IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION

HEADWATER RESEARCH LLC, *Plaintiff*, v. GOOGLE LLC, *Defendant*.	Case No. 7:25-cv-00518 **Complaint for Patent Infringement** **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Headwater Research LLC ("Headwater") files this complaint against Defendant Google LLC ("Google"), alleging infringement of U.S. Patent Nos. 9,179,359 and 9,609,544. The Accused Instrumentalities are mobile electronic devices, including mobile phones and tablets used, offered for sale, sold, and/or imported by Google in the United States and supplied by Google to customers in the United States.

BACKGROUND

1. This complaint arises from Defendants' infringement of the following United States patents owned by Headwater, each of which relate to wireless communications technology: United States Patent Nos. 9,179,359 ("the '359 patent") and 9,609,544 ("the '544 patent") (collectively, the "Asserted Patents").

2. Dr. Gregory Raleigh—the primary inventor of the Asserted Patents—is a world-renowned scientist, inventor, and entrepreneur, with over 25 years of executive experience in several technology sectors including networking, cloud software, consumer services, wireless and military systems. Dr. Raleigh holds Ph.D. and Masters degrees in Electrical Engineering from

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Stanford University, and a BS in Electrical Engineering from Cal Poly San Luis Obispo. He is the inventor of over 350 issued U.S. and international patents in several fields including radio systems and components, radar, mobile operating systems, cloud services, IoT, networking, consumer electronics, radiation beam cancer therapy and medical imaging.

3. Dr. Raleigh has a long and distinguished record of significant contributions and advancements in wireless communications technology. His inventions, companies, and products have profoundly and positively impacted virtually every aspect of the mobile device and communications market. In 2005, Dr. Raleigh was named one of the "50 most powerful people in networking" because of his discoveries in wireless communications technology, and his work in multiplying the capacity of a radio link using multiple transmission and receiving antennas to exploit multipath propagation was described as the "most important wireless technology in the works." *See* https://www.networkworld.com/article/2316916/the-50-most-powerful-people-in-networking.html?page=2.

4. In 1996, while at Stanford University, Dr. Raleigh presented the first mathematical proof demonstrating that multiple antennas may be used with special signal processing techniques to transmit multiple data streams at the same time and on the same frequency while in the presence of naturally occurring multipath propagation. Dr. Raleigh's work at Stanford has been widely adopted in modern multiple-input and multiple-output ("MIMO") radio communication and implemented in major wireless communication standards including 4G and 5G. *See, e.g.*, https://en.wikipedia.org/wiki/Gregory_Raleigh.

5. Dr. Raleigh's groundbreaking work solved problems that had existed in wireless communication since the late 1800s and overturned a century of research and practice in the fields of radio science and wireless communication theory. His work revealed that a new class of MIMO

signal processing architectures would allow wireless devices to transmit multiple data streams at the same time on the same frequency thereby multiplying the information-carrying capacity of wireless networks.

6. Based on his discoveries, Dr. Raleigh co-founded Clarity Wireless to develop smart antenna products incorporating the advances of his MIMO signal processing architecture, and obtained patents now used in 4G and 5G cellular and Wi-Fi standards. Field trials of the smart antennas developed by Clarity Wireless demonstrated performance significantly above anything else contemplated at the time and continue to set standards for multipath broadband wireless access links. Shortly after those field trials, Cisco acquired Clarity in 1998 and hired Dr. Raleigh to continue to commercialize these technologies.

7. After leaving Cisco, Dr. Raleigh founded Airgo Networks to develop the world's first MIMO wireless chipsets, networking software, reference design systems and commercial OEM products. Airgo Networks's chipset products significantly improved the speed and reliability of Wi-Fi, leading to the adoption of its technology as the core of Wi-Fi radio standards since 2006, and adoption of the chipsets into products sold across the globe. In 2006, Qualcomm acquired Airgo Networks and hired Dr. Raleigh to continue to commercialize these technologies. The Airgo team at Qualcomm spearheaded the creation of Wi-Fi standards and developed the first Qualcomm Wi-Fi chips for cell phones.

8. Dr. Raleigh's innovations at Clarity Wireless, Cisco, Airgo Networks, and Qualcomm, resulted in widespread adoption of his technologies in a multitude of cellular and Wi-Fi standards, such as LTE, WiMAX, 802.11n, 802.11ac (Wi-Fi 5), as well as 802.11ax (Wi-Fi 6).

9. After successfully founding and selling Clarity Wireless and Airgo Networks to Cisco and Qualcomm, respectively, Dr. Raleigh shifted his focus from solving radio-centric

problems to solving problems in how wireless services are provided to consumers. Dr. Raleigh foresaw significant data demand problems presented by the advent and adoption of smartphones. He sought to solve these data demand problems by improving end-user wireless devices and the services that support them.

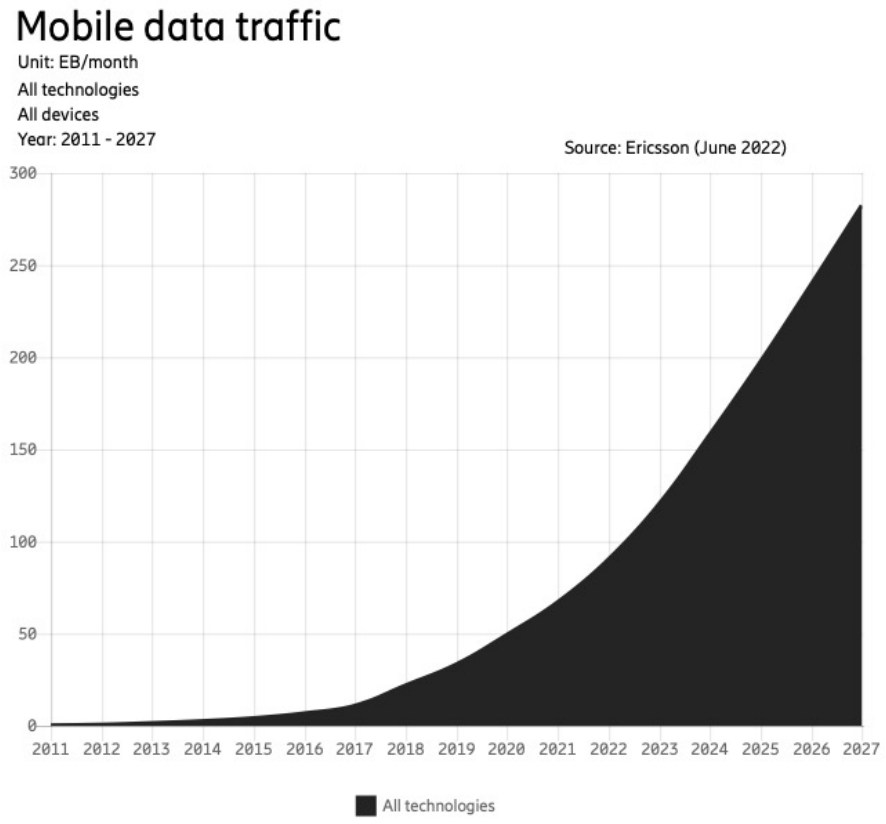
10. In 2008, Dr. Raleigh formed Headwater to develop mobile operating systems and cloud technology, which today, underpin the mobile phone and app industries. The patents in this action describe and claim some of the extraordinary inventions developed by Dr. Raleigh and the Headwater team.

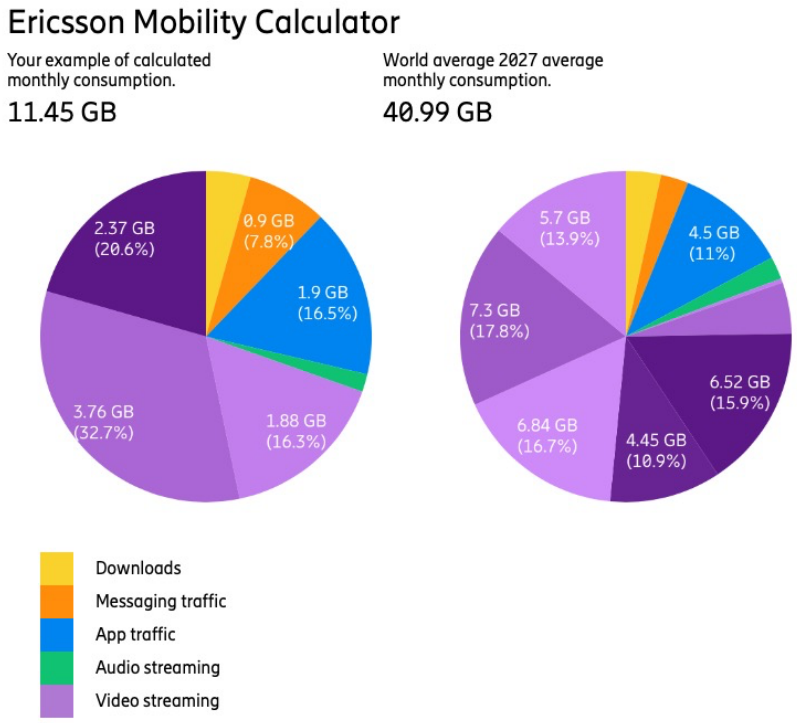
11. Smartphones and other mobile devices have become ubiquitous and inseparable components of our daily lives, allowing us to make and receive phone calls, get notifications, download music, upload photos, stream entertainment, transact business, exchange ideas, and keep us connected to our family and friends whether they are down the hall or around the globe. Users can get email, install apps, and browse the internet from these tiny devices by making use of data connectivity services. These devices accomplish these amazing feats by exchanging staggering amounts of data over the internet using wireless and cellular networks, relying on ubiquitous data connectivity to keep users up-to-date and connected.

12. Since 2011, mobile device data demand has exploded—increasing by almost 400%—with each user consuming approximately 11.5 gigabytes of data per month. In the aggregate, this equates to approximately 90 exabytes of data consumption per month. *See, e.g.*, https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-visualizer?f=9&ft=2&r=1&t=11,12,13,14,15,16,17&s=4&u=3&y=2011,2027&c=3. For context: a single exabyte of data is equivalent to one billion gigabytes of data. Said another way, if one gigabyte is the size of the Earth, then an exabyte is the size of the sun. *See, e.g.*,

https://www.backblaze.com/blog/what-is-an-exabyte/.

13. And mobile device data demand shows no sign of slowing down. Between now and 2027, mobile data demand is projected to increase more than three-fold, from 90 exabytes per month to a staggering 282 exabytes per month, with each user consuming an average of 41 gigabytes of data each and every month. *See, e.g.*, https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-calculator?up=2&bp=1&v=0&c=2; https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-visualizer?f=9&ft=2&r=1&t=11,12,13,14,15,16,17&s=4&u=3&y=2011,2027&c=3.





14. Also in 2008, Dr. Raleigh founded ItsOn Inc., which licensed Headwater's intellectual property and implemented Headwater's technology into software and services that expanded cellular service plan offerings and improved device and data management capabilities. The tools and technologies delivered by ItsOn allowed carriers to implement Headwater's technologies in end-user devices—such as mobile phones and tablets—opening up new business models while also providing greater flexibility to carriers and device manufacturers, allowing them to reduce costs while simultaneously improving their devices and services.

15. The Headwater technologies disclosed in the Asserted Patents laid the groundwork for many of the infringing features and functionalities that help device manufacturers, wireless carriers, and customers reduce data usage and network congestion, extend battery life by decreasing power consumption, and enable users to stay connected.

16. On information and belief, Google's revenues derived from its use of the Asserted

Patents extends well into the tens of billions of dollars.

GOOGLE'S KNOWLEDGE OF THE ASSERTED PATENTS

17. On information and belief, Google has had knowledge of the Asserted Patents and the infringement thereof by the Accused Instrumentalities as detailed below.

Google's Knowledge of the '359 Patent

18. With respect to the '359 patent, on information and belief, Google had knowledge of the patent and its infringement since at least January 2024 when Headwater served its Complaint in Case No. 2:23-cv-00641 ("641 Case"). The 641 Complaint and its claim chart for the '359 patent disclosed Headwater's infringement theory against mobile devices that use the Android Operating System and certain accused functionalities. On information and belief, Samsung shared the 641 Complaint and accompanying claim charts with Google shortly thereafter.

19. On information and belief, Google has also had knowledge of the '359 patent and the infringement thereof by the Accused Instrumentalities since at least May 2024 when Headwater served its preliminary infringement contentions in the 641 Case, which provided additional evidence showing how mobile devices using the Android Operating System infringe the '359 patent. On information and belief, Samsung shared those contentions with Google in the September 2023 timeframe.

20. Google further had knowledge of the '359 patent and infringement thereof by the Accused Instrumentalities as of February 2025 when Headwater served a subpoena on Google in the 641 case including a copy of the complaint that included the '359 patent.

21. On information and belief, Google has also had knowledge of the '359 patent and the infringement thereof by the Accused Instrumentalities since at least June 2025. At that time, Headwater served an expert report in the 641 Case that described in further detail how mobile

devices using the Android Operating System and incorporating the accused functionality and features infringe the ’359 patent. On information and belief, that report was shared with Google in the same timeframe.

22. On information and belief, Google was actively engaged as an interested, non-party participant throughout the 641 case, including fact and expert discovery.

Google’s Knowledge of the ’544 Patent

23. On information and belief, Google had knowledge of the ’544 patent and its infringement since at least March 2023 when Headwater served its Second Amended Complaint in Case No. 2:22-cv-00422 (“422 Case”). The 422 Second Amended Complaint further identified the ’544 patent as an infringed patent and included a claim chart disclosing Headwater’s infringement theory against mobile devices that use the same accused features and functionalities which are provided by the Android Operating System, also present in the Accused Instrumentalities with respect to that patent. On information and belief, Samsung shared the 422 Second Amended Complaint and accompanying claim charts with Google shortly thereafter.

24. On information and belief, Google has also had knowledge of the ’544 patent and the infringement thereof by the Accused Instrumentalities since at least April 2023 when Headwater served its amended preliminary infringement contentions in the 422 Case, which provided additional evidence showing how mobile devices using the Android Operating System infringe the ’544 patent. On information and belief, Samsung shared those contentions with Google in the same timeframe.

25. Google further had knowledge of the ’544 patent and its infringement thereof by the Accused Instrumentalities as of November 2023 when Headwater served a subpoena on Google in the 422 Case identifying the ’544 patent as an Asserted Patent.

26. On information and belief, Google has also had knowledge of the ’544 patent and the infringement thereof by the Accused Instrumentalities since at least March 2024. At that time, Headwater served an expert report in the 422 Case that described in further detail how mobile devices using the Android Operating System and incorporating the accused functionality and features infringe the ’544 patent. On information and belief, that report was shared with Google in the same timeframe.

27. On information and belief, Google was actively engaged as an interested, non-party participant throughout the 422 Case, including fact and expert discovery.

PLAINTIFF HEADWATER AND THE ASSERTED PATENTS

28. Plaintiff Headwater was formed in 2011 and has been in continued existence and operation since that time. Headwater is a Texas limited liability company organized under the laws of Texas, with its headquarters at 110 North College Avenue, Suite 1116, Tyler, Texas 75702.

29. Headwater is the owner of U.S. Patent No. 9,179,359, entitled “Wireless end-user device with differentiated network access status for different device applications,” which issued on November 13, 2015. A copy of the ’359 patent is attached to this complaint as Exhibit 1.

30. Headwater is the owner of U.S. Patent No. 9,609,544, entitled “Device-assisted services for protecting network capacity,” which issued on March 28, 2017. A copy of the ’544 patent is attached to this complaint as Exhibit 2.

DEFENDANT GOOGLE AND THE ACCUSED INSTRUMENTALITIES

31. On information and belief, Google LLC is a wholly-owned subsidiary of Alphabet, Inc, and a Delaware limited liability company, with an established place of business at 500 West 2nd Street, Austin Texas 78701 at which Google can be served with process.

32. The Accused Instrumentalities are mobile electronic devices, including mobile

phones and tablets used, offered for sale, sold, and/or imported by Defendants in the United States, including the Google Pixel phones and tablets and any related components or entities identified in Exhibits 3 and 4.

JURISDICTION AND VENUE

33. This action arises under the patent laws of the United States, 35 U.S.C. § 1 et seq.

34. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

35. This Court has personal jurisdiction over Google in this action because Google has committed acts of infringement within this District giving rise to this action, has a regular and established place of business in this District, and has established minimum contacts with this forum such that the exercise of jurisdiction over Google would not offend traditional notions of fair play and substantial justice. Google, directly and/or through subsidiaries or intermediaries, conducts its business extensively throughout Texas, by shipping, distributing, offering for sale, selling, and advertising its products and/or services in Texas and the Western District of Texas, regularly does business or solicits business, engages in other persistent courses of conduct, and/or derives substantial revenue from products and/or services provided to individuals in Texas, and commits acts of infringement of Headwater's patents in this District by, among other things, supplying, distributing, developing, making, using, offering to sell, and selling the Accused Instrumentalities.

36. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b). On information and belief, Google resides in this District and/or has committed acts of infringement and has a regular and established place of business in this District.

37. Google, directly and/or through subsidiaries or intermediaries, have purposefully and voluntarily placed one or more products and/or services in the stream of commerce that

practice the Asserted Patents with the intention and expectation that they will be purchased and used by consumers in the Western District of Texas. These products and/or services have been and continue to be purchased and used in the Western District of Texas.

38. Venue as to Google is proper in this District under 28 U.S.C. §§ 1391 and 1400(b). On information and belief, Google has transacted business in this District and has committed acts of direct and indirect infringement in this District by, among other things, making, using, importing, offering to sell, and selling products that infringe the Asserted Patents.

39. Further, upon information and belief, Google has admitted or not contested proper venue in this Judicial District in other patent infringement actions.

COUNT 1 – INFRINGEMENT OF THE '359 PATENT

40. Headwater incorporates by reference each of the allegations in the foregoing paragraphs as if fully set forth herein and further alleges as follows:

41. On November 13, 2015, the United States Patent and Trademark Office issued U.S. Patent No. 9,179,359 titled "Wireless end-user device with differentiated network access status for different device applications."

42. Headwater is the owner of the '359 patent with full rights to pursue recover of royalties for damages for infringement, including full rights to recover past and future damages.

43. The written description of the '359 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

44. Headwater and its predecessors in interest have satisfied the requirements of

35 U.S.C. § 287(a) with respect to the ’359 patent, and Headwater is entitled to damages for Google’s past infringement.

45. Google has directly infringed (literally and equivalently) and induced others to infringe the ’359 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’359 patent and by inducing others to infringe the claims of the ’359 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’359 patent.

46. On information and belief, Google uses, imports, offers for sale, and sells certain infringing products in the United States. The Accused Instrumentalities are, for example, mobile electronic devices, including mobile phones and tablets.

47. Exhibit 3 provides a description of the Accused Instrumentalities and a chart showing how they infringe claim 1 of the ’359 patent, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

48. Google knowingly and intentionally induces and contributes to infringement of the ’359 patent in violation of 35 U.S.C. §§ 271(b)-(c). For example, Google has had knowledge of or has been willfully blind to the ’359 patent and the infringing nature of the Accused Instrumentalities for at least the reasons discussed above. *See* Google’s Knowledge of the Asserted Patents above, which is incorporated by reference herein.

49. Despite this knowledge, Google has continued to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the ’359 patent. Google does so knowing and intending that its customers will commit these infringing acts. Google also continues to make, use, offer for sale, sell, and/or import the Accused Instrumentalities, despite its knowledge of the ’359 patent, thereby specifically intending for and

inducing their customers to infringe the ’359 patent through the normal and customary use of the Accused Instrumentalities. On information and belief, these acts include providing information and instructions on the use of the Accused Instrumentalities; providing information, education and instructions to their customers; and indemnifying patent infringement within the United States.

50. Google has known, or has been willfully blind to the fact, that making, using, offering to sell, and selling the Accused Instrumentalities to their customers, would constitute willful infringement of the ’359 patent. Those products imported into and sold within the United States, include without limitation, Google Pixel phones and tablets.

51. Headwater has been damaged by Google’s infringement of the ’359 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

COUNT 2 – INFRINGEMENT OF THE ’544 PATENT

52. Headwater incorporates by reference each of the allegations in the foregoing paragraphs as if fully set forth herein and further alleges as follows:

53. On March 28, 2017, the United States Patent and Trademark Office issued U.S. Patent No. 9,609,544 titled “Device-assisted services for protecting network capacity.”

54. Headwater is the owner of the ’544 patent with full rights to pursue recover of royalties for damages for infringement, including full rights to recover past and future damages.

55. The written description of the ’544 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

56. Headwater and its predecessors in interest have satisfied the requirements of

35 U.S.C. § 287(a) with respect to the ’544 patent, and Headwater is entitled to damages for Google’s past infringement.

57. Google has directly infringed (literally and equivalently) and induced others to infringe the ’544 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’544 patent and by inducing others to infringe the claims of the ’544 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’544 patent.

58. On information and belief, Google uses, imports, offers for sale, and sells certain infringing products in the United States. The Accused Instrumentalities are, for example, mobile electronic devices, including mobile phones and tablets.

59. Exhibit 4 provides a description of the Accused Instrumentalities and a chart showing how they infringe claim 1 of the ’544 patent, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

60. Google knowingly and intentionally induces and contributes to infringement of the ’544 patent in violation of 35 U.S.C. §§ 271(b)-(c). For example, Google has had knowledge of or has been willfully blind to the ’544 patent and the infringing nature of the Accused Instrumentalities for at least the reasons discussed above. *See* Google’s Knowledge of the Asserted Patents above, which is incorporated by reference herein.

61. Despite this knowledge, Google has continued to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the ’544 patent. Google does so knowing and intending that its customers will commit these infringing acts. Google also continues to make, use, offer for sale, sell, and/or import the Accused Instrumentalities, despite its knowledge of the ’544 patent, thereby specifically intending for and

inducing their customers to infringe the ’544 patent through the normal and customary use of the Accused Instrumentalities. On information and belief, these acts include providing information and instructions on the use of the Accused Instrumentalities; providing information, education and instructions to their customers; and indemnifying patent infringement within the United States.

62. Google has known, or has been willfully blind to the fact, that making, using, offering to sell, and selling the Accused Instrumentalities to their customers, would constitute willful infringement of the ’544 patent. Those products imported into and sold within the United States, include without limitation, Google Pixel phones and tablets.

63. Headwater has been damaged by Google’s infringement of the ’544 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

JURY DEMAND

64. Headwater demands a jury trial pursuant to Federal Rule of Civil Procedure 38.

RELIEF REQUESTED

Headwater prays for the following relief:

A. A judgment in favor of Headwater that Google has infringed the Asserted Patents, and that the Asserted Patents are valid and enforceable;

B. A judgment and order requiring Google to pay Headwater past and future damages arising out of Google’s infringement of the Asserted Patents in an amount no less than a reasonable royalty, costs, expenses, and pre- and post-judgment interest, as provided under 35 U.S.C. § 284;

C. A judgment and order requiring Google to provide an accounting and to pay supplemental damages to Headwater, including, without limitation, pre-judgment and post-judgment interest;

D. A judgment that Google's infringement is willful and enhanced damages and fees as a result of that willfulness under 35 U.S.C. § 284;

E. A finding that this case is exceptional under 35 U.S.C. § 285, and an award of Headwater's reasonable attorney's fees and costs; and

F. Any and all other relief to which Headwater may be entitled.

Dated: November 7, 2025

Respectfully submitted,

/s/ Marc Fenster

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