IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

CODA DEVELOPMENT s.r.o., CODA INNOVATIONS s.r.o., *et al.*,

Plaintiffs,

v.

THE GOODYEAR TIRE & RUBBER COMPANY, *et al.*,

Defendants.

CASE NO. 5:15-CV-1572

JUDGE SARA LIOI

JURY DEMAND ENDORSED HEREON

FIRST AMENDED COMPLAINT PURSUANT TO FED.R.CIV.P. 15(a)(2)

Plaintiffs CODA DEVELOPMENT s.r.o., CODA Innovations s.r.o. ("Coda"), and Frantisek Hrabal (collectively, hereinafter "Plaintiffs") allege as follows:

NATURE OF THE ACTION

1. This action arises out of Goodyear Tire and Rubber Co.'s ("Goodyear") theft of Coda's secret self-inflating tire technology. Coda shared with Goodyear its secret self-inflating tire technology, including specifically that a self-inflating tire could be created by embedding a tube in a groove in tire sidewalls that would act as a peristaltic pump and always keep the tire properly inflated. Goodyear promised that it would keep these trade secrets confidential and consider them solely to evaluate whether it would partner with Coda to develop Coda's self-inflating tire technology further. Instead, without Coda's knowledge, Goodyear applied for, and obtained, numerous patents on self-inflating tire technology based on Coda's trade secrets and now is about to introduce to the market it's "Air Maintenance Technology," a self-inflating tire made up of a tube embedded in a groove in the tire sidewall.

2. At the behest of General Motors ("GM"), Goodyear and Coda met in January 2009, and again in June 2009 to discuss a potential partnership for commercializing Coda's SIT technology. GM was interested in using Coda's SIT technology on the new Chevy Volt. GM suggested that Goodyear work with Coda to bring Coda's SIT technology to market because GM believed that Goodyear could deliver in time for the Volt's anticipated 2010 launch date.

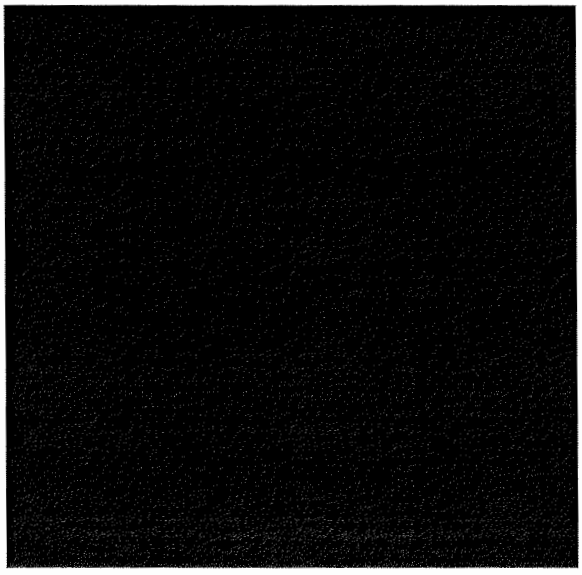
3. At those two 2009 meetings, and in various communications, Coda fully educated Goodyear about its SIT technology. This included SIT technology that Coda had publicly disclosed in its own patent application filings and issued patents, as well as Coda's

trade secret information that Coda has not publicly disclosed. Coda provided this information to Goodyear pursuant to a non-disclosure agreement.

4. At the first meeting in January 2009, among other things, Coda explained that it had produced a functional prototype, which generated sufficient pressure to inflate a vehicle tire. Following that meeting, representatives from Goodyear emailed Coda to ask for a second meeting so that Goodyear could perform a "technical readiness evaluation at your premises in Prague, in order to physically judge the concept feasibility on-site and to decide whether we will start a development project or not." A Goodyear employee named Robert Benedict, who is a Defendant in this case, wrote separately to Mr. Hrabal and stated that "Our goal is to evaluate CODA's Self Inflating Tire technology. We would like to: View the updated technical presentation[,] Review the prototype product[, and] Review testing methods and results."

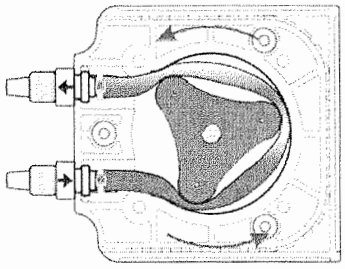
5. The second meeting occurred in June 2009. And just as Mr. Benedict requested, Mr. Hrabal showed Goodyear Coda's prototype at that meeting, along with covering other subjects, including those other subjects addressed in Mr. Benedict's email.

6. A picture of that prototype is below:



7. Mr. Hrabal's prototype used a tube as a peristaltic pump to inflate a car tire.

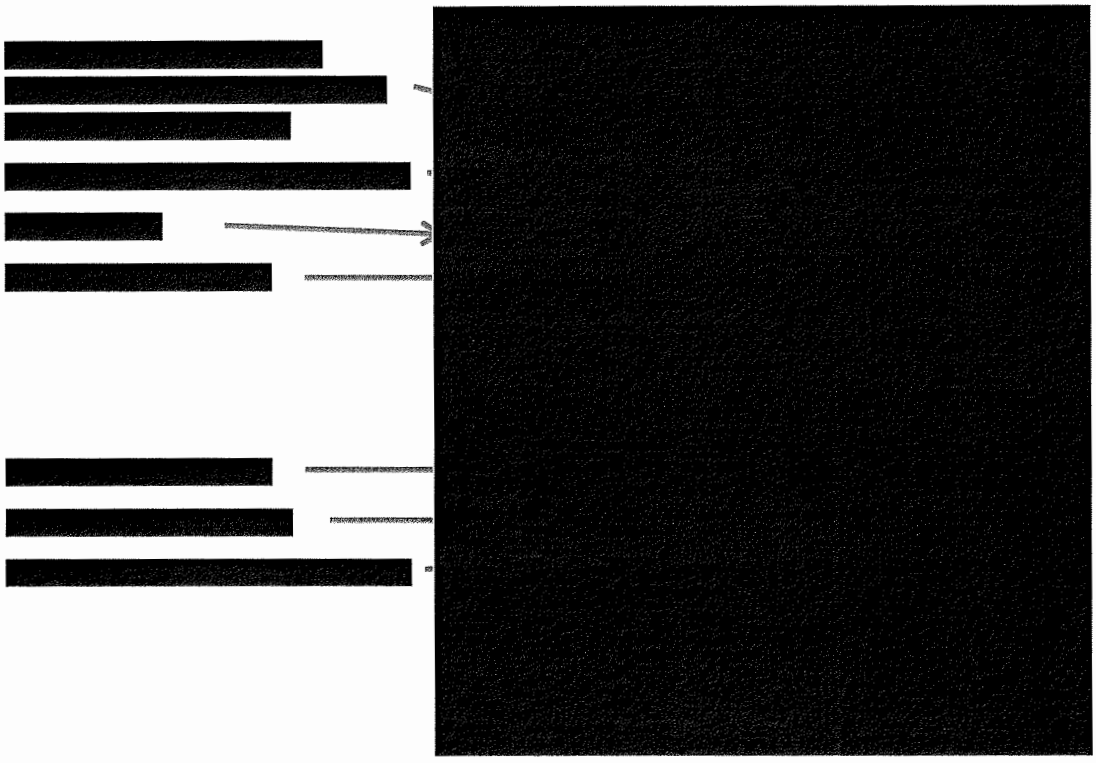
8. Peristaltic pump tubes themselves were not a new idea, and had been used for some time in medical devices, such as pumping fluids from an IV bag into a patient. One example involves using a series of rollers in combination with a tube. A pinch in the tube is created where each roller contacts the tube. The rollers then roll the pinch down the length of the tube. This action creates a pump, whereby fluid is pushed along in front of the pinch and pulled along behind it. For example, in the picture below, there are three rollers and a tube filled with blue fluid. The rollers move counter-clockwise as shown by the arrows. This would cause fluid to be pulled from the valve on the bottom, go around the tube, and out the valve on the top.



9. Around 2001, Mr. Hrabal, while sitting at a red light, noticed how car tires deform. It occurred to him that if a tube could be embedded in a tire, it would act as a peristaltic pump when the tire rotates and could be used to keep a tire inflated at its optimum tire pressure level.

10. Mr. Hrabal spent the next eight years working on this concept. In 2008, Mr. Hrabal was able to develop a functional prototype that used a peristaltic pump tube and, on a test bench, generated pressure sufficient to inflate a vehicle tire. That is the prototype pictured above in Paragraph 6, and that is what Mr. Hrabal showed to Goodyear in June 2009 under a non-disclosure agreement.

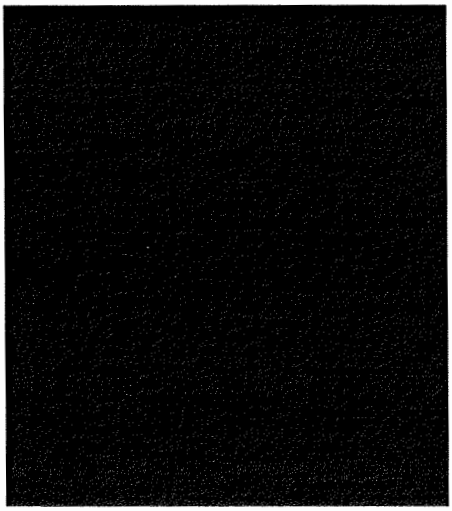
11. Mr. Hrabal's prototype did not contain a tube in the tire itself. That is because Mr. Hrabal did not have the facilities to actually make a tire, which would be necessary to fabricate a peristaltic pump directly into the tire. [redacted] This is shown in the pictures below:



12. Mr. Hrabal explained these aspects of the prototype to Goodyear in their meetings. During this meeting, Mr. Hrabal explained that his prototyping abilities were limited by his lack of tire-making equipment. He further explained that it was, therefore, easier for him to build the prototype [redacted] to demonstrate that a pump tube placed in the groove between them could be closed by the flexion of the tire sidewall, thereby acting as a peristaltic pump and generating sufficient pressure to inflate the tire. He further explained to Goodyear that, in his tests, he found that

[redacted] which meant the pump tube could inflate the tire. Mr. Hrabal further explained that, if he was a tire producer (like Goodyear is), he would put the tube in the sidewall.

13. Mr. Hrabal pointed out to the Goodyear engineers the location on the prototype's sidewall on which the sidewall extension rested, which was between the rim and the midpoint of the tire sidewall.



14. Mr. Hrabal knew that this location in the sidewall would provide the necessary flexion of the rubber of the tire sidewall to deform the tube and achieve sufficient pumping action to obtain the same results as he achieved with his prototype. This is because Mr. Hrabal had spent years—eight of them—studying the deformation of tires and the expansive and compressive forces of the sidewall.

15. Mr. Hrabal did not include this tube in the sidewall groove embodiment in any of his patent applications. Instead, he maintained this embodiment as a trade secret[2] and this embodiment was not found in any prior art.

[2] As demonstrated herein, this embodiment meets the definition of a "trade secret" pursuant to R.C. 1333.61(D)(1)-(2).

16. Ultimately, Goodyear did not move forward with a joint development project with Coda. Instead, on December 21, 2009, Goodyear filed two patent applications, claiming self-inflating tires based on the principles Mr. Hrabal shared with Goodyear. The first, United States Application Serial Number 12/643,243, claimed a self-inflating tire with a pump tube in a sidewall groove—an invention that was conceived by Mr. Hrabal, maintained by Mr. Hrabal as a trade secret, disclosed to Goodyear under the terms and conditions of a non-disclosures agreement, and ultimately misappropriated by Goodyear.[3]

17. In the years since, Goodyear has developed an extensive portfolio of patents on self-inflating tire technologies. Many of these patents also claim other trade secrets that were developed by Mr. Hrabal. And Goodyear now stands on the verge of introducing its self-inflating tire technology to the world. Technology it would never have had if it didn't meet with Coda in 2009.

THE PARTIES

18. Plaintiff CODA Innovations s.r.o. is a research and development entity organized and existing under the laws of the Czech Republic. CODA Innovations s.r.o. has its principal place of business at Kovaku 1141/11, 15000 Prague 5, Czech Republic.

19. Plaintiff CODA DEVELOPMENT s.r.o. is a research and development entity organized and existing under the laws of the Czech Republic. CODA DEVELOPMENT s.r.o. has its principal place of business at Taborska 438/51, 140 00 Prague 4, Czech Republic. CODA DEVELOPMENT s.r.o. is a wholly owned subsidiary of CODA Innovations s.r.o (collectively, "Coda").

[3] As demonstrated herein, Goodyear's misappropriation of Mr. Hrabal's trade secret falls within the meaning of "misappropriation" under R.C. 1333.61(B) and Goodyear used "improper means" (namely through theft and breaches of the non-disclosure agreement, which required Goodyear to maintain secrecy) to misappropriate this trade secret, pursuant to R.C. 1333.61(A).

20. Plaintiff Frantisek Hrabal ("Mr. Hrabal") is the chief executive officer of both CODA DEVELOPMENT s.r.o. and CODA Innovations s.r.o. and resides at Kovaku 1141/11, 15000 Prague 5, Czech Republic.

21. Upon information and belief, Defendant Goodyear Tire and Rubber Company ("Goodyear") is a for-profit corporation organized under the laws of the state of Ohio, entity number 12127. Goodyear's website purports that its global headquarters is located at 200 Innovation Way, Akron, Ohio, 44316-0001. Goodyear, among other things, manufactures and sells automotive tires.

22. Upon information and belief, Defendant Mr. Robert ("Bob") Benedict is a resident of Ohio, and can be served with process at his residence in Tallmadge, Ohio, or workplace at Goodyear at 200 Innovation Way, Akron, Ohio, 44316-0001. Mr. Benedict was at all relevant times an employee of Goodyear. Mr. Benedict was, and remains, responsible for Goodyear's research and development relating to self-inflating tire technology.

23. Upon information and belief, Defendant Mr. Robert Allen Losey is a resident of Ohio, and can be served with process at his residence in Kent, Ohio, or workplace at Goodyear at 200 Innovation Way, Akron, Ohio, 44316-0001. Mr. Losey was at all relevant times an employee of Goodyear.

JURISDICTION AND VENUE

24. This Court has subject matter jurisdiction under at least 28 U.S.C. §§ 1331, 1332, and 1338; and 15 U.S.C. § 1121(a). This Court also has supplemental jurisdiction over the state-law causes of action asserted herein under 28 U.S.C. § 1367(a). The amount in controversy exceeds $75,000 exclusive of interest.

25. This Court has personal jurisdiction over Goodyear, Mr. Benedict, and Mr. Losey (collectively, "Defendants") because: (a) Goodyear, which is the employer of Messrs. Benedict and Losey, is a corporation organized under the laws of the state of Ohio and maintains it principal place of business within this District; (b) Messrs. Benedict and Losey both reside within this district; and (c) Defendants have purposefully availed themselves of the privileges and benefits of conducting business in the State of Ohio by, among other things, transacting business in Ohio, including but not limited to certain of the acts complained of herein, within the meaning of R.C. 2307.382(A)(1). There is sufficient contact with the State of Ohio to not offend due process requirements.

26. Venue is proper in the Northern District of Ohio (Eastern Division) under at least 28 U.S.C. §§ 1391 and 1400(b), because a substantial part of the events or omissions giving rise to the causes of action asserted herein occurred in this district, and because Defendants reside and are subject to personal jurisdiction in this district.

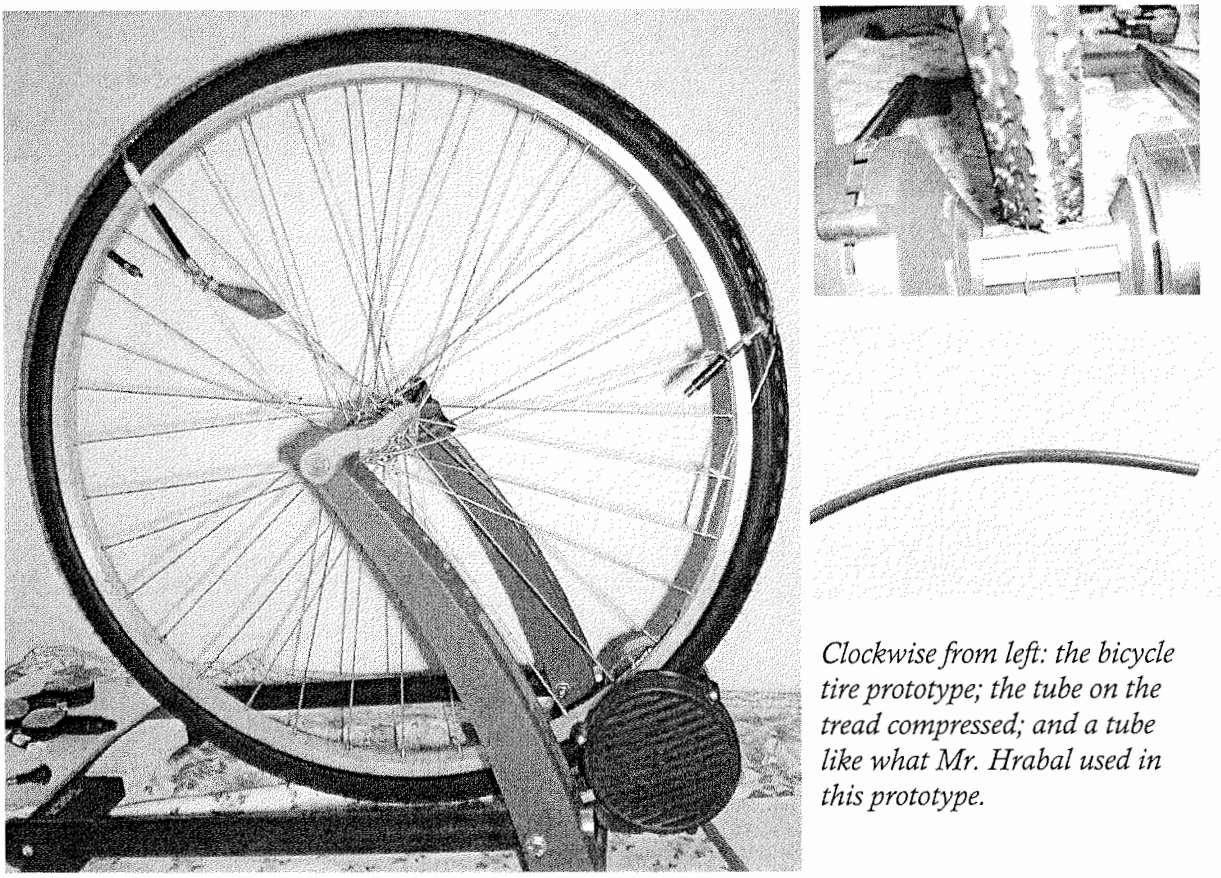
FACTUAL BACKGROUND

I. Mr. Hrabal's Development of the Self-Inflating Tire

A. Mr. Hrabal's First Prototype

27. By or about 2001 or 2002, Mr. Hrabal had built a proof-of-concept prototype using a bicycle tire. Mr. Hrabal took a separate, rubber tube and stitched it to the tread of the tire. He attached an intake valve to one end of the tube and a check valve to the other end. He then attached a balloon to the check valve. With this set up, if the tube pumped air into the balloon, the check valve would prevent air from leaking back out. To simulate rotation, Mr. Hrabal mounted the tire on a mount designed to turn a road-going bicycle into

a stationary one. The mount also included a cylinder that could be pressed against the bike tire to add resistance for exercise purposes.



Clockwise from left: the bicycle tire prototype; the tube on the tread compressed; and a tube like what Mr. Hrabal used in this prototype.

28. Mr. Hrabal rotated the bicycle tire by hand a few times, and when the balloon began to inflate, he knew his idea could work.

29. Mr. Hrabal further developed his idea by experimenting further with his bike tire prototype and by thinking about how his idea could be practically implemented. In 2001 and 2002, Mr. Hrabal applied for two Czech patents, Czech Patent Application numbers PV2001-4451 and PV2002-1364. To save costs, Mr. Hrabal combined these two applications into a single Patent Cooperation Treaty ("PCT") application, which Mr. Hrabal filed on December 5, 2002. The PCT Application was in turn filed in the United States as United States Patent Application number 10/498,145. This application was granted in part on

October 10, 2006, as United States Patent number 7,117,731 (the " '731 Patent"). Attached hereto and incorporated herein as **Exhibit 1** is a true and accurate copy of the '731 Patent.

30. The first claim of the '731 Patent recites:

> The apparatus for monitoring, maintaining, and adjustment of pressure comprising:
>
> > a tire having an interior space and a wall, said tire being suitable for receiving external mechanical forces when rolling on a road surface;
> >
> > a chamber having a shape memory, said chamber being deformable during the receiving of the external mechanical forces, said chamber having a lengthwise shape at least partially copying a shape of said tire, said chamber being connected with said interior space of said tire and an outside environment, at least one wall of said chamber being either adjacent to said wall of said tire or being part of said wall of said tire, a portion of said chamber being deformable up to a zero cross section, said chamber having a block with shape memory, said chamber being freely open at one end to an outside environment and having at least one internal valve connecting said chamber to said interior space of said tire, said opposite end of said chamber being deformable so as to have a cross-sectional area greater than zero.

31. The pump described in the '731 Patent was made of a chamber. A chamber in this sense is simply a space enclosed by walls. Such a chamber could be constructed parallel to the tire tread or parallel to the tire sidewall, as shown by the following figures from the '731 Patent:

FIG. 1A

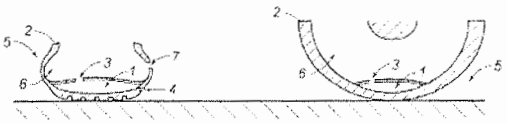


FIG. 1B

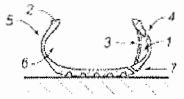


FIG. 2A

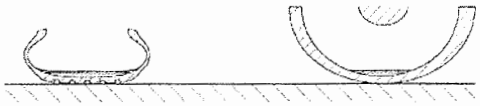


FIG. 2B

FIG. 3

FIG. 4

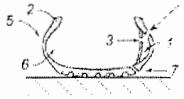
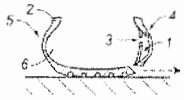
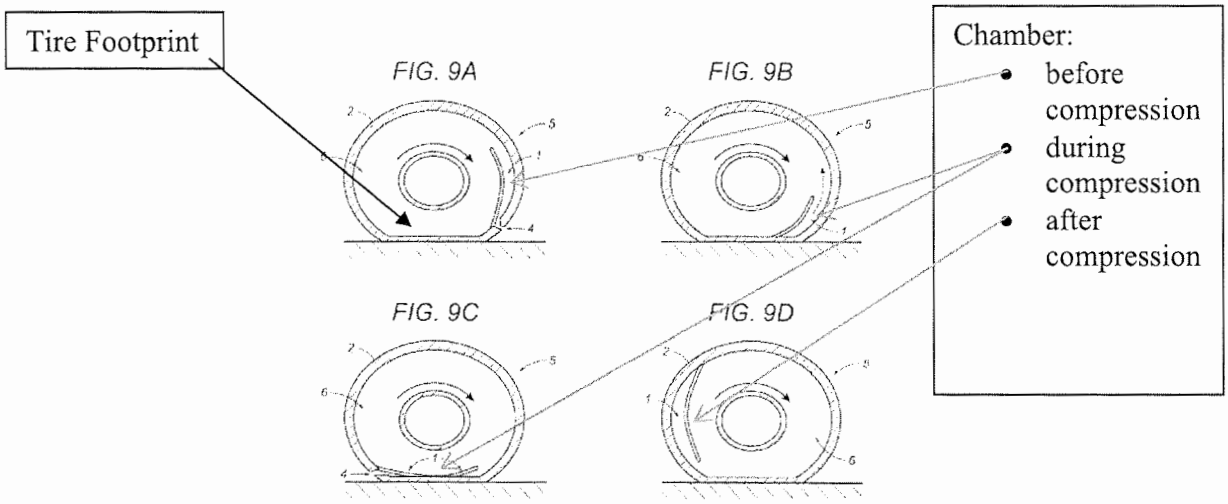


FIG. 5



32. The pump described in the '731 Patent would be powered simply by the rotation of the tire. As the tire rotated, it would compress the chamber whenever the chamber was in the tire footprint—the region of the tire directly contacting the ground. At least a portion of the chamber was to be made out of some material with "shape memory," meaning the chamber would return to its original shape when it was no longer compressed, as demonstrated by the figures below:



33. To ensure that the tire was not overinflated by the pumps described in the '731 Patent, Frantisek conceived of what he later came to call "dead space": a portion of the pump chamber that would not be completely compressed during the tire's rotation. That is, this portion would not be compressed to a "zero cross section" like the rest of the chamber. This dead space limits the maximum pump pressure. Figure 11 from the '731 Patent provides an example:

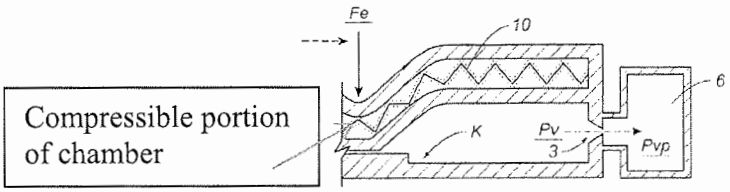


FIG. 11A

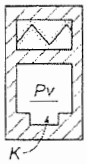


FIG. 11B

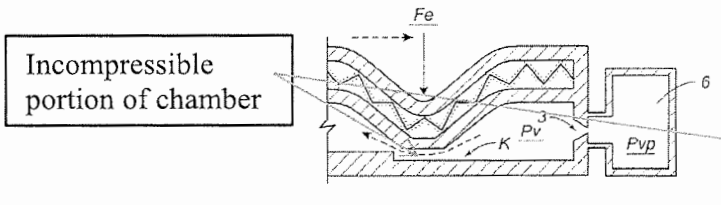


FIG. 11C

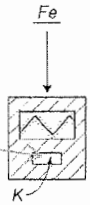


FIG. 11D

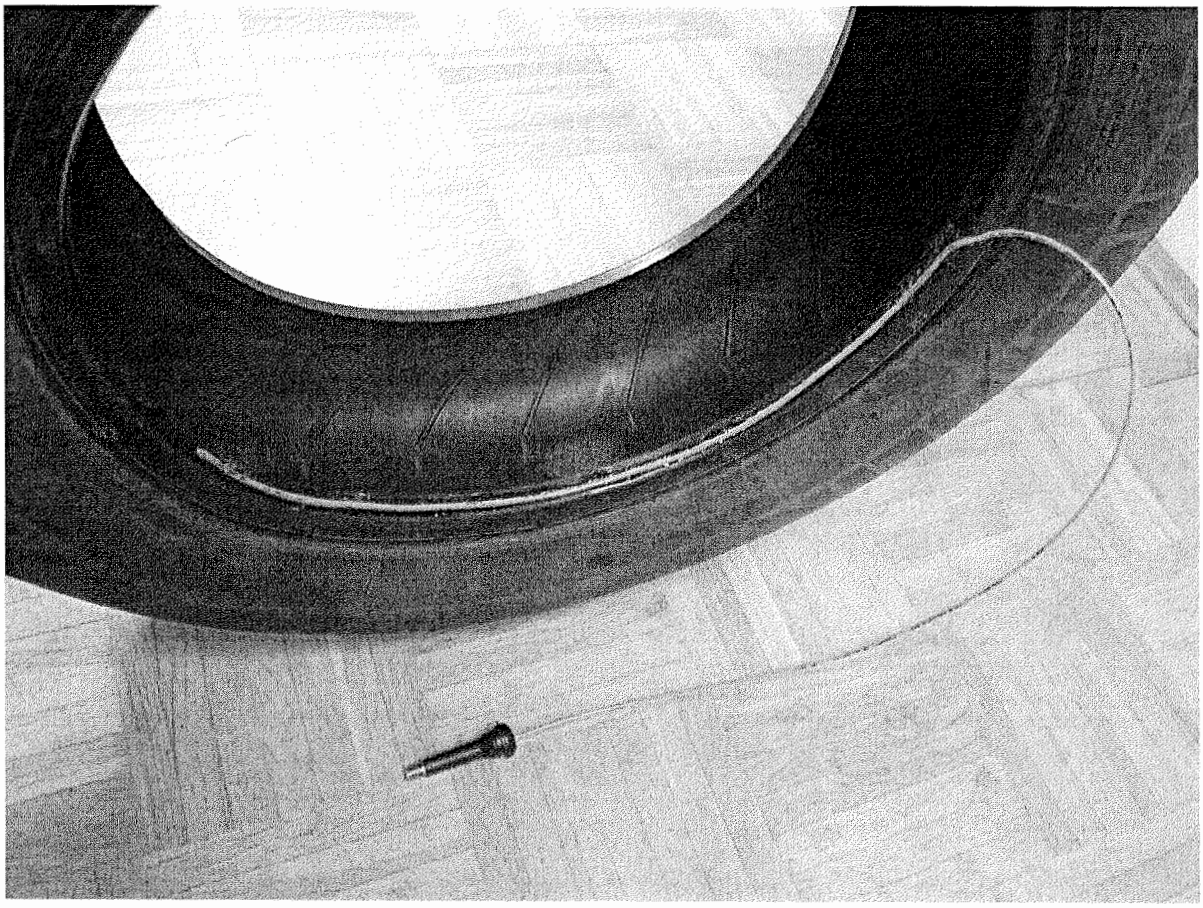
In Figure 11, the chamber is being compressed from left to right, with "Fe" representing the location of the compressive force that is applied. When the compression moves to the notch marked "K," the chamber is no longer compressed to a zero cross-section, and air can flow back into the tube. The "dead space" in this figure is the volume above the "K" notch. The volume of the compressible space of the pump chamber relative to the volume of the dead space defines the pump's compression ratio and, in turn, how much pressure the pump can generate.

34. Nothing in the '731 Patent describes a tube in a groove in the tire sidewall. Nor does the '731 Patent claim or disclose a valve or pump system that would permit the pump to operate both when the tire rotated forward and when the tire rotated in reverse.

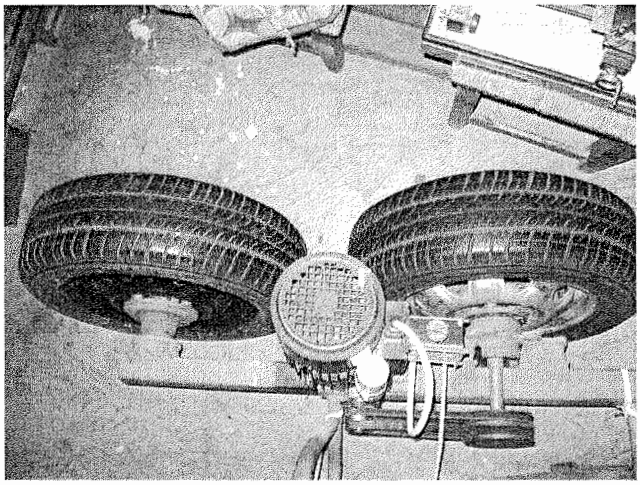
B. Mr. Hrabal's Experiments with Car Tires

35. Around 2002, Mr. Hrabal had also begun to experiment with incorporating the same tube he used in his bicycle tire prototype into car tires. His first effort involved embedding a tube into a hand-carved groove in the tire bead, next to the bead seat of the rim, as demonstrated by the following photograph:

12

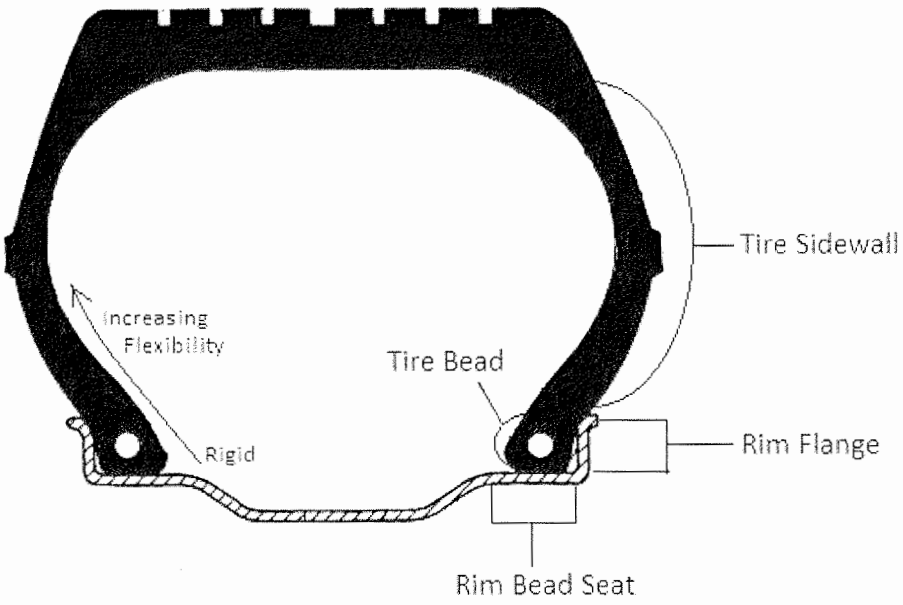


36. Mr. Hrabal lacked the means to test the device by simulating the rotation and compression a car tire undergoes during normal driving. So, with the help of his uncle, Mr. Hrabal built a rig onto which he could mount two car tires, push them together to simulate compression under load, and then rotate the tires. The tires were mounted on standard car wheels and turned on real car axles that Mr. Hrabal cut down to size, as demonstrated by the following photographs:



37. Mr. Hrabal cut small holes into the tire rims to study how the bead behaved as the tire rotated, for example:

38. Mr. Hrabal's experiments with tires taught him that that the tire bead is very rigid, but that the tire material is more flexible in the sidewall, and becomes more flexible the farther away it is from the bead. The diagram below shows the tire bead and sidewall of a tire. It also shows the bead seat and flange of the rim.



39. From his experiments, [redacted] However, Mr. Hrabal thought it would be best to locate the pump as close to the bead as possible because: it would lower the risk of puncture and it would be closer to the tire axis, and, thus, subject to lower centripetal forces and related strains; and he believed a pump built closer to the bead would be easier to manufacture. From his bicycle tire prototype, Mr. Hrabal knew a pump built on the tread of the tire could work, and while he spent some time considering how to build a pump in that area of the tire, he ultimately concluded that a location close to the tire bead, if not directly in the bead and on the bead seat, would be the better location.

40. Additionally, Mr. Hrabal recognized from his experiments that the pump, in whatever form it took, should be as [redacted]. For example, two "mirror image" pumps could be built in the tire at opposite locations. Or the pump could be in the form of a ring that paralleled the entire circumference of the tire. [redacted]

41. [redacted] This would improve pump efficiency by preventing air in the pump from leaking back into the atmosphere during each rotation. The same result could be achieved by making the pump chamber into a helix so that the inlet and outlet valves overlapped.

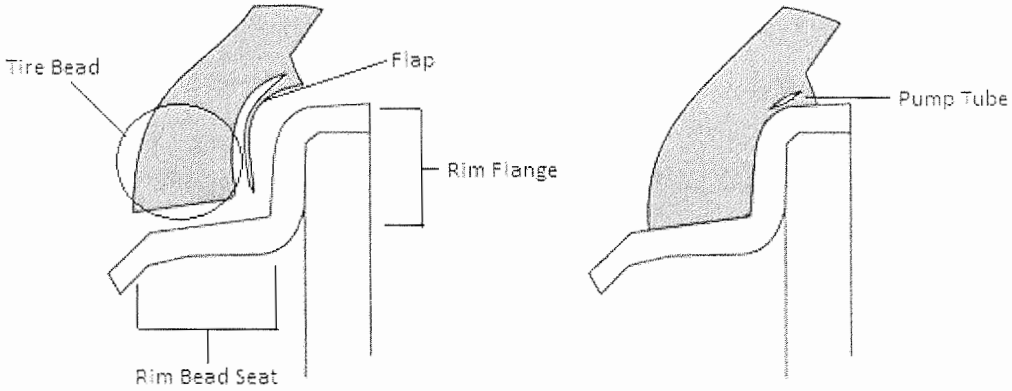
42. It was not until in or about 2005 that Mr. Hrabal was able raise enough money from friends and family to afford to quit his job and devote all his time and energy on developing and improving his self-inflating tire technology.

43. Up to this point, Mr. Hrabal had been performing his experiments in his apartment in Prague. But with the money he raised, he was now able to rent a basement space in Prague and relocated his prototyping operation there. Mr. Hrabal also began traveling frequently to his hometown, Trencin, Slovakia, where he could work in his mother's garage.

44. Over eight years of experimentation led Mr. Hrabal to believe that the best place to locate the pump was in the portion of the tire adjacent to the bead and on the rim

flange. He also devised how a pump channel could be easily formed directly in the tire at this location by manufacturing a "flap" in the tire bead (the "Flap Channel"). This is shown in the diagram below:

Cross-Section of Rim and Tire



45. On or about May 23, 2006, Mr. Hrabal applied for a Czech patent on his new Flap Channel invention and the method he designed for manufacturing it, Czech Patent Application number PV 2006-335. Mr. Hrabal filed a PCT application based on this patent, which was ultimately filed United States as United States Patent Application 12/302,027 (the "'027 Application"). Attached hereto and incorporated herein as **Exhibit 2** is a true and accurate copy of the '027 Application. The '027 Application was subsequently abandoned but later continued as United States Patent Application 13/399,038.

46. The first claim of the '027 Application recites:

> A chamber with shape memory for pressure correction in a tire, the chamber being a part of the tire or adjacent to a tire wall and being connected with an interior of the tire on the one end of the chamber and with an external environment on another end of the chamber, the chamber having a shape of a curved hollow channel, the chamber having at least one enclosing wall formed at least partially by a pair of surfaces that form an angle α=0 to 120° with each other.

47. The ninth claim of the '027 Application recites:

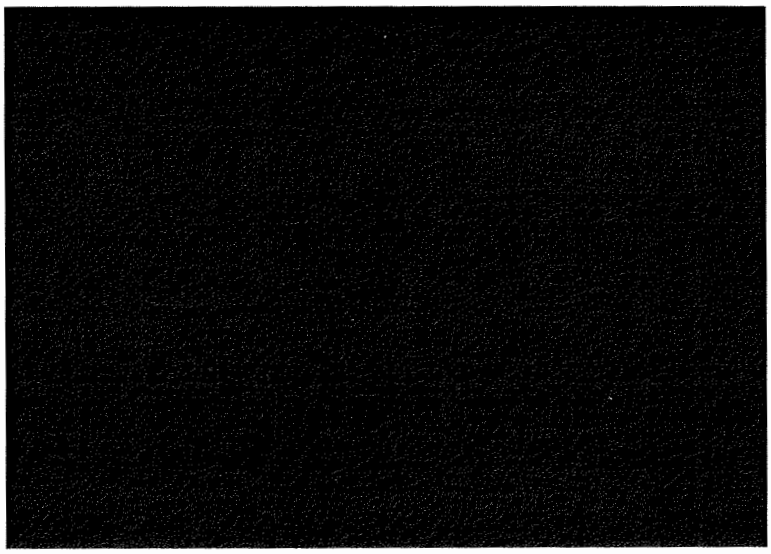
> A chamber manufacturing process for providing a chamber in a tire, the chamber having shape memory for pressure correction in the tire, the chamber being a part of the tire or adjacent to the tire wall and being connected with an interior of the tire on one end of the chamber and with an external environment on another end of the chamber, wherein the chamber has a shape of a curved hollow channel, the chamber having at least one enclosing wall formed at least partially by a pair of surfaces that form an angle α=0 to 120° with each other, comprising placing a matrix with a width of 0.1 mm to 200 mm and thickness of 0.01 mm to 100 mm between layers forming a side wall of the tire or an ancillary structure, performing vulcanization, and extracting the inserted matrix as a whole or at length corresponding to the length of the chamber, whole or in parts.

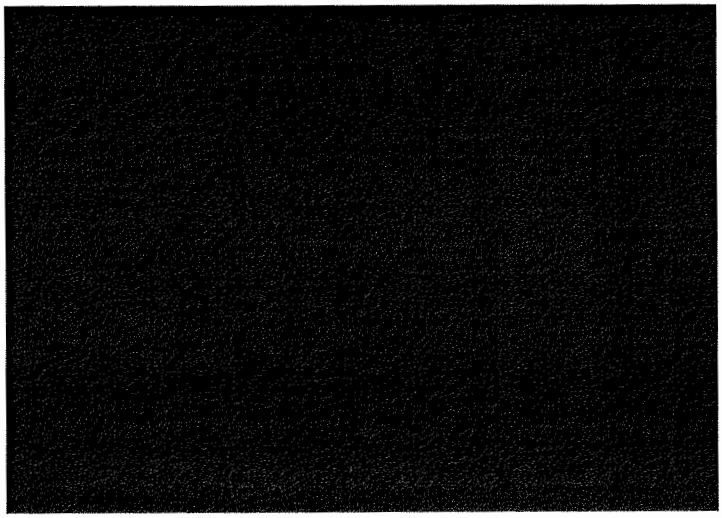
48. Nothing in the '027 Application discloses a tube in a groove in the tire sidewall, as communicated to Goodyear and as described in paragraphs 45-47 above. Indeed, the '027 Application describes a pump in the form of a channel formed by a flap created near the tire bead and which rests on the tire rim. Nor does the '027 Application claim or describe a valve or pump system that would permit the pump to operate when the tire rotated forward and when the tire rotated in reverse.

C. Mr. Hrabal's Car Tire Prototypes

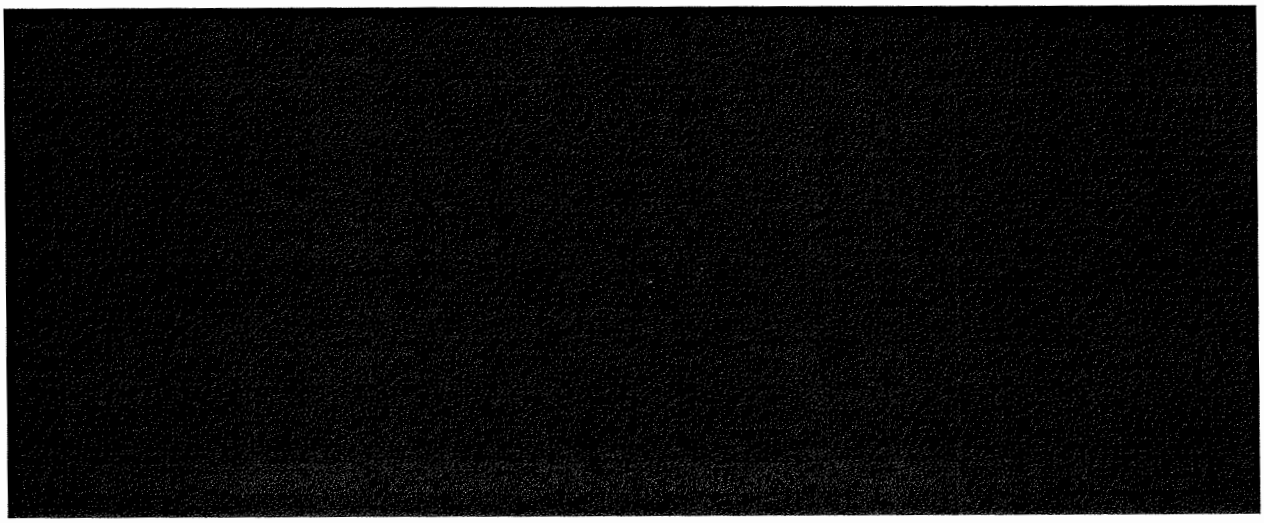
49. Beginning in or around the winter of 2006, Mr. Hrabal set about to prove that his Flap Channel idea would work. However, Mr. Hrabal did not have the tire-making equipment to produce this integral chamber, and the hand-carving that he did for the tube in the bead groove was not practical. Nevertheless, Mr. Hrabal thought that he could prove the concept with a separate pump tube that fitted into the gap between a conventional tire and rim (the "Flap Tube").

50. To design the Flap Tube, [redacted] as demonstrated by the following photograph:

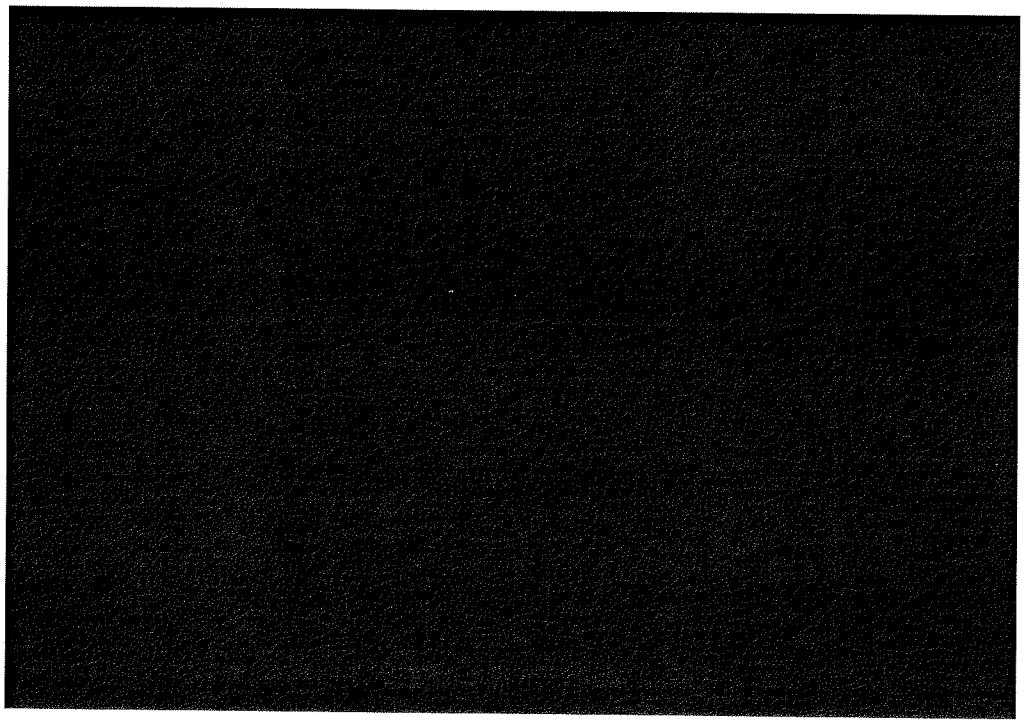


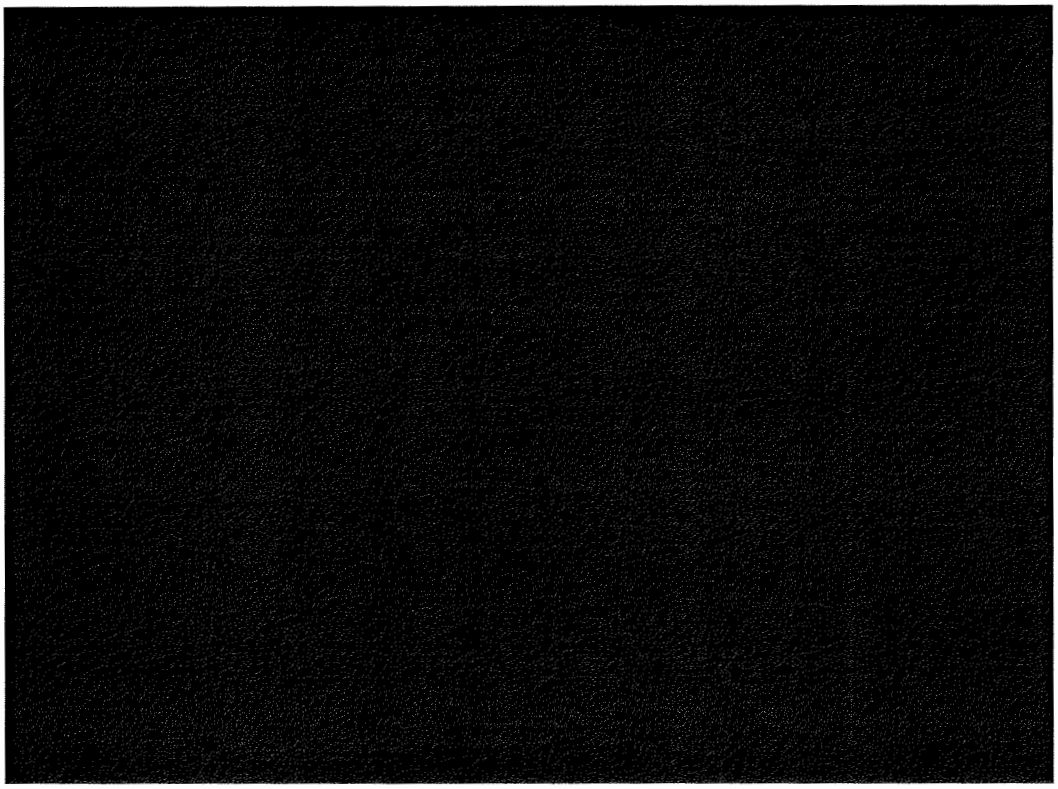


Mr. Hrabal used these [redacted] to design custom molds to create the pump chamber, such as this one:

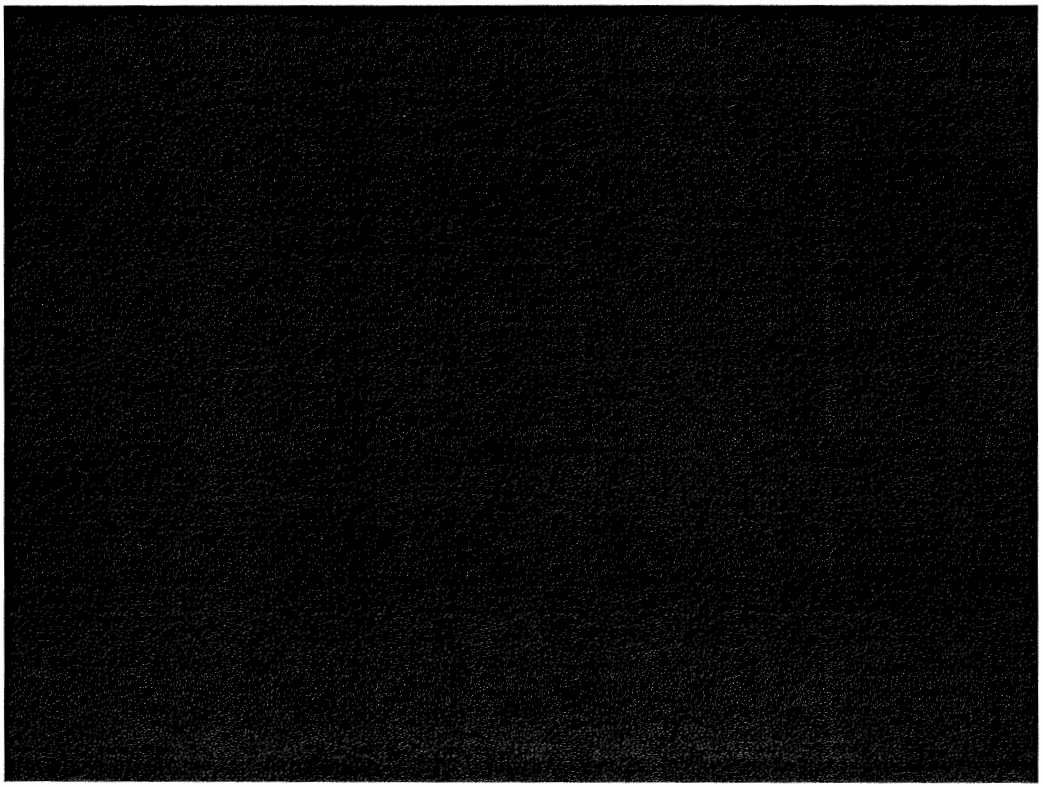


51. At first, Mr. Hrabal attempted to make the Flap Tube





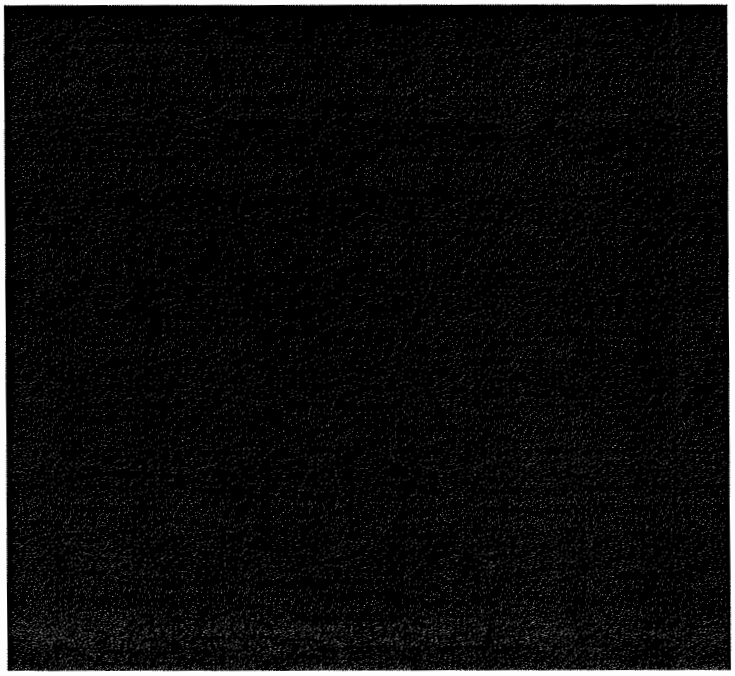
52. Mr. Hrabal then inserted the Flap Tubes he created into the space between the tire and the rim, as depicted below:



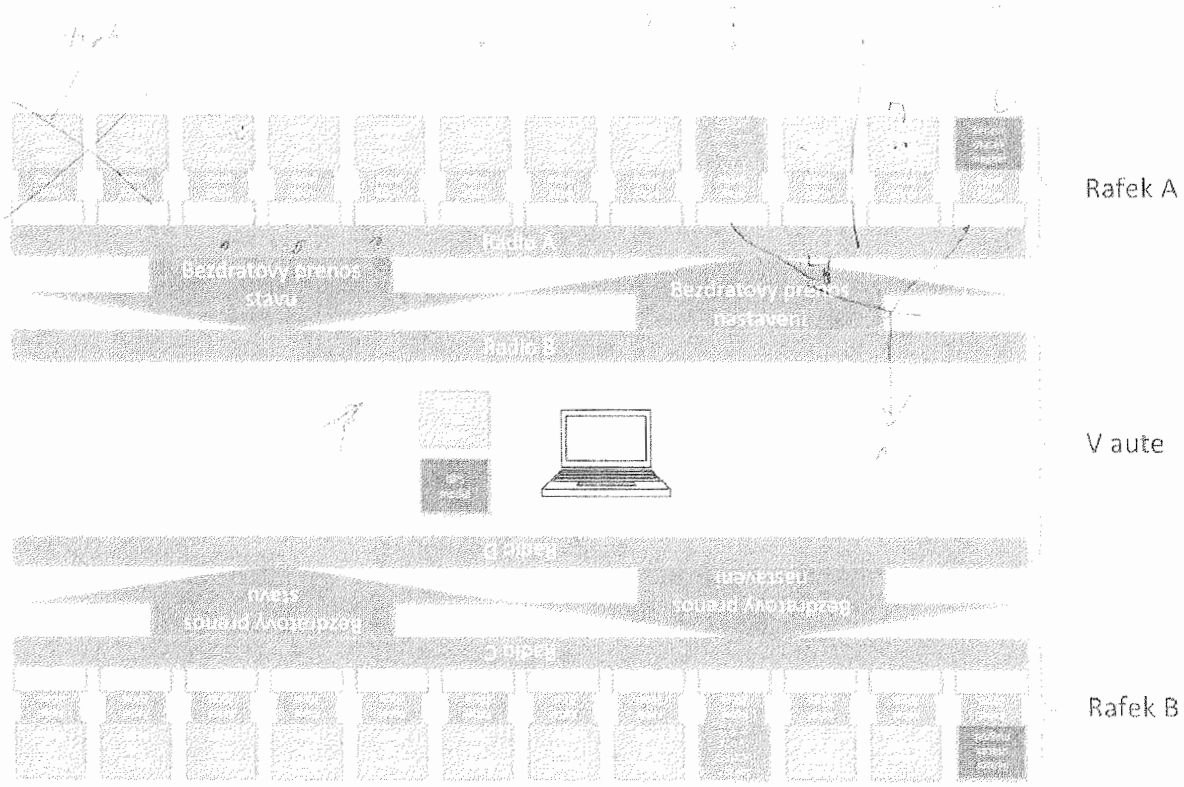
53. In addition to refining the Flap Tube, Mr. Hrabal continued to think about the manufacturability of his invention. After some thought, Mr. Hrabal came to believe that, as an alternative to molding a flap in the tire, the pump chamber could be formed by embedding a filament of some sturdy material (like wire), coated in some lubricant, into the raw rubber before the tire was pressed. After pressing and vulcanization, the filament could be pulled out, leaving behind a small cavity.

54. To test this idea, Mr. Hrabal embedded a filament into a tire during the retreading process. [redacted]

55. Mr. Hrabal also developed his own testing equipment for his Flap Tube. First, he set about building custom wireless tire pressure monitoring sensors. Mr. Hrabal mounted the sensors in various locations, to test various possible valve configurations and modified the compression ratio by expanding or increasing the length of non-compressed tubing feeding into the pressure sensors.



56. Mr. Hrabal also had the sensors re-programmed to give them the specific functionality they were looking for in their tests—namely, continuous transmission of data to a remote computer:

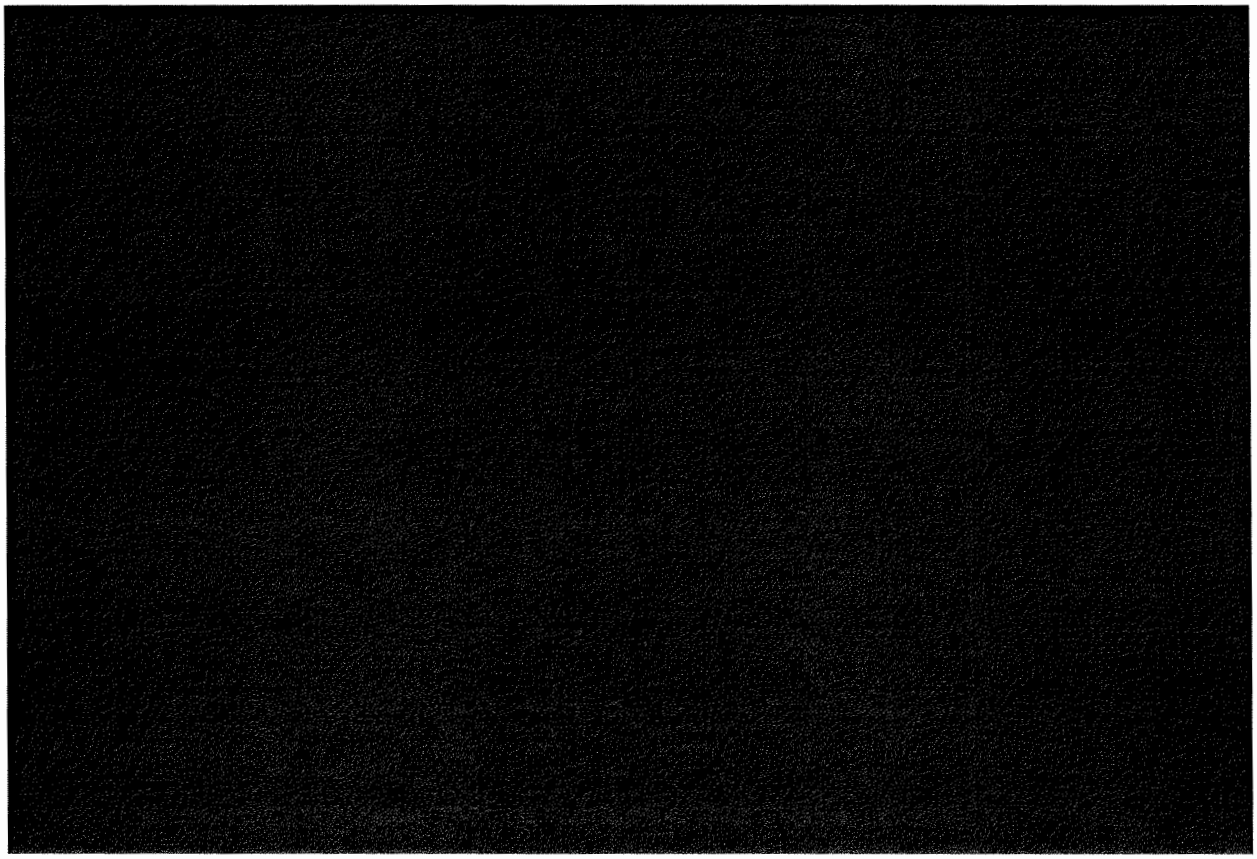


57. Using these sensors, Mr. Hrabal was able to see how his Flap Tubes performed in real time. [redacted] While promising, Mr. Hrabal knew that most passenger car tires are inflated to two to three atmospheres, and commercial truck tires may be inflated to pressures twice as high, or more.

58. In or about the spring of 2007, Mr. Hrabal realized that it would be more efficient to make his own molds, and in or about the summer of 2007, Mr. Hrabal purchased an industrial lathe in order to do so.

59. In addition to making his own molds, Mr. Hrabal wanted a lathe because he realized it could be used for something else—spinning tires very fast. Mr. Hrabal built a vertical version of his testing rig that allowed him to connect a tire to the lathe. The vertical

rig simulated compression of the tire much like the prior testing rig, by pushing the tire with the pump against another tire:



60. With the lathe, Mr. Hrabal was able to test tires at 700 rotations per minute, or the equivalent of driving at forty-five miles per hour. But at these higher speeds, [redacted]

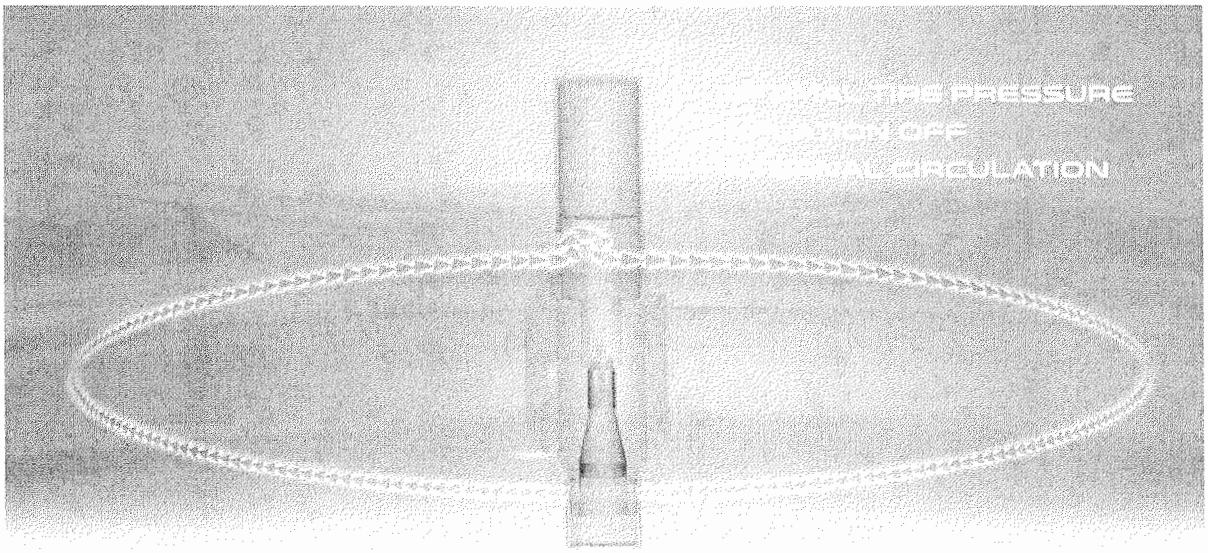
61. [redacted] Mr. Hrabal was not able to implement this solution, however, because he lacked the ability to manufacture tires. So Mr. Hrabal experimented with a variety of different shapes and configurations of the Flap Tube.

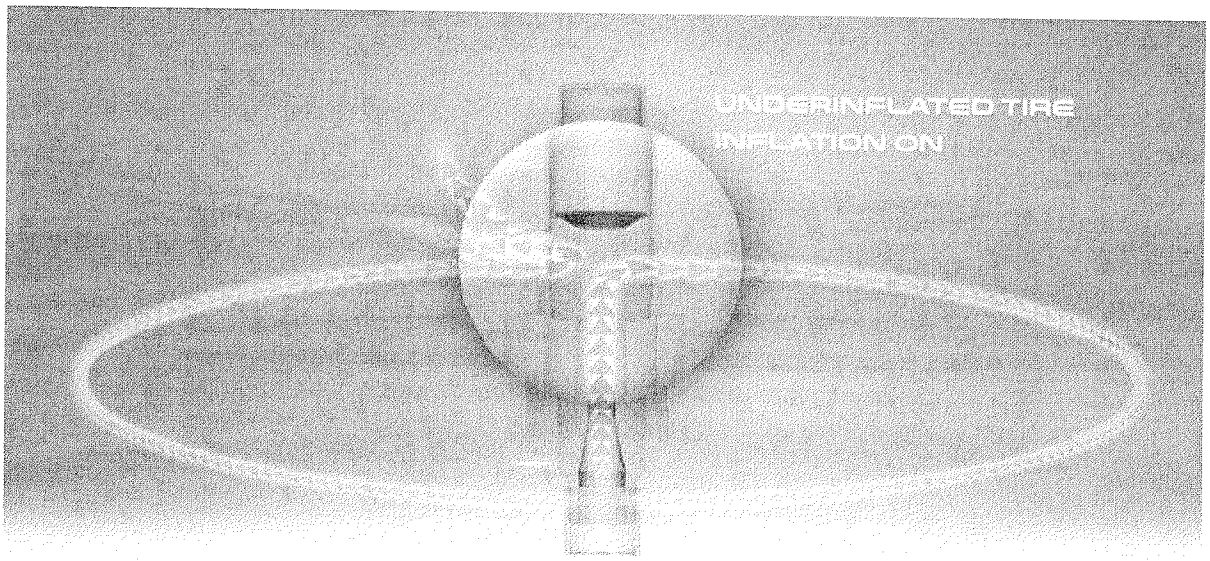
62. ***Recirculation innovation*:** During testing, [redacted]

63. The solution to this problem came to Mr. Hrabal abruptly in the early morning of Easter 2007: a three-way valve that, when the tire was not inflating, would recirculate air through the pump, allowing the pump to remain constantly pressurized, rather than de-pressurizing and re-pressurizing during each rotation. With the entire pump constantly pressurized, it could force the entire volume of the pump chamber into the tire with each rotation, ensuring much more rapid inflating. And a recirculating system could pump this air into the tire continuously, rather than in repeated bursts as in the dead space concept. Indeed, the pump could be designed to be pressurized at a much higher level than

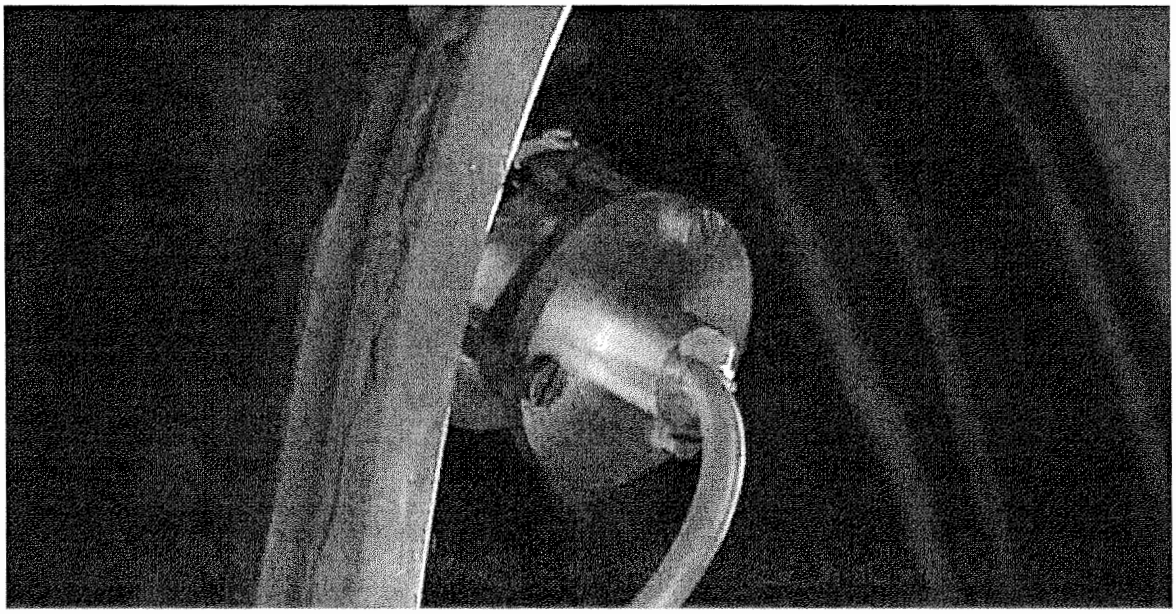
the tire itself, just like the air pumps at service stations, and therefore could inflate the tire faster and more efficiently.

64. The three-way valve worked by allowing air in the pump to continuously recirculate through the pump when the tire was properly inflated. This meant that the three-way valve required the pump to be a complete circle, like the Flap Tubes or the Flap Channel. When the tire was underinflated, a membrane would form a seal, stopping the recirculation of air in the system, forcing the pump to draw in air from the outside and push that air into the tire with each rotation. The membrane worked by being connected to a reference box, a physical box containing the optimal pressure for the particular tire. When the tire pressure fell below the reference box's pressure, the membrane would expand and close the valve, stopping recirculation:





65. [redacted] Mr. Hrabal then realized he could tune the valve by using an adjustable fitting to change the distance between the membrane and the aperture it sealed—the farther the membrane was from the aperture, the greater the pressure disparity needed to make the membrane expand far enough to stop recirculation; and the closer the membrane, the smaller the pressure disparity needed to make the pump inflate the tire.



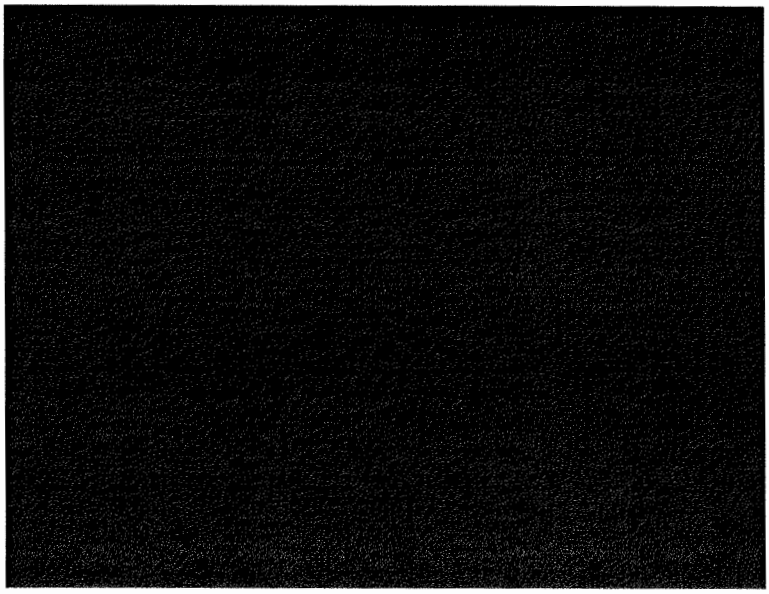
66. While Mr. Hrabal's proof-of-concept three-way valve used a reference box connected to a membrane, he also realized that the membrane could be replaced with a spring, or that the membrane could be assisted by a spring, or the valve could be operated electronically, perhaps in conjunction with a tire pressure monitoring system. Mr. Hrabal also recognized that the membrane did not have to act directly as the valve; instead, for example, the membrane could push a lever that actuated a valve. These configurations could be used to alter how exactly the air recirculated through the pump.

67. [redacted] Mr. Hrabal concluded this was likely so for two reasons. [redacted]

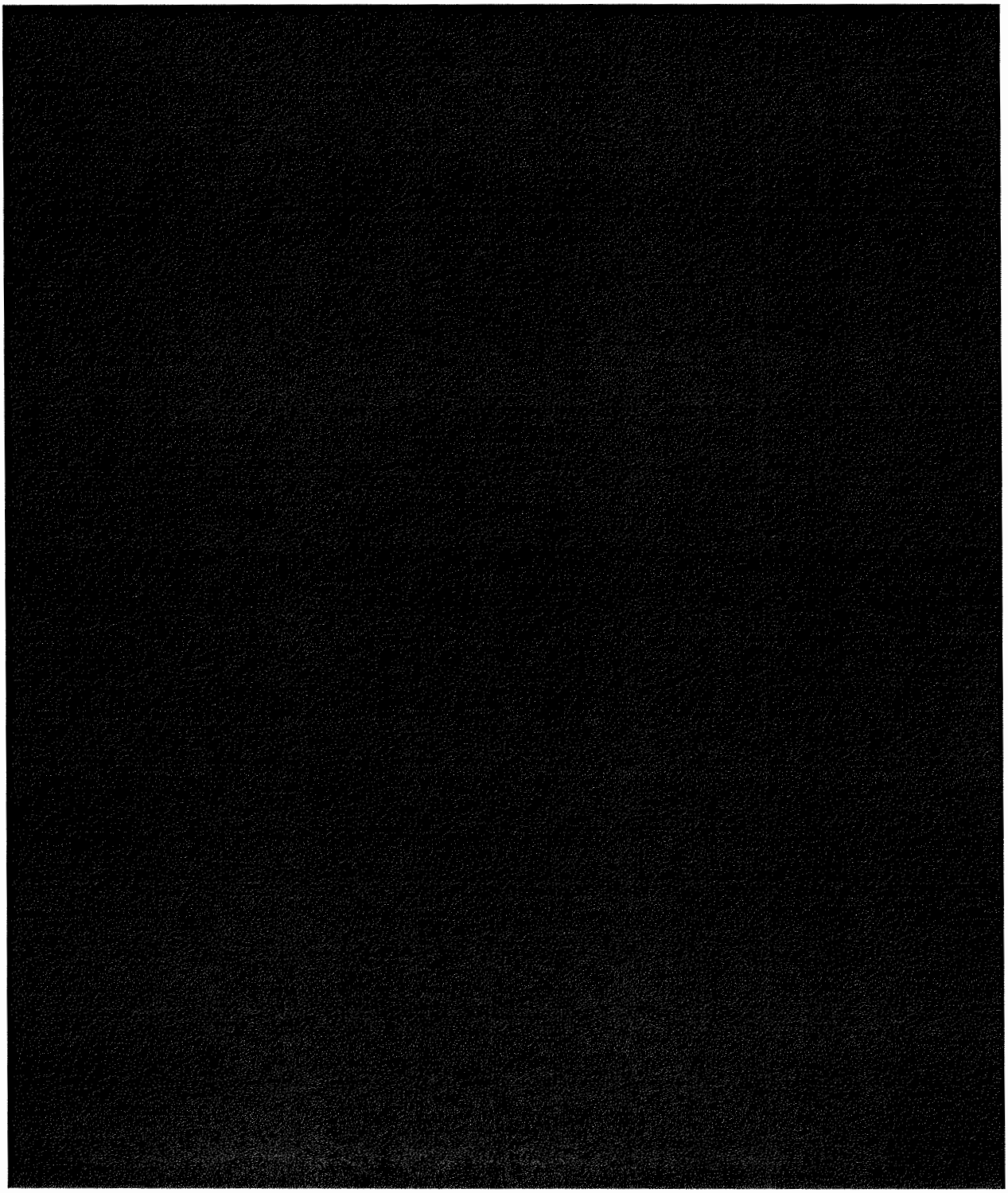
[redacted] Thus, Mr. Hrabal began to consider alternative configurations.

68. During the course of Mr. Hrabal's extensive prototyping efforts, Mr. Hrabal had observed how the tire sidewall above the rim behaved during the tire's rotation. He had come to understand that tire sidewalls were less rigid farther away from the rim [redacted] Specifically, Mr. Hrabal had come to understand the compressive and expansive forces in the tire sidewall, and that the compressive forces in the outer sidewall could be used to compress a pump.

69. While Mr. Hrabal was unable to build a tire with a pump in the sidewall, he devised the next best thing. [redacted] The unfinished version of this prototype is pictured below:



70. Mr. Hrabal mounted his new prototype to his lathe and began performing tests. [redacted] This meant that the prototype proved Mr. Hrabal's technology could make a tire self-inflating.



Mr. Hrabal's finished prototype.

71. On or about February 21, 2008, and on or about March 7, 2008, Mr. Hrabal filed two Czech patent applications on his three-way valve, Czech Patent Application numbers PV 2008-97 and PV 2008-143. These two applications were combined into United States Patent Application 12/918,690 (the " '690 Application"), which remains pending.

72. The first claim of the '690 Application recites:

> A device for adjustment of pressure in tires, comprising a chamber with shape memory and
>
> > a valve comprising a three-way valve with inputs interconnected with the external environment and the tire internal space, where one input is fitted with a valve, a next input is connected to the chamber with shape memory, and a last input is interconnected with a closure element.

II. Mr. Hrabal's Collaboration with Goodyear

73. Since the early twentieth century, there have been attempts to develop self-inflating tires. Numerous patents have been granted on various self-inflating tire concepts, though none have been successfully commercialized to Coda's knowledge.

74. Indeed, upon information and belief, Goodyear attempted to develop its own self-inflating tire technology in or around 2000—the same time Mr. Hrabal was beginning to work on his invention. Called the "Cycloid," the Goodyear device employed a pendulum affixed to the wheel, which powered a pump that would keep the tire inflated. Despite significant research and development, the Cycloid went nowhere, which soured Goodyear on the very notion of a self-inflating tire.

75. In or about 2003, in an effort to obtain funding to further develop his invention, Mr. Hrabal created a website displaying the figures from his granted patents or published patent applications, and issued a press release touting the benefits of a self-inflating tire. Mr. Hrabal emailed this press release to several tire companies including

Goodyear. On or about October 17, 2003, Larisa A. LeQuyea, then a paralegal in Goodyear's Intellectual Property Law Department, responded to Mr. Hrabal, stating simply that Goodyear had reviewed Mr. Hrabal's invention and "has no present interest therein."

76. Mr. Hrabal later learned that, in the intervening ten months, Goodyear had devoted a seasoned team of engineers to evaluating his invention, and they ultimately concluded that it would be too expensive to manufacture, that it would implicate serious tire balance and force variation issues, and there would be problems with harmonics. Mr. Hrabal also learned that, particularly in light of the Cycloid disaster, Goodyear as a matter of policy no longer partnered with other companies to develop new technologies, preferring to conduct all research and development in-house. Mr. Hrabal learned all this from an acquaintance of his, Boris Ondercin, then a Massachusetts Institute of Technology Sloan Business School student, who in turn learned this from Joseph Gingo, then the Executive Vice President and Chief Technical Officer at Goodyear and a fellow Sloan alumnus.

77. On or about March 24, 2008, Mr. Hrabal was contacted by Andrew Kaltsounis, a senior Global Tire Buyer for GM. Mr. Kaltsounis expressed interest in Mr. Hrabal's technology and asked if they could meet. Mr. Hrabal responded that he was planning on attended the Society of Automotive Engineers ("SAE") World Congress from April 14–17, 2008, in Detroit, Michigan, and suggested he meet with Mr. Kaltsounis around then.

78. After attending the SAE Congress, where Coda won an award for its SIT technology, Mr. Hrabal met with Mr. Kaltsounis and several other GM representatives at GM's headquarters in Detroit. The GM representatives explained that they were interested in developing Coda's SIT technology for the then-upcoming Chevrolet Volt. The GM

representatives declared that the Volt would be one of the most heavily marketed cars in the world and including Coda's technology on it would guarantee Coda's success. However, recognizing that Coda was then a very small company (Mr. Hrabal was its only employee at that time) and lacked any mass production capabilities, the GM representatives told Mr. Hrabal that Coda would have to partner with one of their usual tire suppliers, such as Goodyear. The GM representatives said they would reach out to Goodyear to arrange a meeting.

79. On or about April 28, 2008, Mr. Hrabal attended the Intelligent Tire Conference in Dearborn, Michigan. At that conference, Mr. Hrabal met Mr. Benedict for the first time. Mr. Hrabal shared with Mr. Benedict that he was developing a self-inflating tire. Mr. Benedict responded by saying that no one at Goodyear was doing any serious work on such technology. Mr. Benedict explained Goodyear's history with the Cycloid and gave Mr. Hrabal the impression that a self-inflating tire would likely be a hard sell within Goodyear. However, as Mr. Hrabal explained to Mr. Benedict more about how his self-inflating tire worked, Mr. Benedict appeared more interested, and ultimately concluded their conversation by offering to pass along any information Mr. Hrabal had to Goodyear's marketing department.

80. On or about August 5, 2008, Mr. Hrabal heard from Mr. Kaltsounis that GM's increasingly dire financial straits were delaying consideration of his self-inflating tire technology, and that, in light of the North American economic downturn, GM "is cutting back on many projects."

81. But on or about October 20, 2008, Mr. Kaltsounis confirmed that he had presented Coda's technology to Goodyear and was awaiting feedback.

82. On or about December 18, 2008, Coda was contacted by Alexandre Vaïsse, a marketing manager at Goodyear Dunlop Europe. Vaïsse said, "We would be interested to discuss together with you about your 'Self inflating tire' technology," and proposed a meeting at Goodyear's facilities in Frankfurt or Luxembourg.

83. The next day, after speaking on the phone with Mr. Hrabal, Vaïsse wrote him again saying, "As discussed, the purpose of our mid-Jan09 introduction meeting will be to review your SIT concept together with our technical and marketing management communities, in order to understand it a bit more into details vs. presentation already available in [*sic*] your website (i.e. to cover topics like impact on fuel consumption, SIT behavior under aging/mileage, manufacturability, etc)."

84. On or about December 23, 2008, after agreeing to meet at Goodyear's facilities in Frankfurt on January 15, 2009, Mr. Hrabal sent Mr. Vaïsse a proposed non-disclosure agreement. Mr. Vaïsse responded by asking Mr. Hrabal to sign Goodyear's form non-disclosure agreement (the "Goodyear NDA"), which, on January 7, 2009, Mr. Hrabal did. Importantly, prior to signing the Goodyear NDA, Mr. Hrabal never disclosed any trade secret information to Goodyear.

85. The Goodyear NDA provided, in pertinent part:

> 7. A recipient of Confidential Information disclosed under this Agreement shall not use the Confidential Information except for discussing a possible cooperation in the field of self inflating [*sic*] tires
>
> 8. Confidential Information may include, by way of example, but without limitation, data, know-how, formulas, processes, designs, sketches, photographs, plans, compositions, drawings, specifications, samples, rubber compounds, reports, customer lists, pricing information, software, equipment, studies, findings, inventions and ideas. . . . .
>
> . . . .

> 10. A recipient of Confidential Information disclosed under this Agreement shall exercise care to prevent the disclosure of that Confidential Information to any third party, using the same standard of care which it employs with its own confidential information of similar character. A recipient of Confidential Information disclosed under this Agreement shall limit internal dissemination of that Confidential Information within its own organization to individuals whose duties justify the need to know such information, and then only provided that there is a clear understanding by such individuals of their obligation to maintain the confidential status of such information and to restrict its use solely to the purpose specified herein.

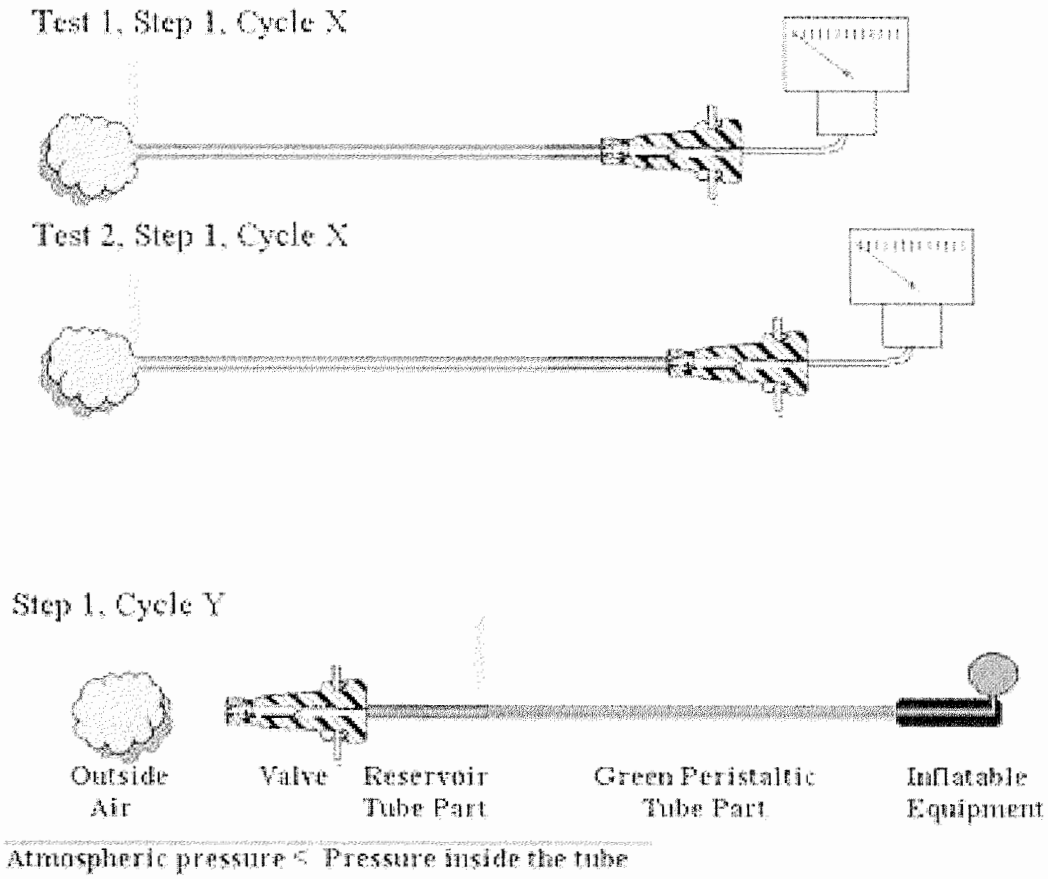
86. On or about January 15, 2009, Mr. Hrabal met with a number of Goodyear representatives at the Goodyear Dunlop Technical Center in Frankfurt, Germany. Accompanying Mr. Hrabal was Maros Topoli, who had joined Coda in the fall of 2007 and was now the Director of Marketing. Upon information and belief, the following Goodyear employees were physically present at the meeting: Vaïsse, David Anckaert, Matthias Bode, Alex Bortoluzzi, Boris Erceg, Paul Joosten, Bernd Loewenhaupt, Saburo Miyabe, Frederic Schilling, Harald Schmid, Ulrich Steinbrecht, and Herbert Werner. Mr. Benedict and several other U.S.-based Goodyear representatives also attended the meeting variously via telephone and videoconference.

87. Mr. Hrabal gave a multi-hour presentation to the Goodyear employees, aided by a PowerPoint presentation he drafted, pursuant to the terms of the Goodyear NDA. Mr. Hrabal's presentation touched on, among other things, where in the tire a pump could be located; how the pump should be built and designed; the pressure management systems that could be employed (dead space or recirculation with a three-way valve); how efficiently the pump could compensate for the tire's typical leakage; marketing strategies; and Mr. Hrabal's tests on his prototypes. Further details and examples of some of the information that Mr. Hrabal shared, pursuant to the Goodyear NDA, relating to these subjects is set forth below.

88. ***Pump Location:*** Mr. Hrabal explained to the Goodyear representatives that his prototype operated by [redacted] Mr. Hrabal also discussed other pump tube locations, including but not limited to, those disclosed in his '027 application.

89. ***Pump Shape:*** Mr. Hrabal also discussed with the Goodyear representatives that the pump could go around the entire tire circumference or only a portion of it, but that to ensure the tire's stability and [redacted] This set up would make installation easier, as tire servicers would not need to mount tires in a particular orientation for the pumps to work.

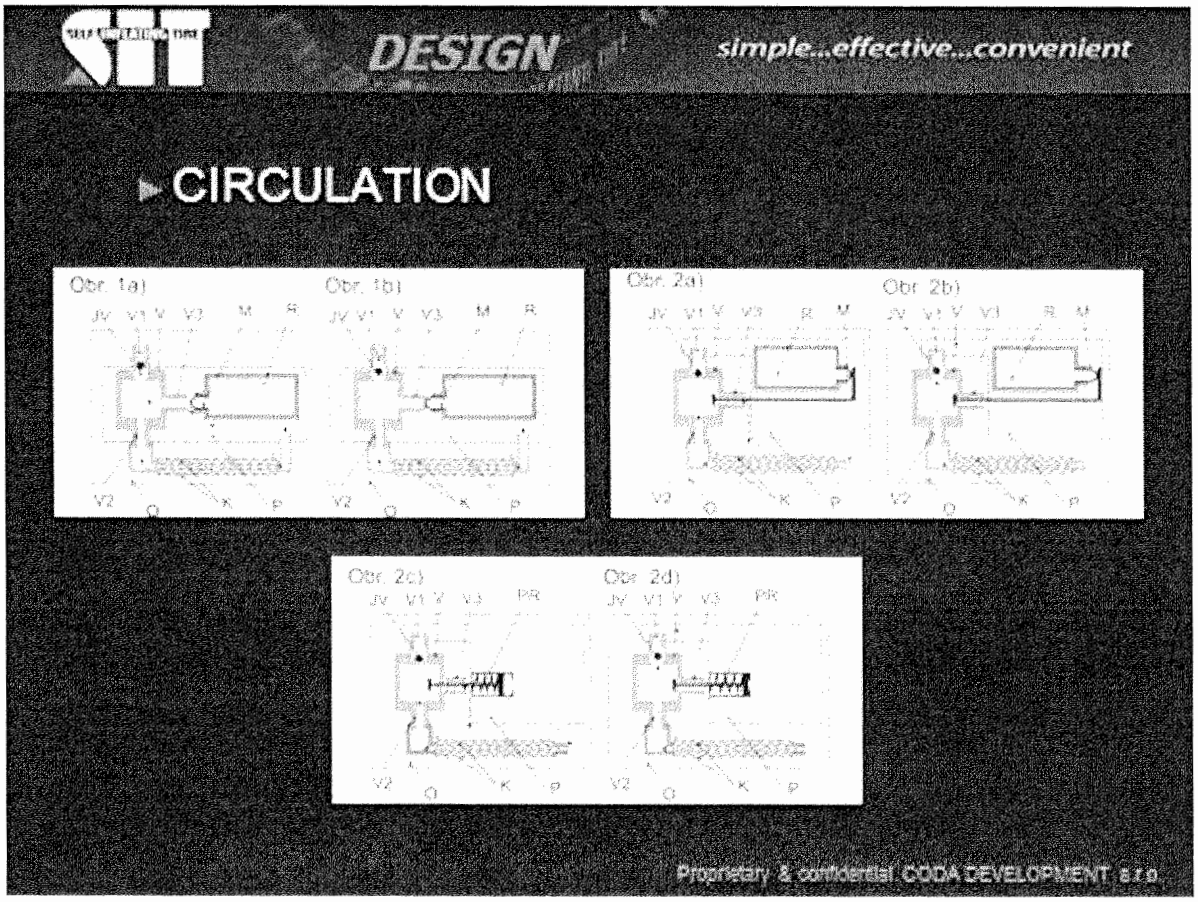
90. ***Pressure Management*:** Mr. Hrabal also discussed his original dead space concept with the Goodyear representatives, using, among other things, the following diagrams:



In the first diagram, the pump tube is open to the outside atmosphere. As the tire rotates, the tube is compressed, starting at the yellow arrow and moving along the green (compressible) portion of the pump tube until it reaches the red (dead space) portion of the pump tube. At that point, all the air in the pump tube (which is normally at one atmosphere, as it is open to the outside atmosphere) has been compressed into the dead space. The size of the dead space relative to the compressible portion of the pump tube determines the compression ratio and, thus, the maximum pressure the pump can output. In the alternative embodiment, the pump tube freely open to the tire interior, meaning when uncompressed it is the same pressure as the tire. In this embodiment, as the tire rotates, compresison of the tube forces air back into the tire, and the air that was in the dead space expands to eventualy

fill the entire volume of the pump tube. If the air pressure in the pump tube ever falls below one atmosphere, the valve on the intake will allow in air from the outside atmosphere. Again, the relative size of the dead space and the compressible portion of the pump will determine the compression ratio.

91. Mr. Hrabal also discussed his three-way valve and how that arrangement would allow recirculation. This addressed the pump pressure limitations of the dead-space designs and reduced wear and energy use by operating the pump only when inflation is required. Mr . Hrabal showed Goodyear some of the potential three-way valve arrangements he had designed:



92. ***Marketing:*** [redacted]

93. ***Efficiency of Leakage Compensation*:** Mr. Hrabal also demonstrated that his peristaltic pump design would be very efficient at compensating for typical tire leakage, by providing detailed calculations regarding how infrequently the pump would need to operate to keep the tire properly inflated at all times. These calculations showed that the system required only a very small pump tube, which greatly enhanced the feasibility of the system, especially if the pump tube were incorporated into the body of the tire.

94. Mr. Hrabal also discussed with the Goodyear representatives that he had run various tests on his prototype that demonstrated its effectiveness. He showed the representatives videos of these tests, which displayed the output of the wireless pressure monitors and showed how the prototype was mounted on a rig and spun with Mr. Hrabal's lathe.

95. Throughout the course of the meeting, the Goodyear representatives grilled Mr. Hrabal, asking him numerous questions about his technology, how it operated, and its feasibility. At the outset of the meeting, the Goodyear representatives were universally skeptical, if not downright incredulous, [redacted] But by the end of the meeting, Mr. Hrabal appeared to have convinced them that there was merit in his invention.

96. Shortly after the meeting, Mr. Hrabal sent Mr. Vaïsse an email, stating, "I promised to provide the information about maximum pressure reached during our tests. With SIT set-up used on our video (with yellow silicon tube) we reached approximately [redacted]

97. Despite repeated follow-ups, Mr. Hrabal heard nothing from Goodyear for the next several months. This was not entirely surprising to Mr. Hrabal, as it had taken nearly a year for GM to convince Goodyear to meet with him. Finally, on May 19, 2009, Christian Spieker, a Goodyear engineer at the External Science and Technology Programs unit at the Goodyear Innovation Center in Luxembourg, emailed Mr. Hrabal and Mr. Topoli. Spieker referred to the January 15 meeting, and said "After a first internal evaluation I'd like to tell you that we are interested in your SIT technology and would like to know more about it. Therefore we think about a technical readiness evaluation at your premises in Prague, in order to physically judge the concept feasibility on-site and to decide whether we will start a development project or not." Attached hereto and incorporated herein as **Exhibit 3** is a true and accurate copy of this email.

98. Mr. Hrabal and Spieker ultimately agreed to have the meeting on or about June 15, 2009. On or about June 12, 2009, Mr. Benedict, who was to be traveling to Prague for the meeting, emailed Mr. Hrabal, saying:

> Our goal is to evaluate CODA's Self Inflating tire technology. We would like to:
>
> View updated technical presentation
>
> Review the prototype product
>
> Review testing methods and results

99. On or about June 15, 2009, Mr. Hrabal, accompanied by Mr. Topoli and Ladislav Szabo, an acquaintance of Mr. Hrabal and one of Coda's early investors, met with Messrs. Benedict, Spieker, and Massimo Di Giacomo Russo, another Goodyear representative. The meeting took place in a hotel conference room that Mr. Hrabal had reserved for the occasion, and Mr. Hrabal brought to the meeting his final prototype, the wireless sensors that had been mounted to it for testing, one of his Flap Tubes, at least two different version of his three-way valve that he had been working on, and partial mock-ups of tire cross-sections with an integrated Flap Tube.

100. During the course of the meeting, among other things, Mr. Hrabal again discussed how Goodyear could manufacture a tire based on the configuration in the prototype. He explained that the exact configuration resulted from his limitations due to the lack of tire-making facilities. He said that, if he were a tire maker (like Goodyear is), would incorporate the tube into the tire sidewall. Mr. Hrabal pointed to the prototype, to the region of the tire sidewall just above the rim but below the midpoint, [redacted] to capture the flexion to compress the pump tube.

101. At around midday, the meeting concluded and Mr. Hrabal invited the Goodyear team to lunch. Mr. Benedict first asked if he, Spieker, and Russo could have some privacy in the conference room, so Messrs. Hrabal, Topoli, and Szabo stepped outside.

102. After the Goodyear team emerged from their private meeting and proceeded to lunch, [redacted]

[redacted] Mr. Hrabal told this story to illustrate how resistant to change he felt the tire industry was, and explained that he hoped Goodyear would be more open-minded.

103. Mr. Benedict then told Mr. Hrabal that the Goodyear team had taken photographs of Mr. Hrabal's prototype during their time alone in the room with it. Mr. Hrabal took this to mean that the Goodyear team was genuinely interested in his technology.

104. After this meeting, Mr. Hrabal heard nothing from Goodyear for the next several months.

105. Hearing no response from Goodyear, Coda began looking for a "turnkey" research and development provider; that is, a company who could provide commercial development services to further advance the technology to the point where it would be ready for commercialization and mass production. In or about September 2009, Coda met the firm MPR Associates Inc. ("MPR") for this purpose. In MPR's initial memorandum detailing the scope of their intended work, MPR recounted how Coda envisioned several ways to implement its self-inflating tire technology, including by "molding the inflating tubing directly into the rubber of the tire, as the tire itself is being molded." In or about February 2010, MPR provided another memorandum, which contained a diagram of what one of these embodiments would look like:

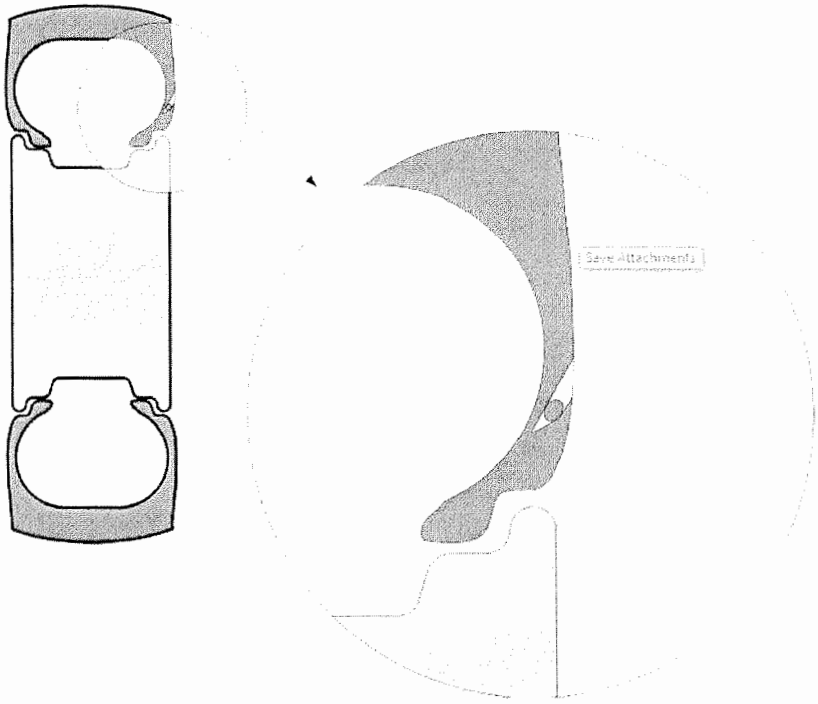


Figure 3-1. SIT Embodiment 1: Within Tire

106. Coda also sent an inquiry ("RFI") to Goodyear whether it would be interested in providing commercial development services. This would be an alternative to Goodyear's entering into a partnership with Coda. By early November, 2009, Coda had not received a communication from Goodyear, either replying to the RFI, or following up on the meetings occurring earlier in 2009. On or about November 6, 2009, Mr. Hrabal emailed Mr. Benedict to tell him that the Coda team would be traveling to the United States in the upcoming week and wondering whether Mr. Benedict or other members of the Goodyear team would be interested in a meeting. Mr. Benedict responded, "We appreciate your interest but we are not in a position to respond to your RFI. A meeting would be premature at this point."

107. On or about December 1, 2009, Mr. Hrabal received an email from a Goodyear employee named Rick Parmelee, stating:

> We met one year ago, whereby you introduced me to SIT
>
> I would like to open the line of communication with you, as our company recently has interest in the development of such a product.
>
> Can you forward me an update as to your current business status, and interest to this regard?
>
> This Thursday I will attend a brainstorming session, for which I would like to be well versed as to your latest developments, and to insure you are represented accordingly.

108. Mr. Hrabal replied to Mr. Parmelee with some general information about self-inflating tires, told Mr. Parmelee that Coda had previously shared this information with Mr. Benedict, and expressed that Coda was still interested in further discussions with Goodyear. Mr. Parmelee asked in response whether Coda had been in contact with anyone else from Goodyear, and Mr. Hrabal told him about the meeting in June with Messrs. Benedict, Russo, and Spieker. On or about December 4, 2009, Mr. Parmelee replied to Mr. Hrabal, saying,

> Yes, Bob Benedict is the principle. Charged with self inflatable tire technology for Goodyear. During our brainstorm session, I indicated your invention matches up nicely with Goodyear's current criteria for development and asked if we have looked into this with SIT coda. His response to this question was oddly vague.

Mr. Hrabal replied, thanking Mr. Parmelee, and Mr. Parmelee responded in turn, saying: "The only change was Mr. Benedict chose to use a new idea system venue to solicit fresh new ideas from the GT engineering community. When I received the request to participate, I was not aware of Mr. Benedicts past progress with you to this regard." Mr. Parmelee then added, "I call it the 'not invented here' syndrome." Mr. Hrabal replied in an email that "This is very similar to most tire companies, lets see what the future brings. Anyway, thank you that you like the idea and wish you all the best." Based on that exchange, Mr. Hrabal

understood that Mr. Benedict was in charge of decision making for new technical initiatives at Goodyear, including self-inflating tire technology, and that Mr. Benedict was not prepared at that time to commit to a partnership with Coda on its SIT technology. Mr. Hrabal believed that Goodyear was looking for fresh, new ideas and might pursue an entirely different technology, but that Goodyear did not close the door. Mr. Hrabal's reaction was to remain patient, and "see what the future brings."

109. On or about December 21, 2009, and unbeknownst to Plaintiffs, Goodyear applied for a patent claiming a self-inflating tire with a peristaltic pump in the form of a tube embedded in a groove in the tire sidewall. This application would later issue as United States Patent number 8,042,586 (the " '586 Patent"). Mr. Benedict was named as the sole inventor. Prior to the filing of the '586 Patent Application, Mr. Benedict had never been named as an inventor on **any patent relating to self-inflating tire technologies ever**; indeed, Mr. Benedict's prior patents focused on radio frequency identification technologies used in tire pressure management systems. Goodyear never told Plaintiffs about its plans to file for the '586 Patent.

110. Also on December 21, 2009, Goodyear applied for a patent claiming a self-inflating tire with a peristaltic pump in the form of a pair of mirror-imaged semi-circular pump tubes on the tire rim and which had a valve system allowing the pump to operate if the tire was rotating in either the forward or reverse direction. This application would later issue as United States Patent number 8,113,254 (the " '254 Patent"). Messrs. Benedict and Losey were named as the inventors. Like Mr. Benedict, **none of Mr. Losey's prior patents were in any way related to self-inflating tire technology.**

111. On September 18, 2012, Mr. Hrabal received an email from Mr. Parmelee, who by that time was no longer working for Goodyear, saying:

> I see in the news today that Goodyear has in my opinion copied SIT. Please see link. If there is anything I can do to help please feel free to contact me @ me [redacted]. I am based in Akron, OH. Unfortunate.. I thought China was bad.

112. As demonstrated herein, Goodyear misappropriated Plaintiffs' trade secrets through improper means – namely theft and violations of the Goodyear NDA – by obtaining the '586 Patent and '254 Patent without disclosing Mr. Hrabal as the true inventor of the SIT technology patented therein.

FIRST CAUSE OF ACTION
Correction of Inventorship of US Patent No. 8,042,586 ('586 Patent)
(Against all Defendants)

113. Coda incorporates by reference the allegations in paragraphs 1 to 112 above.

114. Pursuant to 35 U.S.C. § 256, Coda is entitled to an Order from the Court requiring correction of the inventorship of the '586 Patent and an Order directed to the U.S. Commissioner of Patents (the Director of the U.S. Patent and Trademark Office) requiring issuance of a Certificate of Correction.

115. Mr. Hrabal is and believes himself to be the first, true, and original inventor of the self-inflating tire assembly claimed in the '586 Patent. He conceived of the invention and had a definite and permanent idea of the complete and operative invention claimed in the '586 Patent, as it was thereafter to be applied in practice, prior to the filing date of the '586 Patent.

116. Mr. Hrabal had a specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hoped to pursue. For example, the tests of his prototype resulted in more than sufficient pump pressure to inflate vehicle tires. What is

more, his beliefs are corroborated by independent and contemporaneous evidence. For example, Mr. Hrabal privately disclosed the embodiment of claim 1 in the '586 Patent to engineers with MPR Associates Inc. for the purpose of seeking technical market analysis. By about February 5, 2010, sixteen months ***before*** the '586 Patent published, MPR Associates provided Mr. Hrabal with confidential analysis of, among other embodiments, the embodiment of claim 1 in the '586 Patent that Mr. Hrabal disclosed to Goodyear.

117. Under the protection of the Goodyear NDA, and six (6) months before the filing date of the '586 Patent, Mr. Hrabal disclosed several of his ideas to Goodyear, ideas that form the bases for each and every limitation of at least one claim of the '586 Patent.

118. Through error, Mr. Hrabal is not named as an inventor in the '586 Patent.

119. Upon information and belief, neither Mr. Losey nor Mr. Benedict conceived of, or contributed to the conception of, the inventions claimed in the '586 Patent.

120. Upon information and belief, Mr. Losey and Mr. Benedict are, through error, named in the '586 Patent as inventors

121. In the alternative, Mr. Hrabal contributed to the conception of at least one of the inventions claimed in the '586 Patent.

122. As the inventor, Mr. Hrabal has ownership interest in the '586 Patent.

123. Mr. Hrabal has been, and continues to be harmed by Goodyear's incorporation of intellectual property into the '586 Patent and its claims.

124. As is alleged in paragraph 10-13 above, Mr. Hrabal showed Goodyear his prototype in June 2009. Mr. Hrabal explained that his prototyping abilities were limited by his lack of tire-making equipment. He further explained that it was, therefore, easier for him to build the prototype with [redacted]

[redacted] Mr. Hrabal further explained that, if he was a tire producer (like Goodyear is), he would put the tube in the sidewall. Specifically, Mr. Hrabal identified where he would embed the pump tube in the tire by pointing to the location on the sidewall [redacted] Thus, Mr. Hrabal communicated to Goodyear the idea to put a tube in a groove in the bending region of the sidewall. This is the novel feature of the claims. In addition, Mr. Hrabal's prototype contained all other claimed features.

125. For example, the prototype includes:

Claim 1	**Coda's Prototype**	
A self-inflating tire assembly comprising:	The prototype is a self-inflating tire assembly, as shown to the right.	[redacted]

Claim 1	Coda's Prototype
a rim having a tire mounting surface extending between first and second rim flanges;	Mr. Hrabal's prototype includes a rim having a tire mounting surface extending between first and second rim flanges. The red arrow indicates one of the rim flanges. A substantially similar rim flange is located on the opposite side of the wheel underneath an epoxy rim extension. [redacted]
a tire mounted to the rim tire mounting surface, the tire having a tire cavity, first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region;	The prototype includes a pneumatic tire mounted to the rim. The tire has an air cavity. The tire also includes two sidewalls, one of which is indicated by the red bracket. As shown below, the sidewalls extend from the bead (blue) to the tread (red). [redacted] [redacted]

Claim 1	Coda's Prototype	
the first sidewall having at least one bending region operatively bending within a rolling tire footprint responsive to a bending strain, whereby the bending region in a bending condition within said rolling tire footprint having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone;	Like all pneumatic tires, the sidewalls of the prototype include bending regions that bend when within the tire footprint. Although not shown (because the interior of the prototype is not shown in cross-section), the bending region in a bending condition within said rolling tire footprint has a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone.	[redacted]
a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall;	As discussed elsewhere herein, the prototype does not contain a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall. The prototype includes an epoxy rim extension (red), an epoxy chafer (blue), a groove (green) for admitting an air tube.	[redacted]

Claim 1	Coda's Prototype
an air tube positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube, the sidewall groove operatively bending within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.	As discussed elsewhere herein, the prototype does not contain the tube-in-groove embodiment of the '586 patent. Nevertheless, the prototype does include a yellow air tube that is positioned within the groove (green) between the epoxy rim extension (red) and the epoxy chafer (blue). The air tube is in contacting engagement with opposite groove surfaces, which at least partially surround the air tube. The groove operatively bends within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway. [redacted]

126. Thus, by inventing the prototype, and showing it to Goodyear, combined with Mr. Hrabal's instruction on where to embed the prototype's pump tube in the sidewall of the tire (i.e., [redacted]), Mr. Hrabal is the true inventor of the '586 patent. These disclosed features are the claimed novel aspects of '586 patent. Mr. Hrabal explained additional aspects of his inventions that were trade secrets and that Goodyear used, for example, in dependent claims of the '586 patent.

SECOND CAUSE OF ACTION
Joint of Inventorship of US Patent No. 8,113,254 ('254 Patent)
(Against Goodyear and Mr. Benedict)

127. Coda incorporates by reference the allegations in paragraphs 1 to 126 above.

128. Pursuant to 35 U.S.C. § 256, Coda is entitled to an Order from the Court requiring correction of the inventorship of the '254 Patent and an Order directed to the U.S. Commissioner of Patents (the Director of the U.S. Patent and Trademark Office) requiring issuance of a Certificate of Correction.

129. Mr. Hrabal conceived of, or contributed to the conception of, the invention of at least one claim of the '254 Patent. As further discussed herein, his contributions were significant to the conception and reduction to practice of the invention. His contributions to the claimed invention are not insignificant in quality in comparison to the full invention claimed in the '254 patent. Moreover, he did more than merely explain to the named inventor, Mr. Benedict, well-known concepts or the state of the art. Indeed, many of his contributions were beyond state of the art because they were Coda's trade secrets.

130. Mr. Hrabal is an inventor of the '254 Patent.

131. As an inventor, Mr. Hrabal has an ownership interest in the '254 Patent.

132. Mr. Hrabal has been, and continues to be harmed by Goodyear's incorporation of intellectual property into the claims of the '254 Patent.

133. Prior to Mr. Hrabal's first meeting with Goodyear, Goodyear asked Mr. Hrabal to "cover topics like impact on fuel consumption, SIT behavior under aging / mileage, manufacturability, etc." Accordingly, during meetings with Goodyear, Mr. Hrabal described, in addition to the concepts described hereinabove, the importance of symmetrical pump tubes, and their usefulness in providing bi-directional functionality. Mr. Hrabal

explained that symmetrical pump tube arrangements are important [redacted] He also had in mind at that time the use of various valve arrangements to provide bi-directionality. Those confidential concepts appear as novel claim features of the '254 Patent.

134. The '254 Patent is generally directed to a self-inflating tire assembly. Like the '586 Patent discussed above, the '254 Patent claims a rim and a tire thereon. It also claims a peristaltic pump like those in the prior art, such as disclosed by Mr. Hrabal's '027 application and US Patent No. 7,225,845 (owned by BMW). In addition, the '254 patent claims "an outlet device positioned within the annular passageway at a location substantially 180 degrees apart opposite the inlet device." A 180-degree mirror-image configuration of the outlet and the inlet can be seen in Figure 2 of the '254 Patent (circled in red):

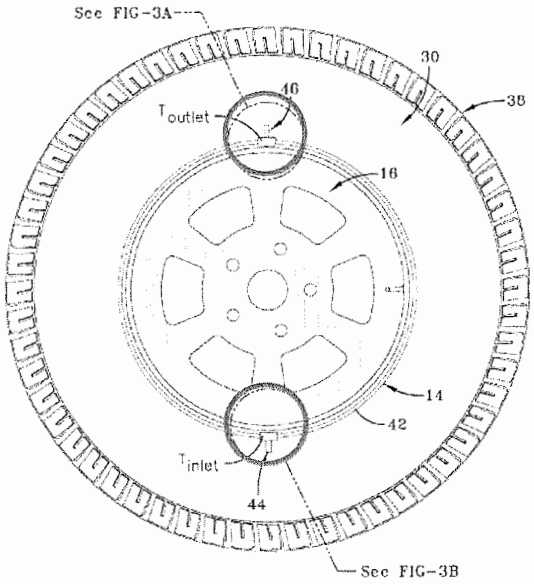
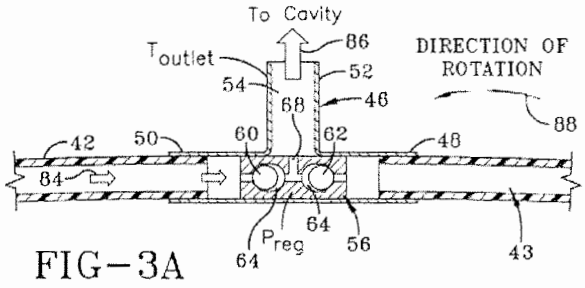


FIG-2

135. The '254 Patent also claims a configuration that achieve bi-directional operation by "one-way valve means within the first and second outlet sleeve passageways." The two one-way valves are shown in Figure 3A (60, 62):



FIG–3A

136. These two claim features (the 180-degree configuration and bi-directional valve) were obvious rearrangements of Coda's trade secrets. Mr. Hrabal's confidential disclosures that were the bases of these claim features were all made in the context of his presentations to Goodyear regarding his self-inflating tire experiences. He made those disclosures with an understanding that Goodyear was interested in pursuing a business arrangement with Coda to manufacture self-inflating tires.

137. Instead, Goodyear incorporated portions of Mr. Hrabal's intellectual property into the patent application that would mature into the '254 Patent.

THIRD CAUSE OF ACTION
Joint of Inventorship of US Patent Nos. 8,381,784; 8,695,661; 8,826,955; & 8,851,132
(Against Goodyear)

138. Coda incorporates by reference the allegations in paragraphs 1 to 137 above.

139. Pursuant to 35 U.S.C. § 256, Coda is entitled to an Order from the Court requiring correction of the inventorship of the '784, '661, '955, and '132 patents and an Order directed to the U.S. Commissioner of Patents (the Director of the U.S. Patent and Trademark Office) requiring issuance of a Certificate of Correction.

140. Mr. Hrabal is a co-inventor of the '784, '661, '955, and '132 patents. He conceived of, or contributed to the conception of, at least one of the inventions claimed in each of the patents. As further discussed herein, his contributions were significant to the conception and reduction to practice of the inventions. His contributions to the claimed inventions are not insignificant in quality in comparison to the full inventions claimed in the '784, '661, '955, and '132 patents. Moreover, he did more than merely explain to Goodyear's representatives well-known concepts or the state of the art. Indeed, many of his contributions were beyond state of the art because they were Coda's trade secrets.

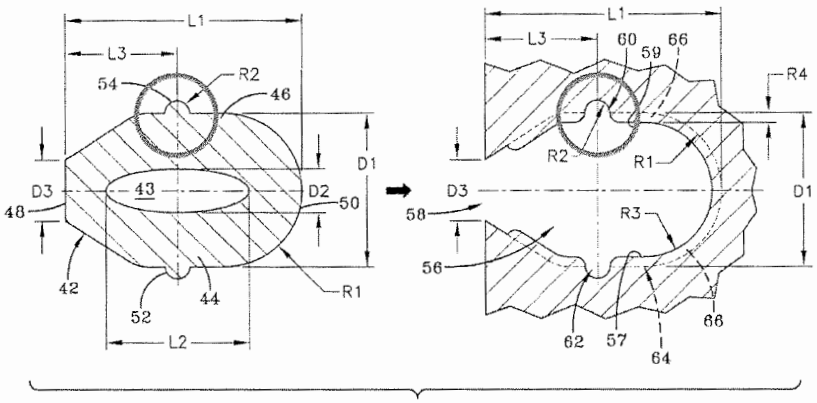
141. Mr. Hrabal is an inventor of the '784, '661, '955, and '132 patents.

142. As an inventor, Mr. Hrabal has an ownership interest in the '784, '661, '955, and '132 patents.

143. Mr. Hrabal has been, and continues to be harmed by Goodyear's incorporation of intellectual property into the claims of the '784, '661, '955, and '132 patents.

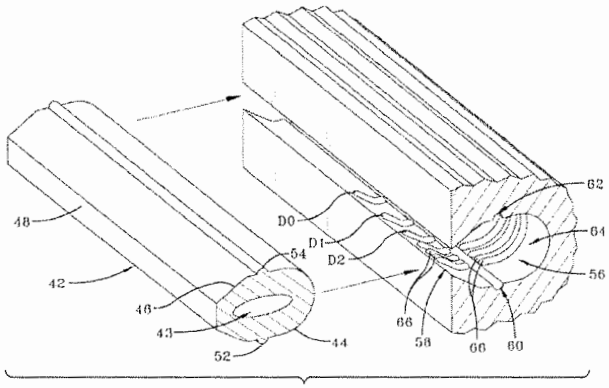
144. In addition to the concepts described hereinabove, Mr. Hrabal identified for Goodyear the problem of a [redacted] In particular, after being asked by Mr. Benedict to bring the prototype, Mr. Hrabal, during the second meeting with Goodyear, showed and discussed the Flap Tube. [redacted] These and other of Mr. Hrabal's concepts and solutions appear as novel claimed features of the '784, '661, '955, and '132 patents.

145. For example, the '784 patent includes a "projecting ridge extending from a groove sidewall segment into the groove, the at least one projecting ridge operatively positioned to engage a respective opposite segment of the air tube." The '661 patent includes an "elongate locking rib extending from a side of the air tube and having a complementary external configuration to the groove locking detent, the locking rib operably residing within the groove locking detent to deter lateral movement of the air tube within the sidewall groove." These features are substantially overlapping and can be seen in Figures 8A and 8D of the '784 patent (which is substantially similar to Figures 8A and 8D of the '661 patent):



FIG–8A

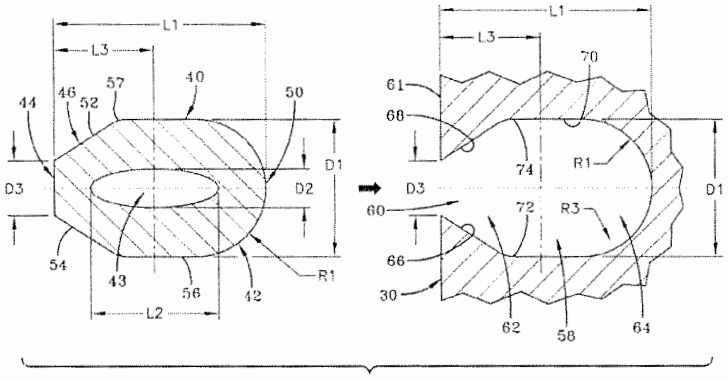
Figure 8A shows a cross-section of an air tube of a peristaltic pump on the left and a cross-section of a sidewall groove on the right. The air tube includes an elongate locking rib (54), and the sidewall groove includes rib-receiving axial detent channels (62).



FIG–8D

Figure 8D is an isometric view of the air tube (on the left) showing a rib (54) that locks into detent (62) to prevent lateral movement of the air tube.

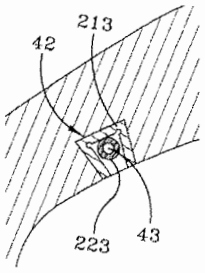
146. Very similar to the '784 and '661 patents, the '132 patent claims a sidewall groove and a tube positioned within the groove. The tube is shown on the left below in Figure 8A, and the sidewall groove is shown on the right. Rather than ribs, the '132 patent merely claims "divergent entry chamber sidewalls" (52, 54), which are complementary to the beveled surfaces (66, 68) of the sidewall groove.



FIG–8A

147. Like the '784, '661, and '132 patents, the '955 patent claims a sidewall groove and tube in the sidewall groove. The '955 patent is also directed to configurations for securing or locking the tube within the groove. For example, the '955 patent claims "the

tube assembly comprising a first tube and a second tube, the first tube secured within the sidewall groove, the second tube secured within the first tube." The first tube (highlighted in yellow) surrounds and secures the second tube, and air tube (highlighted in red).



148. Mr. Hrabal's confidential disclosures were captured in Goodyear's patent filings despite those disclosures being made pursuant to an NDA. He made those disclosures with an understanding that Goodyear was interested in pursuing a business arrangement with Coda to manufacture self-inflating tires. Instead, Goodyear took and incorporated portions of Coda's intellectual property into applications that the '784, '661, '955, and '132 patents and that disclosed and claimed Mr. Hrabal's confidential inventions.

FOURTH CAUSE OF ACTION
Misappropriation of Trade Secrets
(Against all Defendants)

149. Coda incorporates by reference the allegations in paragraphs 1 to 148 above.

150. Pursuant to Ohio Rev. Code § 1333.61 et seq., Coda is entitled to damages for Goodyear's misappropriations of Coda's trade secrets, including for Coda's actual loss and Goodyear's unjust enrichment, to a reasonable royalty, to attorney's fees, to assignment of Goodyear's patents that claim subject matter comprising Coda's trade secrets, and to all other fair relief.

151. As more fully set forth below, Coda's institutional knowledge comprised numerous trade secrets that had independent economic value from not being generally

known to, and not being readily ascertainable through proper means by other persons who can obtain economic value from their disclosure or use. Further, they are the subject of efforts that are reasonable under the circumstances to maintain their secrecy. Goodyear acquired Coda's trade secrets through improper means. Goodyear both disclosed and used Coda's trade secrets by filing patents based on those trade secrets, without express or implied consent. Goodyear knew or had reasons to know that the trade secrets were acquired by improper means. Goodyear acquired the trade secrets under circumstances giving rise to a duty to maintain their secrecy or limit their use, or they were derived from or through a person who owed a duty to Coda and/or Mr. Hrabal to maintain their secrecy or limit their use.

152. As set forth in paragraphs 27 through 72, which describe Coda's and Mr. Hrabal's research and developments in SIT technology, Coda had a vast amount of institutional knowledge concerning SIT technology. While some of that knowledge may have involved public information, Coda's institutional knowledge also included nonpublic technical information, designs, processes, compilations, devices, methods, techniques, improvements, and business information or plans that were trade secrets concerning the SIT technology.

153. Mr. Hrabal went on an eight-year journey to find the optimal location and configuration for a peristaltic pump. His embodiments began with putting an air tube on the tread of a bicycle tire. [redacted]

[redacted]. Next, he researched placing the air tube in the portion of the tire adjacent to the bead and on the rim flange. That work led to his '027 application. But, what the '027 application does not disclose are the confidential results of Mr. Hrabal's research with the Flap Tube, research he conducted to test the viability of embodiments in the '027 application.

154. The Flap Tube tests raised challenges, [redacted]

155. Years of experimenting with tires and watching them deform culminated in his recognition that the sidewall of the tire would provide sufficient flexion to deform a standard cylindrical tube. [redacted]

156. The insights that Mr. Hrabal gave Goodyear, pursuant to the NDA, based on his eight-year journey to the prototype provided Goodyear with untold advantages. They also held significant economic value. The insights gave Goodyear a clear path and identified

where potential missteps lay. They told Goodyear, "Hey, go down this path, not that path," or "This path has these problems."

157. Goodyear needed those insights. In fact, before Goodyear ever met with Coda, it had previously attempted and failed to develop a self-inflating tire called the Cycloid. Moreover, there was public prior art disclosing the use of a peristaltic pump tube for self-inflating tires well before Goodyear met with Coda. For example, both U.S. Patent No. 7,225,845 (the "Ellman patent") and Coda's '556 application were public in 2007 and disclosed self-inflating tires having peristaltic pump tubes in the tire bead or rim area. Despite those disclosures, Goodyear did not start developing a self-inflating tire in 2007. Nor did Goodyear start developing a self-inflating tire in 2008, after Mr. Hrabal published his article in Tire Technology International. But in 2009, after Goodyear got a brain-drain from Mr. Hrabal and learned about his eight years of self-inflating tire development, which included substantial amounts of non-public, confidential and trade secret information, Goodyear started filing for patents on self-inflating tires.

158. Indeed, less than six months after meeting with Mr. Hrabal to view, evaluate, and discuss his prototype, Goodyear filed two patent applications on self-inflating tire technology, both containing Coda trade secrets gleaned from that meeting, and their prior meeting and related correspondence. Since then, Goodyear has obtained at least 67 issued patents on self-inflating tire technology, a massive portfolio built on top of trade secrets stolen from Coda. It also developed its own self-inflating tire product called the Air Maintenance Tire, or AMT, which appears to contain at least Coda's seminal tube in the sidewall groove invention. Goodyear has never denied that the AMT is based on Coda's technology.

159. Instead of continuing its development efforts after its Cycloid disaster, Goodyear eschewed any self-inflating tire technologies. Goodyear only became interested in self-inflating tires again after meeting with Coda. But instead of partnering with Coda—which was the stated reason for Goodyear's request to meet with Coda and view Coda's prototype—Goodyear simply took what it learned from Coda and used that information to obtain patents, make its own product, and get a head-start on further self-inflating tire development.

160. For example, Mr. Hrabal told Goodyear to put the air tube in the sidewall [redacted] That is because he knew that the flexion of the sidewall at that point in the deformed tire is sufficient to actuate the pump air tube and produce high output pressure. Importantly, Mr. Hrabal showed Goodyear results: a peristaltic pump actuated by the sidewall of a [redacted] something that some believed was not possible. That was a key understanding, because it meant his prototype in particular could, in fact, inflate itself. Mr. Hrabal gave Goodyear so much more than just the idea to stick a tube in a sidewall, he downloaded years of knowledge and showed Goodyear why the sidewall is [redacted] among many other valuable ideas and insights. He gained those ideas and insights—those trade secrets—from years of researching and developing the self-inflating tire technology.

161. Mr. Hrabal gave Goodyear other valuable methods and processes, discussing, for example, symmetrical pump tubes, bi-directionality, valves, and pressure regulation for peristaltic pumps. Mr. Hrabal discussed pressure management in peristaltic pumps, like as disclosed in his '731 patent, and he discussed his three-way valve embodiments, like as

disclosed in his '690 application. But, the discussion with Goodyear went into additional methods and processes at a level of granularity not disclosed in his patent or patent application and that included Coda's trade secrets. For example, the '690 patent teaches pressure regulation by means of a reference pressure and membrane. But, Mr. Hrabal's homemade pressure regulator on the prototype used a different pressure regulation system. Specifically, the internal pressure of the tire itself was used to regulate pressure of the prototype. That concept later appeared, for example, in the claims of Goodyear's US Patent No. 8,857,484. Mr. Hrabal also gave Goodyear additional valuable information based on Mr. Hrabal's years of research regarding where in the tire a pump could be located, how the pump should be built and designed, the pressure management systems that could be employed (e.g. dead space or recirculation with a three-way valve), and how efficiently the pump could compensate for the tire's typical leakage. He explained his circulating and non-circulating systems. For a non-circulating system, he explained his dead space concept. These concepts later showed up in the claims of Goodyear's patent applications. Mr. Hrabal also discussed various filters, and here again, Goodyear would later include patent applications that claimed various filters. All of these additional insights, whether or not some of which were publicly available on their own, gave Goodyear a head start on its pursuit of SIT technology.

162. The following paragraphs below detail specific examples of Goodyear's theft of Coda's trade secrets.

Goodyear's Pump in Sidewall Patents

163. As further discussed above in the First Cause of Action and elsewhere herein, Goodyear took Mr. Hrabal's concept of a peristaltic pump and tire assembly having a

sidewall groove in the bending region of the sidewall and an air tube in the sidewall groove. That concept was not public. And, when he shared it with Goodyear, he shared it only pursuant to the NDA. Goodyear put that concept into a patent application on December 21, 2009, which later issued as the '586 patent based on that novel concept.

164. The sidewall groove and air tube concept was no longer a novel feature in its own right once Goodyear put it into the public domain with the '586 patent. Nevertheless, as further set forth below, Goodyear filed several additional patents that claim as an element the sidewall groove and air tube concept. For example, the following patents and patent applications represent Goodyear's further misuse of Coda's misappropriated sidewall groove and air tube concept:

Patent No.	**Goodyear Claims including Misappropriated Coda Trade Secrets**
8,381,784	"a sidewall groove…positioned within the bending region of the first tire sidewall…; an air tube positioned within the sidewall groove"
8,381,785	"a sidewall groove positioned within the bending region of the tire first sidewall; an air tube having an internal tube air passageway, the air tube positioned within the sidewall groove"
8,695,661	"an elongate sidewall groove extending into the first tire sidewall from an outward first sidewall surface…; an elongate air tube positioned within the elongate sidewall groove"
8,826,955	"a sidewall groove …within the bending region of the first tire sidewall…; an air passageway defined by the sidewall groove and a tube assembly…; the tube assembly comprising a first tube…secured within the sidewall groove"
8,851,132	"an elongate sidewall groove extending into the first tire sidewall from an outward first sidewall surface…; an elongate air tube positioned within the elongate sidewall groove"
8,944,126	"a sidewall groove defined by groove walls positioned within the bending region of the first tire sidewall…; an air passageway is defined by the sidewall groove"
8,960,249	"a passageway in the tire, a pump positioned in the passageway, said pump including a tube" / "The self inflating tire assembly of claim 1 wherein the passageway is formed in the sidewall." (Claim 4) "The self inflating tire assembly of claim 1 wherein the passageway [sic] annular." (Claim 5)
8,991,456	"an elongate substantially annular air passageway enclosed within a bending region of the tire" / "The air maintenance tire and pump assembly of claim 1, wherein the air passageway extends annularly within a substantially circumferential enclosed positioned within of [sic] a tire sidewall" (Claim 2)

Patent No.	Goodyear Claims including Misappropriated Coda Trade Secrets
9,045,005	"a sidewall groove defined by groove sidewalls positioned within the bending region of the first tire sidewall…; a first tube being secured within the sidewall groove"
9,050,858	"an annular air passageway…integrally formed and enclosed within a tire sidewall"
9,056,533	"an elongate sidewall groove extending into the first tire sidewall from an outward first sidewall surface…; an elongate air tube positioned within the elongate sidewall groove"
9,108,476	"an elongate substantially annular air passageway enclosed within a bending region of the tire" / "The air maintenance tire and pump assembly of claim 1, wherein the air passageway extends annularly within a substantially circumferential enclosed positioned within of [sic] a tire sidewall" (Claim 2)
9,114,673	"an elongate substantially annular air passageway enclosed within a bending region of the sidewalls"
9,205,712	"the first sidewall having an elongate sidewall air passageway…responsive to a bending strain introduced into the first sidewall from a rolling tire footprint"
9,216,619	"elongate substantially annular air passageway…enclosed within a bending region of the sidewalls"
9,216,620	"the first sidewall having an elongate sidewall groove therein containing an elongate air tube having an elongate internal air passageway…responsive to a bending strain introduced into the first sidewall from a rolling tire footprint"
9,259,975	"wherein at least one of said sidewalls contains at least one annular groove in…said sidewall, wherein said groove contains groove walls and an elastomeric tube within said groove"
9,333,816	"wherein the sidewall air passageway resides within an elongate air tube, and wherein the air tube is located within a sidewall groove formed within the first sidewall"
9,381,781	"a sidewall groove defined by groove walls positioned within the bending region of the first tire sidewall…; an air passageway is defined by the sidewall groove"
2014/0110,029	"an elongate tubular air passageway enclosed within a flexing region of the tire wall"
2015/0090,386	"an elongate substantially annular air passageway enclosed within a bending region of the sidewalls"
2015/0306,924	"an elongate tire groove formed to extend into a flexing region of a tire sidewall; an elongate air pumping tube having an internal elongate air passageway and an external geometric shape…for operably enabling a close receipt of the air pumping tube into the tire groove"

Goodyear's Bi-directional and Symmetrical Pump Tube Patents

165. As further discussed above in the Second Cause of Action and elsewhere herein, Goodyear also took Mr. Hrabal's concepts for bi-directionality and symmetrical

pump tubes. Those concepts were not public. And, when he shared them with Goodyear, he did so only pursuant to the NDA. Goodyear put those concepts into a patent application on December 21, 2009, which later issued as the '254 patent based on those novel concepts.

166. The concepts for bi-directionality and symmetrical pump tubes were no longer novel features in their own right once Goodyear put them into the public domain with the '254 patent. Nevertheless, as further set forth below, Goodyear filed several additional patents that include those concepts as claim elements. For example, the following patents and patent applications represent Goodyear's further misuse of Coda's misappropriated concepts of bi-directionality and symmetrical pump tubes:

Patent No.	**Goodyear Patent Language including Misappropriated Coda Trade Secrets**
8,960,249	"a passageway in the tire, a first and second pump positioned in the passageway, each pump including a tube…said tube having a first end in fluid communication with the atmosphere and a second end in fluid communication with the tire cavity; wherein the first pump has the check valves oriented in a first flow direction, and the second pump has the check valves oriented in a second flow direction opposite the first flow direction"
9,114,673	"the air inlet port assembly including an inlet control valve and an outlet tee structure positioned 180 degrees opposite the inlet control valve...the inlet control valve including two inlet check valves for ensuring air flow only into, and not out of, the inlet control valve, the air passageway, a corresponding plain tee inlet structure, and the tire cavity"
9,216,619	"the air inlet port assembly including an inlet control valve and an outlet tee structure positioned 180 degrees opposite the inlet control valve in the air passageway for moving air into the tire cavity, the inlet control valve including two inlet check valves for ensuring air flow only into, and not out of, the inlet control valve, the air passageway, a corresponding plain tee inlet structure, and the tire cavity"
9,409,454	"a first air tube mounted in the tire and defining an air passageway…; a second air tube mounted in the tire and defining an air passageway…; wherein the inlet of the first air tube is connected to the inlet of the second air tube by a T-shaped body…; wherein the T shaped body further includes a one way valve positioned between the inlet of the inlet device and each inlet of the first and second air tube"
2015/0165,840	"a first and second air passageway each having an inlet end and an outlet end,…wherein each air passageway outlet end is in fluid communication with the tire cavity;…wherein the body of the regulator device has a first,

Patent No.	Goodyear Patent Language including Misappropriated Coda Trade Secrets
	second, and third flexible duct…wherein the first flexible duct has a first end in fluid communication with the inlet end of the first air passageway, and a second end in fluid communication with the outlet port of the regular device; wherein the second flexible duct has a first end in fluid communication with the inlet end of the second air passageway, and a second end in fluid communication with the outlet port of the regulator device"

Goodyear's Interlocking Tube and Groove Patents

167. As further discussed above in the Third Cause of Action and elsewhere herein, Goodyear also took Mr. Hrabal's experience and concepts for securing the Flap Tube in place. Those concepts were not public. And they were only shared with Goodyear pursuant to an NDA. Goodyear put those concepts into patent applications on between July 8, 2011 and January 23, 2013, which later issued as the '784, '661, '955, and '132 patents based on those novel concepts.

168. The concepts for interlocking the pump tube were no longer novel features in their own right once Goodyear put them into the public domain with the '784, '661, '955, and '132 patents. Nevertheless, as further set forth below, Goodyear filed several additional patents that include those concepts as claim elements. For example, the following patents and patent applications represent Goodyear's further misuse of Coda's misappropriated concepts of interlocking tube and groove patents:

Patent No.	Goodyear Patent Language including Coda Trade Secrets
9,056,533	"the sidewall groove having a wedge-shaped transverse section profile extending from an axially outer groove entry region of a narrower width dimension at the outward first sidewall surface, to a wider width dimension at an inward groove end within the first tire sidewall; …the air tube body having a wedge-shaped transverse sectional profile complementarily positioned within the sidewall groove, the air tube body tapering in width dimension from a wider width at an inward tube end within the first tire sidewall to a narrower width dimension at an outward tube end at the outward first sidewall surface; an air tube retention wing projection at the inward tube end seated within the

	inward groove end for operatively retaining the air tube within the elongate sidewall groove; and wherein the air tube body win projection comprises extending folding win projections projecting from at the air tube at the inward tube end, the wing projections seating within groove chambers at the inward groove end"
9,259,975	"wherein tube is secured within said groove with a sulfur cured rubber contained in said groove which communicates with the walls of said groove"

Additional Goodyear Misappropriations

169. Mr. Hrabal discussed non-circulating pumps and recirculating pumps with Goodyear. He disclosed to Goodyear scientific and technical information, designs, processes, procedures, methods, techniques and improvements related to recirculation of air by the pump assembly. For example, Mr. Hrabal discussed his research and development and explained why recirculation is beneficial and can reduce stress on the pump tube and valves, thereby improving durability of the peristaltic pump. He also discussed internal recirculating systems, which could include a closure element within the pump assembly allowing the air to recirculate within the pump tube itself or could include a pressurized air reservoir that would allow air to be stored within the system without having to engage the pump tube during each tire revolution. These misappropriated Coda trade secrets appear in multiple Goodyear patents:

Patent No.	**Goodyear Patent Language including Misappropriated Coda Trade Secrets**
8,113,254	"the one way ball valves within the outlet device are bypassed and air re-circulates in the tube passageway" (Col. 5, lines 58-62)
8,381,785	"a core bead passageway extending within at least a first core bead for operatively storing air evacuated from the air tube passageway; a core bead conduit extending from the air tube to the core bead passageway for operatively conveying air from the air tube passageway into the core bead passageway; and a tire cavity conduit extending from the core bead passageway to the tire cavity for operatively conveying air form the core bead passageway to the tire cavity"
8,991,456	"the inline valves operative to selectively open in respective opposite directions and pass a flow of the inlet air from an upstream valve side to a

	downstream valve side and into the air passageway, and a pair of outlet valves...operative to selectively open and conduct a flow of the inlet air from the downstream side of a respective inline valve to the tire cavity"
9,108,476	"a bypass valve extending between the downstream valve sides of the inline valves, the bypass valve operative to open and bypass the flow of inlet air through the outlet valves to the tire cavity in the event that a tire cavity pressure is greater than a preset pressure level and close when a tire cavity pressure is less than the preset pressure level"
9,333,816	"a connecting air passageway connected at opposite ends with the sidewall air passageway and with the valve stem internal air passageway, the connecting air passageway operative to direct air forced along the sidewall air passageway into the valve stem internal passageway as the tire rolls over a ground surface; wherein the connecting air passageway resides within a connecting tube extending between the air tube and the valve stem and wherein the connecting air passageway is coupled in air flow communication with the sidewall air passageway and the valve stem internal air passageway; wherein the air maintenance tire assembly further comprising first valve means for enabling and disabling a flow of pressurized air into the connecting tube from the air tube and second valve means for enabling and disabling a flow of pressurized air from the valve stem passageway and into the tire cavity"
2015/0090,386	"A high pressure shut-off valve for preventing an over-inflation condition in the tire cavity"

170. Mr. Hrabal confidentially disclosed to Goodyear closure elements in the pump system, integrated check valves, and business information regarding pump valves. While Coda's disclosed some valves in the '690 patent application, the scientific and technical information, designs, processes, procedures, methods, techniques and improvements to the valve were not. The '690 application also does not disclose Coda's trade secrets including the theories behind the valve, the experimentation that led to those theories, and later implementations and embodiments of those theories. Mr. Hrabal's disclosures to Goodyear appear in multiple Goodyear patents:

Patent No.	**Goodyear Patent Language including Misappropriated Coda Trade Secrets**
8,573,270	"a regulator body connected to a duct having a first end located in the tire cavity, and a second end connected to a chamber formed between the cap and the regulator body; a flexible ring being mounted in the chamber and having one or more slots; a pressure membrane mounted adjacent said

Patent No.	Goodyear Patent Language including Misappropriated Coda Trade Secrets
	ring; …said regulator cap having a flanged portion about a recessed chamber, wherein the flanged portion is positioned for sealing engagement with the pressure membrane, and said recessed chamber being in fluid communication with the outlet port of the regulator body"
8,701,726	"an inlet regulator device...includes an insert mounted in the tire, wherein the insert has a bore therethrough having a first end located in the tire cavity, and a second end which extends through the tire, wherein a pressure membrane is received within the first end of the insert,…wherein the pressure membrane is responsive to the cavity tire pressure and the outside pressure, wherein the pressure membrane is positioned for engagement with the distal end of the regulator body when the tire pressure reaches a set value"
8,701,726	"an inlet regulator device…includes an insert mounted in the tire, wherein the insert has a bore therethrough having a first end located in the tire cavity, a middle portion forming a chamber, and a second end which extends through the tire and which is in fluid communication with the outside air and the chamber, wherein a piston is slidably mounted within the first end of the insert, and a regulator body is received within the chamber and positioned to engage a stop, the chamber having a hole for fluid communication with a pump inlet air tube, a spring mounted within the chamber and having a first end for engagement with the piston and a second end for engagement with a bottom wall of the chamber"
8,857,484	"a pressure membrane mounted within the internal chamber of the regulator body; an insert mounted within the internal chamber of the regulator body and having a flanged end engageable with the pressure membrane, wherein the flanged end surrounds an internal cavity, the insert has an upper surface having one or more air holes that are in fluid communication with the internal cavity"
9,205,714	"wherein a pressure membrane is received within the valve body, and positioned to open and close the channel"
9,205,714	"wherein a spring is received within the third chamber and is positioned to exert force upon the pressure membrane to bias the pressure membrane position relative to a channel of the third chamber into an open position"
9,233,582	"a regulator device, the regulator device including a regulator body, wherein the regulator body has an interior chamber; a pressure membrane being mounted in the interior chamber and positioned to open and close an outlet port mounted in the chamber, wherein the pressure membrane is in fluid communication with the tire cavity pressure"
9,242,518	"wherein a pressure membrane is received within the interior chamber of the valve body, and positioned to open and close the channel, wherein the pressure membrane is in fluid communication with the tire cavity and the interior chamber of the valve body"
9,242,518	"wherein a pressure membrane is received within the interior chamber of the valve body and positioned to open and close the channel and being in fluid communication with the tire cavity and the interior chamber of the valve

Patent No.	Goodyear Patent Language including Misappropriated Coda Trade Secrets
	body; wherein a spring is received within the interior chamber and is positioned to exert force upon the pressure membrane"
9,365,084	"the regulator device having a regulator body having an interior chamber; a pressure membrane is mounted in the interior chamber and positioned to open and close the outlet port mounted in the interior chamber, wherein the pressure membrane is in fluid communication with the tire cavity pressure"
2015/0158,353	"the inlet control valve having a regulator body having an interior chamber; a pressure membrane being mounted on the inlet control valve to enclose the interior chamber, wherein the pressure membrane has a lower surface that is positioned to open and close the outlet port mounted in the interior chamber, wherein the pressure membrane is in fluid communication with the tire cavity pressure"
2015/0158,353	"the inlet control valve having a regulator body having an interior chamber; a pressure membrane being mounted on the inlet control valve to enclose the interior chamber" / "The self-inflating tire assembly of claim 1 wherein a spring biases the pressure membrane in the open position." (Claim 3)
2015/0165,841	"a regulator device having a regulator body having an interior chamber; a pressure membrane being mounted on the regulator device to enclose the interior chamber, wherein the pressure membrane has a lower surface that is positioned to open and close the outlet port mounted in the interior chamber" / "The self-inflating tire assembly of claim 1 wherein a spring is positioned in the interior chamber, wherein the spring biases the pressure membrane into the open position." (Claim 4)
2015/0165,841	"a regulator device having a regulator body having an interior chamber; a pressure membrane being mounted on the regulator device to enclose the interior chamber, wherein the pressure membrane has a lower surface that is positioned to open and close the outlet port mounted in the interior chamber, wherein the pressure membrane is in fluid communication with the tire cavity pressure"

171. Mr. Hrabal confidentially disclosed to Goodyear the scientific and technical information, designs, processes, procedures, methods, techniques and improvements to the concept of a filter on the pump inlet. He discussed various specific filters, how to implement a filter to protect the pump tube from debris and impurities, and degrees of filtration required in a peristaltic pump assembly based on his experiences, research and development. Mr. Hrabal's disclosures to Goodyear appear in multiple Goodyear patents:

Patent No.	Goodyear Patent Language including Misappropriated Coda Trade Secrets
8,113,254	"The tire assembly of claim 1, wherein further comprising a porous filter member positioned within an air portal of the inlet device." (Claim 12)
8,235,081	"the inlet device having an air filtering tubular sleeve at least partially surrounding and encasing the tubular inlet body and covering over the inlet opening of the inlet device, the filtering sleeve extending along in co-axial relationship with the tubular inlet body"
8,944,126	"a filter element disposed between the pneumatic cavity and atmosphere, the filter element being constructed of a porous plastic, the filter element having threads for securing the filter element to the pneumatic tire"
9,387,737	"a filter assembly mounted in the pocket, said filter assembly being in air flow communication with the valve assembly"
2015/0059,952	"a filter assembly mounted in the pocket, said filter assembly being in air flow communication with the valve assembly, wherein the pocket has an area larger than the area of the filter housing"

172. Mr. Hrabal confidentially disclosed to Goodyear his process of molding the groove in the tire sidewall. While the idea of molding a channel by removing a matrix was disclosed in the '027 application, the scientific and technical information, designs, processes, procedures, methods, techniques and improvements conceived and implemented by Mr. Hrabal were not. Further, Mr. Hrabal disclosed to Goodyear Coda's trade secret of using silicone as the lubricant for withdrawal of the filament forming the chamber. Mr. Hrabal's disclosures to Goodyear appear in multiple Goodyear patents:

Patent No.	Goodyear Patent Language including Misappropriated Coda Trade Secrets
8,696,845	"encasing the coated filament into containment within an uncured flexible tire component, the coated filament extending between an air inlet and air outlet cavity in the uncured flexible tire component; . . . curing the green tire carcass into a cured finished tire including the flexible tire component containing the coated filament; removing the filament from the cured flexible tire component to leave within the flexible tire component a substantially unobstructed air passageway."
8,852,371	"embedding an elongate strip within an uncured flexible tire component of an uncured tire carcass . . .; curing the uncured tire carcass including the flexible tire component; extracting the elongate strip longitudinally end-to-end alternatively through the air inlet cavity or the air outlet cavity from occupancy within the flexible tire component; defining an enclosed air passageway in the flexible component by the space previously occupied by

	the withdrawn elongate strip"

173. Mr. Hrabal confidentially disclosed to Goodyear scientific and technical information, designs, processes, procedures, methods, techniques and improvements to the testing mechanisms used by Mr. Hrabal as well as the results obtained throughout Mr. Hrabal's research. These trade secrets include testing results such as: test results showing a pump on the tread could generate [redacted] of pressure; test results showing the prototype could generate [redacted] of pressure; test results that showed the Flap Tube could generate [redacted] of pressure. In addition, Mr. Hrabal confidentially disclosed to Goodyear trade secrets such as testing mechanisms that were used by Mr. Hrabal. These Coda trade secrets would be invaluable to Goodyear as proving the efficacy of Coda's peristaltic pump system and the testing mechanisms used to prove said efficacy.

174. Another trade secret that Mr. Hrabal confidentially disclosed to Goodyear includes the strategy of implementing and commercializing the scientific and technical information, designs, processes, procedures, methods, techniques and improvements conceived by Mr. Hrabal. Mr. Hrabal disclosed to Goodyear that, because Coda was able to create a peristaltic pump that could achieve [redacted], there was an opportunity market this technology to [redacted]

175. The above-described technologies and trade secrets were combined by Mr. Hrabal into a compilation, which was itself a trade secret. This compilation included Mr. Hrabal's individual trade secrets described in detail above, his patented inventions, and

other technologies Mr. Hrabal discovered or became aware of during the course of his eight-year development of the self-inflating tire. With this compilation Mr. Hrabal was able to develop a functional self-inflating tire prototype and teach Goodyear everything that was necessary to develop its own self-inflating tire. Mr. Hrabal expended considerable time and resources to create this compilation. Mr. Hrabal maintained this compilation as a trade secret, and shared his compilation with Goodyear only pursuant to an NDA. This compilation has value as shown by, among other things, the fact that Goodyear has recently applied for a patent, which has been allowed by the Patent Office but has not yet issued, on a similar compilation of self-inflating tire technologies, United States Patent Application Publication Number 2015/0306924; as well as the fact that, despite the existence of various efforts to create a self-inflating tire in the prior art, no one had developed a commercially viable self-inflating tire until now.

176. Coda, during the relevant times, had very few employees, apart from Mr. Hrabal. Thus, the trade secrets were known by very few people. Coda and Mr. Hrabal took precautions to guard the secrecy of the trade secrets, such as keeping a small number of employees, carefully considering what information to divulge publicly, for example at exhibitions, and requiring nondisclosure agreements with all to whom he would have disclosed trade secrets.

177. Plaintiffs are informed and believe that it would take considerable time and expense for others to acquire and duplicate their individual trade secrets and their compilation trade secret as evidenced by, among other things, the fact neither Goodyear, nor anyone else, had every developed a commercially viable self-inflating tire until now, despite attempts to do so dating back to the early twentieth century; and the fact that it took

eight years for Mr. Hrabal to produce his functional prototype and develop all of the above described trade secrets.

178. Goodyear disclosed, without Plaintiffs' knowledge or consent, Plaintiffs' trade secrets by, among other things, publicly disclosing them to the United States Patent Office in its patent applications, and to the world by allowing those patent applications to be published; and by sharing Plaintiffs' trade secret in its presentation to the Department of Energy, Project ID ## VSS085. Goodyear also acquired Plaintiffs' trade secrets through improper means including, but not limited to, promising to abide by the terms of an NDA and then later violating that NDA by applying for patents on Plaintiffs' trade secrets, or on technology derived from Plaintiffs' trade secrets, without ever informing Plaintiffs it was doing so or engaging in a formal joint development project as contemplated in the NDA. Plaintiffs are informed and believe that Goodyear has also incorporated Plaintiffs trade secrets into its AMT tire, which is currently in fleet testing and will soon become commercially available.

179. Mr. Hrabal has been, and continues to be harmed by Goodyear's incorporation of Coda's trade secrets into Goodyear's patent applications.

FIFTH CAUSE OF ACTION
Declaratory Judgment
(Against all Defendants)

180. Coda incorporates by reference the allegations in paragraphs 1 to 179 above.

181. There exists an actual, ripe, and justiciable controversy between Coda and Defendants regarding each party's rights and interests in connection with issued patents and pending patent applications that incorporate or use a misappropriated Coda trade secret in a scope and effect to be determined by the jury (collectively, the "Disputed Patents"), as well

as any and all related applications that have been filed or will be filed by Goodyear based on those ideas.

182. As a result of the conduct and events described in detail above, Coda possesses legal ownership, and/or equitable ownership and/or other interests in the Disputed Patents inconsistent with and superior to any interest claimed by Goodyear. Coda's ownership and related interests include: (a) sole legal and equitable ownership of the '586 Patent; (b) joint and equitable ownership of the '254 Patent; (c) joint and equitable ownership of the '784, '661, '955, and '132 Patents; and (d) equitable ownership in all of the Disputed Patents. The Court should so declare pursuant to 28 U.S.C. § 2201.

183. Resolution of this Cause of Action necessarily depends on the resolution of a substantial question of patent law, including without limitation a determination of the rightful inventor(s) of US patents.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs pray for judgment in their favor and against Goodyear as follows:

A. Enjoin Goodyear from further unauthorized use and disclosure of Plaintiffs' trade secrets;

B. Order Goodyear to return all of Plaintiffs' trade secrets and to provide Plaintiffs with an affidavit attesting that they possess no such information; describing each record or item that they returned to Plaintiffs or deleted or destroyed; and identifying any third parties to whom they disclosed such information;

C. Enjoin Goodyear from further prosecution of patent applications of which Plaintiffs are the rightful owner or which contain Plaintiffs' trade secrets;

D. Award Plaintiffs actual damages, lost profits, or a reasonable royalty, pursuant to the Ohio Trade Secrets Act, O.R.C. §§ 1333.61–1333.69;

E. Order disgorgement of all unjust enrichment and any benefits that flow or result from Goodyear's misappropriation of Plaintiffs' trade secrets;

F. Award Plaintiffs treble damages pursuant to the Ohio Trade Secrets Act, O.R.C. §§ 1333.61–1333.69;

G. Award Plaintiffs attorneys' fees, costs, and all other expenses incurred by EES pursuant to the Ohio Trade Secrets Act, O.R.C. §§ 1333.61–1333.69;

H. Declare that Plaintiffs possess legal or equitable ownership or another interest in the Disputed Patents inconsistent with or superior to any interest asserted by Goodyear;

I. An accounting and paying over to Plaintiffs of all sums by which Goodyear by its wrongful conduct, has unjustly enriched itself, including, but not limited to, all revenue generated by the Disputed Patents

J. Award Plaintiffs such other and additional relief as this Court deems appropriate.

Date: April 15, 2019

Respectfully submitted,

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JURY DEMAND

Pursuant to Rule Thirty-Eight of the Federal Rules of Civil Procedure, Plaintiffs request a trial by jury of any and all issues so triable.

Date: April 15, 2019

Respectfully submitted,

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PROOF OF SERVICE

The foregoing was filed electronically with the Court on April 15, 2019. Notice of this filing was sent to all parties by operation of the Court's electronic filing system. Parties may access this filing through the Court's system.

/s/ Ronald S. Kopp
Ronald S. Kopp