre-formed typewriter-like characters into the ribbon. But beginning in the mid-1980s, consumer inkjet and laser printers were introduced nearly simultaneously, and they eventually took over a large percentage of the printer market. Technology breakthroughs in drop-on-demand inkjet technology, however, made the devices viable for both home and small office use.

40. Further, as a result of continuing technology advances, and starting in the mid-1990s, inkjet printers caught-up with, and surpassed all other printer types, even

laser printers. And because of their lower cost, ever improving resolution and ability to print in vivid color, this was when color inkjet printers and cartridges became popular in the market.

41. Inkjet printers spray liquid ink onto paper in tiny, precise drops. The ink is held in replaceable or refillable cartridges, most of which include a printhead with an array consisting of hundreds or thousands of tiny nozzles arranged close together through which the ink droplets are sprayed. Some printers have built-in printheads that are separate from the ink cartridges. The cartridges also include microchips and other electronic components to control the ink spray, as well as ink containment systems such as foams, bladders, and springs. Inkjet printers use either thermal technology (e.g., tiny chambers where ink is heated) or piezoelectric crystals (which vibrate or change shape when charged) to propel tiny ink droplets onto a page to create the printed text or images. A printer arm moves the cartridges across the page as the images are drawn. Software algorithms interpret the computer image the user is trying to print to determine the color and position of the ink that makes it to the page.

42. Typically, the ink in an inkjet printer includes black plus three primary colors with which all the other printable colors are made through blending. The primary colors are cyan (blue), magenta (a reddish color) and yellow. Black ink is usually held in its own cartridge. For some printers, the primary colors are housed in a single cartridge, while for others, each color has its own separate cartridge.

43. As mentioned above, Lexmark entered the inkjet market after being spun-off from IBM in 1991. Highlights of its technological developments span over many

years. Lexmark announced its first inkjet printer, the IBM Color Jetprinter PS 4079, in 1992. In 1993, Lexmark introduced its first inkjet printer with an internally-developed engine (monochrome printing), the IBM ExecJet III 4076. In 1994, Lexmark announced its first internally developed inkjet color printer, the ExecJet IIc. In 1997, Lexmark announced the industry's first inkjet device capable of printing 1,200 x 1,200 dpi, the Lexmark 7000 Color Jetprinter. In 1998, Lexmark launched the industry's first 2-in-1 printer, the Lexmark 5770 Photo Jetprinter, allowing users to edit, print, and store digital photos without a PC. Lexmark continued to advance inkjet printer technology, and in 2007, announced that eight of its twelve new Lexmark inkjet printers had wireless capabilities spanning four-in-one and single-function printer categories.

44. As the patents-in-suit demonstrate, Lexmark's research and development efforts and investments were pioneering in the industry, covering all aspects of inkjet printer technology, including printers, printheads, heater chips, substrates, inkjet containment systems, and ink drop delivery.

United States Patent No. 6,137,502

45. On October 24, 2000, the United States Patent and Trademark Office ("USPTO") duly and legally issued United States Patent No. 6,137,502 ("the '502 patent") entitled "Dual droplet size printhead" to inventors Frank Edward Anderson, John Philip Bolash, Robert Wilson Cornell, and George Keith Parish. A true and correct copy of the '502 patent is attached as Exhibit 1.

46. The '502 patent is presumed valid under 35 U.S.C. § 282.

47. Slingshot owns all substantial rights, title, and interest in the '502 patent.

48. As set forth in the Abstract, the '502 patent is directed to, among other things,

> An ink jet print head has first nozzles of a first diameter for ejecting droplets of ink having a first mass, and second nozzles of a second diameter for ejecting droplets of ink having a second mass. … First and second heater-switch pairs are connected in parallel on a substrate of the print head. The first heater-switch pairs include first heaters adjacent corresponding first nozzles, and the second heater-switch pairs include second heaters adjacent corresponding second nozzles. The first and second heaters are composed of electrically resistive material occupying first and second heater areas on the substrate. The first heater-switch pairs also include first switching devices connected in series with the first heaters, with each first switching device developing a first switching device voltage drop as a first electrical current flows through. The second heater-switch pairs include second switching devices connected in series with the second heaters, with each second switching device developing a second switching device voltage drop as a second electrical current flows through. The first heater area is larger than the second heater area, thus matching heater area to nozzle diameter to provide for more efficient transfer of thermal energy to the ink…

United States Patent No. 6,213,587

49. On April 10, 2001, the USPTO duly and legally issued United States Patent No. 6,213,587 ("the '587 patent") entitled "Ink jet printhead having improved reliability" to inventor Charles S. Whitman. A true and correct copy of the '587 patent is attached as Exhibit 2.

50. The '587 patent is presumed valid under 35 U.S.C. § 282.

51. Slingshot owns all substantial rights, title and interest in the '587 patent.

52. As set forth in the Abstract, the '587 patent is directed to, among other things,

> . . . an inkjet printhead with improved reliability. The printhead comprises a transducer, a chamber, and a plate. At least a portion of the transducer is arranged within the chamber, and the plate is provided with at least one

> aperture capable of cooperating with the chamber to allow ink to be ejected therefrom. The plate has a thickness of less than 62 microns and the transducer can be selectively energized with a power density less than 2.159 GW/m^2 to cause droplets of the ink to be ejected. In one embodiment, the plate is separated from the transducer by a distance of less than 28 microns.

United States Patent No. 7,014,299

53. On March 21, 2006, the USPTO duly and legally issued United States Patent No. 7,014,299 ("the '299 patent") entitled "Inkjet printhead heater chip with asymmetric ink vias" to inventors George K. Parish and Kristi M. Rowe. A true and correct copy of the '299 patent is attached as Exhibit 3.

54. The '299 patent is presumed valid under 35 U.S.C. § 282.

55. Slingshot owns all substantial rights, title and interest in the '299 patent.

56. As set forth in the Abstract, the '299 patent is directed to, among other things,

> An inkjet printhead heater chip has an ink via asymmetrically arranged in a reciprocating direction of inkjet printhead movement. The ink via has two sides and a longitudinal extent substantially parallel to a print medium advance direction. A column of fluid firing elements exists exclusively along a single side of the two sides. The heater chip and ink via each have a centroid and neither resides coincidentally with one another. Preferably, the heater chip centroid resides externally to a boundary of the ink via. In other aspects, the column of fluid firing elements can be a sole column or plural and may be centered in the reciprocating direction. The ink via can be a sole via or plural. The heater chip can be rectangular and the ink vias can be closer to either the long or short ends thereof. Inkjet printers for housing the printheads are also disclosed.

United States Patent No. 7,244,015

57. On July 17, 2017, the USPTO duly and legally issued United States Patent No. 7,244,015 ("the '015 patent") entitled "Inkjet printhead heater chip with asymmetric

ink vias" to inventors George K. Parish and Kristi M. Rowe. A true and correct copy of the '015 patent is attached as Exhibit 4.

58. The '015 patent is presumed valid under 35 U.S.C. § 282.

59. Slingshot owns all substantial rights, title and interest in the '015 patent.

60. As set forth in the Abstract, the '015 patent is directed to, among other things,

> An inkjet printhead heater chip has an ink via asymmetrically arranged in a reciprocating direction of inkjet printhead movement. The ink via has two sides and a longitudinal extent substantially parallel to a print medium advance direction. A column of fluid firing elements exists exclusively along a single side of the two sides. The heater chip and ink via each have a centroid and neither resides coincidentally with one another. Preferably, the heater chip centroid resides externally to a boundary of the ink via. In other aspects, the column of fluid firing elements can be a sole column or plural and may be centered in the reciprocating direction. The ink via can be a sole via or plural. The heater chip can be rectangular and the ink vias can be closer to either the long or short ends thereof. Inkjet printers for housing the printheads are also disclosed.

HP's INFRINGEMENT OF THE PATENTS-IN-SUIT

61. Defendant has made, used, sold, offered for sale, and continues to make, use, sell and offer to sell in the United States thermal inkjet printers and thermal inkjet cartridges that infringe the asserted patents.

62. HP's inkjet cartridges including at least, HP 60, HP 60XL, HP 61, HP 61XL, HP 62, HP 62XL, HP 63, HP 63 XL, HP 64, HP 64 XL, HP 65, HP 65XL, HP 97, HP 564, HP 564XL, HP 902, HP 902XL, HP 920XL, HP 931, HP 951, HP 971 HP 932, HP 933, HP 950, HP 950XL, HP 970, HP 970 XL, HP 971 XL, HP 972, and HP 980 (collectively, "Accused Inkjet Cartridges") infringe at least one claim of one or more of the asserted patents.

63. HP's inkjet printers including at least, Deskjet 1000, Deskjet 1010, Deskjet 1050, Deskjet 1051, Deskjet 1055, Deskjet 1056, Deskjet 1510, Deskjet 1512, Deskjet 2050, Deskjet 2510, Deskjet 2512, Deskjet 2514, Deskjet 2540, Deskjet 2541, Deskjet 2542, Deskjet 2543, Deskjet 2544, Deskjet 3000, Deskjet 3050, Deskjet 3050A, Deskjet 3051A, Deskjet 3052A, Deskjet 3054, Deskjet 3056A, Deskjet 3510, Deskjet 3511, Deskjet 3512, Deskjet 3516, HP Photosmart C6250, HP Photosmart 6500, HP OfficeJet 2620, HP OfficeJet 4630, HP OfficeJet 4632, HP OfficeJet 6600/6700, HP Office Jet Pro 6978, HP OfficeJet Pro 7720, HP OfficeJet Pro 7730, HP OfficeJet Pro 7740, HP OfficeJet Pro 8600, HP OfficeJet Pro 6978, HP OfficeJet Pro 8710, HP OfficeJet Pro 8720, HP OfficeJet Pro 8730, HP OfficeJet Pro 8740, HP OfficeJet Pro X, ENVY 4500 e-All-in-One, ENVY 4501, ENVY 4502, ENVY 4503 e-All-in-One, ENVY 4504 e-All-in-One, ENVY 4505, ENVY 5530 e-All-in-One, ENVY 5531 e-All-in-One, ENVY 5535 e-All-in-One, HP T120 and HP T520 (collectively, "Accused Inkjet Printers"), infringe at least one claim of one or more of the asserted patents.

64. Heater chips used in HP's inkjet cartridges including at least, HP WBR and MZT Heater Chips (collectively, "Accused Heater Chips"), infringe at least one claim of one or more of the asserted patents.

65. The Accused Inkjet Cartridges, Accused Inkjet Printers and Accused Heater Chips are collectively "Accused Products."

66. Further discovery may reveal additional infringing Accused Products.

67. Defendant's acts of infringement have damaged Plaintiff. Plaintiff is entitled to recover from Defendant the damages Plaintiff incurred and is continuing to incur as a result of Defendant's wrongful acts.

ACTS GIVING RISE TO THIS ACTION

Count I – Infringement of United States Patent Number 6,137,502

68. Slingshot repeats, realleges, and incorporates by reference, as if fully set forth here, the allegations of the preceding paragraphs, as set forth above.

69. Defendant has infringed and continues to infringe in violation of 35 U.S.C. § 271(a) one or more claims of the '502 patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '502 patent. The accused products that infringe one or more claims of the '502 patent include, but are not limited to, HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, HP 65 XL cartridges and printheads used with HP 564, HP 564 XL, HP 746, HP A53 cartridges.

70. Upon information and belief, each of the above-listed ink cartridges have, or are used with inkjet printheads that employ high-definition nozzle array ("HDNA") architecture or other dual-drop inkjet technology.

71. Upon information and belief, HP inkjet printheads having HDNA architecture or other dual-drop inkjet technology infringe each and every element of claims 1 and 10 literally or under the doctrine of equivalents of the '502 patent. Further discovery may reveal additional infringing products and/or models.

72. Upon information and belief, the HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, and HP 65 XL cartridges, and printheads used with the HP 564, HP 564 XL, HP 746, and HP A53 cartridges infringe each and every element of claims 1 and 10 literally or under the doctrine of equivalents of the '502 patent.

73. For example, claim 1 of the '502 patent covers:

> 1. An ink jet print head having a plurality of nozzles through which droplets of ink are ejected toward a print medium, the plurality of nozzles including first nozzles having a first diameter for ejecting droplets of ink having a first mass, and second nozzles having a second diameter for ejecting droplets of ink having a second mass, where the first diameter is larger than the second diameter, and the first mass is larger than the second mass, the print head comprising:
>
> a nozzle plate containing the plurality of nozzles;
>
> a substrate disposed adjacent the nozzle plate;
>
> first heaters disposed on the substrate adjacent the first nozzles, each of the first heaters being associated with a corresponding first nozzle, each of the first heaters comprising electrically resistive material and having a first heater electrical resistance, each of the first heaters generating heat as a first electrical current flows substantially in a first direction through the electrically resistive material;
>
> first switching devices disposed on the substrate adjacent the first heaters, each of the first switching devices being connected electrically in series with a corresponding first heater, the first switching devices each having a first switch electrical resistance;
>
> second heaters disposed on the substrate adjacent the second nozzles, each of the second heaters being associated with a corresponding second nozzle, each of the second heaters comprising electrically resistive material and having a second heater electrical resistance, each of the second heaters generating heat as a second electrical current flows substantially in the first direction through the electrically resistive material; and

second switching devices disposed on the substrate adjacent the second heaters, each of the second switching devices being connected electrically in series with a corresponding second heater, the second switching devices each having a second switch electrical resistance,

wherein the second switch electrical resistance is larger than the first switch electrical resistance.

74. For example, upon inspection, and information and belief, the printheads used with HP 564 and HP 564 XL ink cartridges, which are seen in the images below, meet each and every limitation of claim 1 of the '502 patent enumerated above.

Printhead

Ink Cartridge and Box

75. Upon information and belief, the printheads used with the HP 564 and HP 564 XL cartridges have "a plurality of nozzles through which droplets of ink are ejected toward a print medium plurality of nozzles including first nozzles having a first diameter for ejecting droplets of ink having a first mass, and second nozzles having a second diameter for ejecting droplets of ink having a second mass, where the first diameter is larger than the second diameter, and the first mass is larger than the second mass."

76. Further, upon information and belief, the printheads used with HP 564 and HP 564 XL cartridges also include (1) "a nozzle plate containing the plurality of nozzles;" (2)" a substrate disposed adjacent the nozzle plate;" (3) "first heaters disposed on the substrate adjacent the first nozzles, each of the first heaters being associated with a corresponding first nozzle, each of the first heaters comprising electrically resistive material and having a first heater electrical resistance, each of the first heaters generating heat as a first electrical current flows substantially in a first direction through the electrically resistive material;" (4) "first switching devices disposed on the substrate adjacent the first heaters, each of the first switching devices being connected electrically in series with a corresponding first heater, the first switching devices each having a first switch electrical resistance;" (5) second heaters disposed on the substrate adjacent the second nozzles, each of the second heaters being associated with a corresponding second nozzle, each of the second heaters comprising electrically resistive material and having a second heater electrical resistance, each of the second heaters generating heat as a second electrical current flows substantially in the first direction through the electrically resistive material; and (6) "second switching devices disposed on the substrate adjacent the second heaters, each of the second switching devices being connected electrically in series with a corresponding second heater, the second switching devices each having a second switch electrical resistance." Additionally, "the second switch electrical resistance is larger than the first switch electrical resistance."

77. Accordingly, the printheads used with the HP 564 and HP 564 XL cartridges infringe each and every element of at least claim 1 of the '502 patent literally or under the doctrine of equivalents.

78. Defendant's infringement of the '502 patent has damaged Plaintiff, and Plaintiff is entitled to recover from HP the damages it has sustained as a result of Defendant's wrongful acts including, but not limited to, a reasonable royalty.

Count II – Infringement of United States Patent Number 6,213,587

79. Slingshot repeats, realleges, and incorporates by reference, as if fully set forth here, the allegations of the preceding paragraphs, as set forth above.

80. Defendant has infringed and continues to infringe in violation of 35 U.S.C. § 271(a) one or more claims of the '587 patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '587. The accused products that infringe one or more claims of the '587 patent include, but are not limited to the HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, and HP 65 XL ink cartridges.

81. Upon information and belief, each of the above-listed ink cartridges have a nozzle plate with a thickness of less than 62 microns and a power density less than 2.159 GW/m^2 to eject ink droplets from the chamber, which means the above listed ink cartridges infringe each and every element of at least claims 1, 29 and 31 of the '587 patent. Further discovery may reveal additional infringing products and/or models.

82. For example, and without limitation, the HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, and HP 65 XL ink

cartridges infringe each and every element of at least claims 1, 29 and 31, literally or under the doctrine of equivalents of the '587 patent.

83. Further, the Accused Heater Chips infringe each and every element of at least claims 1, 29 and 31, literally or under the doctrine of equivalents of the '587 patent.

84. For example, claim 1 of the '587 patent covers:

> 1. An inkjet printhead comprising:
>
> a) a transducer, at least a portion of which is arranged within a chamber; and
>
> b) a plate provided with at least one aperture capable of cooperating with the chamber to allow ink to be ejected from the chamber,
>
> wherein the plate has a thickness of less than 62 microns and the transducer is capable of being selectively energized with a power density less than 2.159 GW/m^2 to cause droplets of ink to be ejected from the chamber.

85. For example, upon inspection, and information and belief, the HP 64 and HP 64 XL (an image of the HP 64 is seen below), meet each and every limitation of claim 1 of the '587 patent enumerated above.

Top


Bottom (showing printhead)

86. The HP 64 and HP 64 XL inkjet cartridges have inkjet printheads that include "a transducer, at least a portion of which is arranged within a chamber" and "a

plate provided with at least one aperture capable of cooperating with the chamber to allow ink to be ejected from the chamber."

87. Upon information and belief, the plate of the HP 64 and HP 64 XL inkjet cartridges "has a thickness of less than 62 microns" and the transducer in the HP 64 and HP 64 XL ink cartridges "is capable of being selectively energized with a power density less than 2.159 GW/m^2 to cause droplets of ink to be ejected from the chamber." Accordingly, the HP 61 and HP 61 XL ink cartridges infringe each and every element of at least claim 1 of the '587 patent literally or under the doctrine of equivalents.

88. Defendant's infringement of the '587 patent has damaged Plaintiff, and Plaintiff is entitled to recover from HP the damages it has sustained as a result of Defendant's wrongful acts including, but not limited to, a reasonable royalty.

Count III – Infringement of United States Patent Number 7,014,299

89. Slingshot repeats, realleges, and incorporates by reference, as if fully set forth here, the allegations of the preceding paragraphs, as set forth above.

90. Defendant has infringed and continues to infringe in violation of 35 U.S.C. § 271(a) one or more claims of the '299 patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '299 patent. The accused products that infringe one or more claims of the '299 patent include, but are not limited to, tri-color ink cartridges identified as HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, and HP 65 XL ink cartridges.

91. Upon information and belief, each of the above-listed ink cartridges have the same tri-color heater chip, which means the above-listed ink cartridges infringe each

and every element of at least claim 1 of the '299 patent literally or under the doctrine of equivalents. Further discovery may reveal additional infringing products and/or models.

92. For example, claim 1 of the '299 patent covers:

> 1. An inkjet printhead, comprising:
>
> a substantially rectangular heater chip having two long and short ends and three substantially parallel ink vias; and
>
> a chip centroid existing between a boundary of a middle ink via of said three substantially parallel ink vias and a middle column of fluid firing elements corresponding to said middle ink via.

93. For example, upon inspection, and information and belief, the HP 64 and 64XL inkjet cartridges (an image of the HP 64 is seen below), meet each and every limitation of claim 1 of the '299 patent enumerated above.

Top


Bottom (showing printhead)

94. Upon information and belief, the HP 64 and 64 XL inkjet cartridges have inkjet printheads that include "a substantially rectangular heater chip having two long and short ends and three substantially parallel ink vias" and "a chip centroid existing between a boundary of a middle ink via of said three substantially parallel ink vias and

a middle column of fluid firing elements corresponding to said middle ink via." Accordingly, the HP 64 and HP 64 XL ink cartridges infringe each and every element of at least claim 1 of the '299 patent literally or under the doctrine of equivalents.

95. Defendant's infringement of the '299 patent has damaged Plaintiff and Plaintiff is entitled to recover from HP the damages it has sustained as a result of Defendant's wrongful acts including, but not limited to a reasonable royalty.

Count IV – Infringement of United States Patent Number 7,244,015

96. Slingshot repeats, realleges, and incorporates by reference, as if fully set forth here, the allegations of the preceding paragraphs, as set forth above.

97. Defendant has infringed and continues to infringe in violation of 35 U.S.C. § 271(a) one or more claims of the '015 patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '015 patent. The accused products that infringe one or more claims of the '015 patent include, but are not limited to, HP 60, HP 60 XL, HP 61, HP 61 XL, HP 62, HP 62 XL, HP 63, HP 63 XL, HP 64 XL, HP 64, HP 65, and HP 65 XL ink cartridges.

98. Upon information and belief, each of the above-listed ink cartridges have the same tri-color heater chip, which means the above-listed ink cartridges infringe each and every element of at least claims 1 of the '015 patent literally or under the doctrine of equivalents. Further discovery may reveal additional infringing products and/or models.

99. For example, claim 1 of the '015 patent covers:

1. An inkjet printhead, comprising:

a substantially rectangular heater chip having two long and short ends and at least three substantially parallel ink vias, said at least three substantially parallel ink vias being disposed closer to one of said two short ends.

100. For example, upon inspection, and information and belief, the HP 64 and 64 XL inkjet cartridges (an image of the HP 64 is seen below), meet each and every limitation of claim 1 of the '015 patent enumerated above.

Top

Bottom (showing printhead)

101. Upon information and belief, the HP 64 and 64 XL inkjet cartridges have inkjet printheads that include "a substantially rectangular heater chip having two long and short ends and at least three substantially parallel ink vias, said at least three substantially parallel ink vias being disposed closer to one of said two short ends." Accordingly, the HP 64 and HP 64 XL inkjet cartridges infringe each and every element of at least claim 1 of the '015 patent literally or under the doctrine of equivalents.

102. Defendant's infringement of the '015 patent has damaged Plaintiff, and Plaintiff is entitled to recover from HP the damages it has sustained as a result of Defendant's wrongful acts including, but not limited to a reasonable royalty.

PRAYER FOR RELIEF

Plaintiff respectfully requests this Court to enter the following legal and equitable relief in Plaintiff's favor and against Defendant as a result of Defendant's infringing conduct:

a. A judgment that Defendant has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the asserted patents;

b. A judgment that awards Plaintiff all appropriate damages under 35 U.S.C. § 284 for Defendant's past infringement, and any continuing or future infringement of the asserted patents, including pre- or post-judgment interest, costs, and disbursements as justified under 35 U.S.C. § 284.

c. Declare this case exceptional and award Slingshot its reasonable attorneys' fees as the prevailing party as provided by 35 U.S.C. § 285.

d. Such other and further relief as the Court deems just and proper.

Jury Demand

Plaintiff, pursuant to Federal Rule of Civil Procedure 38(b), demands a trial by jury.

Dated: June 11, 2019

Respectfully submitted,

/s/Raymond W. Mort, III

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