

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLORADO**

Case No.

DOWNING WELLHEAD EQUIPMENT,  
LLC,

Plaintiff,

v.

INTELLIGENT WELLHEAD SYSTEMS,  
INC., INTELLIGENT WELLHEAD  
SYSTEMS, CORP., and IWS USA CORP.,

Defendant.

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**COMPLAINT FOR PATENT INFRINGEMENT,  
PERMANENT INJUNCTIVE RELIEF REQUESTED,  
AND DEMAND FOR A JURY TRIAL**

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Plaintiff Downing Wellhead Equipment, LLC, for its Complaint and demand for a jury trial seeking relief for patent infringement against Defendants Intelligent Wellhead Systems, Inc., Intelligent Wellhead Systems, Corp., and IWS USA, Corp. (collectively, “IWS” or “Defendants”), states and alleges as follows:

**The Parties**

1. Plaintiff Downing Wellhead Equipment, LLC is an Oklahoma Limited Liability Company with its principal place of business located at 2601 NW Expressway, Suite 900E, Oklahoma City, Oklahoma 73112.

2. On information and belief, Defendant Intelligent Wellhead Systems, Inc. is a Canadian corporation with its principal office at 7633-57 Street SE, Suite 52, Calgary, Alberta T2C-5M2.

3. On information and belief, Defendant Intelligent Wellhead Systems, Corp. is a Delaware corporation with its principal office at 7633-57 Street SE, Suite 52, Calgary, Alberta T2C-5M2.

4. On information and belief, Defendant IWS USA, Corp. is a Delaware corporation having a principal place of business at 511 16<sup>th</sup> Street, Suite 500, Denver, Colorado 80202.

5. On information and belief, Defendants maintain United States business operations in one or more of Denver, Colorado, Midland, Texas, and Houston, Texas. *See* <https://www.intelligentwellheadsystems.com/about/>.

6. On information and belief, Defendants work together to provide technologies for manipulating the valves necessary to conduct hydraulic fracturing operations.

### **Jurisdiction and Venue**

7. This Court has subject-matter jurisdiction over Downing's claims under 28 U.S.C. §§ 1331 and 1338(a) because these claims arise under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

8. Defendants are subject to this Court's general and specific personal jurisdiction at least because: (1) at least Defendant IWS USA, Corp. maintains a principal place of business in Colorado; (2) Defendants have registered agents for service of process in Colorado, regularly conduct business in Colorado and within this District, and have substantial and continuous contacts within this District; (3) Defendants have purposefully availed themselves of the privileges of conducting business in this District and have a regular and established place of

business in this District; and (4) Defendants have committed acts of patent infringement in this District by using, renting, offering to rent, selling, and/or offering to sell, or otherwise providing infringing products, services, and/or systems in this District.

9. Venue in this Court is proper under the provisions of 28 U.S.C. §§ 1391(c) and 1400(b) at least because: (1) Defendant IWS USA Corp. maintains a regular and established place of business in Colorado and within this District, (2) upon information and belief, Defendants Intelligent Wellhead Systems, Inc. and Intelligent Wellhead Systems, Corp. maintain a regular and established place of business in Colorado and within this District; (3) Defendants have committed acts of patent infringement in this District by using, renting, offering to rent, selling, and/or offering to sell, or otherwise providing infringing products, services, and/or systems in this District, and (4) Defendant Intelligent Wellhead Systems, Inc. is a foreign corporation and, therefore, subject to venue in any judicial district in the United States.

### **The Asserted Patents**

10. Downing is a leading American oilfield solutions provider specializing in pressure-control technologies for hydraulic fracturing. Since 1980, Downing has designed, manufactured, and delivered the industry's most advanced and reliable wellhead and surface equipment from its manufacturing facility headquartered in Oklahoma City, Oklahoma. As a result of Downing's commitment to innovation, Downing has developed an extensive intellectual property portfolio of more than a dozen issued patents, two of which are the subject of the present litigation.

11. On August 2, 2022, the USPTO duly and legally issued U.S. Patent No. 11,401,779 ("the '779 Patent"), entitled "Hydraulic Fracturing Plan and Execution of Same."

Downing is the owner by assignment of the '779 Patent. A copy of the '779 Patent is attached hereto as **Exhibit 1**.

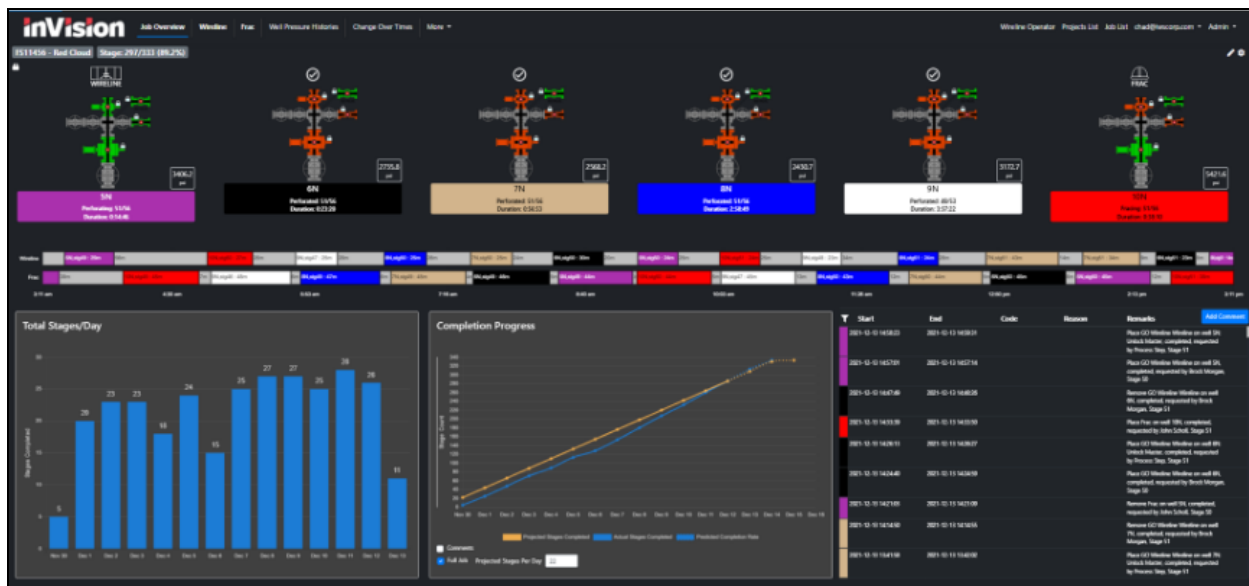
12. On January 24, 2023, the USPTO duly and legally issued U.S. Patent No. 11,560,770 (“the '770 Patent”), entitled “Hydraulic Fracturing Plan and Execution of Same.” Downing is the owner by assignment of the '770 Patent. A copy of the '770 Patent is attached hereto as **Exhibit 2**.

13. Collectively, the '779 and '770 Patents are referred to as the “Asserted Patents.” This is an action for infringement of the Asserted Patents.

### **Defendants’ Infringing Activities**

14. Defendants provide technology solutions for hydraulic fracturing operations and digital valve control, including but not limited to Defendants’ inVision Technology Platform (collectively, “IWS’s Operations Technology”), that infringes one or more claims of the Asserted Patents.

15. For example, below is a screenshot of the inVision Technology Platform from IWS’s website:



See <https://www.intelligentwellheads.com/solutions/>.

16. Additionally, below is a photograph of an IWS jobsite, which shows the “zipper frac” method used by IWS:



IWS has used the “zipper frack” method to achieve “75.4 hours of continuous pumping,” as described in a Journal of Petroleum Technology (JPT) article. See <https://jpt.spe.org/continuous-pumping-touted-as-next-efficiency-gain-for-us-onshore-completions>.

17. IWS also describes its inVision Technology Platform as follows:

InVision software, sensors, controls, and best practices have helped deliver more than 45,000 stages without a single cut wireline, well shut-in, pressure control, or safety incident. Thanks to the inVision Digital Handshake™ and Digital Completion Twin™ technologies, reduced frac valve activation time has reached 55 percent, and wireline valve action times have been cut by 59 percent. Well swap times on some pads have been cut in half and a ***continuous pumping*** record of 76 hr has been achieved. Digital Valve Control™ technologies are the latest innovation that keeps personnel out of the red zone and improves operational efficiency and reliability.

See <https://www.linkedin.com/company/intelligent-wellhead-systems/> (“About”) (emphasis added).

18. As shown below, IWS further describes its inVision Technology Platform as enabling “continuous pad operations” and “continuous pumping.”



See <https://www.linkedin.com/video/event/urn:li:ugcPost:6978470224329101313/>.

19. Defendants are infringing one or more of the Asserted Patents by using, renting, offering to rent, selling, offering to sell, and/or otherwise providing IWS's Operations Technology, in this District.

20. Downing and Defendants are direct competitors in the market of systems and methods for controlling hydraulic fracturing operations.

21. Downing has lost substantial sales because it competes with Defendants and IWS's Operations Technology.

**Defendants' Infringement Is Knowing and Willful**

22. Defendants knew or should have known of the Asserted Patents before they engaged in their infringing acts.

23. Downing sent letters notifying Defendants of the Asserted Patents and Defendants' infringement of the Asserted Patents on June 30, 2022, August 31, 2022, and January 9, 2023.

24. At a minimum, Defendants had notice of their infringement of the '779 Patent no later than June 30, 2022, when Downing sent Defendants a cease-and-desist letter notifying Defendants that they were infringing the allowed claims of U.S. Patent App. No. 17,388,716 ("the '716 App"), which issued as the '779 Patent on August 2, 2022. Further, Downing sent Defendants another letter on August 31, 2022, notifying Defendants that the '779 Patent had issued and confirming that Defendants infringed at least issued claims 15 and 25 of the '779 Patent.

25. At a minimum, Defendants also had notice of their infringement of the '770 Patent no later than January 9, 2023, when Downing sent Defendants another letter notifying Defendants that they were also infringing the allowed claims of U.S. Patent App. No. 17,878,493

(“the ’493 App”), which is a continuation of the ’779 Patent and issued as the ’770 Patent on January 24, 2023.

26. Despite Downing’s repeated notice, Defendants refused to cease their infringing activities. Thus, Downing was forced to bring this suit to protect its business and intellectual property.

27. Defendants have, and continue to, willfully, knowingly, and intentionally infringe the Asserted Patents.

### **FIRST CLAIM FOR RELIEF**

#### **(Direct Infringement of the ’779 Patent)**

28. Downing realleges paragraphs 1-27 above as if fully set forth herein.

29. The ’779 Patent is a valid, enforceable patent that was duly issued by the USPTO on August 2, 2022. **Exhibit 1.**

30. Downing is the assignee of the ’779 Patent with ownership of all substantial rights in the ’779 Patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

31. Defendants have directly infringed, and continue to directly infringe, at least claims 15 and 25 of the ’779 Patent in violation of 35 U.S.C. § 271(a) by, for example and without limitation, using, renting, offering to rent, selling, offering to sell, and/or otherwise providing IWS’s Operations Technology.

32. Claim 15 of the ’779 Patent claims:

A method of hydraulically fracturing at least first and second wells of a plurality of wells, the first and second wells being associated with first and second valves, respectively, the method comprising:



(a) permitting hydraulic fracturing of the second well, comprising: opening the second valve associated with the second well to permit pumping of fluid into the second well via the second valve; and measuring a flow rate of the fluid being pumped into the second well;

(b) swapping from permitting hydraulic fracturing of the second well to permitting hydraulic fracturing of the first well, comprising: opening the first valve associated with the first well to permit pumping of fluid into the first well via the first valve; and closing the second valve associated with the second well; wherein, during step (b), hydraulic fracturing fluid is continuously pumped to the first and second valves via a hydraulic manifold; and

wherein: in response to determining that the flow rate measured at step (a) has satisfied one or more flow rate conditions, the first valve associated with the first well is opened at step (b) before the second valve associated with the second well is closed at step (b); or in response to determining that the flow rate measured at step (a) has not satisfied one or more flow rate conditions, the first valve associated with the first well is opened at step (b) during or after the second valve associated with the second well is closed at step (b).

33. Upon information and belief, IWS's Operations Technology practices each of the above limitations of claim 15 of the '779 Patent. For example, upon information and belief, Defendants have employees present on customer's sites to set up, install, and operate IWS's Operations Technology. Upon information and belief, Defendants also use and test IWS's Operations Technology.

34. Additionally, or alternatively, to the extent that any third-parties or end-users (e.g., Defendants' customers/operators) perform one or more of the steps of claim 15, any such action by third parties and/or end-users is attributable to Defendants, such that Defendants are liable for jointly infringing such claim. Upon information and belief, Defendants direct and/or control the other actor(s) by conditioning use of IWS's Operations Technology as well as the receipt of benefits therefrom, upon proper performance of any such step by any such third party or end user. For example, Defendants exercise and/or direct control over the one or more steps performed by IWS's Operations Technology by exercising sole direction over the entire

infringing process (e.g., by controlling participation by such third parties and/or end-users through the use of IWS's Operations Technology as the primary means of manipulating the valves necessary to conduct pumping operations). Further, on information and belief, Defendants condition receipt of the benefit from the use of IWS's Operations Technology, including without limitation, providing continuous pumping operations, upon proper performance of the steps of claim 15 using IWS's Operations Technology. Upon information and belief, Defendants also establish the manner and timing of that performance by such third parties or end users by deploying IWS's Operations Technology as the primary means of manipulating the valves necessary to conduct pumping operations in a manner that performs each of the steps of claim 15. All third-party and/or end-user involvement, if any, is incidental, ancillary, or contractual.

35. Claim 25 of the '779 Patent claims:

An apparatus adapted to hydraulically fracture first and second wells, the first and second wells being associated with first and second valves, respectively, the apparatus comprising: a non-transitory computer readable medium; and a plurality of instructions stored on the non-transitory computer readable medium and executable by one or more processors, wherein, when the instructions are executed by the one or more processors, the following steps are executed:

(a) permitting hydraulic fracturing of the second well, comprising: opening the second valve associated with the second well to permit pumping of fluid into the second well via the second valve; and measuring a flow rate of the fluid being pumped into the second well;

(b) swapping from permitting hydraulic fracturing of the second well to permitting hydraulic fracturing of the first well, comprising: opening the first valve associated with the first well to permit pumping of fluid into the first well via the first valve; and closing the second valve associated with the second well; wherein, during step (b), hydraulic fracturing fluid is continuously pumped to the first and second valves via a hydraulic manifold; and

wherein: in response to determining that the flow rate measured at step (a) has satisfied one or more flow rate conditions, the first valve associated with the first well is opened at step (b) before the second valve associated with the second well is closed at step (b); or in response to determining that the flow rate measured at step (a) has not satisfied one or more flow rate conditions, the first valve

associated with the first well is opened at step (b) during or after the second valve associated with the second well is closed at step (b).

36. IWS's Operations Technology also practices each of the above limitations of claim 25 of the '779 Patent. To the extent that Defendants do not directly infringe claim 25, Defendants are nonetheless liable for jointly infringing claim 25 because, for example, for the same reasons set forth above, Defendants direct and/or control other actor(s) such that the infringement is attributable to Defendants.

37. A more detailed analysis of Defendants' infringement of claim 15 and claim 25 of the '779 Patent can be found in **Exhibit 3**, which is incorporated herein.

38. Defendants' infringement of the '779 Patent has been, and continues to be, willful, knowing, and intentional.

39. Downing has suffered economic harm because of Defendants' infringing activities in an amount to be proven at trial, but in no case less than a reasonable royalty.

40. Defendants have caused, and unless restrained and enjoined, will continue to cause, irreparable injury and damage to Downing for which there is no adequate remedy at law. Unless enjoined by this Court, Defendants will continue to infringe the '779 Patent.

## **SECOND CLAIM FOR RELIEF**

### **(Induced Infringement of the '779 Patent)**

41. Downing realleges paragraphs 1-27 above as if fully set forth herein.

42. Defendants also knowingly and intentionally induce others to infringe at least claim 15 of the '779 Patent in violation of 35 U.S.C. § 271(b) by instructing and/or aiding others to use IWS's Operations Technology in a manner that infringes one or more claims of the '779 Patent.

43. As described above, Defendants have been aware of the '716 App (which issued as the '779 Patent) since at least June 30, 2022, and of the infringing nature of IWS's Operations Technology.

44. Despite knowledge of the '779 Patent, Defendants continue to actively encourage, instruct, and aid their customers (for example, through product information and instruction materials<sup>1</sup>) to implement and use IWS's Operations Technology in ways that directly infringe the '779 Patent. As described above, IWS's Operations Technology is utilized in connection with hydraulic fracturing operations. Defendants assist and instruct their customers regarding when and how to implement and use IWS's Operations Technology during hydraulic fracturing operations. Thus, Defendants aid and instruct customers to use IWS's Operations Technology in an infringing manner. Defendants do so knowingly and intending that their customers will commit infringing acts.

45. Defendants also continue to use, rent, offer to rent, sell, offer to sell, and/or otherwise provide IWS's Operations Technology to customers, despite Defendants' knowledge of the '779 Patent, thereby specifically intending for and inducing their customers to infringe the '779 Patent through their customers' normal and customary use of IWS's Operations Technology during hydraulic fracturing operations.

46. Downing has suffered economic harm because of Defendants' induced infringement in an amount to be proven at trial, but in no case less than a reasonable royalty.

47. Defendants have caused, and unless restrained and enjoined, will continue to cause, irreparable injury and damage to Downing for which there is no adequate remedy at law. Unless enjoined by this Court, Defendants will continue to infringe the '779 Patent.

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<sup>1</sup> See, e.g., <https://www.linkedin.com/video/event/urn:li:ugcPost:6978470224329101313/>.

**THIRD CLAIM FOR RELIEF**

**(Direct Infringement of the '770 Patent)**

48. Downing realleges paragraphs 1-27 above as if fully set forth herein.

49. The '770 Patent is a valid, enforceable patent that was duly issued by the USPTO on January 24, 2023. **Exhibit 2.**

50. Downing is the assignee of the '770 Patent with ownership of all substantial rights in the '770 Patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

51. Defendants have directly infringed, and continue to directly infringe, at least claims 1 and 14 of the '770 Patent in violation of 35 U.S.C. § 271(a) by, for example and without limitation, using, renting, offering to rent, selling, offering to sell, and/or otherwise providing IWS's Operations Technology.

52. Claim 1 of the '770 Patent claims:

A method, comprising:

communicating fluid to a first well via a manifold and a first valve, the first valve being associated with both the manifold and the first well; and

in response to determining that the fluid communicated via the manifold has satisfied one or more conditions:

opening a second valve;

communicating fluid to a second well via the second valve; and

closing the first valve after opening the second valve.

53. Upon information and belief, IWS's Operations Technology practices each of the above limitations of claim 1 of the '770 Patent. For example, upon information and belief, Defendants have employees present on customer's sites to set up, install, and operate IWS's

Operations Technology. Upon information and belief, Defendants also use and tests IWS's Operations Technology.

54. Additionally, or alternatively, to the extent that any third-parties or end-users (e.g., Defendants' customers/operators) perform one or more of the steps of claim 1, any such action by third parties and/or end-users is attributable to Defendants, such that Defendants are liable for jointly infringing such claim. Upon information and belief, Defendants direct and/or control the other actor(s) by conditioning use of IWS's Operations Technology as well as the receipt of benefits therefrom, upon proper performance of any such step by any such third party or end user. For example, Defendants exercise and/or direct control over the one or more steps performed by IWS's Operations Technology by exercising sole direction over the entire infringing process (e.g., by controlling participation by such third parties and/or end-users through the use of IWS's Operations Technology as the primary means of manipulating the valves necessary to conduct pumping operations). Further, on information and belief, Defendants condition receipt of the benefit from the use of IWS's Operations Technology, including without limitation, providing continuous pumping operations, upon proper performance of the steps of claim 1 using IWS's Operations Technology. Upon information and belief, Defendants also establish the manner and timing of that performance by such third parties or end users by deploying IWS's Operations Technology as the primary means of manipulating the valves necessary to conduct pumping operations in a manner that performs each of the steps of claim 1. All third-party and/or end-user involvement, if any, is incidental, ancillary, or contractual.

55. Claim 14 of the '770 Patent claims:

An apparatus, comprising:

a non-transitory computer readable medium; and

a plurality of instructions stored on the non-transitory computer readable medium and executable by one or more processors, wherein, when the instructions are executed by the one or more processors, the following steps are executed:

communicating fluid to a first well via a manifold and a first valve, the first valve being associated with both the manifold and the first well; and

in response to determining that the fluid communicated via the manifold has satisfied one or more conditions:

opening a second valve;

communicating fluid to a second well via the second valve; and

closing the first valve after opening the second valve.

56. IWS's Operations Technology also practices each of the above limitations of claim 14 of the '770 Patent. To the extent that Defendants do not directly infringe claim 14, Defendants are nonetheless liable for jointly infringing claim 14 because, for example, for the same reasons set forth above, Defendants direct and/or control other actor(s) such that the infringement is attributable to Defendants.

57. A more detailed analysis of Defendants' infringement of claims 1 and 14 of the '770 Patent can be found in **Exhibit 4**, which is incorporated as if set forth herein.

58. Defendants' infringement of the '770 Patent has been, and continues to be, willful, knowing, and intentional.

59. Downing has suffered economic harm because of Defendants' infringing activities in an amount to be proven at trial, but in no case less than a reasonable royalty.

60. Defendants have caused, and unless restrained and enjoined, will continue to cause, irreparable injury and damage to Downing for which there is no adequate remedy at law. Unless enjoined by this Court, Defendants will continue to infringe the '770 Patent.

**FOURTH CLAIM FOR RELIEF**

**(Induced Infringement of the '770 Patent)**

61. Downing realleges paragraphs 1-27 above as if fully set forth herein.

62. Defendants also knowingly and intentionally induce others to infringe at least claim 1 of the '770 Patent in violation of 35 U.S.C. § 271(b) by instructing and/or aiding others to use IWS's Operations Technology in a manner that infringes one or more claims of the '770 Patent.

63. As described above, Defendants have been aware of the '493 App, which issued as the '770 Patent, since at least January 9, 2023, and of the infringing nature of IWS's Operations Technology.

64. Despite knowledge of the '770 Patent, Defendants continue to actively encourage, aid, and instruct their customers (for example, through product information and instruction materials<sup>2</sup>) to implement and use IWS's Operations Technology in ways that directly infringe the '770 Patent. As described above, IWS's Operations Technology is utilized in connection with hydraulic fracturing operations. Defendants assist and instruct their customers regarding when and how to implement and use IWS's Operations Technology during hydraulic fracturing operations. Thus, Defendants aid and instruct customers to use IWS's Operations Technology in an infringing manner. Defendants do so knowingly and intending that their customers will commit infringing acts.

65. Defendants also continue to use, rent, offer to rent, sell, offer to sell, and/or otherwise provide IWS's Operations Technology to customers, despite Defendants' knowledge of the '770 Patent, thereby specifically intending for and inducing their customers to infringe the

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<sup>2</sup> See, e.g., <https://www.linkedin.com/video/event/urn:li:ugcPost:6978470224329101313/>.



'770 Patent through their customers' normal and customary use of IWS's Operations Technology during hydraulic fracturing operations.

66. Downing has suffered economic harm because of Defendants' induced infringement in an amount to be proven at trial, but in no case less than a reasonable royalty.

67. Defendants have caused, and unless restrained and enjoined, will continue to cause, irreparable injury and damage to Downing for which there is no adequate remedy at law. Unless enjoined by this Court, Defendants will continue to infringe the '770 Patent.

### **PRAYER FOR RELIEF**

WHEREFORE, Downing requests entry of judgment in its favor and against Defendants as follows:

1. Entry of judgment holding Defendants liable for infringement of the Asserted Patents;
2. An order permanently enjoining Defendants, their officers, agents, servants, employees, attorneys and affiliated companies, their assigns and successors in interest, and those persons in active concert or participation with them, from continued acts of infringement of the Asserted Patents;
3. An order awarding Downing statutory damages and damages according to proof resulting from Defendants' past, current, and future infringement of the Asserted Patents, together with prejudgment and post-judgment interest;
4. A declaration that Defendants' infringement of the Asserted Patents is willful;
5. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Downing's reasonable attorneys' fees; and

6. Any and all other legal or equitable relief as may be available under law and which the Court may deem proper.

**JURY DEMAND**

Downing hereby demands trial by jury in this action on all issues so triable.

Dated: May 10, 2023

Respectfully submitted,

/s/ Lee F. Johnston

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