

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PAR-KAN COMPANY, LLC,
Petitioner,

v.

UNVERFERTH MANUFACTURING COMPANY, INC.,
Patent Owner

Case No. IPR2024-01427
U.S. Patent No. 9,745,123

Declaration of Brian James Petersen

I. INTRODUCTION AND BACKGROUND

1. I, Brian James Petersen, am an inventor of U.S. Patent No. 9,745,123 (the “’123 patent”) (Ex. 1001), which I understand is the subject of the above-captioned IPR proceeding.

2. I am a design engineer at Unverferth Manufacturing Company, Inc. (“Unverferth”), where my duties include designing and engineering various agricultural products. My duties also include continuous development, improvements, and refinements to agricultural products after they are designed.

3. I work on a variety of products at Unverferth, including the design of agricultural equipment such as gravity wagons, tillage equipment, and manure handling devices. I also work on the design of seed tenders, which are the subject of the ’123 patent.

4. Before my employment at Unverferth, I gained experience in the agricultural field growing up and working on my family’s farm, which I still work at today. I also gained experience in high school working on the engineering of agricultural equipment by modifying and improving the equipment on our farm, including fixing broken down equipment in our shop.

5. After high school, I attended Northwest State Community College and in 1989 I received an associate’s degree in agricultural business.

6. After receiving my first degree, I worked for a company called Northrup King, now known as Syngenta Seed Company, where I conducted research and development at one of their corn research locations. My work included planting and harvesting research plots for the company, as well as maintaining and modifying various pieces of equipment, such as planters used for research plots for corn hybrids. Around 1999, Syngenta closed several of its facilities, including the location I worked at, and I left the company and returned to school.

7. With the goal of obtaining a degree that would allow me to focus on agricultural design, I returned to Northwest State Community College and received a second associate's degree in mechanical engineering in 2001.

8. In 2001, I began working at Unverferth as a design engineer. I have been an employee of Unverferth since then.

9. I am providing this declaration in support of the Preliminary Response of Patent Owner Unverferth in this IPR Proceeding. I understand that Petitioner Par-Kan Company, LLC is challenging claims 10-21 of the '123 patent.

II. DEVELOPMENT OF THE SEED RUNNER 3500 PROTOTYPE

10. At Unverferth, in June 2004, my boss David Smith and I began developing a seed tender product with the goal of meeting the needs of farmers, including a new and improved product that had a simple and easy design that could address the issues farmers were having with seed handling. These issues included

the safety and efficiency of loading large bags (or large bulk containers of seed) into seed planting devices in the field.

11. While grain wagons and seed tenders were available at that time, those devices required farmers to lift large bags or boxes of seed up into the seed handling device, or to use chords or straps to lift the seed to load the seed tender. Further, the devices available had a limited range of movement of the conveyor for unloading seed from the seed tender, such as limited side-to-side and up-and-down movement. These limits in motion made it difficult to discharge seed into a row planter that contained multiple boxes or to planting devices of various heights. Thus, the goal was to develop a seed tender with a conveyor that could be used to both load the seed tenders with seed and unload the seed into planters, using the same conveyor, which also had side-to-side and up-and-down movement. Such a device would not only allow farmers to load seed easily and safely from the ground, but also allow the farmer to unload seed at various heights and locations from the same conveyor.

12. David Smith and I conceived of the final design for the seed tender with a pivoting conveyor—that is described and claimed in the '123 patent—by November 2005. We designed the device with a computer aided drawing (CAD) program. This design included a conveyor and a support arm, where one end of a support arm was attached (i.e., coupled) to the conveyor between its first and second ends. The other end of the support arm was pivotable about two axes of rotation (a

vertical axis and a horizontal axis) and located proximate the lower portion of the main hopper. Such a design allows a farmer to rotate the conveyor from the load position to an unload position by himself/herself easily and from the ground. The design also allows a farmer to move the conveyor side-to-side and up-and-down for the purposes described above.

III. THE SEED RUNNER 3500 PROTOTYPE

13. The prototype was manufactured no later than February 15, 2006, which we called the Seed Runner 3500. Further, as discussed below, I can attest that I personally observed the Seed Runner 3500 prototype working for its intended purpose before February 15, 2006. I also personally observed the prototype working for its intended purpose (i) no later than February 18, 2006, (ii) no later than February 28, 2006, and (iii) no later than May 16, 2006.

A. The Seed Runner 3500 Prototype Was Manufactured, Tested and Worked for Its Intended Purpose Prior to February 15, 2006

14. After finalizing the prototype design in November 2005, I worked with the Unverferth in-house Prototype Department to construct the first prototype at Unverferth's facility in Kalida, Ohio. Between November 2005 and early February 2006, I would visit the Prototype Department daily to check on the status of the prototype and answer any questions from my colleagues regarding its construction.

15. In February 2006, the manufacture of the first prototype was completed. The prototype was completed shortly before Unverferth planned to display the

device on February 15, 2006 at the National Farm Machinery Show in Louisville, Kentucky (the “Louisville Show”). It was important that the prototype worked properly before displaying it to the public at the Louisville Show. Therefore, before the prototype was shipped to Louisville, I personally confirmed that the device was working properly.

16. After the first prototype was constructed and before the device was shipped to Louisville, I powered on the device at Unverferth’s facility in Kalida, Ohio. It was necessary to power on the device to raise the support arm of the device from its resting position in a cradle on the device. As part of my operation of the device, I moved the support arm up and down using the hydraulic power system. I also manually maneuvered the support arm side-to-side. I also tested the hydraulic piston, which moved the support arm up-and-down, and thus also moved the conveyor up-and-down. In addition, I confirmed that the conveyor belt (or internal elevator within the conveyor), which moves seed or grain from the conveyor hopper to the conveyor discharge, was working properly. The conveyor belt was powered by the hydraulic power system, which I used to confirm that the conveyor belt could be moved properly. I also turned the wheel handle mechanism to confirm the main hopper discharge doors, which holds and releases seed into the conveyor hopper, opened and closed properly. I further manipulated the conveyor from a loading position to an unloading position.

17. Before shipping the prototype to Louisville, I also demonstrated how the device functioned to my colleague Shawn Gerdeman. Mr. Gerdeman is a Product Manager at Unverferth, and he was tasked with working on the seed tender product that I developed. I understood that one of Mr. Gerdeman's responsibilities was to demonstrate the prototype at the Louisville Show. It was important that Mr. Gerdeman knew how the prototype functioned before the Louisville Show so that he could demonstrate it to attendees and answer any questions he might receive. Therefore, before the device was shipped to Louisville, I demonstrated to Mr. Gerdeman how the prototype worked by manipulating the device as discussed in the previous paragraph. I also personally observed Mr. Gerdeman manipulating the device in the same way described above.

18. Thus, I personally observed and can attest that the Seed Runner 3500 prototype worked for its intended purpose before February 15, 2006.

B. The Prototype Was Publicly Displayed at the Louisville Show from February 15-18, 2006 and Worked For Its Intended Purpose

19. As mentioned, the prototype was first publicly displayed at the Louisville Show on February 15-18, 2006. I attended a portion of the show and observed the prototype on display. Ex. 2027 contains true and accurate photographs of the prototype displayed at the show. I am shown in several of these photographs. Ex. 2027 at 1-2.

20. As illustrated in the photographs, the conveyor was capable of being moved from a loading position (*see id.* at 1-2, where the conveyor could be rotated further clockwise to result in the loading position) to an unloading position (*see id.* at 1-2 where the conveyor could be rotated further counterclockwise to result in the unloading position). The photographs also show the prototype with the support arm (and conveyor) at different horizontal and vertical positions. *Compare* Ex. 2027 at 1 to *id.* at 3. Several of the photographs show a black rectangular electrical box next to the prototype. *Id.* at 1 at 1N; *see also* Figure 1 in Section IV at 1N; Ex. 2033 at 1 at 1N. This electrical box was used to power the prototype at the show—which avoided the need and issue of running the device’s engine indoors—and allowed us to turn on and demonstrate the support arm being moved up-and-down and the running of the conveyor belt to those attending the Louisville Show.

21. Ex. 2028 is a true and accurate copy of a marketing material for the Seed Runner 3500 prototype that was prepared for the Louisville Show. The marketing material includes photographs of the Seed Runner 3500 prototype in different positions showing its operability, which Unverferth distributed to attendees at the Louisville Show. I can confirm that this marketing material depicts the Seed Runner 3500 prototype in positions similar to those that I tested prior to February 15, 2006.

22. Ex. 2029 is a true and accurate copy of an Unverferth publication from the Spring of 2006 for employees of Unverferth and friends of the company. Ex. 2029 reports on and shows pictures of the successful display of the Seed Runner 3500 prototype at the Louisville Show on February 15-18, 2006.

23. Thus, I personally observed and can attest that the Seed Runner 3500 prototype worked for its intended purpose at the Louisville Show.

*C. The Prototype Was Tested at Unverferth's Facility in Kalida, Ohio
Further Demonstrating that It Worked For Its Intended Purpose
No Later Than February 28, 2006*

24. After the Louisville Show, the prototype was shipped back to Unverferth's facility in Kalida, Ohio. After it returned, Unverferth employees and I conducted additional testing. These tests included, for example, running seed through the conveyor in both the load and unload configurations and powering and moving the support arm up and down, which further demonstrated the prototype worked for its intended purpose. Ex. 2030 are true and accurate photographs of the prototype on the lot at Unverferth's facility, which were uploaded to Unverferth's computer systems on February 28, 2006, and therefore were taken on or before that date. Ex. 2035¹ are true and accurate screenshots of the metadata showing the

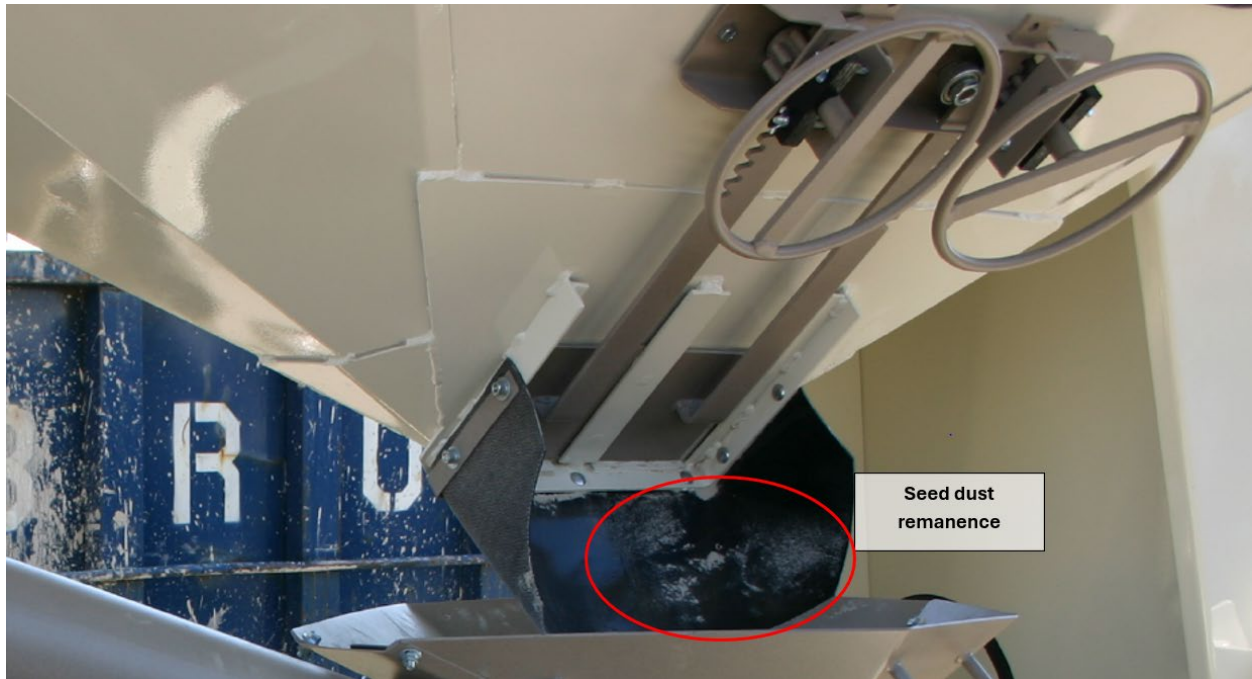
¹ Ex. 2035 shows metadata for the images in Ex. 2030 at 1 (IMG_1904), 2 (IMG_1917), 3 (IMG_1921), 4 (IMG_1889), 5 (IMG_1890), 6 (IMG_1891), 7

photographs in Ex. 2030 were uploaded to Unverferth's computer systems on February 28, 2006. As reproduced and annotated below, certain photographs show seed dust remanence on the conveyor discharge (*e.g.*, Ex. 2030 at 9) and in the flap below the main hopper discharge (*e.g.*, *id.* at 10-13), thus demonstrating that seed had been run through the device.



Ex. 2030 at 9 (zoomed in and annotated).

(IMG_1892), 8 (IMG_1883), 9 (IMG_1812), 10 (IMG 1825), 11 (IMG_1826), 12 (IMG_1830), 13 (IMG_1880), 14 (IMG_1885), and 15 (IMG_1887).



Ex. 2030 at 11 (zoomed in and annotated).

25. Additionally, certain photographs show corn in the conveyor hopper, again confirming that corn had been run through the machine. *Id.* at 14-15.



Ex. 2030 at 15 (zoomed in and annotated).

26. In addition, I am shown in several photographs manipulating the support arm and conveyor both manually and using the hydraulic system to various vertical and horizontal positions in the load and unload positions. *Id.* at 2-8.

27. I also note that the first prototype, as shown in Exs. 2027, 2028, and 2029, had a metal conveyor hopper. The first prototype was the only Seed Runner unit that Unverferth has manufactured with a metal conveyor hopper. The metal conveyor hopper was eventually replaced with a vinyl version (*see* Ex. 2031 at 6), which was the version used for large scale testing at two farms in April and May

2016, as discussed below. This further confirms that the photographs in Ex. 2030 were of the first prototype that was completed in early February.

28. Thus, I can attest that I personally tested and observed the testing of the prototype, which took place on or before February 28, 2006, and which further confirmed the prototype worked for its intended purpose.

D. The Prototype Was Tested on Two Farms No Later Than May 16, 2006 and Further Demonstrated that It Worked for Its Intended Purpose

29. By April 2006, the Unverferth Prototype Department had completed production of at least one additional Seed Runner 3500 prototypes.

30. In April 2006, one of the Seed Runner 3500 prototypes was delivered to a farm in Holland, Michigan. A second prototype device was delivered to a farm in Dixon, Illinois.

31. In May 2006, Mr. Gerdeman and I travelled to the farm in Michigan to see the device being tested on a large-scale farm. Mr. Gerdeman and I also travelled to the farm in Illinois, where on May 16, 2006, we observed additional large-scale testing.

32. Ex. 2031 contains true and accurate photographs of the Seed Runner 3500 prototype in operation at the farm in Michigan as observed by me.

33. The photographs show the prototype was operating for its intended purpose, including loading seed from seed containers (Ex. 2031 at 4-5), into the

conveyor hopper (*id.* at 6), through the conveyor, and out of the conveyor discharge into the main hopper of the prototype while in the load position (*id.* at 2-4). The photographs also show the prototype in the unload position, where seed was discharged from the main hopper discharge of the prototype into the conveyor hopper, through the conveyor, out the conveyer discharge, and into a planting device. *Id.* at 1. These photographs also show the support arm and the conveyor at different horizontal and vertical positions in both the loading and unloading positions. *Id.* at 1, 2, 4.

34. Further, Ex. 2032 is a true and accurate copy of a field report that Mr. Gerdeman wrote, and I reviewed, from May 16, 2006 discussing our visit to the farm in Illinois. We reported that the “[c]ustomer used SeedRunner on 6000 acres of corn.” Ex. 2032 at 1. In addition, we reported that the farmer encountered a minor issue where the cleats of the conveyor “belt [was] rubbing” against the bottom side of the housing of the conveyor, which was “causing cleats to bend back.” *Id.* As shown, the farmer reported clipping “the tops of the cleats off to provide appropriate clearance for the belt to operate.” *Id.* After, a new belt was installed that had additional clearance to prevent the cleats from contacting the housing of the conveyor. While the farmer reported this minor issue with the cleats of the belt, which would need to be modified before commercialization of the product, the machine was still operational for its intended purpose as I personally witnessed and

as shown in the photos discussed above. In fact, we did not observe this issue when operating the device on smaller scales (*e.g.*, after the Louisville Show as discussed in Section III.C).

35. Thus, from these visits, I can confirm that I personally witnessed and can attest that the prototypes were operating for their intended purpose no later than May 16, 2006.

**IV. THE SEED RUNNER 3500 PROTOTYPE HAD ALL OF THE
LIMITATIONS, AND IS AN EMBODIMENT, OF CLAIMS 10-20
OF THE '123 PATENT**

36. As an inventor of the '123 patent and the designer of the Seed Runner 3500 product, I am familiar with the claimed features of the '123 patent. The Seed Runner 3500 prototype had each and every feature recited in claims 10-20 of the '123 patent.

37. As mentioned, Ex. 2027 is a true and correct copy of various photographs taken at the Louisville Show on February 15-18, 2006. Figures 1-4 are reproductions of four of these photographs (Ex. 2027 at 1-4), which I have annotated and will reference for purposes of identifying the features of challenged claims 10-20 of the '123 patent. Full pages of these annotated figures are also provided in Ex. 2033 at 1-4.

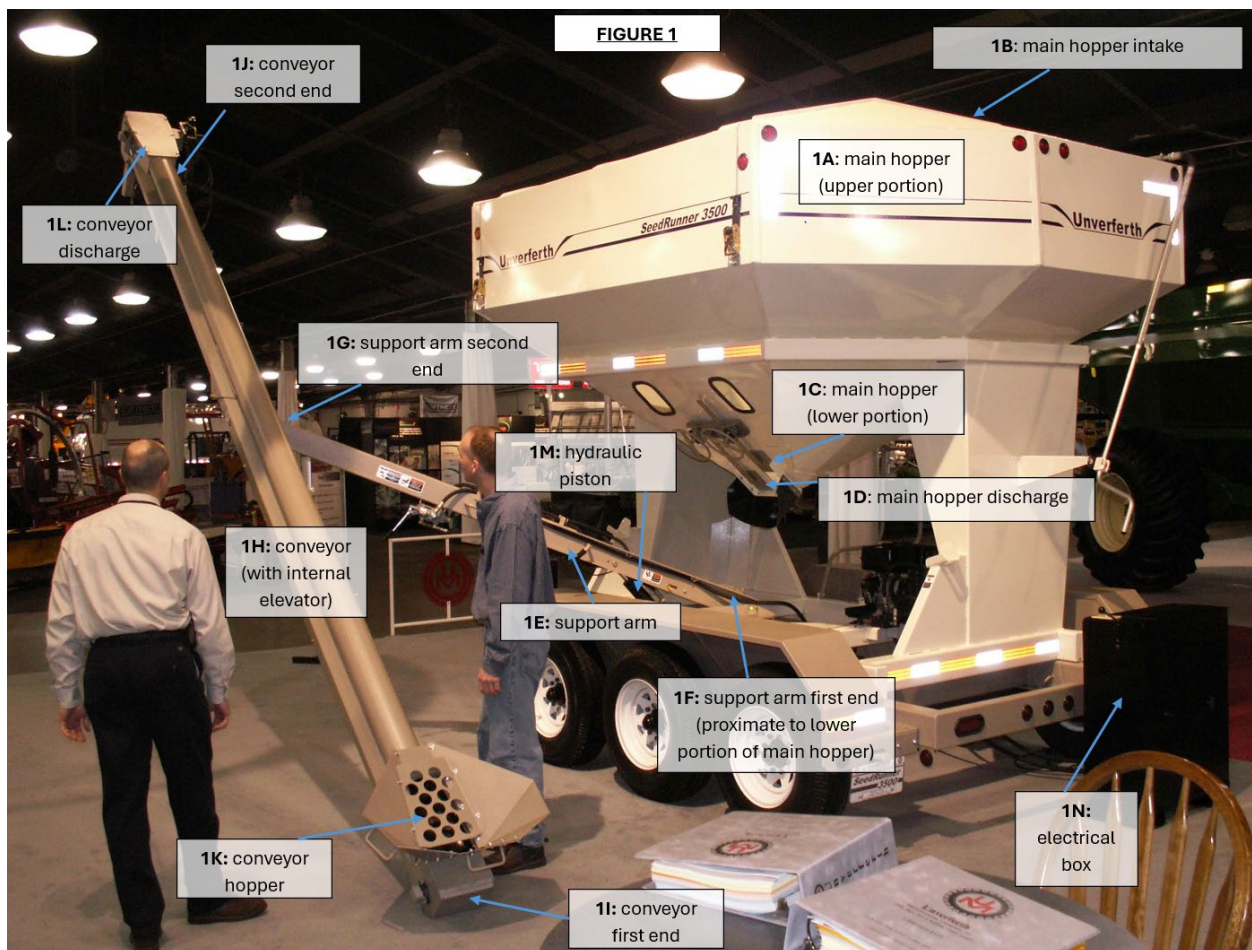
38. As mentioned, Ex. 2030 is a true and correct copy of various photographs taken on or before February 28, 2006 at Unverferth's facility. Figures

5 and 6 are reproductions of two of these photographs (Ex. 2030 at 1 and 2), which I have annotated and will reference for purposes of identifying the features of challenged claims 10-20 of the '123 patent. These annotated figures are also provided as full pages in Ex. 2033 at 5-6.

A. Claim 10

39. “A seed or grain tender”: The Seed Runner 3500 prototype was a seed or grain tender, as shown in Figure 1.

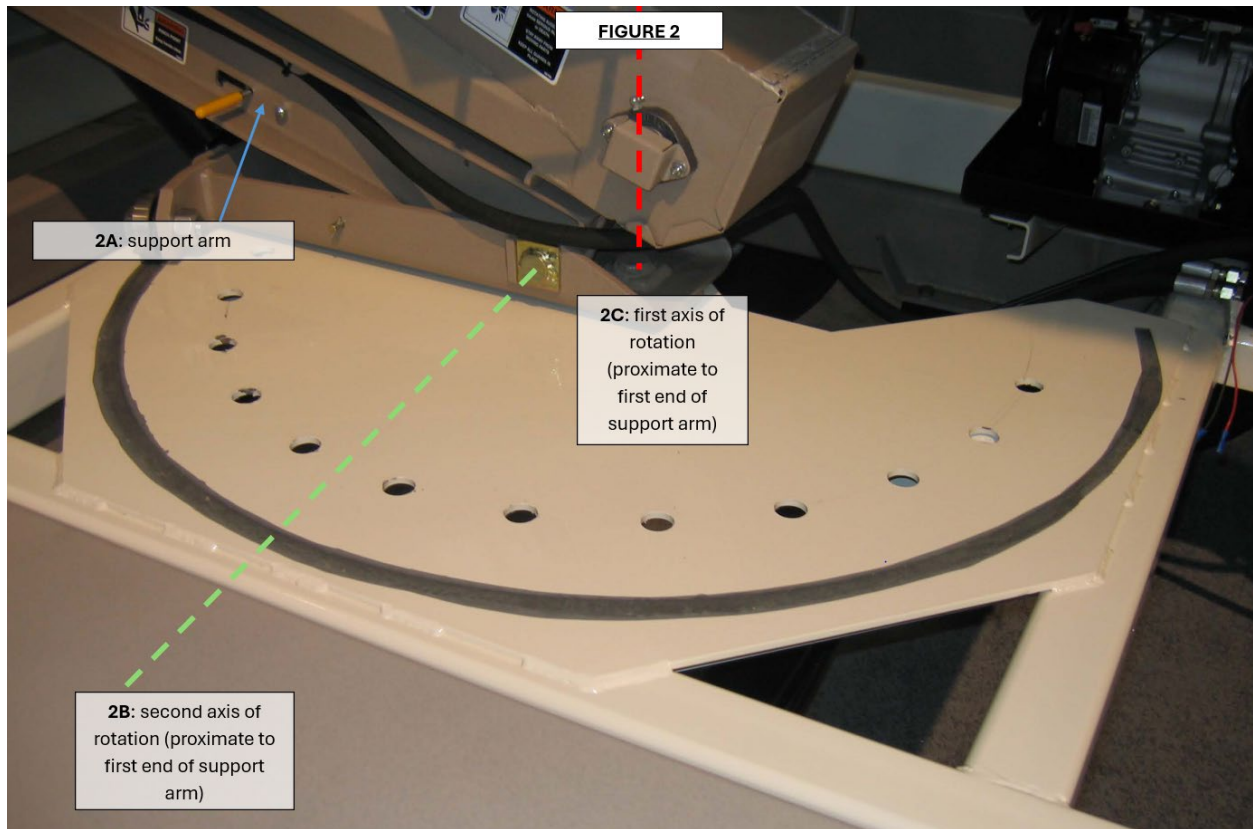
FIGURE 1 (Ex. 2033 at 1)



40. “comprising: a main hopper having an upper portion with a main hopper intake opening and a lower portion with a main hopper discharge”: The Seed Runner 3500 prototype comprised a main hopper with an upper portion (Figure 1 at 1A) that had a main hopper intake (Figure 1 at 1B) and a lower portion (Figure 1 at 1C) with a main hopper discharge (Figure 1 at 1D).

41. “a support arm having a first end proximate said lower portion of said main hopper and a second end”: The Seed Runner 3500 prototype comprised a support arm as shown in Figure 1 at 1E (*see also* Figure 2 at 2A and Figure 3 at 3B). The support arm also had a first end proximate to the lower portion of the main hopper (Figure 1 at 1F) and a second end (Figure 1 at 1G).

FIGURE 2 (Ex. 2033 at 2)

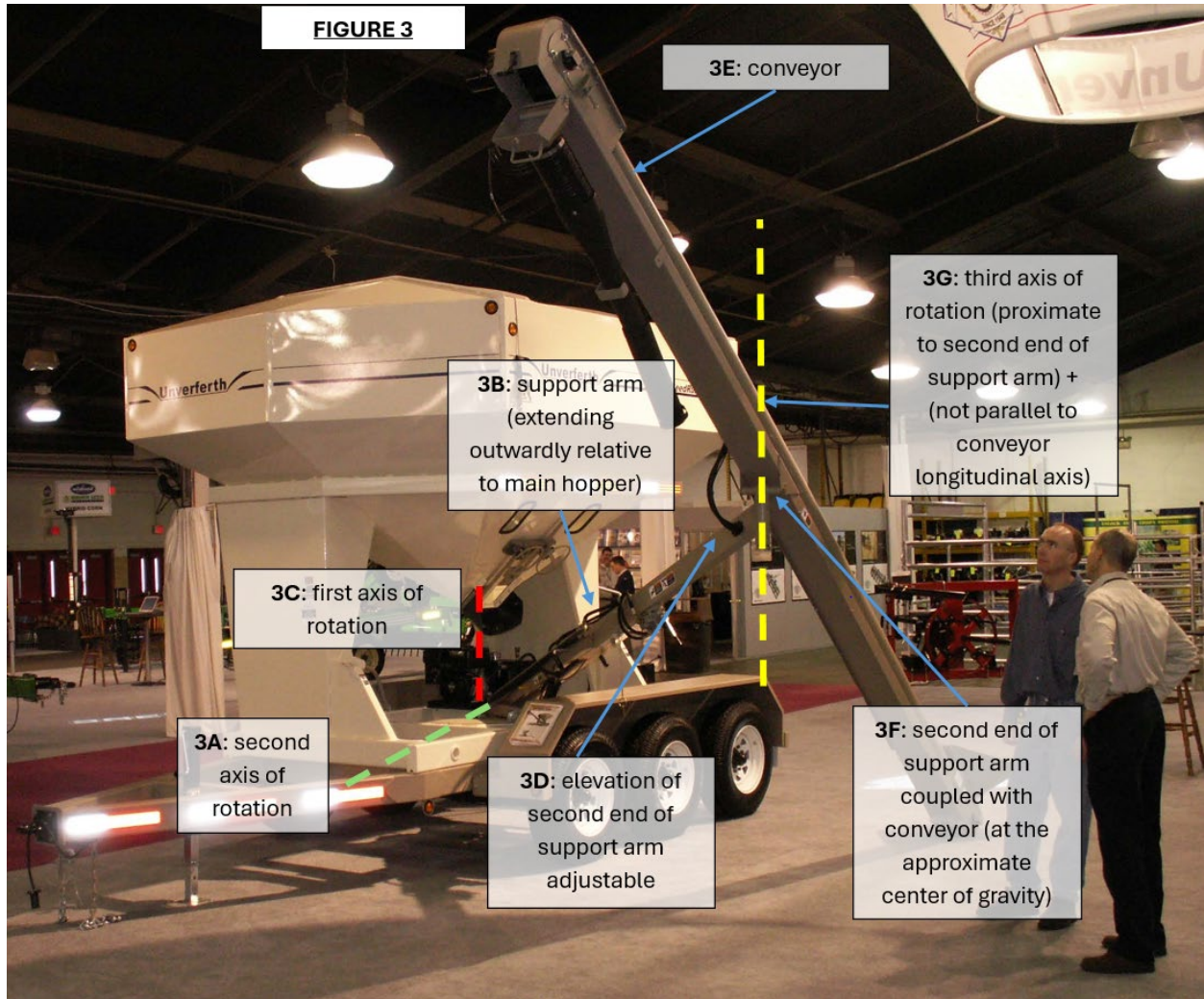


42. “wherein said support arm is pivotable about a first axis of rotation proximate said first end of said support arm”: The Seed Runner 3500 prototype comprised a support arm (Figure 1 at 1E and Figure 2 at 2A) that was pivotable about a first axis of rotation, as shown by the red dashed line in Figure 2 at 2C and Figure 3 at 3C, which was proximate to the first end of the support arm.

43. “to cause said support arm to be movable between an operating position wherein said support arm extends outwardly relative to said main hopper”: The Seed Runner 3500 prototype had a first axis of rotation (Figure 2 at 2C and Figure 3 at 3C) that caused the support arm (Figure 1 at 1E and Figure 3 at 3B) to be movable between an operating position (Figures 3, 5 and 6 generally), where the

support arm extended outwardly relative to the main hopper, as shown in Figure 3 at 3B.

FIGURE 3 (Ex. 2033 at 3)



44. “and a storage position wherein said support arm is folded inwardly towards said main hopper in relation to said operating position”: The Seed Runner 3500 prototype had a first axis of rotation, as shown by the red dotted line in Figure 2 at 2C (*see also* Figure 3 at 3C), that caused the support arm (Figure 3 at 3B) to be movable to a storage position (*see* Figure 4 generally) where the support arm is

folded inwardly towards the main hopper in relation to the operating position, as shown in Figure 4 at 4A.

FIGURE 4 (Ex. 2033 at 4)



45. “said support arm further being pivotable about a second axis of rotation proximate said first end of said support arm to cause an elevation of said second end of said support arm to be adjustable”: The Seed Runner 3500 prototype had a support arm (Figure 2 at 2A) that was also pivotable about a second axis of rotation proximate to the first end of the support arm, as shown by the green dashed line in Figure 2 at 2B (*see also* Figure 3 at 3A), that caused an elevation of the second end of the support arm to be adjustable, as shown in Figure 3 at 3D.

46. “a conveyor having a longitudinal axis and first and second ends, a conveyor hopper at said first end, and a conveyor discharge at said second end, and an internal elevator for moving seed or grain from said conveyor hopper to said conveyor discharge; and”: The Seed Runner 3500 prototype had a conveyor with a longitudinal axis, as shown in Figure 1 at 1H (*see also* Figure 3 at 3E). Further, the conveyor had first and second ends, as shown in Figure 1 at 1I and 1J. The conveyor also had a conveyor hopper at the first end, as shown in Figure 1 at 1K (*see also* Figure 5 at 5B). The conveyor had a conveyor discharge at the second end, as shown in Figure 1 at 1L (*see also* Figure 6 at 6A). Finally, the conveyor had an internal elevator for moving seed or grain from the conveyor hopper to the conveyor discharge (*see* Figure 1 at 1H).

FIGURE 5 (Ex. 2033 at 5)



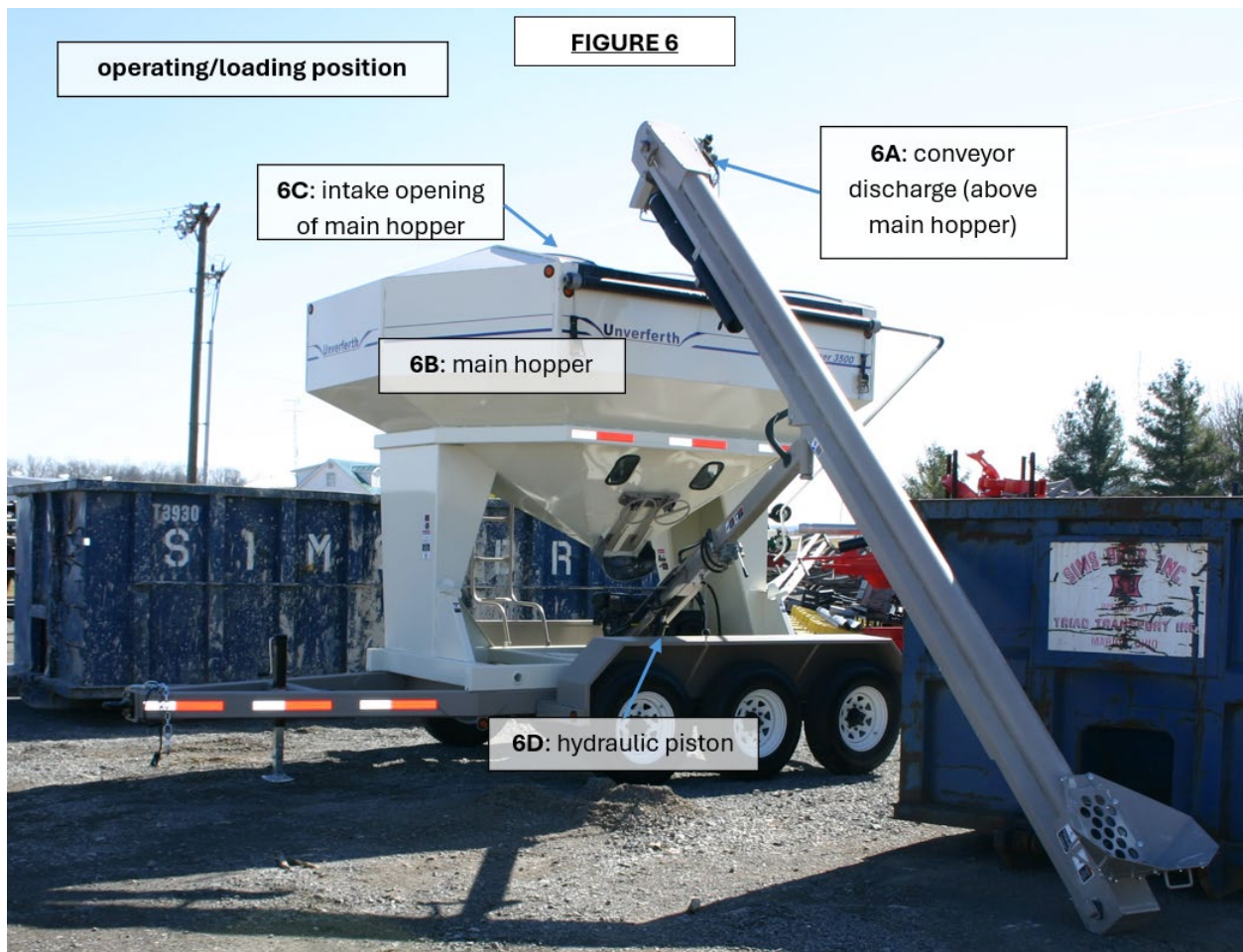
47. “said second end of said support arm being coupled with said conveyor between said first and second conveyor ends”: The Seed Runner 3500 prototype had a second end of the support arm (Figure 1 at 1G) coupled with the conveyor (Figure 3 at 3E and Figure 1 at 1H) between the first (Figure 1 at 1I) and second conveyor ends (Figure 1 at 1J), as shown in Figure 3 at 3F.

48. “said conveyor being rotatable about a third axis of rotation proximate said second end of said support arm that is not parallel to said conveyor longitudinal axis”: The Seed Runner 3500 prototype had a conveyor that was rotatable about a third axis of rotation that was proximate to the second end of the support arm and

that was not parallel to the conveyor's longitudinal axis, as shown by the dashed yellow line in Figure 3 at 3G.

49. “and said conveyor being rotatable in relation to said second end of said support arm about said third of axis of rotation between an unloading position wherein said conveyor hopper is disposed below said main hopper discharge to receive agricultural product from said main hopper”: The Seed Runner 3500 prototype had a conveyor that was rotatable in relation to the second end of the support arm about a third axis of rotation (Figure 3 at 3G) to an unloading position (Figure 5 generally) where the conveyor hopper was disposed below the main hopper discharge (Figure 5 at 5A) to receive agricultural product from the main hopper (Figure 5 at 5C), as shown in Figure 5 at 5B.

FIGURE 6 (Ex. 2033 at 6)



50. “and a loading position wherein said conveyor discharge is disposed above said intake opening of said main hopper to dispense agricultural product into said main hopper.” The Seed Runner 3500 prototype had a conveyor that was rotatable to a loading position (Figure 6 generally), where the conveyor discharge was disposed above the intake opening of the main hopper (Figure 6 at 6C) to dispense agricultural product into the main hopper (Figure 6 at 6B), as shown in Figure 6 at 6A.

B. Claim 11

51. “The seed or grain tender of claim 10, wherein said first axis of rotation extends through said main hopper discharge.”: The Seed Runner 3500 prototype had a first axis of rotation that extended through the main hopper discharge, as shown by the red dashed line in Figure 3 at 3C.

C. Claim 12

52. “The seed or grain tender of claim 10, wherein said second axis of rotation extends through said first end of said support arm.”: The Seed Runner 3500 prototype had a second axis of rotation that extended through the first end of the support arm, as shown by the green dashed line in Figure 2 at 2B and in Figure 3 at 3A.

D. Claim 13

53. “The seed or grain tender of claim 10, wherein said third axis of rotation extends through said conveyor.”: The Seed Runner 3500 prototype had a conveyor with a third axis of rotation that extended through the conveyor, as shown by the yellow dashed line in Figure 3 at 3G.

E. Claim 14

54. “The seed or grain tender of claim 10, wherein said third axis of rotation extends through said second end of said support arm.”: The Seed Runner 3500 prototype had a third axis of rotation that extended through the second end of the support arm, as shown by the yellow dashed line in Figure 3 at 3G.

F. Claim 15

55. “The seed or grain tender of claim 10, wherein said third axis of rotation extends through said conveyor and said second end of said support arm.”:

The Seed Runner 3500 prototype had a third axis of rotation that extended through the conveyor and the second end of the support arm, as shown by the yellow dashed line in Figure 3 at 3G.

G. Claim 16

56. “The seed or grain tender of claim 10, wherein said third axis of rotation is oriented at an angle having a vertical component.”: The Seed Runner 3500 prototype had a third axis of rotation that was oriented at an angle having a vertical component, as shown by the yellow dashed line in Figure 3 at 3G.

H. Claim 17

57. “The seed or grain tender of claim 16, wherein said first axis of rotation is vertical.”: The Seed Runner 3500 prototype had a first axis of rotation that was vertical, as shown by the red dashed line in Figure 2 at 2C and Figure 3 at 3C.

I. Claim 18

58. “The seed or grain tender of claim 18, wherein said second axis of rotation is horizontal.”: The Seed Runner 3500 prototype had a second axis of rotation that is horizontal, as shown by the green dashed line in Figure 2 at 2B and Figure 3 at 3A.

J. Claim 19

59. “The seed or grain tender of claim 10, wherein said second end of said support arm is coupled with said conveyor at an approximate center of gravity of said conveyor.”: The Seed Runner 3500 prototype had a second end of the support arm that is coupled with the conveyor at the approximate center of gravity of the conveyor, as shown in Figure 3 at 3F.

K. Claim 20

60. “The seed or grain tender of claim 10, further comprising a hydraulic piston extending at an acute angle relative to a horizontal plane to connect with a portion of said support arm spaced from said second axis of rotation.”: The Seed Runner 3500 prototype had a hydraulic piston that extended at an acute angle relative to a horizontal plane to connect with a portion of the support arm that was spaced from the second axis of rotation, as shown in Figure 1 at 1M, Figure 4 at 4E, and Figure 6 at 6D.

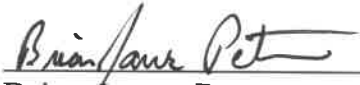
61. Therefore, for the above reasons, the Seed Runner 3500 prototype included all of the features of claims 10-20 of the '123 patent.

* * *

62. I acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the '123 patent. I declare under penalty of perjury under the laws of the United

States of America that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

Date: December 20, 2024



Brian James Petersen