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10 *Attorneys for Plaintiff SpeakWare, Inc.*

11 **UNITED STATES DISTRICT COURT**  
12 **CENTRAL DISTRICT OF CALIFORNIA**

13 **SPEAKWARE, INC.,**  
14 a California corporation,

15 Plaintiff,

16 v.

17 **GOOGLE LLC,**  
18 a Delaware corporation,

19 Defendant.

Case No. 8:18-CV-01299

**Patent Infringement Complaint**

**Demand for Jury Trial**

20  
21 **Complaint for Patent Infringement**  
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1 Plaintiff SpeakWare, Inc. (“SpeakWare”) files this complaint against Defendant  
2 Google LLC (“Google”), alleging direct and indirect infringement of U.S. Patent  
3 6,397,186. The accused products are Google’s voice-activated systems for controlling  
4 appliances.

5 **Plaintiff SpeakWare and the asserted patent.**

6 1. Plaintiff SpeakWare, Inc. is a corporation organized and existing under  
7 the laws of the State of California. SpeakWare is managed by lead inventor of U.S.  
8 Patent 6,397,186, William Stuart Bush.

9 2. SpeakWare is the owner of U.S. Patent 6,397,186, entitled “Hands-Free,  
10 Voice-Operated Remote Control Transmitter,” which issued on May 28, 2002. The  
11 ’186 patent is well-known in the industry and has been cited in 163 issued patents.  
12 Defendant Google LLC has known of the ’186 patent since at least October 12, 2016,  
13 and has cited the ’186 patent during the prosecution of its own patents and patent  
14 applications involving technology related to the accused products. A copy of the ’186  
15 patent is attached as Exhibit 1.

16 **Defendant Google and the accused products.**

17 3. Defendant Google LLC is a Delaware corporation with its principal place  
18 of business in California and business offices in this district.

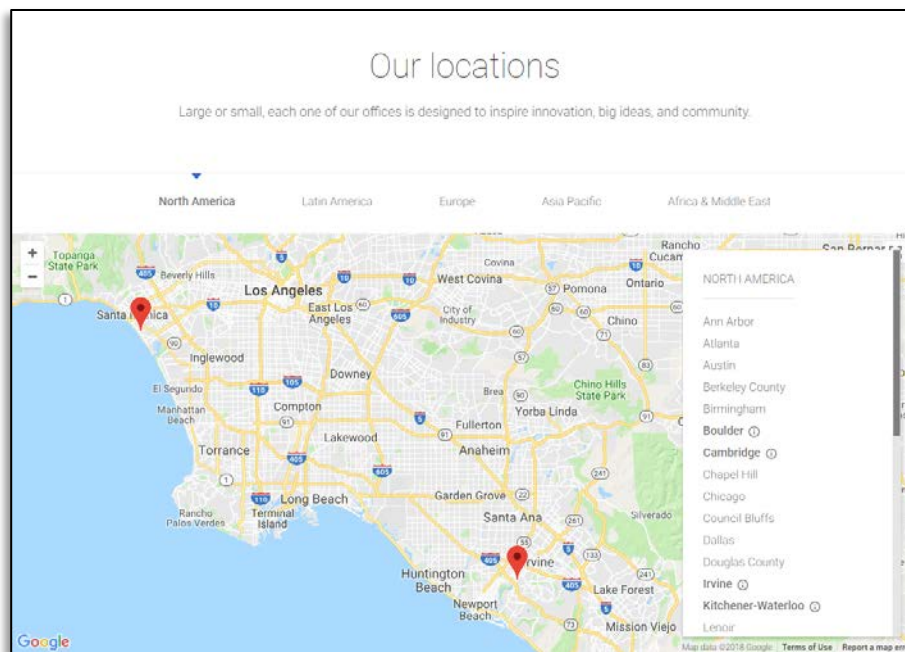
19 4. Google has developed, manufactured, imported, offered for sale, sold, and  
20 used voice-activated systems for controlling appliances that infringe the ’186 patent.  
21 These systems include Google Home, Google Home Mini, Google Home Max, and  
22 Google Pixel 2, all of which use Google’s voice-activated virtual assistant, Google  
23 Assistant, to control appliances. These systems can also include associated servers  
24 owned or controlled by Google that enable and work in connection with the accused  
25 devices to control appliances. These systems can also include the Google Chromecast  
26 or Chromecast Ultra, which work in connection with the accused devices to control  
27 appliances.

**Nature of the action, jurisdiction, and venue.**

5. Plaintiff SpeakWare, Inc. asserts claims for patent infringement against Defendant Google LLC under the patent laws of the United States, including 35 U.S.C. §§ 271 and 281, *et seq.* The Court has original jurisdiction over SpeakWare’s patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).

6. The Court has personal jurisdiction over Google. Google has committed acts of infringement in this district, including selling infringing systems in this district and using infringing systems in this district.

7. Venue is proper in this district under 28 U.S.C. §1400(b). Google has committed acts of infringement in this district and has established places of business in this district, including at 340 Main Street, Venice, California 90291; and 19510 Jamboree Road, Irvine, California 92612.



<https://careers.google.com/locations/>.

8. These locations are regular and established places of business of Google for purposes of §1400(b) because each (i) is a physical place in the Central District of California (each consisting of a building or a part of a building from which business is conducted); (ii) operates the business of Google in a regular, steady, uniform, orderly,

1 settled, fixed, and permanent manner; and (iii) is owned or leased by Google, and has  
2 been ratified by Google as a place of business. Moreover, these locations are  
3 represented by Google as its places of business in the district and are listed and  
4 advertised by Google on its website.

5 **Claim for patent infringement.**

6 9. SpeakWare incorporates by reference each of the allegations in  
7 paragraphs 1-8 above and further alleges as follows:

8 10. On May 28, 2002, the United States Patent and Trademark Office issued  
9 U.S. Patent 6,397,186, entitled “Hands-Free, Voice-Operated Remote Control  
10 Transmitter.” Ex. 1.

11 11. SpeakWare is the owner of the ’186 patent with full rights to pursue  
12 recovery of royalties for damages for infringement, including full rights to recover past  
13 and future damages.

14 Validity of the ’186 patent.

15 12. Each claim of the ’186 patent is valid and enforceable.

16 Patent eligibility of the ’186 patent.

17 13. Each claim of the ’186 patent is patent eligible.

18 14. Each claim is directed to a specific improvement in technology, and not  
19 an abstract idea.

20 15. The claims improve technology for remotely controlling electronic  
21 appliances. Indeed, the specification explains that the patent involves technology “for  
22 remotely controlling electronic equipment” and, more specifically, a “voice-activated  
23 and voice-operated remote control system for controlling appliances.” ’186 patent,  
24 1:6-9.

25 16. The claims of the ’186 patent are directed to a specific improvement in  
26 voice-activated remote control technology.

27 17. Indeed, the claims are directed to improving existing technological  
28 solutions for remotely controlling electronic appliances.

1 18. The patent is entitled “hands-free, voice-operated remote control  
2 transmitter” and generally “relates to devices for remotely controlling electronic  
3 equipment, and more particularly, to a wireless, user-programmable, voice activated  
4 and voice operated remote control system for controlling appliances.” ’186 patent,  
5 1:6-9.

6 19. The specification describes the conventional way of remotely controlling  
7 electronic appliances:

8 “Historically, appliances, for example, electronic appliances, such as,  
9 televisions, VCRs, digital satellite systems, audio systems, and related  
10 accessories, have been remotely controlled by hand-held transmitters used to  
11 generate signals to receivers incorporated into the electronics of the remotely  
12 controlled appliances. Signals for such appliances correspond to control  
13 commands, such as channel selection/tuning, power on/off, audio volume  
14 adjustment, and muting controls, typically generated by the user by depressing  
15 buttons on a remote control transmitter keypad. The basic composition and  
16 operation of such remote control systems are well known in the art.”

17 ’186 patent, 1:11-22.

18 20. The specification also explains that these conventional systems had  
19 numerous drawbacks. For example:

20 “[T]he small size and mobility [of such systems] often contribute to  
21 misplacement or loss of the transmitter. Also, for device operators with  
22 restricted physical mobility or sight limitations, hand-held remote controls may  
23 not provide sufficient access to the command controls of the remotely controlled  
24 appliances. Also, if an operator’s hands are engaged in an activity, an  
25 interruption in the activity may be required to operate the hand-held remote  
26 control, causing inconvenience to the operator and potentially having an adverse  
27 effect on productivity.”

28 ’186 patent, 1:26-35.

1 “As the number of separate remote control transmitters increases, locating,  
2 distinguishing, and locating the appropriate transmitters becomes increasingly  
3 difficult.”

4 ’186 patent, 1:37-41.

5 Such systems “require the user to establish physical contact, typically in the  
6 form of manually depressing keypad buttons, to transmit a control command to  
7 the remotely controlled appliance,” but “are often misplaced causing frustration  
8 to the user.”

9 ’186 patent, 2:1-6.

10 21. Although a handful of “voice-operated remote control systems have  
11 recently been developed,” ’186 patent, 2:7-8, those newly developed systems also had  
12 serious drawbacks.

13 22. One such drawback was that “such systems are not truly hands-free,  
14 requiring manual intervention by the user during use. In particular, such remote  
15 control systems as disclosed in the above-mentioned patents, are all based upon the use  
16 of a ‘talk switch’; which must be manually depressed to enter a voice command when  
17 the transmission of a remote control signal is desired.” ’186 patent, 2:15-21. In  
18 particular, with respect to one such system, the specification explains that “[t]he  
19 transmitter operates depending on whether the talk switch has been depressed. If the  
20 talk switch has been depressed, the transmitter is enabled to remote control signals.  
21 Once the talk switch is released, the transmitter is kept in a low power consumption  
22 mode, waiting for voice commands to be applied. As indicated above, the means for  
23 generating and transmitting a remote control signal based on the recognized spoken  
24 voice command is not hands-free, requiring the manual intervention of pressing a talk  
25 switch to accomplish these functions.” *Id.* at 2:32-42.

26 23. Another such drawback was that certain systems required “physical  
27 interconnections between the control system and the appliance which makes it difficult  
28

1 for a user to add additional appliances or change controlled appliances.” ’186 patent,  
2 2:42-49.

3 24. The claims are directed to improving these existing technological  
4 solutions for remotely controlling electronic appliances. For example, claim 1 recites  
5 an “audio signal activated control system for controlling appliances” that includes “a  
6 microphone for receiving audio signals and converting said audio signals to electrical  
7 signals,” “a speech recognition system for receiving said electrical signals,” and an  
8 “appliance control circuit” that is configured to “transmit one or more application  
9 control signals” to control appliances. ’186 patent, claim 1. The system has “a low  
10 power sound activation mode” and a “speech recognition mode” and is “configured to  
11 automatically switch from said sound activation mode to said speech recognition mode  
12 as a function of the amplitude of said electrical signals.” *Id.*

13 25. This system of claim 1 provides numerous improvements over existing  
14 technological solutions for remotely controlling electronic appliances based on control  
15 signals generated by the user by depressing buttons on a remote control transmitter  
16 keypad. For example, it avoids the need for users to hold the remote control  
17 transmitter, and thus avoids the need for locating such a transmitter (and the risk of  
18 losing such transmitter in the first place). As a second example, it provides a device  
19 operator with restricted physical mobility with greater access to (and better ability to  
20 control) electronic appliances. As a third example, it allows the operator of an  
21 electronic appliance to control that appliance without interrupting an activity in which  
22 his or her hands are engaged. As a fourth example, it allows the operator to control  
23 multiple appliances and therefore eliminates the need to locate and distinguish the  
24 appropriate transmitter for a particular appliance.

25 26. The system of claim 1 also provides numerous benefits over the newly  
26 developed voice-operated remote control systems that existed at the time (which were  
27 themselves unconventional). For example, it had two modes, one low power and one  
28 for speech recognition. As a second example, it avoided the need to have a “talk

1 switch” by taking advantage of signal characteristics to switch from a low power sound  
2 activation mode to a speech recognition mode. This made it truly “hands free” and  
3 thus achieved all of the benefits identified above. *See, e.g.*, ’186 patent, 7:12-16 (“An  
4 important aspect of the invention relates to the ability of the system to switch from a  
5 sleep mode to an active mode solely by voice commands, to provide true hands-free  
6 remote operation.”). In addition, it allowed the system to limit power consumption and  
7 preserve battery life by staying in a low power mode until the system determined that it  
8 should switch modes. Furthermore, it made the system more reliable by ensuring that  
9 it would not issue commands to appliances based on background noise.

10 27. In addition, the claims do not merely recite a desired outcome, but instead  
11 recite a specific technical improvement to achieve a desired outcome. For example,  
12 the system of claim 1 is one particular way of designing a system for controlling  
13 appliances and claim 1 recites the specific arrangement of specific components that  
14 achieves the benefits identified above. There are many other ways of designing a  
15 system for controlling appliances, including many other ways of designing a system  
16 for controlling appliances based on audio signals, including the ones described in the  
17 prior art patents described in the specification.

18 28. In addition, the claims recite unconventional technical steps that improve  
19 technology.

20 29. Indeed, the claims recite a technical solution to a technical problem: an  
21 audio signal activated control system for controlling appliances that solved technical  
22 problems with existing systems for controlling appliances. For example, as explained  
23 above, claim 1 did this using an “audio signal activated control system for controlling  
24 appliances” that includes “a microphone for receiving audio signals and converting  
25 said audio signals to electrical signals,” “a speech recognition system for receiving said  
26 electrical signals,” and an “appliance control circuit” that is configured to “transmit  
27 one or more application control signals” to control appliances. ’186 patent, claim 1.  
28 The system has “a low power sound activation mode” and “a speech recognition



1 mode” and is “configured to automatically switch from said sound activation mode to  
2 said speech recognition mode as a function of the amplitude of said electrical signals.”

3 *Id.*

4 30. The particular combination of components and requirements was  
5 unconventional, went against conventional wisdom, and, in fact, had never been done  
6 before. Indeed, as explained above, at the time of the invention, it was conventional to  
7 control appliances by using hand-held transmitters to generate signals to receivers  
8 incorporated into the electronics of the remotely controlled appliances. Furthermore, it  
9 was conventional for such signals to be generated by the user by depressing buttons on  
10 a remote control transmitter keypad. And it was conventional to have multiple such  
11 controllers for each appliance. Moreover, even the systems that used speech  
12 recognition—which were themselves unconventional—made use of a “talk switch”  
13 and did not rely on properties of electrical signals such as amplitude to switch to  
14 speech recognition mode, much less from a low power mode.

15 31. Each claim recites numerous additional unconventional technical steps,  
16 each of which is independently sufficient to confer patent-eligibility.

17 Google’s infringement of the ’186 patent.

18 32. Google has directly infringed and continues to directly infringe the claims  
19 of the ’186 patent by making, using, offering to sell, selling, and importing the accused  
20 products. Google infringes numerous claims of the ’186 patent, including independent  
21 claim 1. An example way that Google’s accused products infringe claim 1 is provided  
22 below for reference.

23 **“An audio signal activated control system for controlling appliances comprising:”**

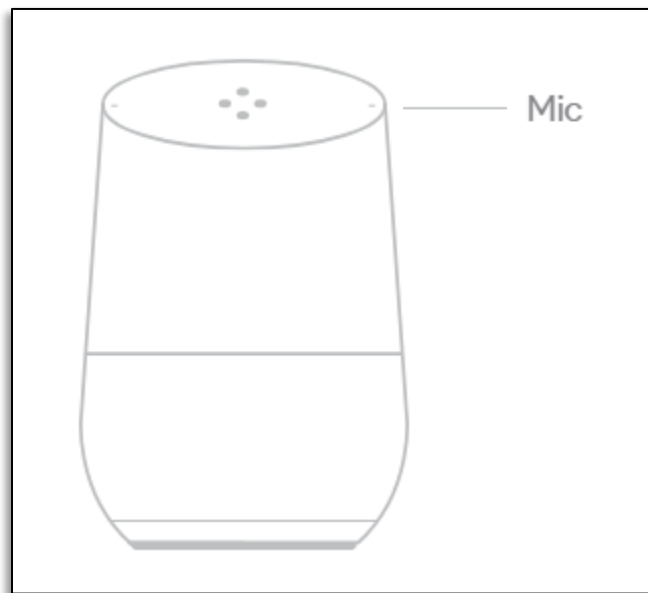
- 24 • Google Home, Google Home Mini, Google Home Max, Google Pixel 2, and  
25 other Google Assistant-enabled devices—alone and, alternatively, in  
26 combination with Google servers and/or additional electronic equipment  
27 (including, for example, a Google Chromecast or Chromecast Ultra)—are an  
28 “audio signal activated control system for controlling appliances”: they consist

1 of a system activated by audio signals (for example, signals representing audio  
2 such as spoken words) for controlling appliances (for example, appliances  
3 identified in the following section of the Google website,

4 [https://store.google.com/us/product/google\\_home\\_smart\\_home?hl=en-US](https://store.google.com/us/product/google_home_smart_home?hl=en-US)).

5 ***“a microphone for receiving audio signals and converting said audio signals to***  
6 ***electrical signals;”***

- 7 • The “audio signal activated control system for controlling appliances” identified  
8 above includes “*a microphone for receiving audio signals and converting said*  
9 *audio signals to electrical signals.*” For example, the Google Home includes a  
10 microphone:



21 [https://store.google.com/us/product/google\\_home\\_specs?hl=en-US/](https://store.google.com/us/product/google_home_specs?hl=en-US/).

22 ***“a speech recognition system for receiving said electrical signals,”***

- 23 • The “audio signal activated control system for controlling appliances” identified  
24 above includes “*a speech recognition system for receiving said electrical*  
25 *signals*” (for example, components within the Google Home, Google Home  
26 Mini, Google Home Max, Google Pixel 2, and other Google Assistant-enabled  
27 devices, and/or Google servers) meeting each of the requirements of the claim as  
28 shown below.

1 ***“said speech recognition system including a processor”***

- 2 • The “speech recognition system” identified above includes one or more  
3 processors. For example, the Google Home includes a Marvell 88DE3006  
4 Armada 1500 Mini Plus dual-core ARM Cortex-A7 media processor. As a  
5 second example, Google servers include numerous processors.

6 ***“and having a low power sound activation mode for detecting the presence of said***  
7 ***electrical signals and a speech recognition mode for converting said electrical***  
8 ***signals to electrical representative signals, decoding said electrical representative***  
9 ***signals and generating control signals for controlling one or more appliances,***  
10 ***wherein in said speech recognition mode said processor decodes said electrical***  
11 ***representative signals and wherein in said sound activation mode said processor is in***  
12 ***a low power state,”***

- 13 • The “speech recognition system” identified above has “*a low power sound*  
14 *activation mode for detecting the presence of said electrical signals”* (for  
15 example, when the system detects the presence of electrical signals from the  
16 microphone, such as signals corresponding to the wake words “Hey Google” or  
17 “Okay Google”) in which “*said processor is in a low power state”* (for example,  
18 a state in which the processor consumes less power, such as a “sleep” state).
- 19 • The “speech recognition system” identified above also has “*a speech*  
20 *recognition mode”* (for example, a mode in which the system recognizes spoken  
21 commands, for example the spoken commands given by a user to Google’s  
22 virtual assistant, Google Assistant) “*for converting said electrical signals to*  
23 *electrical representative signals, decoding said electrical representative signals*  
24 *and generating control signals for controlling one or more appliances,”* (for  
25 example, for converting the electrical signals from the microphone into  
26 electrical representative signals, for example signals representing sound waves;  
27 decoding those signals, for example to process them, to determine whether they  
28 represent audio signals or contain spoken commands, or to determine the content

1 or meaning of those spoken commands; and generating control signals for  
2 controlling one or more appliances, for example instructions for an appliance  
3 identified above to perform one or more functions such as powering on) in  
4 which “*said processor decodes said electrical representative signal*” (performs  
5 the “decoding” identified above).

6 ***“said speech recognition system configured to automatically switch from said sound  
7 activation mode to said speech recognition mode as a function of the amplitude of  
8 said electrical signals”***

- 9 • The “speech recognition system” identified above is “*configured to  
10 automatically switch from said sound activation mode to said speech  
11 recognition mode as a function of the amplitude of said electrical signals*”: it is  
12 configured to automatically switch from the “sound activation mode” identified  
13 above to the “speech recognition mode” identified above as a function of the  
14 amplitude of the “electrical signals” from the microphone, for example as a  
15 function of the amplitude of the electrical signals corresponding to the wake  
16 words “Hey Google” or “Okay Google.”

17 ***“an appliance control circuit which includes a transmitter, said appliance control  
18 circuit configured to receive said control signals from said speech recognition system  
19 and generate and automatically transmit one or more appliance control signals to  
20 said one or more appliances”***

- 21 • The “audio signal activated control system for controlling appliances” includes  
22 “*an appliance control circuit*” that includes a transmitter (for example a radio  
23 transceiver) that is “*configured to receive said control signals*” (to receive the  
24 control signals identified above) and “*generate and automatically transmit one  
25 or more appliance control signals to said one or more appliances*” (for example,  
26 to generate and transmit appliance control signals such as Wi-Fi signals that  
27 contain instructions to control one of the appliances identified above).

28

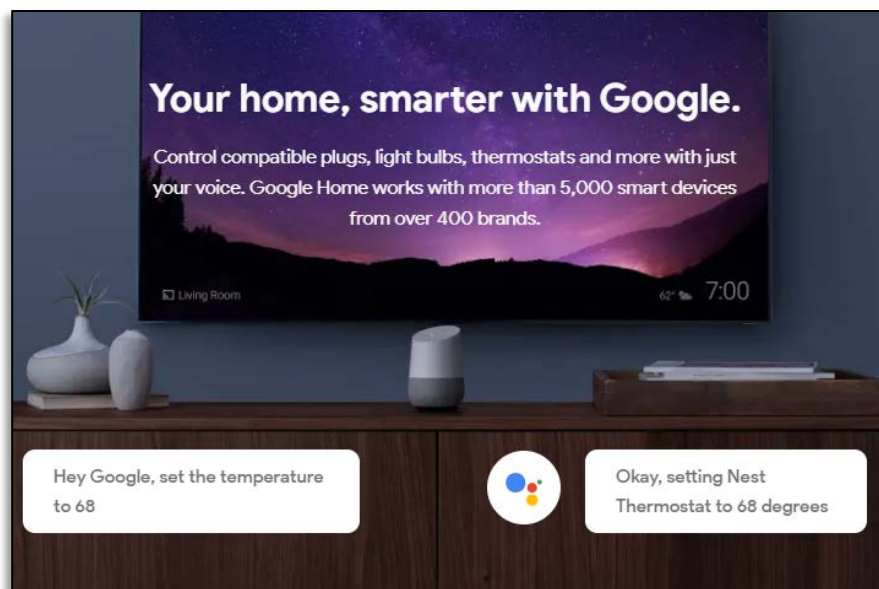
1 Indirect infringement.

2 33. Google has also indirectly infringed and continues to indirectly infringe  
3 the '186 patent.

4 34. Google has actively induced and continues to actively induce users of its  
5 accused products to infringe the '186 patent.

6 35. Google has offered and continues to offer its accused products for sale  
7 both on its website and through authorized resellers. By doing so, Google encourages  
8 its customers to make and use systems that infringe the '186 patent as shown above,  
9 and to perform methods that infringe the '186 patent.

10 36. In addition, Google has instructed and continues to instruct its customers,  
11 developers, and resellers to make and use systems that infringe the '186 patent as  
12 shown above, and to perform methods that infringe the '186 patent. For example, on  
13 its website, Google provides instructions encouraging its customers to make and use  
14 systems that include accused products that infringe the system claims of the '186  
15 patent as shown above, and to use those systems to carry out methods that infringe the  
16 method claims of the '186 patent. For example:



27 [https://store.google.com/us/product/google\\_home\\_smart\\_home?hl=en-US.](https://store.google.com/us/product/google_home_smart_home?hl=en-US)

1           37. As a second example, Google’s employees encourage and instruct  
2 Google’s customers (resellers and end users) to make and use systems that include its  
3 accused products that infringe the system claims of the ’186 patent as shown above,  
4 and encourage and instruct Google’s customers to use those systems to carry out  
5 methods that infringe the method claims of the ’186 patent.

6           38. Furthermore, Google knew or was willfully blind to the fact that its  
7 customers’ actions in response to such encouragement and instruction would infringe  
8 the ’186 patent.

9           39. Google was aware of the ’186 patent since at least October 12, 2016.  
10 Moreover, Google has been familiar with the teachings and claims of the ’186 patent,  
11 has understood those teachings, has understood what the ’186 patent claims, and has  
12 understood the relevance of those teachings and those claims to its accused products.

13           40. Indeed, the ’186 patent is well-known in the art and has been cited 163  
14 times in subsequent issued patents. In addition, the ’186 patent has been cited in  
15 numerous patents and patent applications in the field of voice-activated systems,  
16 including in patents and patent applications assigned to Google’s main competitors in  
17 the field. In addition, on October 12, 2016, the ’186 patent was cited during the  
18 prosecution of U.S. Patent Application 14/926,175 (U.S. Patent 9,678,954), assigned to  
19 Google, entitled “Techniques for Providing Lexicon Data for Translation of a Single  
20 Word Speech Input.” In addition, the ’186 patent has been cited during the  
21 prosecution of several other patents assigned to Google and its affiliates and relating to  
22 the accused products. For example, Google’s representatives cited the ’186 patent in  
23 an information disclosure statement submitted during the prosecution of U.S. Patent  
24 Application 15/473,131, entitled “Voice Control User Interface With Progressive  
25 Command Engagement.” That application includes claims that recite “receiving, by a  
26 mobile device that is operating in a low-power mode, an utterance of a predetermined  
27 wake-up command and a voice command” and “based on detecting the predetermined  
28

1 wake-up command using a speech segment monitor and detecting the voice command  
2 using a voice recognition engine, exiting the low-power mode.”

3 41. Furthermore, Google has known and has understood how its own accused  
4 products work, has known that the '186 patent was relevant to its accused products,  
5 and has known that making and using systems involving its accused products,  
6 including according to its instructions, would infringe the '186 patent.

7 42. Based on the foregoing, Google knew that its customers' use of the  
8 accused products would infringe the '186 patent, or alternatively was aware that there  
9 was a high probability that its customers' use of the accused products would infringe  
10 and took deliberate actions to avoid confirming this.

11 43. As a result, Google has indirectly infringed and continues to indirectly  
12 infringe the '186 patent by inducing its customers to use its accused products in an  
13 infringing manner, and knowing or being willfully blind to the fact that such use would  
14 infringe the '186 patent.

15 Willful infringement.

16 44. Google's infringement of the '186 patent has been knowing, willful, and  
17 egregious.

18 45. For the reasons stated in paragraphs 38-42 above, Google knew that its  
19 accused products infringed and continue to infringe the '186 patent, or alternatively  
20 took deliberate steps to avoid confirming this and was therefore willfully blind to these  
21 facts. SpeakWare incorporates by reference each of the allegations in these  
22 paragraphs.

23 46. SpeakWare has been damaged by Google's infringement of the '186  
24 patent and is entitled to reasonable royalty damages and enhanced damages due to  
25 Google's willful infringement.

26 **Jury demand.**

27 47. SpeakWare demands trial by jury of all issues.  
28

**Relief requested.**

SpeakWare prays for the following relief:

- A. A judgment in favor of SpeakWare that Google has infringed the asserted '186 patent and that the patent is valid, enforceable, and patent-eligible;
- B. A judgment and order requiring Google to pay SpeakWare compensatory damages, costs, expenses, and pre- and post-judgment interest for its infringement of the asserted patent, as provided under 35 U.S.C. §284;
- C. A judgment that Google has willfully infringed the '186 patent and that SpeakWare is entitled to enhanced damages as a result of such willful infringement;
- D. A finding that this case is exceptional under 35 U.S.C. §285, at minimum due to Google's willful infringement, and an award of SpeakWare's reasonable attorney's fees and costs; and
- E. Any and all other relief to which SpeakWare may be entitled.

Dated: July 26, 2018

Respectfully submitted,

By: /s/ Simon Franzini

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