Wilson et al v. Corning, Inc. Doc. 1007

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

John R. Wilson and Wilson Wolf Manufacturing Corporation,

Plaintiffs,

v.

Corning, Inc.,

Defendant.

Civil No. 13-210 (DWF/TNL)

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER FOR JUDGMENT

The above-entitled matter came before the Court as a bench trial commencing on November 7, 2022, and concluding on Friday, December 2, 2022. Based upon the presentations by the parties, including the extensive testimony of the witnesses and the voluminous exhibits produced at trial, as well as counsels' arguments and post-trial submissions, the entire record before the Court, and the Court being otherwise duly advised in the premises, the Court hereby issues its Findings of Fact and Conclusions of Law pursuant to Rule 52(a) of the Federal Rules of Civil Procedure.

PRELIMINARY MATTERS

A. Corning's Motions to Amend Answer

Defendant Corning, Inc. ("Corning") moves the Court for leave to amend its answer under Rule 15(b)(1) to add an express statute of limitations defense (Doc. No. 917) and separately under Rule 54(c) to allow it to amend the answer post-trial to plead an express statute of limitations defense and/or to enter judgment (Doc. No. 960). Corning submits that it has been raising its limitations defense since 2013 and litigating

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laches from the beginning of this lawsuit. Corning argues that as the case expanded, documents made clear that Plaintiffs John R. Wilson ("Wilson") and Wilson Wolf Manufacturing Corporation ("Wilson Wolf") (together, "Plaintiffs") were making threats, raising disputes, and exploring contract and intellectual property claims against Corning as early as April 2005. Moreover, Corning points out that the Court's prior rulings on summary judgment defeated any allegation of "continuing" misappropriation through 2012. Now, Corning argues that the Court should allow an amendment of its answer to add a statute of limitations defense under either Rule 15(b)(1) or Rule 54(c) and to enter judgment in Corning's favor on the state-law claims for trade-secret misappropriation and breach of contract under the applicable statutes of limitations under Rule 54(c).

Plaintiffs oppose the motion, arguing that Corning cannot meet the good-cause standard, particularly after Corning has failed to show good cause for its amendment in prior attempts, and because permitting amendment now would prejudice Plaintiffs. In addition, Plaintiffs submit that Rule 54(c) only provides relief on claims that have been properly pleaded and proved and that Corning did not try the statute of limitations defense because that defense is not identical to laches.

The Court acknowledges that the procedural posture of these motions is unique. Corning last attempted to amend its answer immediately before trial under Rule 15(a). Corning correctly points out that the Court declined to take up the issue at the time but stated that it would consider an amendment "based on the evidence presented at trial." (Doc. No. 862 ¶ 1.)

Rule 15(b)(1) of the Federal Rules of Civil Procedure provides that during and after trial, based on an objection at trial, "[t]he court may permit the pleadings to be amended . . . [and t]he court should freely permit an amendment when doing so will aid in presenting the merits and the objecting party fails to satisfy the court that the evidence would prejudice that party's action or defense on the merits." *See also Baker v. John Morrell & Co.*, 382 F.3d 816, 831 (8th Cir. 2004) (noting that Rule 15(b) allows for amendments before and after trial). Rule 54(c) provides that, except in cases of judgment by default, "[e]very [] final judgment should grant the relief to which each party is entitled, even if the party has not demanded that relief in its pleadings." Fed. R. Civ. P. 54(c). A party, however, "will not be given relief not specified in its complaint where the 'failure to ask for particular relief so prejudiced the opposing party that it would be unjust to grant such relief.'" *Baker*, 382 F.3d at 831 (citation omitted). Prejudice may exist if the pleading failure denies the opposing party the opportunity to make a realistic appraisal of its case, such that its litigation strategy is based on speculation. (*Id.*)

Here, Corning pleaded a laches defense, which incorporates facts relevant to the statute-of-limitations defense and squarely placed the timeliness of Plaintiffs' claims at issue. In addition, Corning put Plaintiffs on notice that it would rely on a limitations defense, and the Court explicitly stated that it would consider an amendment based on the evidence at trial. Plaintiffs did not consent to trying the statute-of-limitations defense. Even so, now that the evidence has been presented, the Court finds that there is no unfair surprise or prejudice to Plaintiffs in allowing an amendment to add a statute-of-limitations defense. Plaintiffs have not been denied an opportunity to make a realistic

appraisal of their case and adjust their litigation strategy. Importantly, Plaintiffs cannot plausibly claim that Corning fraudulently concealed any facts that were intended to leave Plaintiffs in the dark. In fact, the evidence at trial demonstrates that Wilson was aware in 2005 that Corning was proceeding with its own designs and that he raised concerns even then. The Court will, therefore, permit the answer's amendment to add a statute-of-limitations defense, and the Court will consider that defense as part of the issues to be resolved on the evidence submitted at trial. The Court will address the merits of the defense in the findings of fact and conclusions of law below.

B. Evidentiary Matters

Attached to their Responses to Corning's Post-Trial Proposed Findings of Fact and Conclusions of Law, Plaintiffs submitted an additional exhibit, Exhibit 1 to Plaintiffs' Responses to Corning's Findings of Fact. (Doc. No. 992-1.) Because this exhibit was not part of the evidentiary record at trial, the Court declines to admit it now. As such, the Court will not consider the information contained in Doc. No. 992-1. However, the Court notes that even if the Court had considered this submission, the Court's findings and conclusions would be the same.

INTRODUCTION

In this action, Plaintiffs assert state-law claims for breach of contract and trade-secret misappropriation. At the heart of these claims is the assertion that Corning used Plaintiffs' proprietary designs and information to develop and design its HYPER products. Plaintiffs argue that they shared their confidential information with Corning in 2004 and beyond, including at meetings between Wilson and Corning that occurred in

March, August, and December 2004. As detailed in the findings below, however, the trial evidence shows that Corning inventors designed and developed the HYPERFlask and HYPERStack products independently and in doing so Corning did not use any confidential or trade-secret information belonging to Plaintiffs. Instead, the evidence shows that Corning was involved in a development project with a different corporation (TAP) at roughly the same time Corning was separately exploring a business relationship with Plaintiffs, but that Corning did not use any confidential information shared by Plaintiffs in the former project—which ultimately resulted in the creation of the HYPER products. John Wilson also brings three inventorship claims with respect to three Corning patents. Wilson did not prove those claims at trial. Finally, the evidence at trial demonstrates that Plaintiffs' state-law claims are untimely and that Plaintiffs delayed unreasonably and without excuse in bringing this lawsuit, such that Corning has suffered both economic and evidentiary prejudice.

As more fully explained in the findings below, Plaintiffs' claims for breach of contract and trade-secret misappropriation fail on the merits, Plaintiffs' state-law claims are barred as untimely, and even if Plaintiffs had established liability, any available award would be banned by laches. In addition, Wilson's inventorship claims fail.

FINDINGS OF FACT

I. The Parties & Background on Cell-Culture Devices

1. Wilson is the founder and CEO of Wilson Wolf.

2. Wilson Wolf is located in New Brighton, Minnesota.

3. Wilson has a degree in Mechanical Engineering from the University of Minnesota and degrees in Business Administration and Economics from Hamline University.

4. In 1986, Wilson began his career in cell-culture device design as a mechanical engineer at Endotronics, a cell-culture device manufacturing company.

5. In approximately 1997, Wilson founded Wilson Wolf to invent, develop, manufacture, and market static cell-culture devices intended to advance human health care.

6. At Wilson Wolf, Wilson's responsibilities include inventing, developing, and bringing to market Wilson Wolf's cell-culture devices.

7. In the course of Wilson's responsibilities, he has authored and been the principal investigator on Small Business Innovation Research ("SBIR") grants awarded by the National Institute of Health to Wilson Wolf. In particular, Wilson worked on an application for one such SBIR grant aimed at improving the culture and transport of islet cells for islet transplants for those afflicted with Type I diabetes.[1]

[1] As more fully explained below, Plaintiffs did not present evidence that the SBIR application or any documents that contained the substance of the SBIR application was given or shown to Corning. The Court provisionally granted, and now grants, Corning's motion in limine to exclude evidence of the SBIR grant application and its contents. The Court discusses the SBIR grant for background purposes but does not consider its contents as evidence relevant to Plaintiffs' trade-secret or breach-of-contract claims. However, the Court notes that its findings herein would not change even if the Court considered the SBIR's contents.

8. Corning is a global corporation that operates several divisions in areas of technology, including life sciences, display technologies, and environmental technologies.

9. Corning is a leader in the cell-culture industry and employs inventors with experience in the field. These include Greg Martin ("Martin"), Product Development Engineer, and Dr. Allison Tanner ("Tanner"), cell biologist and Development Scientist. At all relevant times, Martin and Tanner were both part of Corning Life Sciences' ("CLS") Science and Technology Development Group.

10. Corning's inventors had experience with many kinds of cell-culturing devices, including those involving gas-permeable materials, multiple layers, and the elimination of the gas-liquid interface. These devices include Corning products such as the CellCube, the CellSTACK, and the RoboFlask.

11. In March 2004, Corning was selling a cell-culture device called the Corning CellSTACK Culture Chambers.

12. Below is a photo of the CellSTACK product:

(PTX 736.)[2]

13. The CellSTACK had gas-permeable material in two caps.

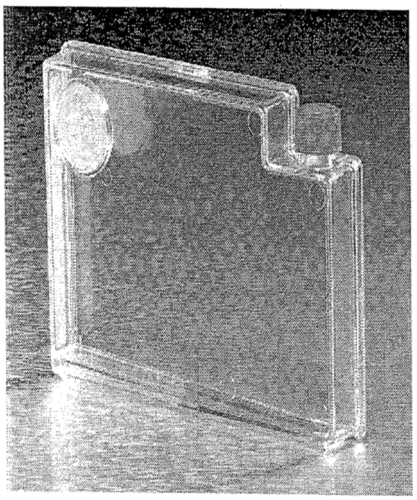
14. The CellSTACK did not have gas-permeable material within the shelves.

15. The CellSTACK relied on the gas-liquid interface to provide oxygen to the cells.

16. As of March 2004, Corning was also about to start selling another cell-culture device—the RoboFlask. Corning's research, development, and manufacture of the RoboFlask vessel was independent of, and well before, any meeting with Wilson.

17. Corning formally launched the RoboFlask in 2004.

18. Below is a photo of the RoboFlask:



(PTX 171.)

[2] The Court notes that it has reproduced images from trial exhibits or from the parties' briefing. The latter may contain added explanations to the images. And in some cases, the Court has altered the size of the images for clarity. They are not meant to be identical representations. The Court cites to Plaintiffs' Trial Exhibits as PTX and Defendant's Trial Exhibits as DTX.

19. Wilson Wolf and Wilson developed a product called the CELLine flask.

20. The CELLine flask is a static cell-culture device that includes a semi-permeable or dialysis membrane to concentrate cell-secreted protein.

21. Wilson was the lead designer and co-inventor for the CELLine flask.

22. Wilson claims to have patents around the CELLine flask.

II. Static Cell-Culture Devices

23. Static cell-culture devices are used to grow cells in a lab for human healthcare, research, and experiments.

24. Cells are cultured, for example, to develop new drugs for treatments for diseases like cancer.

25. To grow cells, cells need to eat and breathe, and therefore cell-culture devices are designed to provide cells with access to nutrients and oxygen.

26. Medium, or media, refers to the liquid or liquids which provide nutrients, such as glucose.

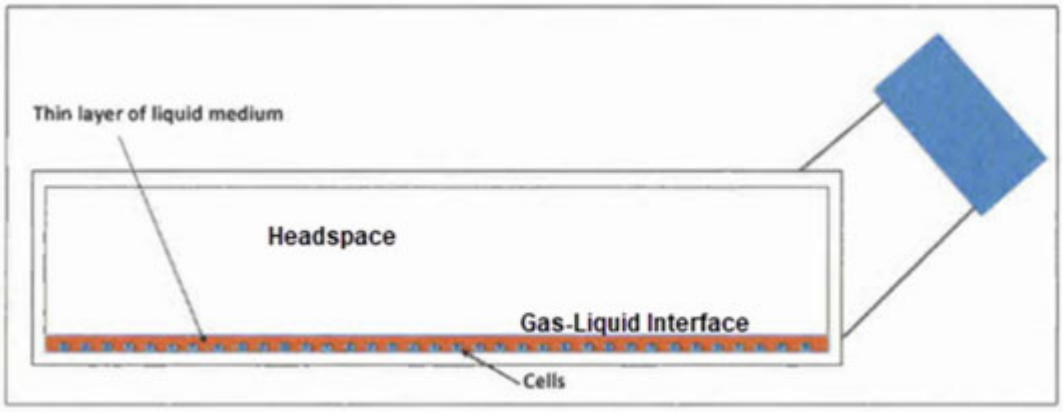
27. "Static" cell-culture devices are capable of functioning in a static mode. A "static mode" is one that does not require ancillary perfusion equipment to pump medium or gas to the cells. The "continuous flow" of liquid nutrient medium through a device is a type of perfusion.

28. Static cell-culture devices that are not compartmentalized by a semi-permeable membrane can provide oxygen from above or below the cells.

29. A typical form of static cell-culture device that provided oxygen from above the medium is the tissue culture flask, which is commonly referred to as the T-Flask.

30. During the relevant time period, and in particular in 2004, Corning and other companies, such as Nunc and Becton Dickenson, were all using the same base product—T-flasks (like Corning's T-175 flask).

31. As shown below, the T-Flask functions with a thin layer of medium below a large volume of gas, commonly referred to as "headspace," from which oxygen travels into the gas-liquid interface of the media to reach cells on the bottom of the flask:



(PTX-735.)

32. As shown above, the cells sit at the bottom of the T-flask device, below a thin layer of liquid medium, and the thickness of the layer of liquid medium is about 3-5 millimeters, the same as two pennies stacked together.

33. One feature of the T-Flask is that the headspace occupies most of the device.

34. Corning's T-Flask has been used in cell-culturing devices for many years and is still used today.

35. Corning's T-175 flask does not have gas-permeable material on the bottom of the vessel.

36. There are no shelves or scaffolds within the T-175 flask.

37. Other multi-shelved or stackable flasks, such as the Nunc TripleFlask, Nunc Cell Factory, and Corning's CellSTACK Culture Chambers, provide more surface area for cell growth than the T-Flask.

38. In 2004, Nunc was selling a device called the TripleFlask.

39. The TripleFlask vessel was very similar to the T-225 (the T-225 shares the same design as the T-175, with a slightly larger growth surface area).

40. The TripleFlask had two additional platforms as compared to the T-225 in a similar footprint to the T-225.

41. The TripleFlask relied on the gas-liquid interface.

42. The TripleFlask could *not* grow ten times the number of cells in the same volume device.

43. During the relevant time period, the industry also used cell-culture bags, which are like zip-lock bags, inside of which you can put liquid.

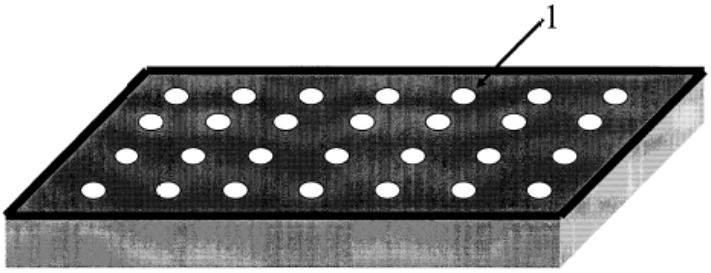
44. Cell-culture bags can eliminate the gas-liquid interface because oxygen can migrate through the film.

III. Corning's HYPERFlask and HYPERStack Products

45. Tanner and Martin developed a multiwell, or microwell, plate between 1999 and 2001 that utilized gas-permeable material.

46. Tanner created the following drawing of the gas-permeable multiwell plate that she and Martin were working on at the time, which shows the bottom view of a multiwell plate that has gas-permeable material on the bottom of the wells:

Gas Permeable Microplate System



Bottom view of microplate

1=Gas permeable material on bottom of microplate covering well areas.

(DTX-36).

47. Tanner and Martin performed experiments with the multiwell plates to determine whether they could grow cells directly on the gas-permeable material in the absence of a gas-liquid interface.

48. They eliminated the gas-liquid interface by applying tape over the top of the wells, which required that the cells obtain oxygen only through the gas-permeable film on the bottom of the wells. They then stacked the multiwell plates one on top of

another with a narrow space for oxygen to travel between each multiwell plate to the gas-permeable material and then diffuse up to the cells.

49. Tanner and Martin confirmed from this experimentation that cells grew well on a gas-permeable film in the absence of a gas-liquid interface.

50. Tanner recorded the results of the experiments in her laboratory notebook.

51. No later than this experimentation in early 2001, long before Wilson ever met with Corning employees, Tanner and Martin knew that a cell-culture device did not require headspace or a gas-liquid interface to culture cells if the device had a gas-permeable cell growth surface.

52. On April 18, 2001, Tanner and Martin filed a patent application related to their work with the multiwell plates, titled Multi-Well Plate and Method of Manufacture. The patent application was published on February 21, 2002, as patent application publication number US 2002/0022219 (the "'219 application").

53. The '219 application confirms Tanner and Martin's knowledge of the use of gas-permeable membranes and no gas-liquid interface in a cell-culture device.

54. At all times relevant to this case, the primary automated cell culturing system on the market was the "SelecT" system, made by the Automation Partnership ("TAP"). It used "T-Flasks" (including Corning's T-175 flask), which have a single layer for cells to grow, as well as double- and triple-layer flasks like the Nunc TripleFlask.

55. TAP is a UK company that manufactures automated cell-culture systems.

56. As part of their longstanding relationship, Corning and TAP had conversations beginning in Fall 2003 about developing a new flask for TAP's SelecT. TAP wanted Corning to develop and commercialize a cell-culture flask that achieved ten times (10x) the cell output from existing single, double- and triple-layer flasks but that would also use a similar flask footprint, so that it could operate on the existing SelecT system. Corning began developing prototypes for TAP, and the parties ultimately entered into a confidentiality agreement.

57. On July 16, 2004, a representative from TAP visited Corning at Corning's Kennebunk, Maine facility. The purpose of the meeting was to allow TAP to "see the facility and to meet with [Corning] to discuss collaborative opportunities." Among others, Jim Buttarazzi, who was the Instrument and Automation Specialist for Corning acting as a liaison with TAP, attended the meeting.

58. After Buttarazzi left the meeting with TAP, he went to visit Tanner and Martin at their desks—Tanner and Martin sat next to each other in a cubicle area—to tell them about a potential new product development project with a customer that Tanner and Martin later learned to be TAP.

59. Buttarazzi explained to Tanner and Martin that Corning had a customer that made automated handling equipment for cell culture and wanted to increase the efficiency of its equipment by using a new higher-yield cell-culture product with the instrument. Buttarazzi asked Martin and Tanner to design a device with a "step change"—or 10x.

60. Martin immediately began to think about how to solve TAP's problem.

61. Martin started with what he already knew. First, the TAP automated equipment currently used T-175 flasks and TAP wanted to increase the cell yield in the same cell-culture device footprint. That meant that a flask design with the same basic shape as the T-175 flask would have to be used.

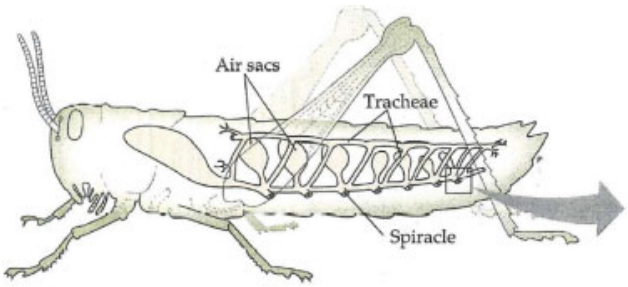
62. Second, one of Corning's competitors, Nunc, manufactured the Nunc TripleFlask, which had a similar footprint as the T-175 flask but with two additional internal shelves, or three total growth surfaces. But while the additional cell growth shelves increased cell production, the Nunc Triple Flask did not meet TAP's demand for ten times the cell yield as the T-175.

63. Martin's "first thought was that [he would] do the same thing [he] did in the multi-well plates." (11/17/22 Tr. 1911:22-1912:5.) That is, he would fill the flasks with multiple chambers using the same thin polystyrene film as the cell growth surface and fill each chamber entirely with media. (*Id.*)

64. Martin was "excited about that as a potential solution" and began to sketch out the design for Tanner on a napkin soon after Buttarazzi left. (11/17/22 Tr. 1912:10-24; 11/21/22 Tr. 2486:13-16.)

65. Martin termed his design the "tracheal" flask because when he stacked the chambers, the thin polystyrene film would reside within the vessel and would be protected by a hard-molded outer wall. To get air from the outside environment to the gas-permeable film, there would be small air gaps below each film layer. This type of design reminded Martin of the respiration system for insects, which Martin had been studying in a biology class. Insects have tracheae to take in oxygen that are fragile and

protected by a hard exterior, as shown in this drawing from Martin's biology textbook:



Martin likened the small exterior openings in the cell-culture device that allowed air to reach the gas-permeable film to tracheal spaces in insects.

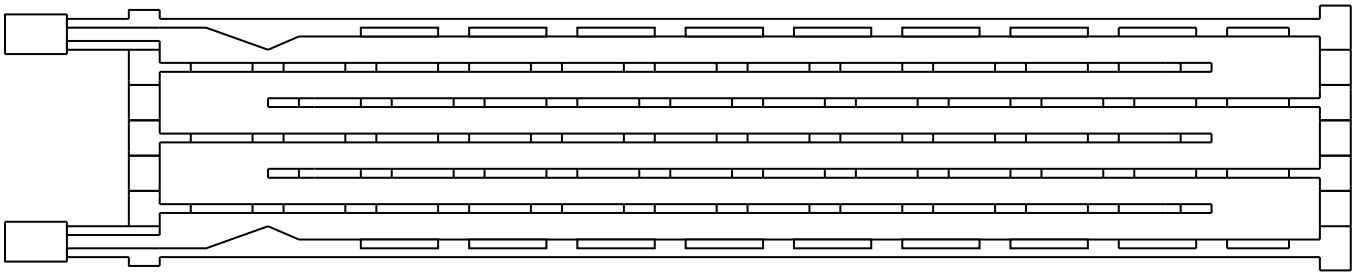
66. Tanner assisted in the adaptations of the tracheal design to a flask structure because that is the format that TAP was using for its automation equipment and contributed numerous other details to the design.

67. Although Martin's original sketch on the napkin from July 16, 2004, could not be located, Martin did document his tracheal-flask design more formally.

68. Specifically, Martin and Tanner created electronic versions of the tracheal flask concept in PowerPoint.

69. There are several copies of slightly different PowerPoint files that contain drawings of the tracheal flask.

70. The first is a native PowerPoint file that contains a single slide with a drawing of the tracheal flask in its most basic form:



(DTX 285.) The metadata for the file indicates that it was created on September 8, 2004, and that it was last saved on September 8, 2004. Thus, the Court finds that this drawing existed as shown no later than September 8, 2004.

71. The month before, on August 24, 2004, Buttarazzi emailed several recipients, including Tanner and Martin, regarding the "collaborative effort with TAP" and asked for input. (PTX 233.) Buttarazzi sent the email across several business platforms at Corning, not just the business managers for cells, because he was exploring product opportunities across several platforms.

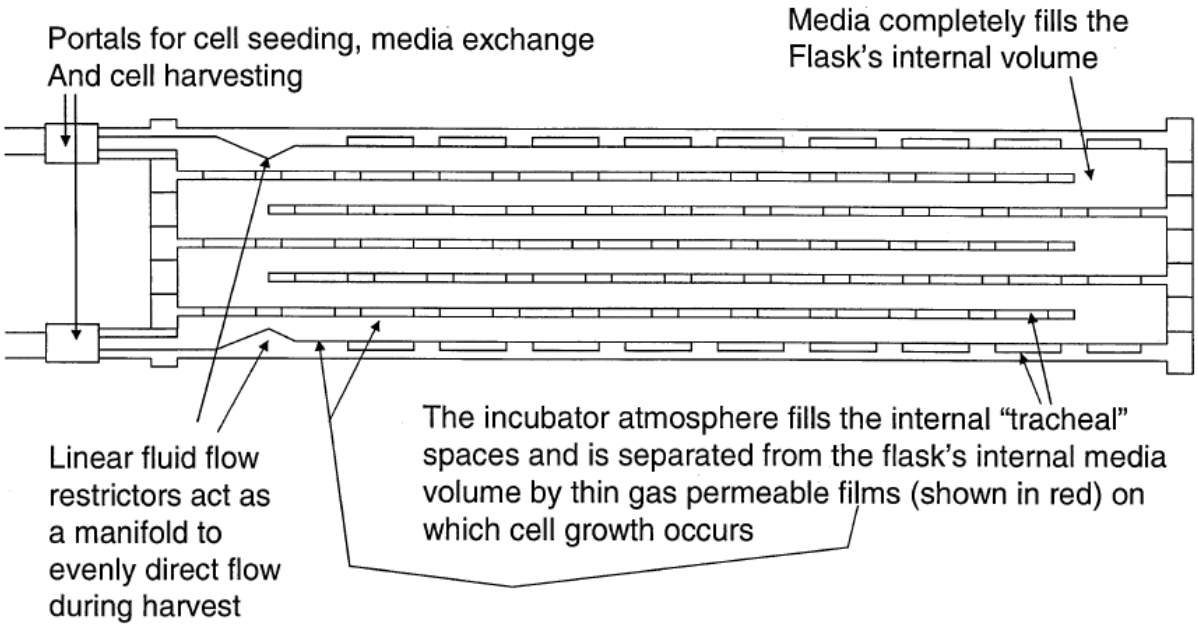
72. On August 27, 2004, Corning held a conference with TAP regarding "collaborative opportunities." (PTX 236.) This meeting was arranged before the meeting between Corning and Wilson on August 25, 2004, and was not related to that meeting.

73. Kim Titus, CLS's Development Manager and Martin and Tanner's supervisor, set up a brainstorming session for TAP SelecT on September 1, 2004. Wilson Wolf's gas-permeable product concepts were listed on the agenda to consider.

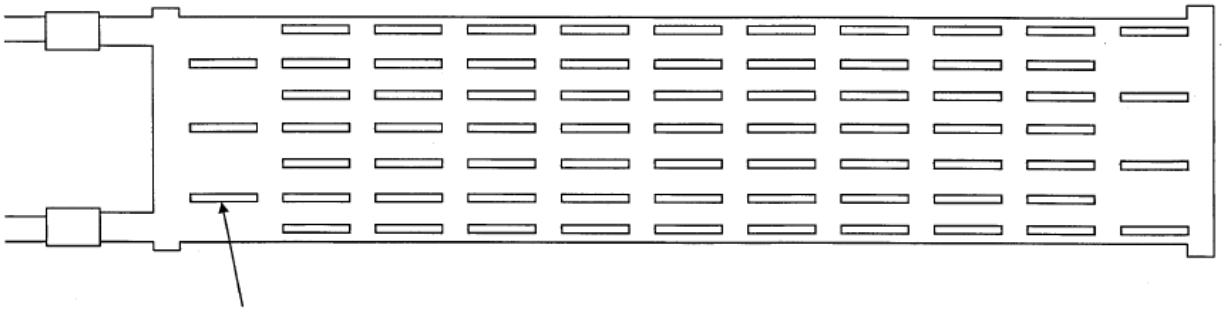
74. Tanner provided an overview for the TAP SelecT team, including a one-page summary of Wilson Wolf's gas-permeable product concepts. Tanner did not provide specifics regarding Wilson Wolf designs or patents. (PTX 276.)

75. On September 9, 2004, Martin emailed Titus a PowerPoint file titled "TAP flask.ppt." The PowerPoint contained several drawings from both Martin and Tanner, including three drawings of Martin's tracheal design: the internal view shown (with the addition of labels), an external view showing the tracheal openings from the outside, and drawings of the individual trays or cell culture compartments.

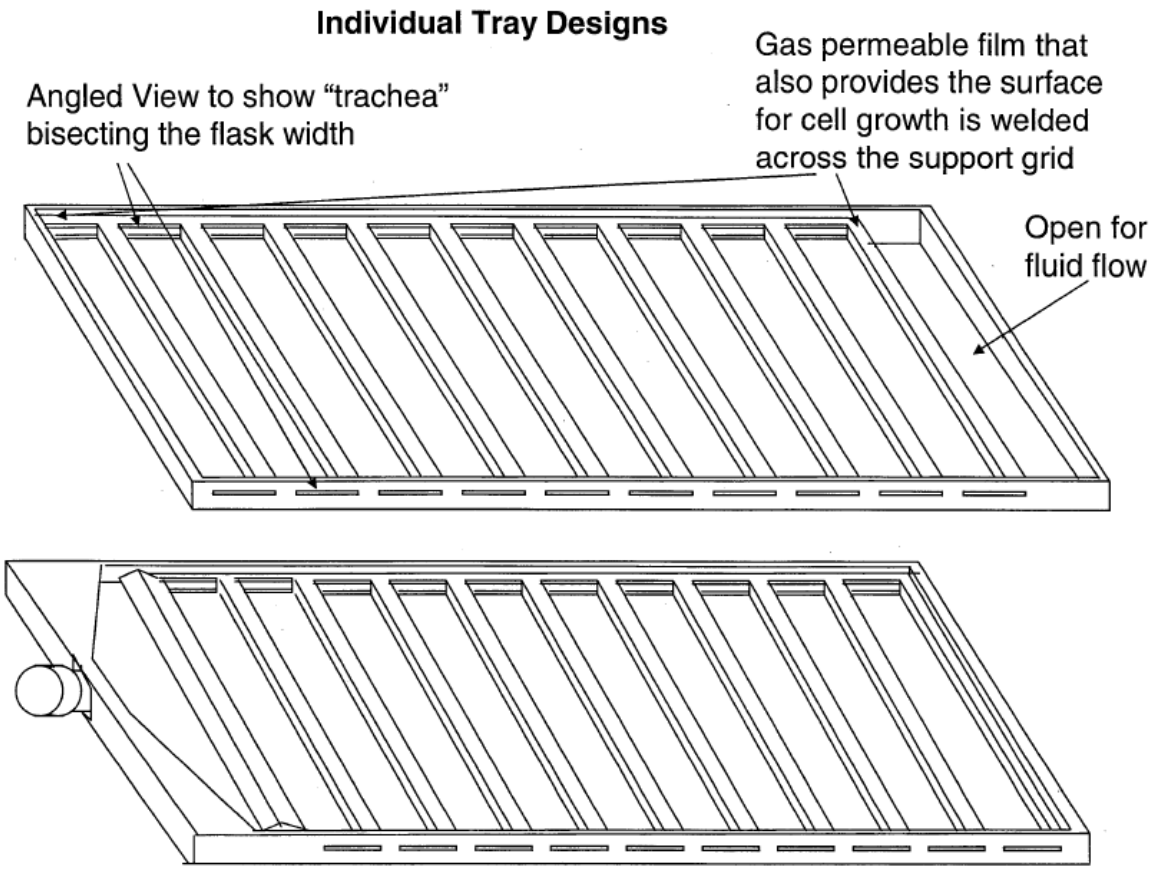
Internal View of Expanded Surface Area Flask



External View Showing "Tracheal" Openings



"Tracheal" portals along the flask's long sides allow for exchange of oxygen and carbon dioxide between the respiratory surfaces that the cells grow on and the incubator atmosphere



(DTX-12.)

76. Immediately after sending the email with the PowerPoint drawings attached, Martin printed a copy and took it to Titus's office to explain the drawings to her in person. Martin talked about each drawing with Titus, including the three tracheal design drawings shown above.

77. Both Martin and Titus testified that the PowerPoint drawings in Defendant's Exhibit 12 were in fact the PowerPoint drawings that were attached to the email sent and received on September 9, 2004.

78. Further, in 2007, Tanner and Martin were searching for documents related to the conception of the tracheal-flask design and located the original September 9, 2004

email and attachment in Martin's email inbox. Martin forwarded the email and attachment to Tanner, who then forwarded it to a Corning in-house attorney.

79. Both Tanner and Martin testified that the original electronic version of the September 9, 2004 email and attachment that was located in 2007 is the same as the paper copy introduced at trial as Defendant's Exhibit 12.

80. There were two additional versions of the PowerPoint file introduced at trial: Plaintiff's Exhibits 140 and 143. Both versions had a created date of September 7, 2004, and a last modified date of January 29, 2005. At the time of trial, almost 18 years later, Tanner did not recall why those files were modified in January 2005. Tanner speculated that because January 28, 2005, was around the time that she and Martin were preparing their invention disclosure, she could have opened the file for that purpose.

81. In any event, the metadata from January 2005 does not contradict either the documentary or the testimonial evidence concerning the creation of the PowerPoint slides in the summer of 2004 or the emailing of the PowerPoint slides with descriptions of the designs to Titus on September 9, 2004.

82. Corning held its first internal team meeting for the formal TAP project (or High-Density Cell Culture Vessel (HDCCV project)), referred to as a TAP Technical Team meeting, on or around December 14, 2004. TAP Technical Team members included Tanner, Martin, Dr. Todd Upton, Joe Wall, Buttarazzi, and Paul Gagnon.

83. Over the course of the next several months, the TAP Technical Team took Martin's tracheal-flask design and developed, tested, and perfected what ultimately became the HYPERFlask vessel.

84. After a year of development and testing, Martin and Tanner sought patent protection for their tracheal-flask design, filing their provisional patent application on July 26, 2005, U.S. Provisional Application No. 60/702,896 (the '896 provisional application"). (DTX-195.)

85. On May 11, 2006, Corning filed Application No. 11/433,859 (the "'859 application"). (PTX 240.)

86. The '859 application issued as U.S. Patent No. 7,745,209 (the "'209 Patent") on June 29, 2010.

87. The named inventors of the '896 provisional application, the '859 application, and the '209 Patent are Gregory R. Martin and Allison J. Tanner.

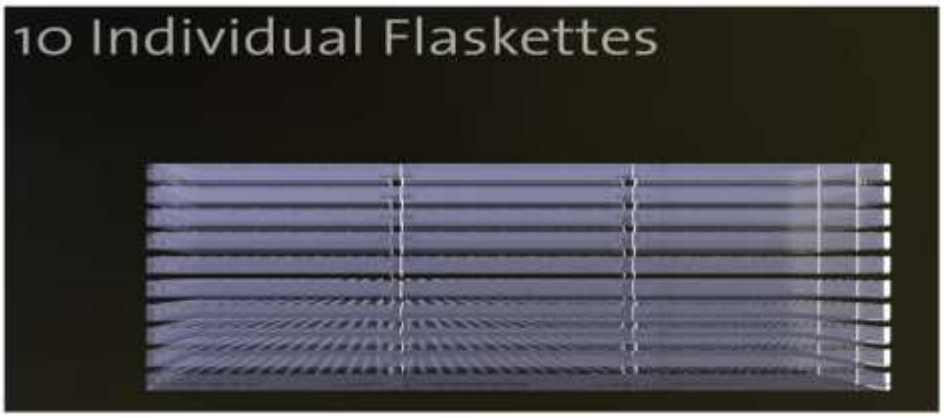
88. Wilson is not a named inventor of the '896 provisional application, '859 application, or the '209 Patent.

89. Corning's patent application related to the HYPERFlask product—which yielded both the '209 and '572 patents—became public on February 1, 2007. (PTX 116.)

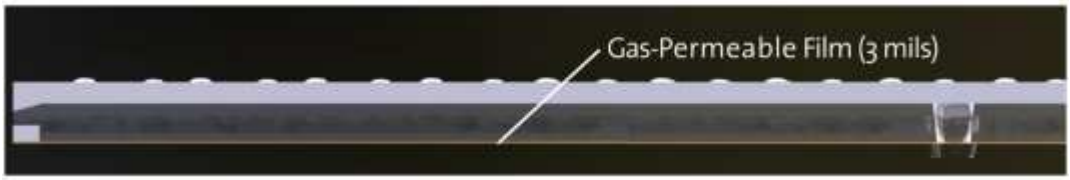
90. Corning introduced its HYPERFlask vessel to the public at a trade show in September 2006.

91. Following the September 2006 introduction, Corning displayed the HYPERFlask device at the ASCB trade show in December 2006, and formally launched the product in May 2007.

92. The HYPERFlask vessel features ten "flaskettes" stacked on top of each other. Each flaskette is a separate compartment for growing cells:

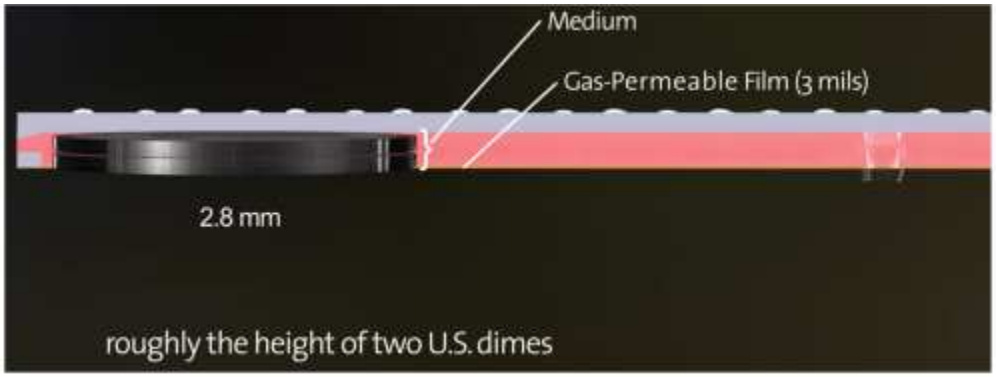


93. At the bottom of each flaskette is a thin, gas-permeable membrane. Cells grow on top of this membrane.



94. The gas permeable material is protected by the hard plastic exterior of the device.

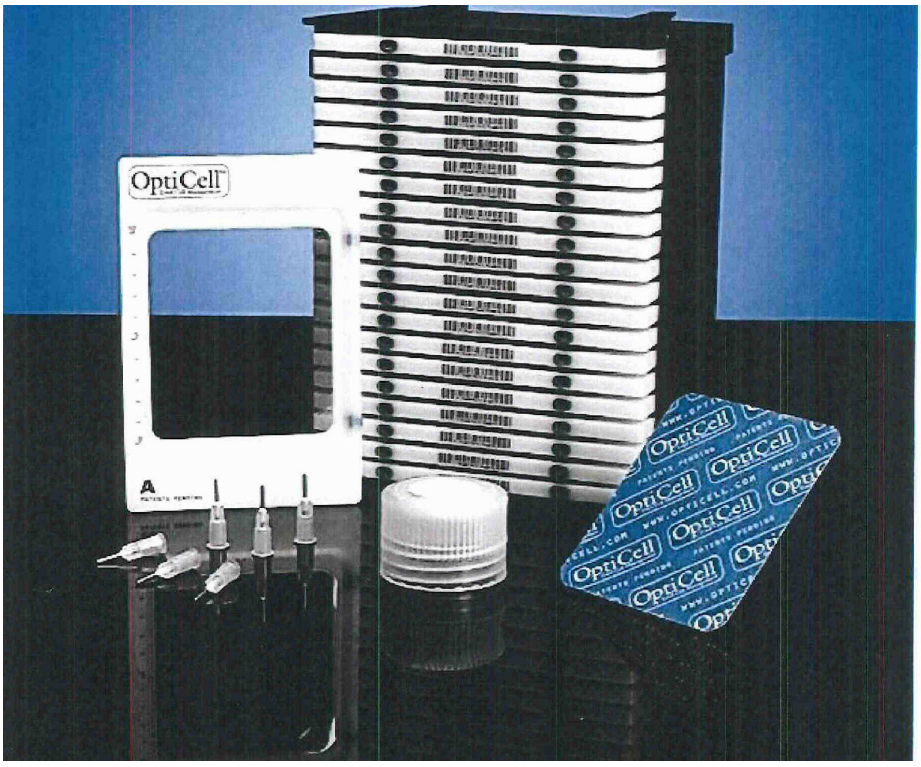
95. To nourish the growing cells, liquid nutrient "medium" fills the compartment above the membrane to a depth of 2.8 millimeters. There is no gas-liquid interface in the compartments.



96. In the space below each membrane is a layer of air, supported by "tracheal" openings to allow the air to enter. Oxygen can penetrate the membrane to reach the cells, allowing them to grow.

97. The HYPERFlask design was based on prior art concepts. Key elements used in this design were known in the prior art well before 2004.

98. A cell culture device that utilized the basic features of the HYPERFlask vessel was already on the market—the OptiCell.



(DTX 24.)

99. The OptiCell was on the market before Wilson filed his provisional patent application, U.S. Provisional Application No. 60/590,651 (the "'651 provisional application") (discussed below), and before Wilson met with anyone from Corning.

100. The commercially available OptiCell was well-known in the industry and known to Corning's employees, including Tanner and Dr. Todd Upton, an Applications Scientist at Corning, before Wilson's '651 provisional application was disclosed.

101. Specifically, Upton testified that he had worked at Cytomatrix for approximately 7.5 years, from about 1996 until March 2004, when he came to work at Corning.

102. While at Cytomatrix, Upton used many devices to culture cells and was involved in hands-on cell culturing research nearly every day.

103. Upton was familiar with the cell-culturing products that were available in the marketplace during his time at Cytomatrix.

104. Upton used the OptiCell device at Cytomatrix.

105. The OptiCell device had gas-permeable membranes.

106. The OptiCell device had multiple cartridges for cell growth that could be placed into a cassette frame.

107. Each cartridge in the OptiCell had two thin gas-permeable films that formed the top and bottom of the cartridge, and the cells grew on both gas-permeable films.

108. Each cartridge in the OptiCell device is very thin, such that the space between the membrane is only about 2-3 millimeters.

109. The OptiCell eliminated the gas-liquid interface: the interior of each cartridge would be filled entirely with media between the two thin gas-permeable films.

110. The OptiCell used spaces between the cartridges to allow oxygen to get to and flow through the gas-permeable membrane to the cells.

111. The OptiCell also was described in printed prior art references, including in U.S. Patent No. 6,455,310 ("Barbara-Guillem").

112. Barbera-Guillen, which describes the OptiCell, disclosed that the individual cell-culture cartridges can be manifolded together so the cell culture medium can be supplied to multiple cell-growth chambers at one time. Tanner also testified that the OptiCell cartridges can be manifolded together.

113. U.S. Patent No. 6, 759,245 ("Toner"), which issued on July 6, 2004, disclosed the use of multiple individual cell-culture compartments that contained gas-permeable material on the bottom of each compartment on which cells would grow in the absence of a gas-liquid interface. The individual cell-culture compartments in Toner were manifolded together. Toner discloses the use of these features in a static device. (*See* DTX-3 at 19:30-41 ("The biological liquid 11 . . . the cells 40 . . . gas-permeable, liquid-impermeable membrane 30") & Fig. 8a.)

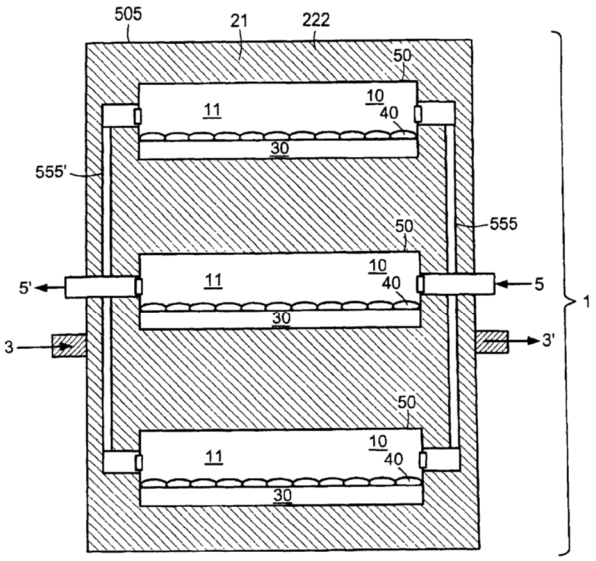


FIG. 8a

114. At least a third prior art patent, U.S. Patent No. 6,855,542 ("DiMilla"), also described multiple individual cell-culture chambers with thin, gas-permeable films as the bottom growth surface. DiMilla teaches that multiple cell-culture chambers could be manifolded together. The cell culture device disclosed in DiMilla is a static device.

115. The building blocks of the HYPERFlask vessel—cells growing on gas-permeable material, no gas-liquid interface, individual cell compartments manifolded together, and air spaces in between multiple cell compartments—were all known in the art before Corning conceived of the tracheal flask concept and before Corning's interactions with Wilson.

116. In 2008, Corning began a project to design the HYPERStack product. The HYPERStack product resulted from a Corning CellStack vessel customer asking if Corning could develop a product that had more layers within the same CellStack vessel volume.

117. The HYPERStack vessel utilizes the same materials and design features as the HYPERFlask vessel, just in a different vessel format. Each HYPERStack vessel "module" consists of 12 individual cell culture chambers. Users can stack multiple modules to meet their needs, thus creating a 24-layer vessel, a 36-layer vessel, etc. The manifolds for each module are designed so that they can be coupled and the entire vessel can be filled or emptied at once.

118. The individual cell culture chambers in the HYPERStack vessel are referred to as "stackettes." Each stackette has a thin gas-permeable polystyrene film on the bottom, which acts as the cell-growth surface, just like the HYPERFlask vessel. Media fills each cell-culture chamber, or stackette, entirely and there is no gas-liquid interface.

(DTX 54.)

119. Just as the HYPERFlask vessel was designed to produce greater cell yield in the same footprint as the T-175 flask, the HYPERStack vessel was designed to produce greater cell yield in the same footprint as the CellStack product.

120. Corning launched the HYPERStack product in 2011.

121. Corning's patent application underlying U.S. Patent No. 8,178,345 (the "'345 patent") entitled *Multilayer Cell Culture Vessels*, became public on December 3, 2009. (PTX 118.)

122. The conception of the tracheal flask, as reflected in Defendant's Exhibit 12, occurred before either Tanner or Martin ever met, communicated with, or interacted with John Wilson.

123. Neither Tanner nor Martin had received Wilson Wolf Confidential Information before they conceived of the tracheal flask.

124. The Court finds Tanner's and Martin's testimony on this issue admissible and credible.

125. In fact, during the Summer of 2004—the relevant time period—Wilson did not communicate with Martin.

126. Although Tanner had limited interactions with Wilson in late August and again in December of 2004, there is no evidence that Wilson provided Tanner any information that contributed to the conception of the tracheal-flask design. The tracheal-flask design was conceived in July 2004 and was significantly different than anything that Wilson presented to Corning.

127. Tanner and Martin did not use any Wilson Wolf designs or other Confidential Information in their design of the HYPERFlask and HYPERStack products.

IV. Wilson's Interactions with Corning, the CDA, and Information Shared Pursuant to the CDA

December 2003 Trade Show

128. Representatives of CLS first met John Wilson at a trade show in San Francisco in December 2003 where Wilson was operating a booth.

129. Corning representatives stopped by a booth Wilson operated because they noticed a Corning roller bottle that looked like it had been altered.

130. At the table, Wilson was exhibiting Wilson Wolf's CELLine product and a prototype of the Vertical Bag. Wilson's Vertical Bag prototype was built by purchasing a Corning roller bottle, cutting off the bottom, and replacing it with gas-permeable silicone rubber.

131. At the trade show, Wilson Wolf invited Corning to visit Wilson Wolf in Minnesota to discuss Corning's manufacturing capabilities and products that Wilson Wolf wanted to develop.

CDA

132. On or around January 6, 2004, Corning and Wilson Wolf entered into a Confidential Disclosure Agreement ("CDA"). (PTX-21.)

133. The CDA is a valid contract.

134. The CDA included a Minnesota choice-of-law provision, was drafted by Corning, and was printed on Corning letterhead.

135. The CDA permitted "exchanges of information which may be confidential for the purpose of enabling [Wilson Wolf] to provide design, engineering or other services for Corning."

136. The CDA stated that "'Confidential Information' shall mean only that information related to selling, inventing, and developing cell culture devices and processes for growing cells disclosed in Corning's sole discretion by Corning to [Wilson Wolf] hereunder, and information related to expertise in inventing and developing cell culture devices and processes for growing cells disclosed in [Wilson Wolf]'s sole discretion by [Wilson Wolf] to Corning hereunder."

137. The CDA provided that: "All Confidential Information shall be disclosed to the receiving party in a writing reasonably identifying it as confidential or, if first orally or visually disclosed, shall be identified as confidential in a writing delivered to the receiving party within thirty (30) days of first oral or visual disclosure."

138. Wilson had entered into other confidentiality agreements with other third parties.

139. The CDA protected only the information that meets the definition of "Confidential Information" and that Wilson Wolf marked with a "confidential" designation either at the time of disclosure or within 30 days of an oral or visual disclosure.

140. The CDA prohibited any use of Confidential Information disclosed and designated by Wilson Wolf "for a period of five (5) years from the date of disclosure."

141. The CDA imposed "no restriction, express or implied, on the disclosure or use of . . . information other than Confidential Information." Thus, the CDA imposed no restrictions on the use of information taken from the public domain or information that a party independently developed.[3]

142. The CDA contained no obligation to use any Confidential Information provided under the CDA and no agreement to commercialize any of Wilson Wolf's designs or ideas disclosed according to the CDA.

143. The CDA also contained a merger clause demonstrating that it was the "entire understanding" between the parties and stating that there could be no amendment or modification without being set forth in a writing signed by both parties.

144. The CDA "comprehensively governs the exchange of information between the parties."

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[3] Plaintiffs submit that this finding is inconsistent with the Court's prior rulings regarding the CDA. The Court disagrees. The Court previously denied summary judgment on Plaintiffs' breach-of-contract claim based on the alleged misuse of Confidential Information. (Doc. No. 461.) At that stage of the litigation, the Court concluded that fact issues remained and that a reasonable jury could find a breach of the CDA. In a subsequent order, the Court again denied summary judgment on the breach-of-contract claim, wherein the Court addressed, among other things, whether the CDA required Confidential Information to be patented or patentable. (Doc. No. 610 at 10.) At that stage, the Court explained that the CDA defined "Confidential Information" more broadly than that ("information relating to expertise in inventing and developing cell culture devices and processes for growing cells") and, viewing the evidence in the light most favorable to Plaintiffs, found issues of material fact as to whether certain information qualified as Confidential Information under the CDA. Confidential Information cannot, however, be defined so broadly so as to encompass information already within the knowledge of Corning or in the public domain. Such information is not covered by the CDA.

145. With the CDA in place, Wilson and Corning scheduled a meeting at Wilson Wolf's headquarters in New Brighton, Minnesota, for March 3, 2004.

146. As discussed above, as of March 2004, Corning and other companies were all using the same base product—i.e., flasks like the Corning T-175 flask.

147. The industry also used cell-culture bags.

March 2004 Meeting

148. On March 3, 2004, Corning representatives met with Wilson at Wilson Wolf's office in New Brighton, Minnesota.

149. The Corning representatives who attended were Dr. Deb Hoover, a lead scientist at Corning and Applications and Late-Stage Development Manager, Lydia Kenton Walsh, Business Manager of Cell Culture Vessels, and Mark Beck, Business Manager for CLS.

150. At the meeting, Wilson provided materials marked "Confidential."

151. Wilson asserts that he provided Corning with a Confidential Product Overview. Walsh, Hoover, and Beck, however, either were not asked about this document or could not recall receiving a copy of such document at the meeting.

152. Wilson asserts that the Product Overview explained his discoveries and contained various designs using Wilson's innovations in cell culture. Corning disputes this and counters that the Product Overview merely offered a high-level statement about the types of concepts that Wilson had, but that it did not provide any designs, proof of concept, or any other specificity about any such concepts.

153. Considering all of the evidence, the Court finds that Corning's testimony regarding the specificity (or lack thereof) of Wilson's Product Overview is credible.

Alleged Items Shared Under the CDA

154. Wilson Wolf contends that it shared five key items with Corning under the CDA: (1) the Vertical Bag; (2) the Wilson Wolf Multilayer Flask ("WW Multilayer Flask"); (3) other Wilson Wolf designs; (4) the '651 provisional application and '814 patent application; and (5) the SBIR application. Significantly, however, the evidence at trial shows that none of these items were used by Corning in developing the HYPER products.

(Vertical Bag)

155. The Vertical Bag refers to a Wilson Wolf cell-culture device. The Vertical Bag was a standard roller bottle with silicone, a gas-permeable material, at the bottom to permit oxygen to reach the cells being grown in the device.

156. The Vertical Bag was designed for use with suspension cells. Suspension cells are cells that do not adhere to the surface of a cell culture device but instead are suspended in media. Adherent cells adhere to the surface of cell culture devices. The Vertical Bag is not used to grow adherent cells.

157. The Vertical Bag differs from Corning's HYPERFlask in several respects:

Vertical Bag	HYPERFlask Device
One large cell culture compartment	Ten individual cell culture compartments
High media height (greater than 5cm)	Conventional, low media height (2.8 mm)

Vertical Bag	HYPERFlask Device
Thick silicone gas-permeable material	Thin polystyrene gas-permeable film
Gas-permeable material on the exterior, bottom of device	Gas-permeable material on the inside of the device forming the bottom surface of each cell-growth compartment
For use with suspension cells	For use with adherent cells

158. At the December 2003 trade show, evidence shows that Wilson displayed this Vertical Bag design—a Corning Roller Bottle cell-culture device with the bottom cut off and replaced with gas-permeable silicone rubber. Wilson was displaying this device publicly.

159. Corning's Walsh—then a business manager in the CLS division—saw the device that Wilson displayed. She identified the bottle that she saw as a Corning roller bottle with the bottom cut off and replaced with thick silicone rubber—Wilson Wolf's Vertical Bag design.

160. Walsh's testimony is corroborated by other Corning witness testimony. Although Wilson testified that the device he publicly displayed at the trade show was a different product that he termed a "membrane-based roller bottle," his testimony is not as credible as Walsh's testimony. The Court accepts Walsh's testimony and finds that Wilson displayed his Vertical Bag design at the trade show.

161. Because the Vertical Bag design was displayed publicly at the trade show, neither the gas-permeable material feature nor Wilson Wolf's Vertical Bag design can be a trade secret or purported Confidential Information in this litigation.

162. Initially, employees in Corning's Business Development Group were interested in the Vertical Bag.

163. In March 2004, Hoover was "intrigued by the vertical bag" and "the density of cells that you could get per centimeter squared without refeeding." (11/16/22 Tr. 1706:6-14.) Based on her initial impression, she testified that she could have thought that the Vertical Bag had the potential to "change the face of cell culture." (*Id.*)

164. In April 2004, Wilson Wolf provided Corning with two Vertical Bag prototypes and two membrane-based roller bottle prototypes. Wilson identified the Vertical Bag as Confidential.

165. In April 2004, Wilson obtained Upton's fax number and sent Upton a drawing of the device. Wilson stamped the document "CONFIDENTIAL."

166. Wilson wrote: "Todd-one of these flasks cultures an equivalent number of cells as 10-12 T175 flasks." Corning asserts that this statement was marketing hype.

167. Corning tested Wilson's Vertical Bag prototypes in the summer of 2004.

168. The tests showed that the Vertical Bag worked as Wilson had described.

169. Although the Vertical Bag worked, Corning decided not to go forward with developing it as a commercial product. That decision was made by Corning's senior leadership.

170. After Corning's evaluation of the Vertical Bag, Hoover ultimately did not conclude that the Vertical Bag could "change the face of cell culture." Instead, Corning determined that Wilson's products, including the Vertical Bag, were "niche products and the opportunities for these offerings were limited." (11/16/22 Tr. 1720:19-1721:8.)

171. Upton believed that the Vertical Bag performed exactly the same as the VectraCell Bag, a commercially available product from one of Corning's competitors. Upton's handwritten notes on a letter from Wilson, such as "big picture -->fundamental discovery the way TC [traditional culture] devices are made," were statements that Wilson made when describing the Vertical Bag to Upton and which Upton wrote down. They did not reflect Upton's evaluations or conclusions about Wilson's product concepts.

172. Notably, Corning primarily manufactures and sells cell-culture devices for adherent cells. The Vertical Bag was a niche product for suspension cells, and thus not a fit with Corning's cell-culture business.

173. Plaintiffs eventually commercialized the Vertical Bag concept, which Wilson Wolf sells as the G-Rex. The G-Rex has been a successful product for Plaintiffs, with approximately $70 million in annual sales. Evidence shows that the later success of the G-Rex was due to increased interest among researchers for culturing T cells, for which the G-Rex was useful; this market did not exist at the time that Wilson shared the Vertical Bag with Corning in 2004.

174. Corning did not use the Vertical Bag in the conception or development of the HYPERFlask and HYPERStack products. The Vertical Bag is a completely different design used for different types of cells than the Corning HYPER products.

175. Moreover, evidence shows that Tanner and Martin had not seen the Vertical Bag prototype or design before they conceived of the tracheal flask design in mid-July 2004, and therefore could not have used the prototype.

176. Hoover did discuss the Vertical Bag with Upton, both of whom were in the Business Operations group at CLS (while Tanner and Martin were in the Product Development group). Hoover, however, did not discuss the Vertical Bag or Wilson with Tanner or Martin. In addition, Hoover was not part of the TAP technical team or the HDCCV project and was not a member of the product development team that resulted in the HYPERFlask product.

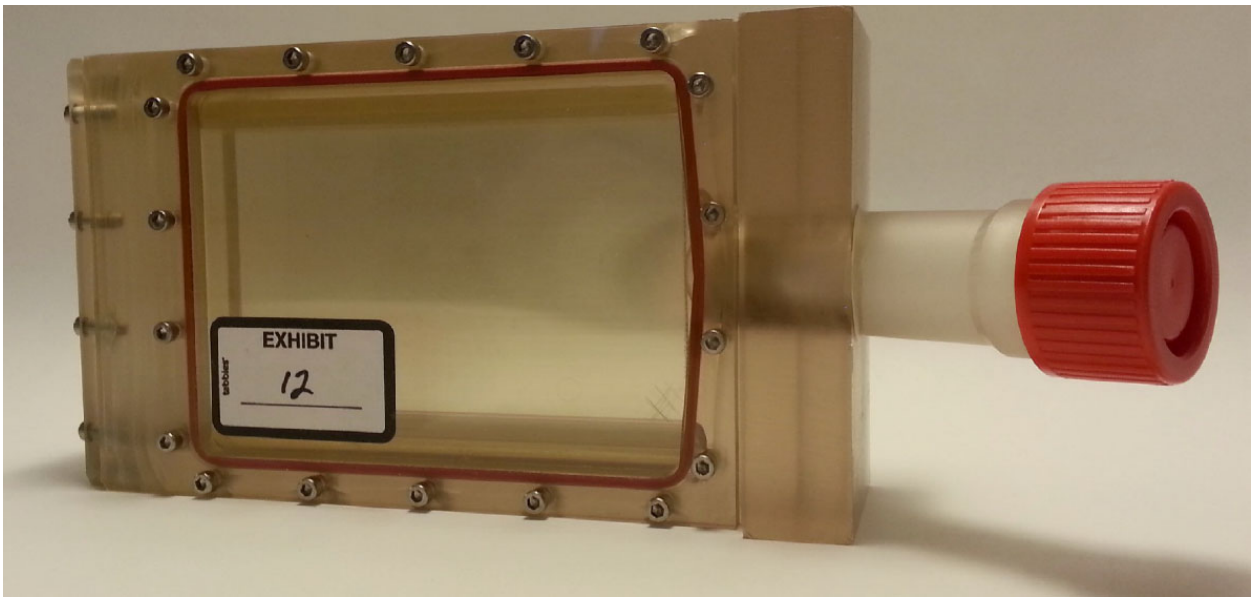
177. Aside from discussing test results for the Vertical Bag at an August 25, 2004 meeting between Corning and Wilson, Upton did not discuss the Vertical Bag with Tanner.

178. Hoover confirmed that when Corning began having discussions with Wilson, both Tanner and Martin already were separately and independently "exploring other types of multi-layer, you know, higher density cell culture devices." Hoover testified that Wilson did not "contribute[] anything that was not already going on" and being developed at Corning, and that his product concepts were not part of the HDCCV project "[b]ecause the HDCCV was a different device. It was a styrene-based multi-layer flask."

179. There was no disclosure of the Vertical Bag to Tanner before the meeting with Wilson on August 25, 2004. Plaintiffs presented no evidence that the Vertical Bag was ever disclosed to Martin.

(Gas Transfer Fixture/Multi-Layer Flask)

180. The second item that Wilson shared with Corning was a set of prototypes of a multilayer flask, or the WW Multilayer Flask/Gas Transfer Fixture:



(PTX-158.)

181. On May 10, 2004, Wilson sent Corning two Gas Transfer Fixtures ("GTF")—that Wilson contends were multilayer flasks. Corning asserts that these were not working multilayer flasks. These were designated as confidential.[4]

182. The WW Multilayer Flask had roughly the same footprint as Corning's T-175 flask, had a neck similar to a T-175 flask, and was made out of polycarbonate material. It had silicone, gas-permeable material, on the end of the flask opposite the neck. The prototypes that Wilson sent Corning had five cell growth layers, or shelves, that were made out of hard plastic material.

[4] The Court refers to GTF and the WW Multilayer Flask interchangeably.

183. The HYPERFlask and HYPERStack products have many features that the WW Multilayer Flask did not have, and differ in many important respects, including:

WW Multilayer Flask	HYPERFlask Device
No individual cell culture compartments; single compartment	Multiple individual cell culture compartments
Non gas-permeable material on inside of vessel	Gas-permeable material on inside of vessel
No cells grow on gas-permeable material	Cells grow on gas-permeable material
No thin gas-permeable material film; thick silicone gas-permeable material on outside of vessel	Thin polystyrene film as gas-permeable material
No tracheal spaces	Tracheal spaces
Did not work	Worked

184. Corning did not use the Multilayer Flask design because it believed the design was flawed and did not work. Corning's testing showed that the design of the flask, with gas-permeable material at one exterior end, meant that cells further from the oxygen source would not receive the same amount of oxygen as the cells closer to the oxygen source. This result was not surprising to Corning's scientists—a fundamental law of physics, Fick's law of diffusion, explains why the WW Multilayer Flask design did not work due to the gradient differential.

185. No one, including Wilson Wolf, has ever commercialized a cell culture device using the WW Multilayer Flask design. This is despite the fact that Wilson

represented to Corning in August 2004 that the WW Multilayer Flask "can be on the market in one year or less."

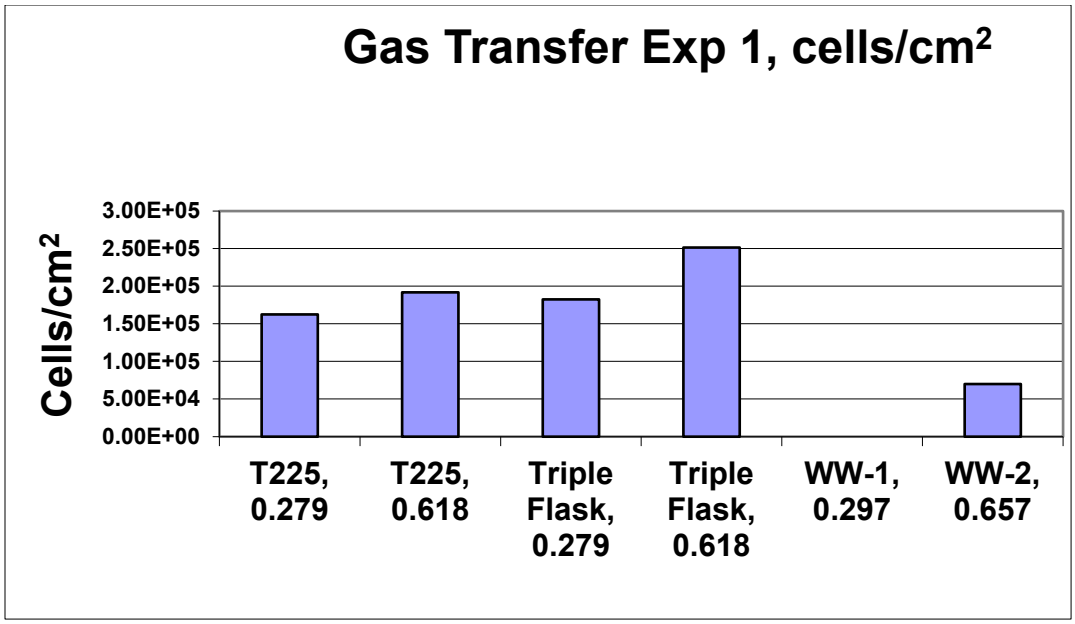
186. Wilson also presented the WW Multilayer Flask design to another major company, Becton Dickinson, in 2007 to compete with the HYPERFlask product. Becton Dickinson, like Corning, did not pursue the WW Multilayer Flask design because it concluded that Wilson's design would not work due to the design's inherent inability to uniformly oxygenate the cells.

187. Corning confirmed the design flaws in the WW Multilayer Flask through multiple rounds of testing. The WW Multilayer Flask failed all the tests.

188. Corning first tested the WW Multilayer Flask in July 2004, before the August meeting with Wilson.

189. Upton, who performed the testing for Corning, measured several different metrics. Cell yield—measured in cells per centimeter squared—was the performance metric of greatest interest to Corning.

190. Upton's data shows that the WW Multilayer Flask performed significantly worse than the control vessels in terms of total cell yield and cells per centimeter squared. The Wilson Wolf prototype cultured fewer cells than the Corning T-225 flask (the same design as the T-175, with a slightly larger growth surface area) and the Nunc Triple Flask. The graph below also visually shows that when controlling for growth surface area, the Wilson Wolf prototype cultured far fewer cells per square centimeter of growth surface area compared to the control flasks:



(DTX-10.)

191. In sum, the WW Multilayer Flask was able to grow about one-third as many cells per centimeter squared as the control vessels. The results for the WW Multilayer Flask did not meet Corning's commercial or scientific standards.

August 25, 2004 Meeting

192. Corning scheduled a second meeting with Wilson at Corning's facilities in Kennebunk, Maine. (PTX 36.)

193. Corning and Wilson then met on August 25, 2004.

194. On August 10, 2004, Wilson sent Beck and Kenton a 13-page document marked Confidential and that Wilson contends included an overview of products he was working on at Wilson Wolf. (PTX 31.) However, Corning demonstrated that this document does not provide any designs, proof of concept, or other specificity about Wilson's concepts.

195. This document was forwarded internally to Hoover and, later, to Jeffrey Mooney, the Commercial Technology Director at Corning. While the email was forwarded to Tanner, Upton, and Phillip Carey, there is no evidence that the document was attached or that any of those individuals reviewed it. (PTX 31, 47.)

196. On August 16, 2004, Sebastien Chauvel sent Upton a list of four Wilson Wolf patent applications.

197. Plaintiffs also provided Corning with a copy of the '651 provisional application, which was marked confidential.

198. Hoover asked Tanner to review the '651 provisional application in preparation for the August 2004 meeting.

199. The following people attended the August 25, 2004 meeting with Wilson: Tanner, Titus, Upton (Applications Scientist), Mooney (Commercial Technology Director), and Hoover (as Applications Manager). Kenton and Beck were in the meeting for introductions and then left to work on other business matters. This was the first time that Tanner met Wilson.

200. The agenda for the meeting included introductions, updates from John Wilson on product development and intellectual property, updates from Todd Upton on "Vertical Bag data review" and "Gas transfer fixture data," and an open discussion on "Product options for best alignment of Corning's and Wilson Wolf's." (PTX 36.)

201. At the beginning of the meeting, Mooney asked Wilson to remove prototypes that Wilson had placed on a table and to put them back into a bag because Mooney did not know whether they were covered by the CDA.

202. The evidence at trial demonstrated that Corning representatives knew that a CDA was in place before the meeting.

203. At the August 25, 2004 meeting, the parties discussed the Vertical Bag and WW Multilayer Flask/GTF. Wilson had the opportunity to present updates on product development, and Corning presented an update on the testing data. Specifically, Upton shared the results of the testing described above. Upton presented the test results in the form of a PowerPoint, but that 2004 PowerPoint was no longer available when Plaintiffs filed their Complaint in 2013.

204. Wilson acknowledges that "there was information provided" at the meeting that "the gas transfer was not performing well."

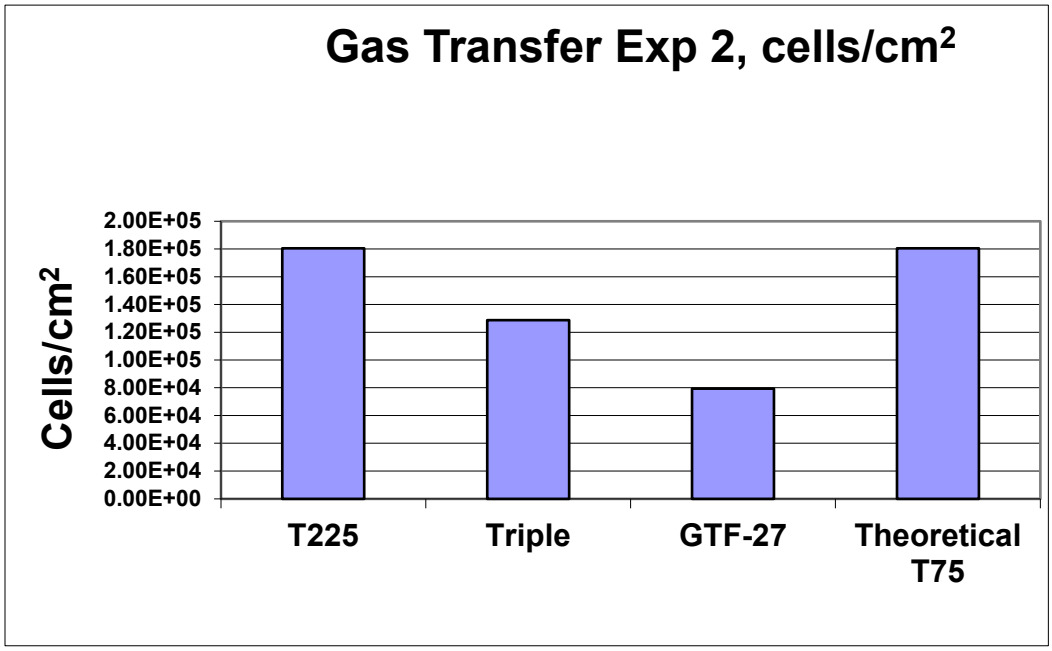
205. Because the prototypes did not work, Wilson sent Corning two more WW Multilayer Flask prototypes. Plaintiffs dispute that the prototypes did not work, but Wilson acknowledges that he sent more prototypes.

206. On September 13, 2004, Wilson sent Upton "two prototype multiple shelf flasks for your evaluation." In his cover letter, Wilson stated that Wilson Wolf's "evaluations indicate that the prototypes are about 80% confluent at the time of confluence is reached in control flasks." The objective in cell culturing is to grow cells to full confluence, which Wilson's prototypes could not achieve. Confluence is a measure of how well the adherent cells have covered the surface that they reside on, with 100% confluence being full coverage.

207. Wilson Wolf had performed its own testing and knew that, at the time it sent the additional prototypes to Corning, the prototypes did not perform as well as the T-175 control flask.

208. Corning tested the second set of WW Multilayer Flasks in December 2004—the second round of testing of Wilson's flask design. Upton again performed the testing and again measured several different metrics.

209. Upton's data shows that the WW Multilayer Flask, denoted as GTF-27, performed significantly worse than the control vessels in terms of total cell yield and cells per centimeter squared. The graph below visually shows that when controlling for growth surface area, the Wilson Wolf prototype cultured far fewer cells per square centimeter of growth surface area compared to the control flasks.



(DTX-11.)

210. The performance of the WW Multilayer Flask in the second round of testing was similar to the first: the WW Multilayer Flask performed worse than the control vessels, producing about one-third of the cells per centimeter squared as the T-225 flask and about one-half of the cells per centimeter squared as the Triple Flask. These results remained unacceptable to Corning.

211. At trial, Plaintiffs suggested that Upton should have used a different metric when testing the performance of the WW Multilayer Flask. Instead of calculating cells per centimeter squared, Plaintiffs claimed that Upton should have calculated cells per centimeter cubed, or the per unit volume. According to Plaintiffs, cells per centimeter cubed would measure how efficiently "space" was used to grow the cells.

212. Upton, however, explained that the WW Multilayer Flask was designed to culture adherent cells—which grow in a single layer on a growth surface—and therefore the proper measure is cells per centimeter squared, or the unit area. Calculating the cells per unit volume is "not how you evaluate adherent cell culture." That calculation is "irrelevant because you don't measure adherent cell performance by measuring the volume of the vessel it is in. You measure it by the surface area that it consumes because they are adhered to that surface area."

213. Importantly, at the time that Wilson was presenting his WW Multilayer Flask to Corning as a viable cell-culture device in 2004 and 2005, Wilson never told Corning to evaluate his device using this per unit volume metric. Nor did Wilson himself ever test and provide data to Corning using this per unit volume metric. The first time

that Wilson suggested that Corning should have evaluated his device on a cells-per-centimeter cubed basis was at trial.

214. The Court acknowledges the parties' differing opinions on the proper metrics to test but finds that Corning had no obligation under the CDA or otherwise to use a particular test or metric to determine the utility of the prototypes for Corning's purposes. Corning was testing the prototype to ascertain whether it would satisfy Corning's commercial needs.

December 2004 Meeting in Minnesota

215. Corning representatives traveled to New Brighton, Minnesota, to meet with Wilson on December 10, 2004. Tanner, Verkleeren (project manager for WW project), Joe Wall (mechanical design), and Phil Carey attended on behalf of Corning,.

216. Before this meeting, it was suggested internally at Corning that they ask Wilson if he has thoughts on a 10x yield device, but Tanner expressed concern about discussing a 10x yield device with Wilson because of the work she and Martin had put into their concepts and because they had not written invention disclosures for the concepts due to the complexity of the cell-culture intellectual property. (PTX 44.)

217. At this time, Wilson knew that his prototypes failed Corning's testing and that he needed to prove to Corning that his concept worked. Specifically, around December 16, 2004, Wilson recorded in his handwritten notebook that Upton's testing produced "less cell density than they have seen previously" and that "[f]easibility has not been established." Wilson noted that his "concept is unproven." (PTX-128.)

218. Additionally, Wilson's typed "correspondence trail" indicates that on approximately December 21, 2004, Corning told Wilson again that "they need proof the concept works (Todd's data is not convincing)." (PTX-34 at WW043329.)

219. Even though Wilson's prototypes failed two rounds of testing, Corning continued to work with Wilson to determine whether his WW Multilayer Flask could work.

220. Corning provided Wilson materials to construct his prototypes, surface treatments for his shelves, protocols for testing, cells for use in testing and information about materials to be used in testing, and more.

221. Wilson Wolf did not provide Corning a working prototype.

222. Wilson's correspondence with Corning during this period reflects Wilson's own awareness and recognition of his prototype failures. On February 14, 2005, Wilson emailed Upton and stated the "test device with 5 scaffolds" had far fewer cells than the control flask when there should "have been about 1.8 times the number of cells in the t-flask." (PTX-288.)

223. On February 15, 2005, Wilson sent Upton and Tanner a "picture [that] shows what the staining process rendered with a single scaffold test device that was about 80-90% confluent. The control flask was 100% confluent and stained perfectly." (DTX-166.) According to Tanner's testimony at trial, this showed that the WW Multilayer Flask did not work as well as the T-175 flask and that "this design was probably not going to work for moving forward." (11/21/22 Tr. 2575:22-25777:13.)

224. On February 23, 2005, Wilson told Tanner that he was "continuing to attempt to determine the cause of the lack of cell presence in the proto[types]." (DTX 167.) A few days later, on February 28, 2005, he told Tanner that he was resorting to making new prototypes and that he was sending her "the reworked proto[types]." (DTX 170.)

225. Having failed to produce a prototype that worked, Wilson tried to change the standards for the testing. In late-February 2005, Wilson reported results from his own tests that were performed under modified conditions that were more favorable for his prototype and bettered his chances of obtaining successful test results.

226. Corning informed Wilson that he should perform testing pursuant to the original, agreed-upon protocol. Wilson did not do so.

227. In early March 2005, Corning decided not to do further testing or work with the Wilson Wolf prototypes. Between March 11 and March 18, 2005, Tanner called Wilson and told him that Corning would not be testing his prototypes further.

228. Wilson nonetheless sent Corning test results on March 21, 2005, that showed glucose-lactate ratios for his prototypes. Corning did not request this data. The data was not helpful or relevant because it did not provide any information about the number of cells grown—which, as Wilson knew, was the metric Corning was evaluating.

229. Wilson complained that Corning had "digressed from [the] vision" of revolutionizing cell culture to "arguing about the small details of the design of one device out of a potentially huge product array." He was upset that Corning was focused on "the value of gas permeable walls on one style of prototype in one experimental condition"

(which did not work), when Wilson was instead focused on his "vision" of Corning manufacturing and distributing all of his product designs. (PTX-34 at WW043314.)

230. Wilson did not provide Corning with any testing data that demonstrated his WW Multilayer flask worked.

231. Wilson acknowledged that he had "trouble getting the kind of information that Corning wanted" to prove his concept worked.

232. And later, in 2007 during a meeting with Corning representatives that Wilson secretly recorded (discussed below), Wilson admitted to them that to call the testing results of his WW Multilayer Flask "inconclusive" was a "fair, intellectually honest statement."

233. Thus, Wilson acknowledged and admitted that he was unable to demonstrate the WW Multilayer Flask design was or could be a successful design.

Cont'd-Alleged Items Shared Under the CDA

(Additional Designs)

234. The third item that Wilson shared with Corning consisted of additional cell-culture design concepts, besides the Vertical Bag and the WW Multilayer Flask. These other designs included a device Wilson called a "membrane-based roller bottle," a "gas permeable deep well plate," a "high density multiple well plate," and a "high density roller bottle."

235. The evidence establishes that Corning was not interested in and did not use any of these designs.

('651 provisional application and the '814 application)

236. The fourth item that Wilson provided to Corning was two related and then-confidential patent applications: first, his '651 provisional application, which he had already filed with the U.S. Patent & Trademark Office, and later, his '814 utility application. Both applications were marked "confidential" under the CDA.

237. The '651 provisional application discloses the Wilson Wolf Multilayer Flask design. The '814 application claims priority to the '651 provisional application and similarly claims a gas-permeable cell-culture device wherein the bottom comprises a gas permeable material and at least a portion of the side is comprised of a gas permeable material. (PTX 6.)

238. Wilson sent a copy of the '651 provisional application to Hoover in August 2004, in advance of the August 25, 2004 meeting at Corning. Hoover asked Tanner to review the application, which she did before she attended the meeting.

239. Plaintiffs assert that the '651 provisional application contains trade secrets, including "ideas for combining" certain features into a cell-culture device, such as: (1) how to use gas-permeable materials to eliminate the need to oxygenate cells through a gas-liquid interface, without the need to spin, shake, roll, or stir the device; (2) a valuable IP landscape and the patentability of Plaintiffs' technology over the prior art; (3) a wide variety of combinations of attributes, including the combination of the following "key features":

A. A static device for animal cell culture that is not compartmentalized by a semi-permeable membrane that includes gas permeable liquid impermeable

material in a location where it will be in contact with media that is in contact with media during the cell culture process, and at least a portion of the gas permeable material that is in contact with media during the cell culture process is also in contact with ambient gas;

B. The device can function when it is filled with media and absent a gas/liquid interface;

C. During use, the device is capable of holding media in a location where the uppermost location of the media is at a height beyond 2.0 centimeters from the lowermost location of the media;

D. During use, the device can hold media in an area not directly above the growth surface;

E. The device includes a growth surface that is gas permeable and in contact with ambient gas;

F. [No feature F.]

G. The device includes growth surfaces that are arranged in vertical succession;

H. [No feature H.]

I. The device includes a manifold;

J. The device includes gas permeable material in support in contact with gas permeable growth surface;

K. The device geometry allows media to reside directly above each growth surface that is arranged in vertical succession at a height of 2 millimeters to 3 millimeters.

240. After the August 25, 2004 meeting with Wilson, Tanner prepared a summary of the information that Wilson shared at the meeting, which included the '651 provisional application.

241. Tanner summarized the takeaway from the '651 provisional patent application as follows: "suggests that using gas permeable material (specifically claims silicone) in the construction (bottom and/or sides) of petri dishes, multiwell plates, flasks, multi-layer flasks, roller bottles, culture bags, and cell stacks. Patent application allows for medium height to be greater than in other gas permeable cell culture devices." (PTX 276.)

242. Thus, what Corning asserts it took from the patent applications and Wilson's descriptions of them was that there were three aspects to the claimed invention: (1) the use of silicone as a gas-permeable material; (2) a gas-permeable material located on the bottom or the side of the device; and (3) media height greater than in existing cell culture devices.

243. The Court specifically finds that Corning did not use any of those features in its HYPERFlask or HYPERStack products.

244. At an internal brainstorming meeting on September 1, 2004, Tanner shared her Wilson Wolf product summary, but did not disclose any more information regarding the Wilson Wolf product concepts or Wilson's '651 provisional application beyond what

was described in the written summary. The Court finds Tanner's testimony on this point credible.

245. The '651 provisional application does not disclose Corning's tracheal-flask design.

246. Martin's and Tanner's previously conceived tracheal design is different in several significant ways from the designs in the '651 provisional application. The '651 provisional application's disclosure of gas-permeable material on the bottom or sides of a vessel taught the use of gas-permeable material on the *exterior* of the device. This was different than Martin's and Tanner's tracheal-flask design, which used gas-permeable material on the *interior* of the device.

247. In addition, silicone was not a gas-permeable material that Tanner and Martin were interested in for their design for the TAP project because they "were looking for a material that cells would adhere to, and cells don't adhere well to silicone."[5]

248. The greater media height disclosed in the '651 provisional application also was not of any interest to Tanner for the TAP project because "adding extra media would decrease the efficiency of the vessel" and they would "have to increase the size of the vessel in order to accommodate it." (11/21/22 Tr. 2516:20-2517:10.) This was contrary to what Tanner and Martin were trying to achieve with their tracheal-flask design. (*Id.*)

[5] Even if the disclosures are not limited to using silicone, the evidence does not support a finding that Corning used any confidential information.

249. Wilson acknowledged that the ’651 provisional application did not disclose the technology of using gas-permeable shelves with air spaces between them. The HYPER products’ tracheal space is a key feature, which Wilson later admitted was “pretty powerful.”

250. Wilson also acknowledged that the ’651 provisional application did not teach or disclose the complete configuration of the HYPER products.

251. In this litigation, rather than assert that Corning used the devices actually disclosed in the ’651 provisional and ’814 patent applications, Plaintiffs argued that the patent applications disclosed nine “insights” or “trade secret elements” that could be combined into various combinations, which they assert Corning used.

252. However, Wilson acknowledged that every alleged “trade secret element” was known in the prior art and that he was not the first to come up with any individual element.

253. The Court finds that none of the alleged “trade secret elements” are in fact Wilson Wolf’s trade secrets or Confidential Information.

254. Wilson was not the first to use a gas-permeable membrane to form a culture chamber in which to culture cells; Wilson was not the first to come up with a concept of static cell-culture devices that are gas permeable and oxygenate the cells by way of gas transfer through the device housing; and Wilson was not the first to come up with the idea of a multi-shelf device.

255. The Court also finds that Wilson did not establish that the ’651 provisional application discloses any of the alleged combinations of “trade secret elements.”

256. Plaintiffs did not demonstrate that the alleged combinations constituting trade secrets are disclosed in the '651 provisional application.

257. Plaintiffs did not offer testimony or other evidence that the alleged trade secret combinations had independent economic value by virtue of being secret. Plaintiffs provided only general testimony that "trade secrets" in Wilson's patent applications had economic value when the applications were filed. Wilson did not address the specific combinations that Plaintiffs alleged were their trade secret or explain why any combination had economic value by virtue of being secret.

258. Eric Simon, Corning's expert in the field of cell-culture product design addressed Plaintiffs' alleged trade secret combinations. Simon testified that the combinations did not have "economic value." (12/01/2022 Tr. 3884:6-12.) Simon further testified that to have value in the field of cell-culture design, an alleged trade secret needed to reflect a specific design and not a combination of elements that could be met by any number of different (undescribed) designs. (11/30/2022 Tr. 3732:22-3740:25.) Simon explained that Wilson Wolf's alleged trade secret combinations are "simply targets, loose endpoints that you're striving to meet," which do not have value to a designer of a cell culture vessel. (12/01/2022 Tr. 3884:6-12.) Plaintiffs did not offer testimony rebutting Simon's views. The Court finds Simon's testimony credible and admissible.

259. In addition, the Court finds that the evidence at trial shows that Corning did not use any information from the '651 provisional application or the '814 application in the development of the HYPERFlask and HYPERStack products. The evidence at trial

demonstrates that Martin and Tanner conceived of the tracheal-flask design before Corning's receipt of Wilson's patent applications and the tracheal-flask design was different than the designs disclosed in those applications.

(SBIR application)

260. The fifth and final item that Wilson claims he showed Corning is the SBIR grant application, titled "Islet culture, shipping, and infusion device." The SBIR application describes two devices, both for use with islet cells: (1) the application's "Primary Device" which is a single-layer device ("SLD") using a gas-permeable membrane; and (2) the application's "backup" device, a Multi Level High O_2 Device ("MLD"). Plaintiffs have alleged in this litigation that the MLD contains design features that Corning used.

261. Islet cells are within the pancreas and help to control blood sugar.

262. Wilson Wolf built and tested the SLD, which showed good results, and thus Wilson Wolf pursued the SLD.

263. Wilson Wolf never developed, built, or tested the MLD. Wilson Wolf did not make or develop a prototype of the MLD.

264. The provisional patent application that attached portions of the SBIR application as an exhibit, and thus contained the MLD device, was not filed until 2006, which postdates Wilson's interactions with Corning concerning flask design.

265. Plaintiffs contend that they conceived of the device in Figure 6 of the SBIR grant application before meeting with Corning, and that the '651 provisional application disclosed the trade secret combinations used in Figure 6 of the SBIR application.

266. However, Wilson testified that the SBIR grant application was never given to Corning.

267. There is no evidence that any document that contained the substance of the SBIR application was given or shown to Corning.

268. Wilson contends that Plaintiffs confidentially disclosed the existence and basic features of the islet device and SBIR grant to Corning in connection with the August 25, 2004 meeting with Corning.

269. However, Wilson Wolf offered no documentary evidence that the SBIR application designs were disclosed to Corning.

270. Any disclosure of Wilson Wolf's receipt of grants to develop an islet device is not a disclosure of the device's design itself. None of Wilson Wolf's disclosures of grants for work on an islet device gave any indication of the device's design, nor did they indicate whether the generally referenced islet device was the MLD as opposed to the SLD.

271. There is no documentary evidence that the SBIR application's MLD design was ever provided to Corning.

272. There were three in-person meetings between Corning and Wilson. The SBIR application's MLD design was not provided to Corning at any of those meetings.

273. Plaintiffs do not claim to have provided the SBIR application's MLD design to Corning during the March 2004 meeting between Corning and Wilson Wolf in New Brighton, Minnesota.

274. Similarly, the SBIR design was not shown to Corning during the next meeting between Corning and Wilson Wolf in Kennebunk, Maine, on August 25, 2004. Corning witnesses testified that they did not receive or see the SBIR design during this August 2004 meeting. Titus testified that she would remember if the topic arose because it was almost a year to the day after her daughter was diagnosed with diabetes, for which islet cells have been explored as a possible treatment. The Court finds the Corning witnesses testimony to be credible.

275. Contemporaneous evidence corroborates the Corning witness testimony. Documents provided to Corning by Wilson summarizing the products that he discussed at the meeting do not include the SBIR MLD design. Tanner's summary of Wilson Wolf's products after the August meeting referenced an islet device but stated that the "device [was] unclear" and provided no design information.

276. Further, the SBIR application's MLD design was not provided to Corning at the meeting between Corning and Wilson Wolf in December 2004. Wilson testified that he did not recall the details of what was disclosed at the meeting. Tanner, who attended the meeting, testified that Wilson did not show Corning any SBIR grant application during the meeting. The only comments that Wilson made at the December 2004 meeting regarding SBIR applications related to the amount of grant funding Wilson Wolf received. Ron Verkleeren, Corning's Business Development Manager, was also at the December 2004 meeting with Wilson Wolf and confirmed this—Wilson never showed Corning any SBIR grant application or any device designs from an SBIR grant application. Instead, the evidence shows that Wilson spoke about the grant funding that

Wilson Wolf was able to secure from the SBIR, but that he did not provide details of the designs therein.

277. Documents contemporaneous to the December 10, 2004 meeting support Corning testimony that the SBIR application was not provided, shown, or disclosed at the meeting.

278. The only evidence that Plaintiffs disclosed the SBIR application's MLD design is the testimony of Wilson's long-time employee, Dan Welch. Welch believed that Wilson had shown a copy of the SBIR design on a computer screen, which was in the corner of the room. But Welch stated that he did not keep any contemporaneous notes of what he saw on that day. Welch had no recollection of the specific details of any discussions at this meeting, including anything that Wilson said to Corning.

279. Tanner testified that, while a design was shown on Wilson's computer as Welch testified, it was a different design than the SBIR's MLD. The contemporaneous documents support this. Corning's notes recapping the meeting describe a "design . . . of a collection of square plates within a gas permeable housing," with "[t]wo ports in the top [that] would allow access for medium and air equilibration," "[n]eedle insertion into the port [that] would allow medium to be vacuumed through a check valve that would close when full," and with "[f]resh needles revolving on a disk [that] would be available for each cell culture vessel." (DTX 196.) Welch testified that, at the time, Wilson Wolf had a prototype like the one Tanner described in her contemporaneous notes. (11/16/22 Tr. 1749:13-17501). This was not the SBIR application's MLD device.

280. In addition, the SBIR application's MLD design is different from Corning's HYPER products. The MLD had cell-culture compartments made of silicone rubber, with a manifold that could collapse and seal the access opening of each compartment. This was important to the design because the intended primary use of the MLD was not to culture cells (like the HYPER products) but to transport and deliver islet cells. The MLD was to be constructed almost entirely out of silicone rubber, including the shelves and the outer housing. There were some shelf supports to help keep the silicone chambers separated, but there was otherwise no rigidity to the device. The MLD essentially was a silicone bag with shelves. When filled with liquid media, the MLD would resemble a water balloon.

V. Corning's HYPER Products Differ from Plaintiffs' Designs

281. As noted above, the design of Corning's HYPER products is fundamentally different with respect to key features from any design that Plaintiffs shared with Corning. These differences further support the Court's finding that Corning did not use any of Plaintiffs' Confidential Information or trade secrets.

282. All of Plaintiffs' alleged Confidential Information—the product concepts and the '651 provisional application—were allegedly disclosed or discussed at the August 25, 2004 meeting, with the exception of the SBIR application, which, as discussed above, was never disclosed to Corning.

283. After the August 25, 2004 meeting with Wilson, Tanner prepared a summary of the information that Wilson shared at the meeting.

284. For every product concept that Wilson allegedly shared, the device used gas-permeable material on the exterior of the device, on either the side or the bottom. The '651 provisional application similarly disclosed the use of gas-permeable material (claiming silicone, specifically) in the "bottom and/or sides" of the cell culture device.

285. In contrast, the HYPER Products use a gas-permeable material on the interior of the device, as the cell growth surface.

286. In addition, the HYPER products are also significantly different from the prototypes that Wilson provided to Corning: the Vertical bag and the WW Multilayer Flask.

287. As noted above, the Vertical Bag device differs from the HYPERFlask device with respect to many key features.

288. Also noted above, the HYPERFlask and HYPERStack products differ in several key ways from the WW Multilayer Flask.

289. The differences between Corning's HYPER products, Plaintiffs' product concepts, prototypes, Confidential Information, and trade secrets further establish that Corning did not use any of Plaintiffs' information in the development of the HYPER products.

VI. Wilson's Inventorship Claims

290. Wilson claims to be the sole inventor of Corning's '209 Patent and a joint inventor of both Corning's '572 and '345 Patents.

291. On May 11, 2006, Corning filed Application No. 11/433,859. (PTX 240.)

292. The ’859 Application issued as U.S. Patent No. 7,745,209 on June 29, 2010. (*Id.*)

293. The named inventors of the ’896 provisional application, the ’859 application, and the ’209 Patent are Gregory R. Martin and Allison J. Tanner.

294. Wilson is not a named inventor of the ’896 provisional application, the ’859 application, or the ’209 Patent.

295. On May 19, 2010, Corning filed Application No. 12/783,217, which issued as U.S. Patent No. 8,273,572 (the “’572 Patent”) on September 25, 2012. (PTX 304.)

296. The ’209 Patent and the ’572 Patent share the same specification.

297. The named inventors of the ’217 Application and ’572 Patent are Gregory R. Martin and Allison J. Tanner.

298. Wilson is not named as an inventor on the ’217 Application or the ’572 Patent.

299. On September 16, 2008, Corning filed Application No. 12/211,378 (the “’378 application”). (PTX 118.)

300. The ’378 Application issued as U.S. Patent No. 8,178,345 (the “’345 Patent”) on May 15, 2012.

301. The named inventors of the ’378 application and the ’345 Patent are Gregory R. Martin, Allison J. Tanner, Scott M. Bennett, Henry J. Cattadoris, David A. Kenney, and Joseph C. Wall.

302. Wilson is not named as an inventor on the ’378 application or the ’345 Patent.

303. Wilson's evidence in support of his joint and sole inventorship claims consists of his testimony, his interpretation of the '651 provisional application and related prototypes, and his application of his various interpretations of his own work to the claims of the Corning patents. No expert or other evidence corroborated Wilson's opinions.

304. As noted above, Tanner and Martin (and other Corning employees named as inventors on the '345 Patent) conceived of every element of the '209, '572 and '345 Patents without any assistance or contribution of an inventive concept by Wilson. Titus's testimony and the other evidence presented by Corning at trial supported and corroborated Martin's and Tanner's testimony that they (and other Corning employees named as inventors on the '345 Patent) conceived of every element of the '209, '572, and '345 Patents without any assistance or contribution of an inventive concept by Wilson. Because Tanner and Martin independently conceived of every element of the '209, '572, and '345 Patents (along with other Corning employees named as inventors), Wilson is not and cannot be a sole or joint inventor of the patents.

305. Further, Simon, Corning's expert witness, testified that Wilson's concepts were fundamentally different from the claimed inventions of the '209, '572, and '345 Patents, and that Wilson made no contribution to the '209, '572, and '345 Patents' claims.

306. Wilson testified that his inventive contributions to the '209, '572, and '345 Patents that he communicated to Corning were contained solely in the '651 provisional application.

307. Although Wilson testified that he communicated every inventive feature of his '651 provisional and '814 applications to Tanner at the August and December 2004 meetings, the Court finds that this testimony is neither credible nor sufficient based on the entire record before the Court. Those meeting were attended by other individuals and had lengthy agendas. There is no evidence that Wilson had any private, one-on-one conversations with Tanner during these meetings, and no contemporaneous documents support Wilson's testimony that he verbally communicated information related to his '651 provisional and '814 applications to Tanner.

308. In addition, the '814 application, which claims priority to the '651 provisional application, was published as U.S. Patent Application Publication No. 2005/0106717 on May 19, 2005 (the "'717 publication). (DTX-187.) And the '814 application had previously published on April 21, 2005, when a related foreign patent application published. (DTX-182.) Based on this record, all alleged inventive concepts in Wilson's '651 provisional application became public (and part of the prior art) when the '814 application published on April 21, 2005.

309. The Patent and Trademark Office also considered Wilson's '651 provisional application when it issued the '209 and '572 Patents. The '717 publication was expressly identified as a cited reference by the patent examiner on the face of the '209 and '572 Patents. The patent examiner therefore recognized that the '209 and '572 Patents were novel and different than the devices disclosed in the '651 provisional application.

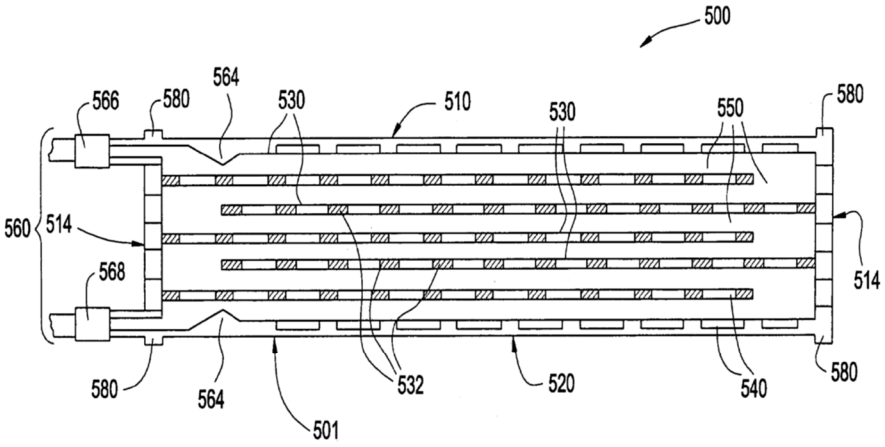
310. Wilson's inventorship claims fail for several additional reasons.

311. With respect to Corning's '209 Patent, for which Wilson claims sole inventorship, Wilson admitted that he did not invent each and every element of every claim, as would be necessary to show sole inventorship.

312. The '209 Patent includes a "perfusion embodiment" in its Figure 5 embodiment—which is an embodiment that permits the "continuous flow" of liquid nutrient medium through the device. The patent describes and claims in its independent claims a device that is capable of being used with the medium either stationary ("static") or continuously flowing (a form of "perfusing"). The '209 Patent also has several narrower dependent claims that require media to "continuous[ly] flow" through the device.

313. For example, Figure 5 of the '209 Patent illustrates "another embodiment of the present invention" and depicts a "partial internal . . . cross-sectional view[] . . . a multilayered culture vessel of the present invention is a perfusion system."

FIG. 5



(PTX-116 '209 Patent at col. 9, ll. 7-10 & Fig. 5.)

314. Wilson concedes that he did not invent the perfusion concept in the '209 Patent. (11/15/22 Tr. 1443:19-1444:3; 1460:5-8.)

315. Martin, a named inventor on the '209 Patent, conceived of the perfusion embodiment claimed in the '209 Patent, with no assistance from or contribution by Wilson. Figure 5 of the '209 Patent is the identical drawing that Martin drew no later than September 8, 2004, in a PowerPoint which was combined with other files and emailed to Titus on September 9, 2004.

316. Plaintiffs have not presented evidence to establish that Wilson had had any contact with Martin or that Martin received or reviewed any of Wilson's patent application(s), prototypes, or designs before Martin originated the Figure 5 embodiment. In fact, Martin testified that, before the lawsuit, he had never met with Wilson, had a one-on-one conversation with him, or received any correspondence from him in any form. Martin also testified that he had conceived of the Figure 5 embodiment and a "tracheal" design before seeing any of Wilson's designs. This testimony is unrebutted and consistent with and supported by the testimony of multiple other witnesses, including Tanner, Titus, Hoover, and Upton, as well as the documentary evidence.

317. Simon's expert testimony further supports Martin's testimony that the Figure 5 embodiment originated solely with Martin without any involvement or contribution by Wilson. Simon testified that the Figure 5 embodiment is fundamentally different from the designs presented by Wilson and cannot be derived from those designs.

318. In addition, Wilson did not present evidence—other than his uncorroborated opinions—that he contributed numerous other inventive elements of the '209 patent, including a plurality of cell-growth chambers, each cell-growth chamber having a gas-permeable material, or tracheal spaces. Again, Martin and Tanner conceived of these elements before any contact with Wilson. And, further, none of these elements are found in Wilson's '651 provisional application.

319. Wilson also failed to establish that he made an inventive contribution to Corning's '572 or '345 Patents—for which he seeks a declaration of joint inventorship.

Wilson's alleged contributions to the '572 and '345 Patents are also contained solely in his '651 provisional application.

320. The Figure 5 embodiment of the '209 Patent is also part of the '572 Patent. Unrebutted testimony from both Martin and Simon confirmed that the Figure 5 embodiment is covered by each claim of the '572 Patent. (11/17/2022 Tr. 2027:3-2031:21; 11/30/2022 Tr. 3839:5-3854:7). As noted above, Wilson made no contribution to the Figure 5 embodiment.

321. Wilson also failed to demonstrate that he made any other contribution to the claims of the '572 Patent. Again, Martin and Tanner conceived of every element of the '572 Patent without Wilson's assistance or contribution to an inventive concept. Titus's testimony, Simon's expert testimony, and the other evidence presented by Corning supported and corroborated Martin's and Tanner's testimony on this point. (11/30/2022 Tr. 3839:5-3854:7.)

322. Wilson also failed to establish that he made an inventive contribution to the '345 Patent. The application that led to the '345 Patent was filed on May 30, 2008, approximately three years after Wilson's last interactions with Corning with respect to his prototypes and any technical disclosures related to them. The filing of the application that led to the '345 Patent was also more than three years after Wilson's '651 provisional and '814 applications published.

323. The Court finds that the inventive concept of the '345 Patent concerned new and additional work the inventors did after the time of the '209 and '572 Patents that led to the new invention that is the '345 Patent. The '345 Patent names a different set of

inventors from the ’209 and ’572 Patents. The claimed improvement of the ’345 Patent is a cell-culture device in which each “flaskette” has an internal “boss” that engages with the boss of the next flaskette, a cavity in each boss, and a unitary column that runs through the bosses.

324. This improvement is found nowhere in any of Wilson’s disclosures to Corning. Wilson did not produce any evidence that he contributed to the ideas in this patent. Wilson did not make or participate in the creation of any drawings in the ’345 Patent. Indeed, the concept that made the ’345 patent inventive dates to a later period when Corning was no longer communicating with Wilson, and it involves other Corning inventors who had no interaction with his ideas.

325. Wilson’s sole evidence of his alleged contributions to the ’345 Patent consisted of disclosures in the ’651 provisional and ’814 applications. Again, the ’651 and ’814 applications became public no later than May 19, 2005, when the USPTO published the ’717 publication. The pre-America Invents Act version of 35 U.S.C. § 102(b) bars Wilson from seeking patent coverage based on the contents of those patents one year after the date of their publication.

326. Here, the statutory bar went into effect no later than May 19, 2006, as to the ’651 provisional and ’814 applications. The provisional application that produced Corning’s ’345 Patent was filed more than a year later, however, on May 30, 2008. The application that actually issued as the ’345 Patent was not filed until September 16, 2008. Wilson is barred by 35 U.S.C. § 102(b) from using the disclosure in the ’651 provisional and ’814 applications to seek to be added as a co-inventor on the ’345 Patent.

327. In addition, there is no evidence that Wilson alone conceived of every element of the '209 Patent such that he is not the sole inventor. Nor is there any evidence that Wilson contributed any inventive concept to the '572 or '345 Patents such that he is a joint inventor of those patents. The evidence presented at trial establishes that Tanner and Martin conceived of every element of the '209 and '572 Patents, and with other Corning employees named as inventors, every element of the '345 Patent.

VII. Plaintiffs' Delay

328. All events relevant to Plaintiffs' claims in this case occurred before June 2005. Plaintiffs filed this lawsuit in 2013. Plaintiffs' delay in bringing this lawsuit was unreasonable and lacks good cause.

329. In 2005, nearly eight years before Plaintiffs filed their Complaint, Wilson knew all the facts he relies on to claim that Corning had misappropriated Wilson Wolf's trade secrets.

330. Wilson's own handwritten notebook and typewritten "correspondence trail" contain statements demonstrating that he had knowledge of these facts as early as April 2005.

331. On April 4, 2005, Wilson had a telephone conversation with Tanner, who Wilson described as "curt and adamant that [the Wilson Wolf] device showed no value." Wilson "argued" with Tanner about the testing and devices, but Tanner "kept stating the tests failed because the gas permeable test fixture did not outperform the gas permeable control." Wilson concluded: "Something's wrong here." (PTX 34.)

332. On April 5, 2005, Corning's Verkleeren told Wilson that the WW Multilayer Flask "ha[d] no value because cells were cultured in the absence of a gas/liquid interface without a gas membrane." Wilson claimed at the time that "it is Wilson Wolf that showed [Corning] that cells can be cultured in the absence of a gas/liquid interface." Wilson had another "heated conversation" with Verkleeren two days later on April 7, 2005. (PTX 34.)

333. A week later, on April 15, 2005, Wilson and Welch had a phone call with Tanner and Verkleeren. In that call, Wilson "directly questioned them about ownership." According to Wilson, Tanner and Verkleeren "did not give [a] clear answer" in response and Verkleeren was "evasive and parsing words." (PTX 34.)

334. Corning's contemporaneous notes of the phone call similarly reflect that Wilson "seem[ed] to feel ownership for the idea that you can put multiple layers in a flask with no headspace." (PTX 271.)

335. On April 19, 2005, Wilson had a conversation with Walsh in which he expressly told her that Wilson Wolf was "asserting ownership of the non gas permeable as a trade secret[]." (PTX 34 at WW043313.)

336. On April 21, 2005, within days of these conversations with Corning in which Wilson asserted ownership over trade secrets and felt that "something's wrong," Wilson contacted an attorney "seeking legal advice regarding Confidentiality Agreement." (DTX 297.)

337. As of April 2005, Plaintiffs also had knowledge of facts they now claim show that Corning had breached the parties' CDA.

338. In 2007, two years after having consulted with an attorney about the CDA, Wilson took a number of actions that demonstrate that he had knowledge of the facts on which he bases his breach-of-contract claim against Corning.

339. On April 9, 2007, Wilson called Verkleeren with a "concern" about "Allison Tanner['s] patent application." Wilson told Verkleeren that he "believe[d] [Corning] ha[d] misappropriated confidential info." (PTX 34 at 43310-11.)

340. That same day, on April 9, 2007, Wilson called another Corning employee, Pierce Baker, and left a message about his "confidentiality agreement concerns." (*Id*. at 43311.)

341. Shortly thereafter, in April 2007 and continuing throughout 2007, Wilson had numerous communications with attorneys regarding "patent strategy in anticipation of litigation," "anticipation of patent interference proceeding," "legal advice regarding patent claims," and "legal advice regarding patent application."

342. In April 2007, Wilson Wolf ordered HYPERFlask vessels from Corning. Wilson and Wilson Wolf were therefore fully aware of the design and features of the HYPERFlask vessel by April 2007.

343. On June 14, 2007, Wilson retained the law firm of Oblon, Spivak, McClelland, Maier & Neustadt, P.C., regarding "Wilson Wolf Mfg. v. Corning Life Science." (PTX 441.)

344. Two months later, on August 21, 2007, Corning employees, including an in-house attorney, Thomas Beall, visited Wilson at Wilson Wolf's office in Minnesota. Wilson secretly recorded the meeting—including portions of the meeting in which

Wilson left the room and the Corning employees had private, attorney-client privileged communications. During this meeting with Corning, Wilson raised concerns about patent interference, potential breach of the CDA, and misappropriation—the same claims he brought in this 2013 lawsuit.

345. After the in-person meeting at Wilson Wolf, Wilson had a call with Rob D'Amore on August 29, 2007. Wilson's notes indicate that he wanted "to focus on a plan to cover all issues," including "infringement," "interference," and the "potential NDA."

346. Less than two years later, on May 6, 2009, Wilson called Beck, who was Corning's head of Business Operations. Wilson's handwritten notes reflect that one of Wilson's objectives for the call was to "point out [to Corning] that risk is present." (PTX 126.) According to Wilson's notes, Beck's "response focused on his belief they didn't do anything improper." (*Id*.) These notes demonstrate again that Wilson was aware of a potential dispute and threatening Corning with the "risk" of such a legal dispute. Wilson even testified that this was a communication about his dispute with Corning.

347. In May 2010, Wilson told a third party, Thermo Fisher, that Wilson Wolf's "patent portfolio has now placed Corning HYPERFlask in an infringing situation."

348. In September 2010, Wilson wrote in his notebook, "Shore up patent positions and delay battle with Corning."

349. In December 2010, Wilson again wrote in his handwritten notebook, "CORNING BATTLE. DELAY AS LONG AS POSSIBLE." (PTX-126.)

350. Plaintiffs did not file their Complaint against Corning until January 2013, eight years after Wilson initially had concerns about potential breaches of the CDA and the misappropriation of trade secrets.

351. There was no evidence presented at trial that Corning fraudulently concealed the alleged breaches or misappropriation from Plaintiffs. In fact, Corning's development and sale of the products was publicly known and known to Wilson.

352. Martin and Tanner sought patent protection for their tracheal-flask design, filing their '896 provisional patent application on July 26, 2005.

353. In September 2006, Corning publicly launched and began marketing the HYPERFlask product.

354. In December 2006, Corning continued to market and display its HYPERFlask product at the same trade show where it had met Wilson in 2003.

355. On February 1, 2007, Martin and Tanner's patent application for what became the '209 patent was published.

356. In early 2007, Wilson ordered HYPERFlask vessels which were shipped to Wilson Wolf.

357. Plaintiffs' unreasonable delay without good cause in filing this lawsuit also resulted in both economic and evidentiary prejudice to Corning in this case.

358. On the economic side, Corning made extensive financial investments in both the HYPERStack and HYPERFlask product lines. Corning invested $71 million in research and facilities for both products—including $66.4 million for the HYPERStack

product from 2010 to 2021 and $4.5 million for the HYPERFlask product from 2005 to 2009.

359. By 2021, Corning had spent an additional $47,058,465 on the HYPER products.

360. Corning invested millions of dollars in the HYPER products since the time that Plaintiffs could have brought their suit in 2005.

361. Corning also suffered evidentiary prejudice.

362. During the trial, Wilson admitted that he taped conversations between himself and Corning.

363. Wilson admitted that he taped conversations with Corning in hopes of obtaining a "smoking gun."

364. Wilson also admitted that he "scrapped" or deleted almost every recording when his tapes did not capture a "smoking gun." (11/10/2022 Tr. 905:1-908:23.)

365. Wilson further acknowledged that the tapes had no "smoking gun" supporting Plaintiffs' case. Had Wilson not delayed in bringing this lawsuit, these tapes may have still existed and could have been beneficial to Corning's presentation of evidence.

366. The only tape that does exist, from the August 21, 2007 in-person meeting, supports Corning's case.

367. The tape recording shows that Wilson and several Corning employees discussed the results of the prototype testing conducted by Corning.

368. At that meeting, Wilson told Corning that it would be a "fair, intellectually honest" statement to say that tests of his prototypes were inconclusive at the time that Corning tested his prototypes.

369. Wilson also told Corning that one of the HYPERFlask vessel's key features, "a tracheal space in between two gas permeable cell culture chambers" was "pretty powerful."

370. The delay also caused a loss of documentary evidence that prejudiced Corning.

371. Plaintiffs did not produce any Wilson Wolf emails from the critical 2004-to-2005 timeframe in this litigation. No emails were presented because they no longer existed. Internal Wilson Wolf emails would likely have provided information concerning Wilson Wolf and likely would have been available had the case been brought earlier.

372. By the time Plaintiffs filed this action in 2013, Corning had lost some documents and electronic files due to ordinary document retention policies that Corning otherwise would have retained and could have used to support its defense—emails, Martin's original "napkin" sketch of the tracheal flask design, other hand-drawn sketches, the electronic version of the September 9, 2004 email to Titus and electronic PowerPoint attachment, and additional metadata for the PowerPoint drawings.

373. Similarly, a central theme of Plaintiffs' case at trial was that Upton did not share testing information with Wilson. Wilson testified that Upton did not disclose the data from his tests. Upton, however, testified that this was false and that he *did* share data with Wilson—for example, at the August 2004 meeting. But as he explained, the

PowerPoint deck containing this data and proving this assertion did not survive from 2004 until January 2013, when Plaintiffs filed this lawsuit.

374. The lack of contemporaneous documentary evidence is particularly prejudicial to Corning because the trial record shows that the witnesses' memories have faded over the course of the lengthy delay.

375. Wilson was the Plaintiffs' principal fact witness. Indeed, the only other fact witness from Wilson Wolf that Plaintiffs called during trial was Welch, Wilson's long-time employee. Welch testified to his limited recollection of only one specific aspect of one meeting with Corning. Wilson also was the only expert to testify for Plaintiffs on liability issues. Plaintiffs' other expert, Ludington, testified only to remedies.

376. Most of Wilson's material testimony was not corroborated.

377. As to Wilson as a witness, the Court highlights that Wilson acknowledged making inaccurate statements both before trial—including under oath during depositions—and under oath during trial. While these inaccurate statements were not always material, they demonstrate a lack of candor and reliability.

378. For example, on the first day of trial, Wilson testified inaccurately about what liquid he used as a demonstrative in a T-225 flask. When asked about this testimony, Wilson acknowledged that he made an inaccurate statement on the first day, claiming it was a mistake. The media testimony was not material to any significant issue in the case but it, along with other testimony in this case, suggests to the Court that Wilson failed to take his oath seriously.

379. Wilson also testified inaccurately about information that was material to this case.

380. Wilson claimed that a photograph of a cell-culture device on a Corning laboratory bench was an image of "the wrapped flask that [he] brought" to Corning. But the device pictured in the exhibit does not resemble any prototype presented by Wilson either to Corning or in Court. And Tanner explained—credibly—that the image was an early Corning SLA, or stereolithography, model of the HYPERFlask device. Tanner explained how she knew this based on details of the image. Tanner's testimony was supported by her contemporaneous laboratory notes, which reflected that she "received SLA tracheal prototypes used to assess liquid handling" shortly before the photo was taken.

381. In addition, Wilson's testimony about what occurred at the various meetings with Corning employees is unsubstantiated, and often contradicted by other credible witness testimony, in material respects. For example, Wilson testified that at the December 2003 trade show he publicly displayed the membrane-based roller bottle and *not* the Vertical Bag. Several Corning witnesses, however, credibly testified that Wilson *did* display the Vertical Bag at the December 2003 trade show. For example, Walsh confirmed that the Vertical Bag prototype that Wilson presented at trial as PTX-10 was a version of the device that Wilson displayed publicly.

382. The Court finds that Wilson was not a credible witness on significant issues. Accepting Plaintiffs' positions at trial would require the Court to conclude that Corning's multiple witnesses, including Martin, Tanner, Titus, Hoover, and Upton, were

lying about the facts of this case. The Court does not make such a conclusion as the Court notes, if it has not previously done so, that it finds the testimony of these witnesses to be credible.

383. Any conclusion of law which may be deemed a finding of fact is incorporated herein as such.

Based on the above Findings of Fact, the Court now makes the following:

CONCLUSIONS OF LAW

I. Trade-Secret Misappropriation

1. Based on the evidence before the Court, the Court finds and concludes that Plaintiffs did not prove their claim of trade-secret misappropriation. Plaintiffs did not prove that Corning used Plaintiffs' information in designing its HYPER products. Plaintiffs did not prove that their alleged trade-secret information qualified as a trade secret that was distinct from information in the prior art (therefore, not generally known or readily ascertainable) and that the information had independent economic value tied to its uniqueness. Finally, the evidence at trial demonstrates that Plaintiffs did not assert their trade secret claim on a timely basis under the Minnesota statute of limitations. Each of these issues provides an independent basis for rejecting Plaintiffs' trade-secret misappropriation claim.

No Wrongful Use

2. At trial, the burden was on Plaintiffs to prove that Corning wrongfully "used" their trade secrets in the process of designing its HYPER products. Minn. Stat. § 325C.01 subdiv. 3(ii) & (ii)(B)(II) (2022). This burden requires more than speculation

based on a showing of the presence of similar elements in both sets of designs; it also requires more than a showing that during the period after interacting with Wilson, Corning launched a product that used gas-permeable membranes. *Sip-Top, Inc. v. Ekco Grp., Inc.*, 86 F.3d 827, 830-33 (8th Cir. 1996) (no liability in the absence of evidence of "how [the defendant] used or divulged confidential information").

3. Plaintiffs did not prove that Corning's design process for the HYPER products used information that Plaintiffs had provided. The HYPER products are multilayer cell-culturing devices that use gas-permeable polystyrene membranes as surfaces for growing cells, with conventional amounts of liquid media above the cells and "tracheal spaces" between the compartments to oxygenate the cells. Evidence at trial demonstrates that this "tracheal flask" design was developed independently by Corning inventors based on their own expertise and ideas already known in the field. Plaintiffs did not prove otherwise; they specifically did not prove that the Corning inventors used anything taken from Plaintiffs.

4. Evidence at trial demonstrates that Corning's independent design process produced a design that is fundamentally different from any of Wilson Wolf's prototypes. For example, unlike the Corning devices—which use thin gas-permeable membranes inside the device—Wilson Wolf's designs used a gas-permeable membrane on the outside. And, whereas Corning's devices have air in "tracheal spaces" between the compartments, Wilson Wolf's multilayer design used hard plastic shelves with no air in between, contained in a single compartment.

5. Corning tested the WW Multilayer Flask/GTF and assisted Wilson in performing his own tests. Based on those tests, Corning concluded that the design did not work to Corning's satisfaction. At trial, Wilson took issue with the testing, but those arguments do not change the fact that from Corning's perspective, the design did not work effectively. This evidence also undermines any claim that Corning "used" Plaintiffs' combinations related to the multilayer design in its own design.

No Trade Secret

6. In addition, Plaintiffs did not prove the existence of a trade secret. A trade secret is information that "(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy." Minn. Stat. § 325C.01 subdiv. 5.

7. A concept already known in the prior art is not a trade secret. *Jostens, Inc. v. Nat'l Comput. Sys., Inc.*, 318 N.W.2d 691, 698 (Minn. 1981) ("Courts agree that trade secrets lie somewhere on a continuum from what is generally known in a field to what has some degree of uniqueness . . . "); *see also Electro-Craft Corp. v. Controlled Motion, Inc.*, 332 N.W.2d 890, 899 (Minn. 1983) ("[M]ere variations on widely used processes cannot be trade secrets.").

8. Before trial, Plaintiffs identified certain combinations that they argued were the "trade secrets" underlying their misappropriation claims. Plaintiffs did not prove that they disclosed these combinations to Corning at the time.

9. Plaintiffs provided the ’651 provisional and ’814 patent applications confidentially to Corning. Plaintiffs’ trade secret claims now go beyond the claims in those patent applications.

10. Plaintiffs assert that the features and combinations were disclosed in the ’651 provisional and ’814 applications. Plaintiffs have not proven, however, that anything in the ’651 provisional application recommended combining the same features in a different way. And to the extent Plaintiffs point to information about the “patent landscape” as a basis for their claim, they have not proven that the description of publicly available information qualified as a trade secret.

11. Moreover, Plaintiffs did not prove that any of their combinations were materially different from the prior art and thus had independent economic value. At trial, Wilson conceded that he was not the first to “come up with” the elements that make up Plaintiffs’ alleged trade secret combinations. (11/15/2022 Tr. 14055-21.) In addition, Plaintiffs did not prove that their alleged combinations of these elements were distinct from combinations already known in the prior art—for example, in the Toner patent, the Barbera-Guillem patent, the DiMilla patent, the commercially available OptiCell device, and the Martin/Tanner multiwell plate patent application. The allegedly unconventional idea Plaintiffs emphasized in their written materials to Corning was the idea of using deeper liquid media than was usually employed. That idea is not used or reflected in Corning’s HYPER products.

12. Also, Plaintiffs conceded at trial that many of Wilson’s ideas were reflected in the Vertical Bag design, which Corning witness Walsh testified that she had previously

seen displayed in public. Although Wilson testified to the contrary, the Court finds that Walsh's testimony is more credible. Plaintiffs did not prove that they kept the Vertical Bag confidential, and therefore they cannot claim as a trade secret any combination revealed by the Vertical Bag's design. *Jostens*, 318 N.W.2d at 700-01 (finding that disclosing alleged secret information to others in the field without requiring confidentiality demonstrates the lack of reasonable efforts to protect the alleged secrets); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 155 (1989) (noting the policy "that matter once in the public domain must remain in the public domain;" disclosure of the device also discloses the design).

Statute of Limitations

13. The evidence at trial also demonstrates that Plaintiffs' claim for trade-secret misappropriation is untimely. "An action for misappropriation must be brought within three years after the misappropriation is discovered or by the exercise of reasonable diligence should have been discovered." Minn. Stat. § 325C.06. This Court held on summary judgment that there could not have been any misappropriation after April 21, 2005, when the alleged trade secrets were published. (Doc. No. 388 at 25-26.) As a result, any misappropriation at issue in this case was complete by that date.

14. Plaintiffs' misappropriation claim accrued no later than February 2007, when Corning's patent application relating to the HYPERFlask vessel became public. Wilson also purchased HYPERFlask vessels in the spring of 2007, and he had a series of discussions with Corning representatives in which he specifically raised concerns about the alleged similarity between his device and the HYPERFlask-related patent application

and claimed that Corning had "misappropriated confidential info." Plaintiffs were required to file this claim within the next three years—by early 2010. Plaintiffs did not file their Complaint until 2013. The claim is barred by the statute of limitations.

II. Breach of Contract

15. The Court finds and concludes that Plaintiffs cannot recover for breach of contract. Plaintiffs did not prove a material breach of the CDA. In addition, the evidence at trial confirms that Plaintiffs' breach-of-contract claim is barred by the statute of limitations.

No Material Breach

16. The central question for the contract claim is whether Corning wrongfully "used" Plaintiffs' "Confidential Information." The CDA provides that Corning could "not use received Confidential Information for any purpose other than for the express purpose recited above"—namely, for the purpose of evaluating a potential business relationship with Wilson Wolf.

17. As discussed above in connection with the trade-secret-misappropriation claim, Plaintiffs did not prove that Corning "used" any information provided by Plaintiffs in designing the HYPER products. The evidence at trial convincingly demonstrated that Corning's inventors created that design themselves independently—without using anything taken from Plaintiffs—based on their own experience and information already available in the prior art.

18. To the extent that Plaintiffs' breach-of-contract claims rest on the design contained in their SBIR application, the Court finds that the SBIR application was not disclosed to Corning.

19. Based on the evidence at trial, the Court concludes that the contents of the SBIR application were not disclosed to Corning. Wilson testified that he shared some design elements of the SBIR application at the August 2004 meeting. This testimony is not credible in light of the evidence as a whole. It is contradicted by other testimony at trial. Further, while Wilson Wolf employee Welch testified that he saw a drawing from that application displayed on a computer screen to Corning's Tanner in December 2004, that testimony is also inconsistent with the contemporaneous documents and was contradicted by Tanner. Tanner testified that the image shown on the computer screen was of a different design—a design that Welsh conceded was available at Wilson Wolf at the time. Based on the evidence at trial, the Court finds Tanner's testimony on this point more credible. Plaintiffs did not prove that the SBIR application was disclosed to Corning.

20. In addition, Plaintiffs did not prove that any alleged breach would have been material and caused an injury, which is independently fatal to their breach of contract claim. *Jensen v. Duluth Area YMCA*, 688 N.W.2d 574, 578-79 (Minn. Ct. App. 2004) ("A breach of contract claim fails as a matter of law if the plaintiff cannot establish that he or she has been damaged by the alleged breach."); *see also Reuter v. Jax Ltd.*, 711 F.3d 918, 920 (8th Cir. 2013) (same); *BOB Acres, LLC v. Schumacher Farms, LLC*, 797 N.W.2d 723, 728-29 (Minn. Ct. App. 2011) (explaining that even when express

contractual conditions are violated, the breach is not necessarily material). To constitute a material breach, the breach must go to the root or essence of the contract, such that it defeats an essential purpose of the contract. *Skogberg v. Huisman*, Civ. No. C7-02-2059, 2003 WL 22014576, at *2 (Minn. Ct. App. Aug. 19, 2003); *LeMond Cycling, Inc. v. PTI Holding, Inc.*, Civ. No. 03-5441, 2005 WL 102969, at *4 (D. Minn. Jan. 14. 2005).

21. Plaintiffs did not prove that the information they provided was unique and not already publicly available. The arrangement of cell-culture compartments separated by air spaces was well known, as demonstrated by multiple prior art patents. Any use of publicly available information (whether it had been marked "confidential" or not) would not have caused any damage, nor would it have been a material breach of the CDA.

22. The evidence at trial also establishes that Plaintiffs' contract claim is barred by the six-year statute of limitations. Minn. Stat. § 541.05, subdiv. 1(1).

23. Under Minnesota law, the limitations period for breach of contract begins to run at the time of the breach, regardless of when the plaintiff suffered the claimed damages. *Cardiovascular Sys., Inc. v. Petrucci*, Civ. No. 21-1827, 2022 WL 2133743, at *2 (8th Cir. June 14, 2022) ("There is no mystery about when breach of contract actions accrue in Minnesota."); *Untiedt's Vegetable Farm, Inc. v. S. Impact, LLC*, 493 F. Supp. 3d 764, 768-69 (D. Minn. 2020).

24. Plaintiffs' breach-of-contract claim therefore accrued no later than 2005—the date of the last breach they attempted to prove at trial.

25. Plaintiffs cannot avoid the untimeliness of their claims by asserting fraudulent concealment. Based on the evidence at trial, there is no evidence that Corning

intentionally or affirmatively concealed facts that would establish the cause of action. *See Doe v. Ord. of St. Benedict*, 836 F. Supp. 2d 872, 876 (D. Minn. 2011) ("Fraudulent concealment consists of an intentional and affirmative concealment of the facts which establish the cause of action."). Evidence at trial shows that Corning openly unveiled its HYPERFlask vessel to the industry in September and December 2006, more than six years before this suit was filed.

26. Whether Corning provided formal notice to Plaintiffs of any intention to use confidential information in reliance on any contractual exemptions is not relevant. The evidence at trial showed that Plaintiffs were already on notice of a potential breach in 2005 and affirmatively threatened Corning with a claim for breach in 2007—and yet did not file suit. Plaintiffs cannot point to any lack of notice to avoid the statute of limitations. Further, Plaintiffs have not established that the CDA's notice provision was triggered and that notice was ever required.

Disgorgement Remedy-Laches

27. As a remedy, Plaintiffs seek disgorgement of any profits Corning earned on its HYPER products, as well as any future profits that Corning may earn on its HYPER products through 2026—spanning the term of Corning's '209 patent. Plaintiffs are not entitled to this remedy because they did not prove any wrongful "use" of their confidential information or trade secrets. And even if Plaintiffs had established liability, they would not be entitled to the remedy they seek because of laches.

28. Laches requires proof that "(1) [Wilson Wolf] delayed filing suit for an unreasonable and inexcusable length of time from when it knew or reasonably should

have known of its claim; and (2) the delay operated to the material prejudice" of Corning. *Floe Int'l, Inc. v. Newman's Mfg. Inc.*, Civ. No. 04-5120, 2006 WL 14560, at *3 (D. Minn. Jan. 3, 2006) (patent infringement case). Material prejudice includes both economic and evidentiary prejudice. *Id*. The Court finds that the record here establishes both elements and would make an award of disgorgement fundamentally unfair.

29. As discussed above, Plaintiffs' claims are untimely under the relevant statutes of limitations. This informs the Court's assessment of the reasonableness of the delay and "whether the potential for prejudice was great." *Goodman v. McDonnell Douglas Corp.*, 606 F.2d 800, 804 (8th Cir. 1979) ("In applying the doctrine of laches, an important consideration is the appropriate role of an analogous statute of limitation."); *see, e.g.*, *Minn. & Mining Mfg. Co. v. Beautone Specialties, Co.*, 82 F. Supp. 2d 997, 1004 (D. Minn. 2000) (evidence of a delay exceeding the statute of limitations is strong evidence that the delay was unreasonable). If the delay outside the limitations period is lengthy, "prejudice is more likely to have occurred and less proof of prejudice will be required." *Goodman*, 606 F.2d at 807.

30. Plaintiffs have not offered any legitimate explanation for their delay in filing these claims. The evidence at trial showed that Plaintiffs were aware of a potential claim in 2005, that they threatened claims for breach of contract and trade secret misappropriation in 2007, but that they did not actually file claims in court until 2013. Indeed, in 2010, Wilson wrote "CORNING BATTLE. DELAY AS LONG AS POSSIBLE." This shows that the delay was intentional.

31. Corning presented evidence that this delay caused prejudice. For example, Corning spent millions of dollars to develop, launch, and market its products during the period of delay. An award of equitable relief to Plaintiffs at this late date would cause Corning to "suffer the loss of monetary investments or incur damages which likely would have been prevented by earlier suit." *Floe Int'l*, 2006 WL 14560, at *3 (explaining that economic prejudice may arise where a defendant will suffer loss of monetary investments or damages that would have been avoided by an earlier lawsuit); *Minn. Mining & Mfg.. Co.*, 82 F. Supp. 2d at 1004 (finding economic prejudice where defendant invested millions to manufacture and promote its products).

32. Corning has also demonstrated evidentiary prejudice. *See Floe Int'l*, 2006 WL 14560, at *3 ("Evidentiary prejudice may arise by reason of a defendant's inability to present a full and fair defense on the merits due to the loss of records, the death of a witness, or the unreliability of memories of long past events, thereby undermining the court's ability to judge the facts.") (internal quotations and citations omitted); *Arctic Cat, Inc. v. Injection Rsch. Specialists, Inc.*, 362 F. Supp. 2d 1113, 1122 (D. Minn. 2005) (finding evidentiary prejudice where evidence was destroyed and missing and where several witnesses had forgotten relevant and material facts).

33. Corning has put forth evidence of missing documents—such as the handwritten drawing of the tracheal-space design created by Martin in July 2004 and documents proving that Corning showed Wilson the test results for Wilson Wolf's design—and electronic data. Plaintiffs' case relies heavily on documentary gaps that were caused or exacerbated by Plaintiffs' own delay. Many witnesses testified that they

could not remember details about events nearly 18 years ago. In addition, Wilson admitted that he destroyed audio recordings that might have been helpful to Corning and that he lost emails during the period of delay. Taken separately or together, these examples demonstrate the existence of evidentiary prejudice sufficient to support a finding that laches bars any equitable relief Plaintiffs seek.

34. Plaintiffs seek additional remedies for breach of contract. Because Plaintiffs' breach-of-contract claim fails, they are not entitled to contract remedies.

III. Inventorship Claims

35. Based on the evidence before the Court, the Court finds and concludes that John Wilson's inventorship claims fail both on jurisdictional grounds and on the merits.

Subject Matter Jurisdiction

36. The Court cannot "order correction of [a] patent" without "notice and hearing of all parties concerned . . . ." 35 U.S.C. § 256(b). Inventorship claims require proof of notice to all "named inventors, omitted inventors, and assignees." *Janssen Pharms., Inc. v. Teva Pharms. USA, Inc.*, 571 F. Supp. 3d 281, 339 (D.N.J. 2021) (citation omitted). This is a "prerequisite" for "subject-matter jurisdiction in the district court." *MCV, Inc. v. King-Seeley Thermos Co.*, 870 F.2d 1568, 1570 (Fed. Cir. 1989), *overruled on other grounds* in *Ferring B.V. v. Allergan, Inc.*, 980 F.3d 841 (Fed. Cir. 2020).

37. Plaintiffs have not established compliance with this requirement. The inventorship claims seek to displace or dilute the rights of the Corning inventors named on the patents-at-issue, none of whom had an opportunity to be heard as concerned

parties in this case. (*See* DTX-228, 246 ('209 and '572 Patents, listing Martin and Tanner); DTX-239 ('345 Patent, listing Martin, Tanner, and others).)

38. Martin and Tanner testified at trial as witnesses. Plaintiffs, however, took the position that Martin and Tanner had to be sequestered from the courtroom. The Court concludes that that position is inconsistent with the claim that Martin and Tanner participated in the proceedings as concerned parties.

39. Moreover, there is no evidence that any of the other Corning inventors were given notice of Wilson's inventorship claims.

40. Given this lack of notice, the Court concludes that it lacks subject matter jurisdiction over the inventorship claims and dismisses them under Rule 12(h)(3).

41. Even assuming jurisdiction, however, the Court concludes that Wilson has failed to carry his burden of proving either sole or joint inventorship.

42. "The inventors as named in an issued patent are presumed to be correct." *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980 (Fed. Cir. 1997). Proving a claim for sole inventorship here required clear and convincing evidence that Wilson—and not the named inventors—invented each and every element of every patent claim. *See, e.g., Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1376 (Fed. Cir. 2020) ("Inventorship is a claim-by-claim question.").

43. Wilson must also prove that he communicated his invention with the named inventors at the relevant time. *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1362-64 (Fed. Cir. 2004).

44. To prove joint inventorship requires clear and convincing evidence that Wilson contributed to the inventive subject matter of at least one claim of the challenged patents. *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1461 (Fed. Cir. 1998).

45. Wilson did not prove with clear and convincing evidence that he made any contribution to the inventive subject matter of the Corning designs. The evidence at trial showed that Martin and Tanner created their tracheal-flask design independently, without incorporating any contributions from Wilson. In addition, Martin and Tanner completed the basic design of their tracheal flask before either of them were exposed to Wilson's ideas. The patents that they obtained claimed designs that differed significantly from Wilson's designs.

46. Wilson's inventorships claims rest on his testimony. The contemporaneous documents and other evidence presented at trial undermine Wilson's self-serving testimony about his alleged communications with Tanner.

47. Moreover, with respect to the '651 provisional application, the Patent and Trademark Office considered its contents during the prosecutions of the '209 and '572 Patents and found those patents different and patentable over Wilson's alleged inventions.

48. In addition, Wilson acknowledged that he did not contribute to the "continuous flow" element, which the Court has construed to mean "a type of perfusion where liquid medium is continuously flowing through the cell culture vessel." (Doc. No. 854 at 10.) Both the '209 and '572 Patents include continuous flow embodiments within the scope of their claims; they are not limited to static devices. And during an

August 2007 meeting that Wilson secretly recorded, he admitted that Corning's concept of cell-growth compartments separated by tracheal spaces was a "powerful" idea contributed by Corning.

49. For the above reasons, Wilson's inventorship claims fail.

50. Wilson also asserts an inventorship claim as to the '345 Patent. This claim is barred by statute.

51. The application for the '345 Patent was filed on May 30, 2008. This is more than three years after the '651 provisional and '814 patent applications were published. Section 102(b) of the version of the pre-America-Invents-Act applies here. Based on that statute, no one can claim patent rights based on subject matter published more than one year before the application is filed. 35 U.S.C. § 102(b).

52. In addition, Wilson did not prove at trial that he made any contribution to the invention of the '345 patent, which was created after his interactions with Corning ended.

53. For the above reasons, Wilson's claim of inventorship with respect to the '345 patent fails.

54. Any finding of fact which may be deemed a conclusion of law is incorporated herein as such.

Based upon the findings and conclusions of this Court, and the entire record of this case, the Court enters the following:

ORDER FOR JUDGMENT

1. Judgment shall be entered on Plaintiffs' Trade Secret Misappropriation Claim (Count VI) in favor of Corning and against Plaintiffs.

2. Judgment shall be entered on Plaintiffs' Breach of Contract Claim (Count IV) in favor of Corning and against Plaintiffs.

3. Judgment shall be entered on Wilson's Inventorship Claims (Counts I, II, III) in favor of Corning and against Wilson.

4. Corning's Motions to Amend Answer (Doc. Nos. [917, 960]) are **GRANTED** as provided herein.

5. Counts I, II, III, IV, and VI are **DISMISSED WITH PREJUDICE**.

LET JUDGMENT BE ENTERED ACCORDINGLY.

Dated: September 25, 2023

s/Donovan W. Frank
DONOVAN W. FRANK