

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SOLARIS OILFIELD SITE SERVICES OPERATING, LLC and SOLARIS
OILFIELD SITE SERVICES PERSONNEL, LLC,
Petitioners,

v.

MASABA, INC.
Patent Owner.

Case No. IPR2024-01179
Patent No. 11,780,689
Issue Date: October 10, 2023

Title: Aggregate Transferring System

DECLARATION OF TRAVIS A. ANDERSON

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I. INTRODUCTION

1. My name is Travis A. Anderson. I make this declaration based upon my own personal knowledge.

2. I have been asked to provide technical assistance in the inter partes review (“IPR”) of U.S. Patent No. 11,780,689, which I will refer to as “the ’689 Patent.” I am providing this declaration in response to the Declaration of Dr. Robert Durham submitted in this IPR proceeding challenging the patentability of the claims of the ’689 Patent. I am being compensated for my analysis and assistance at a regular hourly rate of \$200 per hour and at \$250 per hour for time testifying (including depositions). I am also being reimbursed for expenses incurred. The compensation I receive is not dependent on my opinions nor the outcome of these proceedings.

II. EXPERIENCE AND QUALIFICATIONS

3. I have relied upon my knowledge, training, and experience in the relevant field to formulate my opinions. A summary of my qualifications is provided here, and a full CV is provided as Appendix 1 to this declaration. I am a mechanical engineer with experience and expertise in multiple areas. I have direct experience and expertise in equipment used in the oil & gas industry and specifically in

aggregate proppant storage and handling equipment and systems used in oil & gas well fracturing operations (“Fracing Operations”).¹

4. I have worked for equipment manufacturers for more than forty years, with fifteen of those years specifically designing, constructing, and testing aggregate handling equipment for use in the oil & gas industry.

5. I received my Bachelor of Science degree in Mechanical Engineering from Texas A&M University in 1989.

6. I began my engineering career working part time as a Drafter at Alamo Group, Inc. in 1983, working summers until I graduated from A&M in 1989, when I was then hired full time as a Design Engineer.

7. Alamo Group engineers and manufactures heavy duty vegetation control equipment including mowers and boom-mounted tree cutters. My work at Alamo Group included the design and engineering of new products, improvements to existing products, and development of mounting systems between the equipment and prime movers such as agricultural tractors. My work also included the supervision and management of teams of engineers, designers, and drafters engaged in these same roles.

¹ I note that the term Frac or Fracing, with a “c” and not “ck” (as in Frack or Fracking), is the spelling traditionally used by those of us in the industry. The media and lay persons, especially those who are against the fracturing process, use a “ck.” Generally speaking, those in the industry view those who use “ck” as persons that do not practice in the fracing industry. (See Exs. 2032, 2033.)

8. In 2008 I moved to a position as Director of Engineering at Appco Corporation.

9. Appco engineered and manufactured heavy duty aggregate storage and conveyance equipment for the aggregate industry and specialized storage and conveyance equipment for aggregate proppants for the oil & gas industry. Prior to my arrival at Appco, the company's primary focus was on storage and conveyance of aggregate in the quarry, cement-making, and mining industries. However, shortly before I joined Appco in 2008, the focus of the company shifted from the quarry, cement-making, and mining industries to storing and conveying aggregate proppant (also commonly referred to as "frac sand") for the oil & gas industry. That shift in focus led Appco to become the dominant leader in the aggregate proppant equipment market, including the dominant manufacturer and supplier of conveyors for aggregates in the oil & gas industry.

10. Appco was purchased by NOV Inc. in 2011. I remained the Director of Engineering while Appco's operations were absorbed into NOV, at which time I became the Proppant Equipment Engineering Group Manager at NOV. My duties and responsibilities as the Proppant Equipment Engineering Group Manager included leading a team of engineers in designing, testing, and overseeing manufacturing processes for aggregate storage and conveyance systems, and in overseeing quality control procedures post manufacture for those systems. I was

responsible for overseeing a team of engineers that included engineers that were recent graduates starting their first engineering job to engineers with over a decade of engineering experience.

11. Throughout my career with Appco and NOV, my engineering team and I engineered and developed multiple products including high-volume aggregate proppant storage silo systems, bucket elevator conveyors, belt conveyors, dust collectors, hopper systems, multi-sanders/T-Belts, and Frac Sanders, known in the industry by various names such as “Sand Chiefs” and “Mountain Movers.”

12. I have extensive field experience at oil & gas well fracturing sites including investigation of product needs, troubleshooting equipment, training, commissioning new equipment, and testing/monitoring engineering prototypes, all the foregoing pertaining to aggregate proppant storage and conveyance.

13. I am familiar with the National Institute for Occupational Safety and Health (“NIOSH”) and with the Occupational Safety and Health Administration (“OSHA”) and their responsibilities to mitigate work-related injuries and illnesses at oil & gas locations through research and recommendations (primarily conducted by NIOSH) and to update and issue rules and regulations for fracing work sites (by OSHA, typically based on the research and recommendations of NIOSH).

14. I have held industry leadership roles, including being chairperson for the Engineering Controls Committee of the STEPS Network’s Respirable Silica

Focus Group and assisting in writing the OSHA-NIOSH Hazard Alert (submitted by Solaris as Exhibit 1021 in this case). As chairperson for the Engineering Controls Committee of the Respirable Silica Focus Group, I oversaw a task group tasked with identifying, testing, and evaluating engineering controls, whether products or processes, to mitigate respirable particulate silica dust at fracing sites due to the conveyance, storage, and use of aggregate proppant for fracing. This task group discussed existing and potential dust mitigation controls and techniques to reduce silica dust exposure, assigned testing of various ideas, and reported its findings and progress to the Respirable Silica Focus Group. The findings of this task group became one of the catalysts that moved OSHA to update and enforce rules and regulations pertaining to allowable levels of respirable particulate silica dust at fracing sites, which resulted in a safer work environment for workers at fracing sites.

15. I have co-authored two Society of Petroleum Engineers (SPE) Papers: SPE-163528-MS “Dust Collection System for Personnel Health During Fracturing Operations” published March 5, 2013, and SPE-166451-MS “Field Deployment of Fracturing Site Sand Fill Dust Mitigation System” published September 30, 2013. These papers pertain to dust collection systems for aggregate proppant storage and conveyor units used in oil & gas fracing operations.

16. I am a named inventor on two U.S. patents and one pending U.S. patent application, including U.S. Patent No. 6,311,746 entitled “Circular Saw Head,” U.S.

Patent No. 12,077,372 entitled “Proppant Supply System,” and U.S. Published Patent Application US20240271515A1 entitled “Direct Feed Proppant System.” U.S. Patent No. 12,077,372 is the patent that issued from the application published as U.S. Published Patent Application No. US20210354910A1 that has been submitted in this IPR proceeding by Solaris as Exhibit 1028.

17. I have read the ’689 Patent, and based on my education, experience of over forty years, publications, and patents held, I am an expert in the field of the ’689 Patent and have been an expert in this field since before the ’689 Patent was filed with the United States Patent and Trademark Office (“USPTO”). I am also familiar with how a person having ordinary skill in the art (POSITA) would have understood and used the terminology found in the ’689 Patent at the time of its priority date, which I understand Solaris has assumed to be July 19, 2021.

III. LEGAL STANDARDS

A. My Understanding of Applicable Law

18. I understand that Dr. Durham has asserted that Claims 1-25 of the ’689 Patent are invalid or unpatentable for obviousness. I have been informed that the determination of obviousness is at least a two-step process.

19. First, I understand that the language of the claims of the patent must be interpreted or construed. It is my understanding that the disclosure in a U.S. patent and the claims of a U.S. patent are not written to be understood by a lay person.

Instead, patents and patent claims are meant to be understood by those of ordinary skill in the art to which the subject of the patent pertains. I understand that the terms in the claims are interpreted from the perspective of a person of ordinary skill in the art who is ascertaining how the patent applicant used those terms in the patent and in communications with the Patent Office, referred to as “the prosecution history.”

20. Further, in evaluating claims, I understand that the relevant perspective of a person of ordinary skill in the art is the perspective of a person of ordinary skill in the art at the time of the effective filing date (i.e., priority date) for the subject matter of the claim at issue. In the case of the claims of the '689 Patent, I understand that the effective filing date is assumed to be July 19, 2021, but the conclusions I have drawn would be equally applicable if the effective filing date were December 14, 2021.

21. Second, I understand that once the claims have been interpreted, then the claim terms are compared to the prior art. I understand that if all the elements of a claim of the '689 Patent are described in a single prior art publication or are present in a single prior art device, arranged in the same manner as set forth in the claim, then the claim is unpatentable or invalid for “anticipation.” I understand that an element may be described by the prior art either expressly or inherently, and that a claim element is described inherently only if it necessarily flows from that which is

described expressly. I understand that Dr. Durham is not claiming that any claim of the '689 Patent is invalid or unpatentable for “anticipation.”

22. If all the elements of a claimed combination are not described in a single prior art publication (or are not present in a single prior art device), then I understand the claim may still be invalid or unpatentable for “obviousness.”

23. I also understand that to qualify as prior art for an obviousness attack, a publication must be “analogous art.” I understand that a publication is “analogous art” only if it satisfies at least one of the following conditions: (1) the publication is from the same field of endeavor as the '689 Patent, regardless of the problem addressed by the '689 Patent or, (2) if the publication is not within the same field of endeavor as the '689 Patent, the publication still is reasonably pertinent to the particular problem with which the inventors were involved. I understand that if a prior art publication’s disclosure has the same purpose as the claimed invention of the patent being attacked, then the publication relates to the same problem as the patent. On the other hand, if the prior art publication is directed to a different purpose and is from a different field of endeavor, then it relates to a different problem and a POSITA would have had no motivation or occasion to consider it for purposes of an obviousness analysis.

24. I understand that a claim is invalid or unpatentable for obviousness if the differences between the claimed invention and the analogous prior art are such

that the claimed invention as a whole would have been obvious at the time of the effective filing date for that claimed invention (which I understand Solaris has assumed to be on July 19, 2021 and no later than December 14, 2021) to a person of ordinary skill in the art. I understand that to perform the obviousness analysis, I must put aside my knowledge of the disclosure of the '689 Patent and analyze what would have been obvious to a person of ordinary skill in the art in light of the prior art. I must avoid using hindsight obtained from my knowledge of the '689 Patent or other knowledge that did not constitute prior art as of the effective filing date.

25. To avoid using hindsight, I understand that there must have been an apparent reason or motivation to combine the known elements of the prior art in the fashion claimed by the claim at issue in order for the prior art to render a claim invalid as obvious. Last, I understand that if a POSITA would not have had a reasonable expectation that a certain combination would have been successful, then that lack of reasonable expectation of success weighs against a conclusion that the claim would have been obvious.

B. Level of Skill of a Person Having Ordinary Skill in the Art (POSITA) and Dr. Durham's Qualifications

26. I understand that a person of ordinary skill in the art (a POSITA) is a hypothetical person that would have at least the skill necessary to be able to read the '689 Patent and make and use the subject matter claimed in the patent. I understand that factors that can be used to determine the level of skill of a POSITA include: the

types of problems encountered in the art, prior art solutions to those problems, the rapidity with which innovations are made in the art, the sophistication of the technology, and the educational level of active workers in the field. I further understand that in assessing obviousness, the POSITA is presumed to have knowledge of the relevant prior art.

27. Dr. Durham opines that, as of the earliest priority date of the '689 Patent, a POSITA “would have a degree in mechanical, electrical, petroleum, or civil engineering with at least two years’ of experience working in an industry or field that involves handing [sic, handling] of particulate materials....” Durham Declaration, ¶ 41. In contrast, it is my opinion that a POSITA for the '689 Patent would have a degree in mechanical engineering or perhaps petroleum or civil engineering with at least two years of experience engineering the structural and/or mechanical aspects of aggregate transferring equipment.

28. A POSITA with degrees in other engineering fields, like electrical engineering, would need approximately 4-6 years of hands-on experience specifically related to engineering the structural and/or mechanical aspects of aggregate transferring equipment to be considered to have the ordinary level of knowledge and skill in this area. An electrical engineer is mainly concerned with designing with electrical components, not mechanical components. And figuring out how to convey aggregate materials from one location to another is not an *electrical*

engineering problem. At his deposition, Dr. Durham explained that the only courses he might have had in his electrical engineering curriculum that could be related to the problem addressed by the '689 Patent were a statics class and some instrumentation classes. (Durham Depo., 6:20-7:22.) But statics is the study of forces and stresses involved in a static (non-moving) mechanical system. And instrumentation is the study of how to measure various parameters associated with a mechanical (or electrical) system, usually for purposes of controlling the system. But aggregate transferring equipment involves more than static (non-moving) components, such as belt conveyors and bucket elevators, and more than just measuring parameters associated with the aggregate transferring equipment. Thus, the types of courses that Dr. Durham's electrical engineering curriculum included would not constitute sufficient training to design or otherwise engineer the structural and/or mechanical aspects of aggregate transferring equipment.

29. Further, I disagree with Dr. Durham's suggestion that merely having general experience in industries, such as the oil & gas industry, where *the industry* involves transferring aggregate, may be sufficient to qualify *a person* as having the ordinary level of skill in the art of transferring aggregate. In my opinion, a person would need to be directly involved in designing or in otherwise engineering the structural and/or mechanical aspects of aggregate transferring equipment to obtain the knowledge and skills of a person of ordinary skill in that field. Generalized

experience in an industry or field that involves transferring of aggregate would not be sufficient to qualify a person as a POSITA in the field of the '689 Patent.

30. With over 15 years of experience managing engineering teams focused on the design, manufacture, and testing of aggregate transferring equipment, I have hired many engineers to work in this field. Based on a thorough review of Dr. Durham's declaration and his deposition testimony, I believe his background would not qualify him as one possessing the specific knowledge and skills required to be qualified for a position on my team. His educational background is in Electrical Engineering and Engineering Management, areas that are at best only tangentially related to the field of conveying aggregate materials. Additionally, his experience does not appear to include any work engineering the structural and/or mechanical aspects of aggregate transferring equipment. Instead, he states in paragraphs 4-12 that he has experience in "the electrification of the oil and gas industry," "in the area of electrical equipment in the oil and gas industry," "in the area of electrification of oil and gas fields" (including "overhead power lines, transformers, switchgear, drives, and motors"), "the design, construction, and analysis of all kinds of power systems," "interfacing with drilling and fracturing operations with regards to electrical needs," and "power distribution, including generation, transmission, and distribution equipment." Consequently, it is my opinion that Dr. Durham's

declaration has not demonstrated that he has the experience of a POSITA in the field of the '689 Patent or that he is an expert in that field.

31. At his deposition, Dr. Durham explained that he worked on a four- or five-month project more than 25 years ago designing and building controls for a system that conveyed coal into a silo. (Durham Depo., 9:15-11:3, 17:5-12, 17:22-19:14.) But he was not involved in the design, construction, or selection of the structural components of that conveyor system. (Durham Depo., 17:13-21.) In my opinion, even if Dr. Durham had spent years designing and building controls for the coal-conveying system, he would not qualify as a POSITA in the field of the '689 Patent because his work did not involve engineering the structural and/or mechanical aspects of the coal-conveying system. I have years of experience working directly with and collaborating with control engineers to design control systems for aggregate transferring equipment. Consequently, I understand the differences in the skill sets of someone working on the controls for such systems and someone working on the structural and/or mechanical aspects of such systems. That it is necessary to involve both control engineers and structural / mechanical engineers speaks to the differences in their respective skill sets. In my opinion and experience, I would not consider a person with experience with the controls systems of aggregate transferring equipment to have the skills and experience to be a POSITA in the field of the '689 Patent.

32. When asked at his deposition about how he obtained the expertise needed for this case, Dr. Durham testified that he had become an “expert” by the mid-2000s by “dealing with” and “observing” aggregate handling systems. (Durham Depo., 46:25-47:6.) But “dealing with” and “observing” aggregate handling systems is different from engineering the structural and/or mechanical aspects of aggregate handling systems. Consequently, it is my opinion that Dr. Durham has not demonstrated that he has the experience of a POSITA in the field of the ’689 Patent and that he is not an expert in that field.

IV. GROUND 1: Dr. Durham has not shown that the apparatus of Claims 1-2, 4-11, 16-20, and 22-24 would have been rendered obvious by *Waldner* in view of *Dynatek*

A. Dr. Durham has not shown that the apparatus of Claim 1 would have been rendered obvious by *Waldner* in view of *Dynatek*

- 1. Limitation 1[h]/Limitation 1[i]: “a conveyor extension assembly for conveying aggregate to locations horizontally outward from the aggregate elevating assembly, the conveyor extension assembly comprising: an extension conveyor for moving aggregate from an inlet of the extension conveyor to an outlet of the extension conveyor...”**

33. Claim 1 recites a “conveyor extension assembly” that comprises “an extension conveyor for moving aggregate from an inlet of the extension conveyor to an outlet of the extension conveyor.” Dr. Durham suggests that the discharge chute member 242 of *Waldner* might qualify as the “conveyor extension assembly” and “extension conveyor for moving aggregate...” in Claim 1. Durham Declaration, ¶¶ 147-157. I disagree.

34. A POSITA would not understand the discharge chute member 242 of *Waldner* to be a “conveyor extension assembly” and especially not an “extension conveyor for moving aggregate.” In the relevant field of moving aggregate materials, a POSITA would understand a “conveyor extension assembly” and “extension conveyor for moving aggregate” to be a device that imparts motion to the aggregate to transport it from one point to another. In contrast, a discharge chute is a passive device that does not impart motion to the aggregate. A discharge chute merely directs the flow of the aggregate. In the discharge chute member 242 of *Waldner*, it is gravity that imparts motion to the aggregate, *i.e.*, it is gravity that moves the aggregate, not the discharge chute.

35. At his deposition, when Durham was asked how a POSITA would understand the term “conveyor for moving aggregate,” he testified that it would be “some kind of mechanical system that would transport the aggregate from one location to another” and “would have some mechanical component to help in that drive.” (Durham Depo., 68:19-69:4.) Durham then testified, consistent with my testimony above, that a “fixed tube” or “a pipeline” would *not* qualify as a “conveyor for moving aggregate.” (Durham Depo., 69:5-70:19.) And Durham later testified that the loading spout in *Dynatek* is not a “conveyor.” (Durham Depo., 88:6-7.) But Durham then reversed himself and testified that the *Dynatek* loading spout *could* be a “conveyor” “because it's retractable and moveable,” *i.e.*, “because it can lengthen

and shorten.” (Durham Depo., 88:15-89:20.) I disagree. The *Dynatek* loading spout is not a “conveyor,” let alone a “conveyor for moving aggregate” because the loading spout does not impart motion to the aggregate within it. A device does not qualify as a “conveyor,” let alone a “conveyor for moving aggregate,” merely “because it can lengthen and shorten.” Specifically, *Waldner*’s discharge chute 242 is not a “conveyor,” and certainly not a “conveyor for moving aggregate,” because it does not impart motion to the aggregate within it.

2. No Motivation to Combine *Dynatek* with *Waldner*

36. In paragraph 111 of his Declaration, Dr. Durham states the problem facing the ’689 Patent’s inventors was “designing a conveyor system to transfer aggregate material to an elevated location such as the inlet of a storage silo.” I disagree with this statement of the problem facing the ’689 Patent’s inventors. In my opinion, the ’689 Patent is concerned with the problem of designing a transportable apparatus to transfer aggregate material to an elevated location such as the inlet of a storage silo. Durham’s statement of the problem improperly assumes a solution that uses “a conveyor system.” Also, Durham’s statement of the problem does not account for the need for the apparatus to be transportable. A “transport configuration” is required by at least independent claims 1, 12, 13, and 16 and all of their dependent claims. And independent claims 12 and 25 and dependent claims 3 and 21 require “trailer structure configured to permit the apparatus to be towed

across a ground surface.” It is apparent that road portability was an important facet of the problem facing the inventors of the ’689 Patent.

37. In paragraph 112 of his Declaration, Durham states that a “POSITA would have been motivated to look to the teachings of *Dynatek* as it was known long before the ’689 Patent to use conveyor belts, like the belts of *Dynatek* for discharge of aggregate material.” I disagree with this statement. The mere fact that something was “known long before the ’689 Patent” would not have been a motivation in and of itself; Dr. Durham’s position that merely being “known” before the ’689 Patent is a sufficient motivation effectively eviscerates the requirement for a motivation because under his reasoning there is no prior art for which a motivation does not exist.

38. In paragraph 112 of his Declaration, Durham suggests that “a problem allegedly solved by the ’689 Patent” was “using conveyor belt systems to transfer and discharge material from an elevated location.” I disagree with that assertion. As already discussed above, this statement of the problem improperly assumes a solution that uses “conveyor belt systems.”

39. In paragraph 113 of his Declaration, Durham states that “*Waldner* teaches its system or related technologies not only for handling proppant at a hydraulic fracturing site but also ‘to fill grain bins in the agricultural industry,’ as well as concrete / bulk cement systems.” To the extent that Durham is saying that

Waldner's system is for handling "concrete / bulk cement systems," I disagree. The only reference in *Waldner* to concrete / bulk cement systems is in the background of *Waldner*, and that reference to concrete / bulk cement systems is not a description of what *Waldner*'s system does. Further, using *Waldner*'s system for concrete or bulk cement would be problematic and would require different components and features to work, because cement is a powder and not an aggregate. For example, if *Waldner*'s system were used with cement, I would expect (1) a bucket elevator using buckets with holes and (2) chutes and transitions with air slides, among a number of other features and modifications that would be required to be used with cement. But none of those features are disclosed in *Waldner*.

40. In paragraph 113 of his Declaration, Durham asserts that because *Waldner* discusses handling a variety of aggregate materials, "A POSITA would therefore be motivated to look to other technologies for handling various types of aggregate materials." I disagree. Merely because one technology handles a variety of aggregate materials is not a motivation to look for other technologies that handle a variety of aggregate materials. That fact would only establish that the two technologies have that capability in common; it would not provide a motivation to substitute one for the other.

41. In paragraph 115 of his Declaration, Durham states that "*Waldner*'s mechanism for adjusting the discharge chute's position may be limited [in]

its...range of motion” and that “[a] POSITA building the *Waldner* system would have looked to other known conveyor systems...to optimize its design.” Durham’s declaration does not explain why *Waldner*’s mechanism for adjusting the discharge chute’s position is limited in its range of motion, nor does he explain what he means by “optimiz[ing]” the design of *Waldner*. Durham’s declaration appears to assume that *Waldner*’s discharge chute does not have sufficient “range of motion,” but provides no basis for that assumption. *Waldner*’s chute is clearly designed to be able to rotate to the left or right, to rotate up and down, and to extend telescopically. Therefore, it has a wide “range of motion.” Without any reason why *Waldner* needs more “range of motion,” a POSITA would have had no motivation to substitute the EconoLoader of *Dynatek* for the discharge chute of *Waldner* to “optimize” the “range of motion.” And even if such a need existed, a POSITA could have easily accomplished this by merely increasing the height of the bucket elevator and/or the length of the discharge chute (while keeping everything at a transportable height/length), thus allowing the discharge chute to be positioned where needed while maintaining an angle of the discharge chute sufficient to allow required material flow rates. Utilizing a conveyor system such as the *Dynatek* EconoLoader in place of the chute of *Waldner* would unnecessarily complicate the system as a solution for the purely hypothetical problem of “optimizing” the “range of motion” of the system. At his deposition, Durham stated that *Waldner*’s discharge chute was

limited in its horizontal range of motion, but Durham has not provided any reason why any greater horizontal range of motion was needed or beneficial. (Durham Depo., 77:19-78:20.) There is no need in *Waldner*, for example, to fill silos *behind* the bucket elevator.

42. In paragraph 117 of his Declaration, Durham states that “A POSITA would have been motivated to look at the ‘Belt EconoLoader’ first when looking for improvements to *Waldner*’s apparatus, as *Waldner* already teaches the use of belt conveyors.” But the mere fact that *Waldner* uses a belt conveyor to receive aggregate from a truck would not have motivated a POSITA to use a belt conveyor to transport aggregate from *Waldner*’s bucket elevator to the ultimate discharge point. As *Waldner* itself illustrates, different mechanisms may be used in those two locations, and the use of a belt conveyor in one location does not suggest the use of a belt conveyor in the other. Instead, a POSITA looking at the *Dynatek* landing page would have considered the advantages and disadvantages of each of the four options shown there and made a selection based on those considerations, not based on the fact that a belt conveyor is used in *Waldner* to receive aggregate from a truck. As already stated above (and for reasons more fully stated below), a POSITA would have concluded that a discharge chute like the discharge chute in *Waldner* (or a modified version of that discharge chute) would have been the best overall choice when

considering the discharge chute and the four additional options shown on the *Dynatek* landing page.

43. In paragraph 118 of his Declaration, Durham states that “a POSITA would have been motivated to substitute the EconoLoader of *Dynatek* for the discharge chute of *Waldner*...to maximize the rotation and reach of the system....” Durham does not identify any reason to “maximize” the “rotation and reach” of the discharge chute of *Waldner*. Durham’s statement assumes that *Waldner*’s discharge chute does not have sufficient “rotation and reach,” but provides no basis for that assumption. *Waldner*’s chute is clearly designed to be able to rotate to the left or right, to rotate up and down, and to extend telescopically. Therefore, it has “rotation and reach.” Without any reason why *Waldner* needs more “rotation and reach,” a POSITA would have had no motivation to substitute the EconoLoader of *Dynatek* for the discharge chute of *Waldner* to “maximize the rotation and reach of the system.” With respect to the alleged need for more rotation, there is no need in *Waldner*, for example, to fill silos *behind* the bucket elevator. And even if a need existed to extend the “reach” of *Waldner*, a POSITA could have easily accomplished this by merely increasing the length of the discharge chute and, if necessary, the height of the bucket elevator (while keeping everything at a transportable height/length), thus allowing the discharge chute to be positioned where needed while maintaining an angle of the discharge chute sufficient to allow required

material flow rates. Utilizing a conveyor system such as the EconoLoader in place of the chute of *Waldner* would unnecessarily complicate the system as a solution for the purely hypothetical problem of increasing “the rotation and reach” of the system. As more fully explained below, the added complexity of using a conveyor system such as the EconoLoader would be a reason that a POSITA would not replace the chute of *Waldner* with such a conveyor system merely to increase “the rotation and reach” of the system.

44. In paragraph 117 of his Declaration, Durham states that “a belt conveyor [like the *Dynatek* EconoLoader] would be more advantageous in its ability to control speed of discharge as opposed to gravity-based systems” like *Waldner*’s discharge chute. And in paragraph 118 of his Declaration Durham states that “a POSITA would have been motivated to substitute the EconoLoader of *Dynatek* for the discharge chute of *Waldner*, e.g., to...increase discharge rates” because “[i]n *Dynatek*, the additional control of the speed of the conveyor allows for better...discharge rates.” These statements demonstrate that Durham misunderstands how a system like *Waldner*’s is designed to operate and misunderstands the effect of the speed of *Dynatek*’s conveyor if it were substituted into *Waldner*’s system. Systems such as these are designed to hit a target transfer rate. The material flow rate of the system, including the discharge rate, is set at the input or loading point; all downstream components of the system, including

conveyors, bucket elevators, chutes, etc., must move the material at the same or greater flow rate than the flow rate at which the material is being input into the system, i.e., the target transfer rate. It is not possible to discharge material at a flow rate greater than this input flow rate. A POSITA would recognize that the discharge chute in *Waldner* would not be the limiting factor in the flow rate of the *Waldner* system. In other words, *Waldner*'s discharge chute is not used to "control" the discharge flow rate; it is not capable of discharging material at flow rates greater than the material input flow rate. Because the discharge chute in *Waldner* is not the limiting factor in the flow rate of *Waldner*'s system, a POSITA would not be motivated to replace it with something faster because a faster component would have no effect on the overall flow rate of the system.

45. Furthermore, Durham's focus on "particle movement rates" in paragraph 115 of his Declaration and his focus on the "speed" of discharge and the "speed" of the conveyor in paragraphs 117 and 118 of his Declaration further shows that he does not understand that what is important in a system like this is the mass or volume flow rate and that he does not understand how to best optimize operation of such a system. In reality, a POSITA would want to *minimize* the "speed" of a conveyor while maintaining a flow rate capacity that is only slightly above the input flow rate (to accommodate intermittent surges in the input flow rate), because higher

conveyor speeds will result in more dust and reduction in conveyor component life without increasing overall flow rate.

46. Even if a POSITA were somehow motivated to replace the discharge chute with something with greater flow rate capacity, a POSITA would not have been motivated to replace the discharge chute with the *Dynatek* belt conveyor. To “increase discharge rates” of the chute to handle higher input flow rates, a POSITA would merely increase the diameter of the discharge chute such that it is capable of transferring material at a rate that accommodates the input flow rate. In fact, a POSITA would know and understand that discharge chutes like those in *Waldner* are capable of transferring material at flow rates greater than those disclosed in *Dynatek*. For example, *Dynatek* (Exhibit 1005) discloses that the maximum rate for its belt conveyor is 528 tons per hour. A POSITA would know that a discharge chute could be configured to handle rates significantly greater than 528 tons per hour. A discharge chute that can handle 600 tons per hour would be very common; discharge chutes can easily handle even greater rates but rarely need to do so because the limiting factor in the system is not the discharge chute.

47. Moreover, a POSITA would realize that, for a given flow rate, chutes have fewer moving components (and thus are less prone to breakdown due to wear and tear and mechanical failures), are significantly smaller and lighter, require smaller and less complicated mounts, and are easier to transport than belt conveyor

systems like that of *Dynatek*. As such, Durham is incorrect that increasing discharge rates would be a motivation for a POSITA to use a *Dynatek* belt conveyor in place of *Waldner*'s discharge chute.

48. In paragraph 118 of his Declaration, Durham suggests that a conveyor system as depicted by *Dynatek* would have “enhance[d] mechanical control” of the discharge point compared to *Waldner*. Similarly, in paragraph 115 of his Declaration, Durham states that “*Waldner*’s mechanism for adjusting the discharge chute’s position may be limited [in] its precision” and that “[a] POSITA building the *Waldner* system would have looked to other known conveyor systems...to optimize its design and/or to potentially incorporate commercially-available components to enhance control.” Durham does not explain what he means by “enhance[d] mechanical control,” “limited...precision,” or “enhance[d] control.” If he is referring to the number of control points, he is incorrect because the *Dynatek* conveyor system provides an equal level of mechanical control / precision to the chute system of *Waldner*. *Waldner*’s discharge chute contains 3 points of control that place the discharge at a point in 3-D space: Pivot angle relative to the bucket elevator, discharge angle relative to horizontal, and telescopic length of the chute. *Dynatek*’s conveyor also contains 3 points of control to place the discharge at a point in 3-D space: Pivot angle of the inner conveyor, the pivot angle between the inner and outer conveyors, and the vertical control of the discharge spout to the top of the silo.

49. In paragraph 118 of his Declaration, Durham suggests that utilizing a belt conveyor such as *Dynatek's* Econoloader would have “optimize[d] dust control,” i.e., provided better dust control than *Waldner's* discharge chute. I disagree. At Dr. Durham's deposition, it became clear that this opinion was based on Durham's misunderstanding that *Waldner's* discharge chute was an open chute. (Durham Depo. 95:6-13 (“Q. So is it your understanding that Waldner uses an open chute? A. That's what's depicted in the images in the figures. Q. And you rendered your opinion based on the understanding that Waldner uses an open chute, correct? A. Generally speaking, right.”).) Durham later conceded that his understanding of *Waldner's* chute was incorrect. (Durham Depo., 102:4-21 (“A. So my understanding was – at least the one was incorrect. Q. Okay. So you now understand that the chute in Waldner is an enclosed tube, correct? A. Yes.”).) A POSITA would have known that an enclosed discharge chute, as depicted in *Waldner*, provides superior dust control over a belt conveyor. Each material transfer point in a system is a potential dust generator if it allows the material to be aerated. Conveyors such as those depicted in *Dynatek* have more material transfer points that allow the material to be aerated than the discharge chute in *Waldner*. *Dynatek* has potentially aerating material transfer points between the bucket elevator discharge and the inner conveyor inlet, between the inner conveyor discharge and the outer conveyor inlet, between the outer conveyor discharge and the adjustable discharge chute inlet, and

between the adjustable discharge chute outlet and the inlet of the silo. Each of these transfer points is a potential dust generator. Further, open air belt conveyors are susceptible to dust created as wind blows across the material on the conveyor belt. Similar dust generation issues are clearly described in Exhibit 1021 (OSHA DSTEM 6-2012 Hydraulic Fracturing Alert). In contrast, *Waldner's* chute has less potentially aerating material transfer points than *Dynatek*. The transfer points between the telescoping tubes forming the chute in *Walder* would be unlikely to allow material to be aerated, and those transfer points are enclosed in any event.

50. In paragraph 157, Dr. Durham suggests that the combination of *Waldner* and *Dynatek* would have led a POSITA (as an alternative to *substituting* a *Dynatek*-type belt conveyor for *Waldner's* discharge chute 242) “to modify discharge chute member 242 to include one or more conveyor belts.” It is not clear what Durham is even saying with this statement. For example, it is not clear whether Durham is saying that one or more conveyor belts would be added to the end of *Waldner's* discharge chute or whether Durham is saying that one or more conveyor belts would be placed within *Waldner's* discharge chute. In paragraph 152, Durham's statement pointing to “[two] open or closed conveying arms, each *containing* its own belt conveyor” seems to suggest placing one or more conveyor belts within *Waldner's* discharge chute. But either way, I disagree that *Waldner* or *Dynatek* or the combination of *Waldner* or *Dynatek* would suggest such a thing.

Neither *Waldner* nor *Dynatek* discloses a conveyor belt added to the end of a chute, and neither *Waldner* nor *Dynatek* discloses a conveyor belt within a chute. And the fact that *Waldner* discloses a chute and that *Dynatek* discloses two belt conveyors would not have suggested to a POSITA to append one to the other or to put one inside the other. Nor does Durham offer any reason why a POSITA would have done so. In fact, a POSITA would conclude that placing a conveyor belt within a chute with tail and head pulleys outside of the chute would result in significant wear on the belt and low reliability while providing no apparent advantage compared to *Waldner* individually, and with no reason provided by Dr. Durham for doing so.

51. In summary, for the reasons set forth above, Dr. Durham has not established that there would have been a motivation to combine *Dynatek* with *Waldner*. And, for the reasons set forth below, even if a POSITA would have been motivated to combine *Dynatek* with *Waldner*, the POSITA would not have had a reasonable expectation of success in doing so. Instead, a POSITA would have concluded that continuing to use (or modifying) the discharge chute 242 of *Waldner* would have been the best solution for meeting the needs identified by Dr. Durham.

3. No Reasonable Expectation of Success in Combining *Dynatek* with *Waldner*

52. In paragraph 119 of his Declaration, Durham states that “*Dynatek* specifically teaches ease of installation using various mounting techniques, including a ‘platform mount’ similar to the elevated structure that supports

Waldner's discharge chute." In paragraph 120 of his Declaration, Durham states: "There is no indication that the *Dynatek* Econoloader would be difficult to use or mount to the system of *Waldner* without undue experimentation," that "*Dynatek* specifically teaches various mounting techniques," and that "[o]ne 'standard' mounting option is 'platform mount', where the discharge chute is mounted to a derrick-like structure, similar to the elevated structure of *Waldner* which supports *Waldner*'s discharge chute."

53. I disagree that there would be a reasonable expectation of success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute. It is clear that an important aspect of *Waldner*'s system is that it is portable/transportable. In addition, Claim 1 makes clear that the claimed "aggregate transferring apparatus" must have a "transport configuration" and an "operational configuration." See '689 Patent, 16:36-39, 16:54-57. For example, it requires that the "extension conveyor" must be "movable with respect to the aggregate elevating assembly between a lowered position corresponding to the transport configuration of the apparatus and a raised position corresponding to the operational configuration of the apparatus." '689 Patent, 16:54-57. A POSITA would conclude that there would not likely be success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute in such a portable/transportable system. Without the benefit of the disclosure of the

'689 Patent, a POSITA would have expected that such a substitution would not be successful.

54. The first difficulty that would have arisen for such a POSITA would be in creating a mount that allows the articulated *Dynatek* EconoLoader to fold for transport and that, at the same time, ensures that the articulated *Dynatek* EconoLoader is side-to-side level when deployed and placed in its various operating positions to prevent conveyor belt mistracking of the articulated conveyors during operation.

55. A POSITA would be concerned about mistracking of the conveyor belt of the articulated conveyor because when a belt conveyor is not level side-to-side, meaning that the left side of a belt conveyor is not at the same height as the right side of a belt conveyor, the conveyor belt will move, or "track," from the high side to the low side. When a conveyor belt "mistracks," it can result in damage to the conveyor belt, damage to the components that the belt is running up against, and/or material spillage, and the belt can even come off the rollers or cause a fire because of the friction between the belt and other components. A POSITA would recognize that if the *Dynatek* Econoloader were not positioned side-to-side level when deployed, it would cause mistracking problems with the conveyor belts of the *Dynatek* Econoloader when the inner and outer conveyors rotate to various positions. Specifically, if the inner conveyor is mounted to the bucket elevator in such a way

that the axis of rotation for the inner conveyor is not vertical, as the inner conveyor rotates, it will become out of level side-to-side as it rotates into various positions and will have the potential to “mistrack.” Also, since the outer conveyor is mounted to the inner conveyor, if the inner conveyor is not level side-to-side as described previously, then the outer conveyor will similarly become out of level side-to-side as it rotates into its various positions. Further, even if the inner conveyor is mounted to the bucket elevator in such a way that allows rotation about a vertical axis so that the inner conveyor is level side-to-side, if the structure that mounts the outer conveyor to the inner conveyor does not allow the outer conveyor to rotate about a vertical axis, then the outer conveyor will become out of level side-to-side as it rotates into its various positions. And, furthermore, if the inner conveyor is rotated upwards or downwards about a horizontal axis so that the inner conveyor is not horizontal (but still level side-to-side), then the outer conveyor will also not be horizontal and will become out of level side-to-side as it rotates into non-colinear positions. In other words, at each step from the bucket elevator to the outer conveyor, each link in the chain can compound the potential mistracking problem.

56. These mistracking issues would have been amplified by the fact that the *Dynatek* conveyor would be operating at high elevations, away from the eyesight of the operator of the system where mistracking problems would be difficult to see and at a location where mistracking problems would be difficult to remedy. Therefore, a

POSITA would have been concerned not only with the mistracking issues but with the fact that the mistracking issues would not be immediately discernable or easily remediable during operation.

57. These mistracking issues would also have been amplified by the fact that the system would need to be transportable. Repeated movement of the *Dynatek* conveyor from an operating position to a transport position and back would tend to give rise to mistracking issues in a few ways. Because of the weight of the *Dynatek* conveyor, those repeated movements would tend to wear raising/lowering pivot components, and the wearing of those pivot components would change their size and potentially give rise to mistracking issues. Those repeated movements could also result in slightly different positions for components (such as *Dynatek*'s idler rollers) that could give rise to mistracking issues. In addition, moving from location to location means that there will be different leveling conditions at each location, giving rise to different mistracking issues at each location.

58. None of the *Dynatek* belt-conveyor mistracking issues discussed above would have been present with the discharge chute 242 in *Waldner*. In *Waldner*, there would be no concern about mistracking of the discharge chute because a discharge chute does not "mistrack." And the concept of side-to-side level does not even apply to a discharge chute. In addition, there is no problem if the inner end of *Waldner*'s discharge chute is not horizontal, because the outer end of *Waldner*'s discharge chute

will not “mistrack” (and because the chute needs to *not* be horizontal in order to function). In contrast, if *Dynatek*’s belt conveyor system were substituted for the discharge chute of *Waldner*, all of the mistracking issues discussed above would be present and would be exacerbated if the bucket elevator were not back-to-front vertical or if *Dynatek*’s belt conveyors were otherwise not side-to-side level. Because there are no mistracking issues with *Waldner*’s chute, *Waldner*’s mounting system does not account for mistracking. Likewise, because *Dynatek*’s conveyor system is attached to a fixed mount that does not involve a transportable configuration, such mistracking issues are not present in or accounted for by *Dynatek*. Therefore, a POSITA would have perceived that Durham’s proposed substitution would create additional issues and introduce problems not present with the *Waldner* or *Dynatek* systems, making the substitution much more difficult than an implementation of the *Waldner* system.

59. At his deposition, Dr. Durham confirmed that there is no requirement for *Waldner*’s enclosed tube to be level side-to-side. (Durham Depo., 104:19-105:12.) However, the deposition transcript reports that Durham then said: “Similarly, there wouldn’t necessarily be an enclosed conveyor system of [*Dynatek*].” (Durham Depo., 105:13-14.) If, by this comment, Durham meant to say that the belt conveyor system of *Dynatek* also does not need to be level side-to-side, I disagree. And if Durham meant to say that an enclosed version of the conveyor

system of *Dynatek* does not need to be level side-to-side because it is enclosed, I further disagree. As discussed above, if *Dynatek*'s belt conveyors are not level side-to-side, there would be mistracking. And enclosing a belt conveyor does not do anything to remedy mistracking. Indeed, an enclosure can make it difficult to detect mistracking issues that may be occurring.

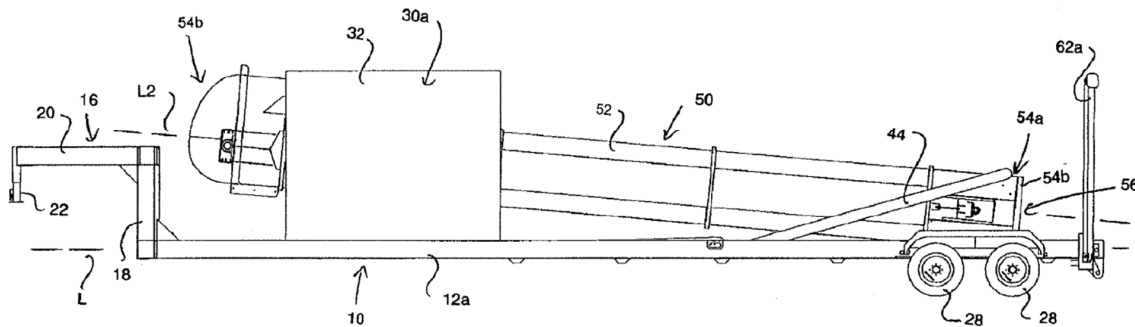
60. A second difficulty would have arisen because a belt conveyor system such as the *Dynatek* EconoLoader is much larger and heavier than comparable discharge chutes, as explained previously. The difference in size and weight of belt conveyor systems compared to discharge chutes is magnified with relatively high material flow rates. In other words, increasing the discharge chute size to match an increased material flow rate for the system would require less additional mass than increasing the size of a belt conveyor. In addition, a POSITA would have recognized that a belt conveyor system would require a much more complex mounting system than *Waldner*'s to handle the increased loads imparted by the higher weights and wind loads compared to a simple (and less heavy) discharge chute. Specifically, a POSITA would have recognized that mounting large and heavy conveyors, such as the *Dynatek* Econoloader, at an elevated position would experience significant wind loads and thus would not be compatible with the mounting mechanism of *Waldner*. Also, a POSITA would have been concerned about wind loads pushing the *Dynatek* belt conveyors into a position where they are out of level side-to-side and causing

belt mistracking as described above, whereas wind loads do not cause *Waldner's* discharge chute to mistrack because discharge chutes do not mistrack. In addition, a POSITA would be concerned that the weight of a belt conveyor extending from the bucket elevator would tend to rotate the bucket elevator out of vertical and therefore result in mistracking of the bucket elevator and the belt conveyor. In contrast, a POSITA would not be concerned about mistracking of *Waldner's* discharge chute because discharge chutes do not mistrack. A POSITA contemplating the substitution of the *Dynatek* Econoloader for *Waldner's* discharge chute would not have had a reasonable expectation of success in addressing those issues using the mounting mechanism taught by *Waldner*.

61. A third difficulty would have arisen because it would not have been apparent how to attach the *Dynatek* Econoloader to *Waldner's* bucket elevator frame such that in the transport configuration the overall system would be transportable with *Dynatek's* double-stacked height. A POSITA would understand that in order to be road portable, the overall system would need to be below 13.5 feet high (to travel through all states without restriction) or below 14 feet high (which would require special permits in some states). Unlike the discharge chute 242 in *Waldner*, which has a relatively low and constant height along its length (making it relatively straightforward to fold down onto the bucket elevator in the transport configuration), *Dynatek* has two conveyor frames that are stacked vertically on top of one another

in a stepped fashion. A POSITA would conclude that each of the *Dynatek* conveyor frames is about 2.5 to 3 feet high,² so that the two *Dynatek* conveyor frames stacked on top of one another would be about 5 to 6 feet high (ignoring, for the moment, the retractable loading spout). A POSITA would further appreciate that the truck ramps shown in *Waldner* would need to be about 10 feet wide to accommodate a conventional semitruck. Figure 6 of *Waldner* is reproduced below, showing the truck ramps folded up in a transport configuration:

FIGURE 6



Since Figure 6 of *Waldner* shows that the folded truck ramps are roughly square in the transport configuration, a POSITA would have concluded that the tops of the

² *Dynatek* explains that the distance “from inlet CL to discharge CL” is 22 feet “for truck loading” and that the distance “from inlet CL to discharge CL” is 27 feet “for railcar loading.” (Ex. 1005, p. 2.) In the figure shown in *Dynatek* on that same page, I measured the distance between the inlet center line and the discharge center line to be 3.5cm, and the height of each arm to be 0.4cm. If the 3.5cm distance corresponds to the shorter distance of 22 feet, each arm has a height of $22 \times 0.4 \div 3.5 = 2.5$ feet. If the 3.5cm distance corresponds to the longer distance of 27 feet, each arm has a height of $27 \times 0.4 \div 3.5 = 3.1$ feet.

truck ramps in the transport configuration shown in Figure 6 of *Waldner* (and the outlet to the bucket elevator in line with the tops of the truck ramps) are also about 10 feet above the base of the trailer. Factoring in about a foot for the height of the tires and axles, a POSITA would have concluded that adding the two *Dynatek* conveyor frames on top of the bucket elevator in the transport configuration would make the overall system about $10 + 5$ to $6 + 1 = 16$ to 17 feet off the ground, such that the overall system would not be road legal. (And, again, that does not take the retractable loading spout into account, so that the total anticipated height *with* the retractable loading spout would be even greater.) In addition, the additional weight of the *Dynatek* conveyors would likely require larger tires and suspension for the trailer shown in Figure 6, even further raising the height. This is yet another reason why a POSITA contemplating the substitution of a *Dynatek* Econoloader-type conveyor for *Waldner*'s discharge chute would not have had a reasonable expectation of success.

62. Due to all of these concerns and constraints known to a POSITA, a POSITA would have perceived that Durham's proposed substitution would not have had a reasonable expectation of success.

63. This conclusion is confirmed by the fact that the inventors of the '689 Patent did not use the proposed substitution. A POSITA reading the '689 Patent would clearly recognize that the outer conveyor depicted in *Dynatek* is different than

the outer conveyor depicted in the '689 Patent, for example in Figures 3, 5D, 8A-8C, and 8E. As an example, Figure 8E is reproduced below:

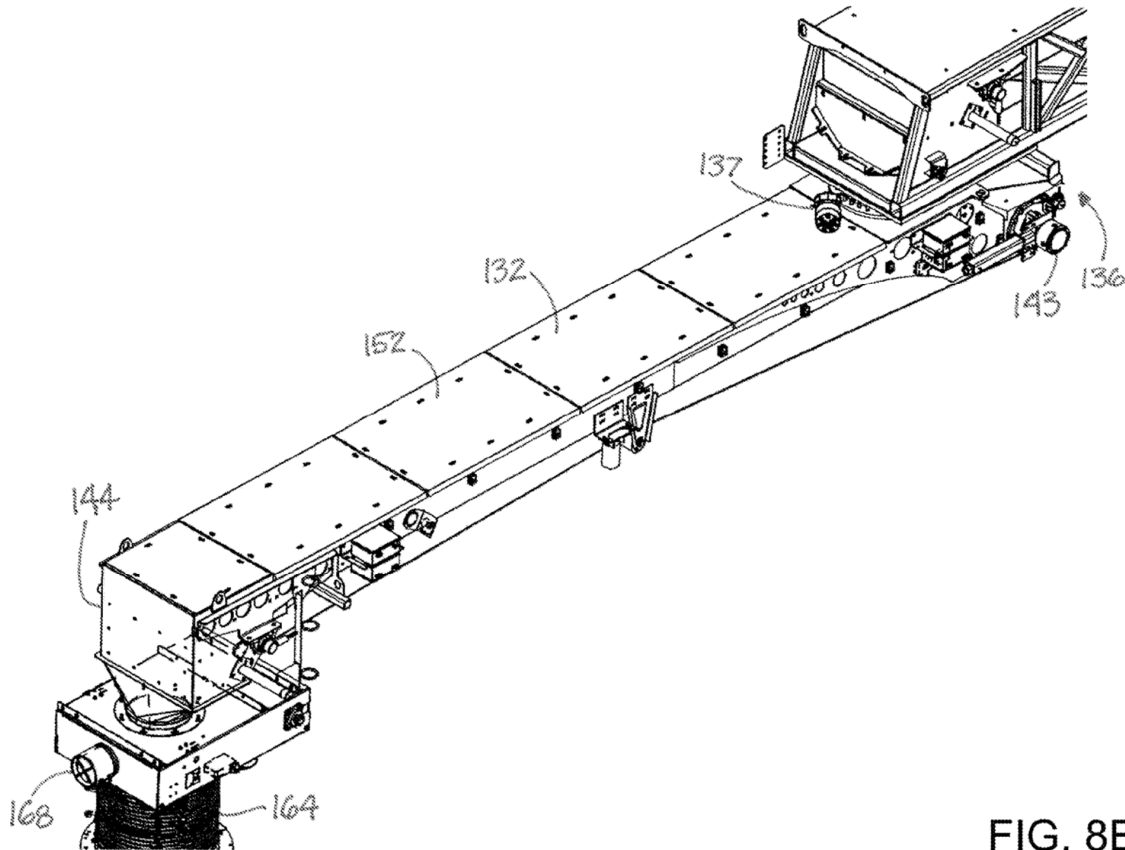


FIG. 8E

A POSITA would conclude from these figures that the inventors utilized a slider bed style of belt conveyor for the outboard segment as opposed to *Dynatek's* conventional roller style belt conveyor. In addition, because there are no “idler” rollers shown for the inner conveyor, particularly in Figures 3, 8A, and 8D, a POSITA would conclude that the inventors of the '689 Patent likely also used a slider bed style of belt conveyor for the inboard segment. As an example, Figure 8A is reproduced below:

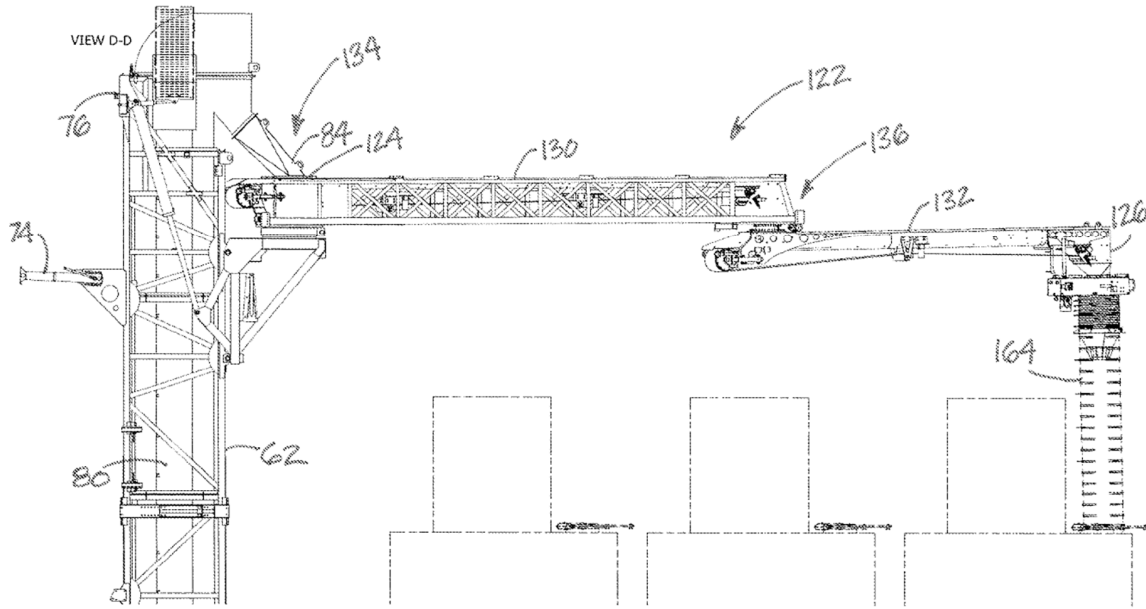
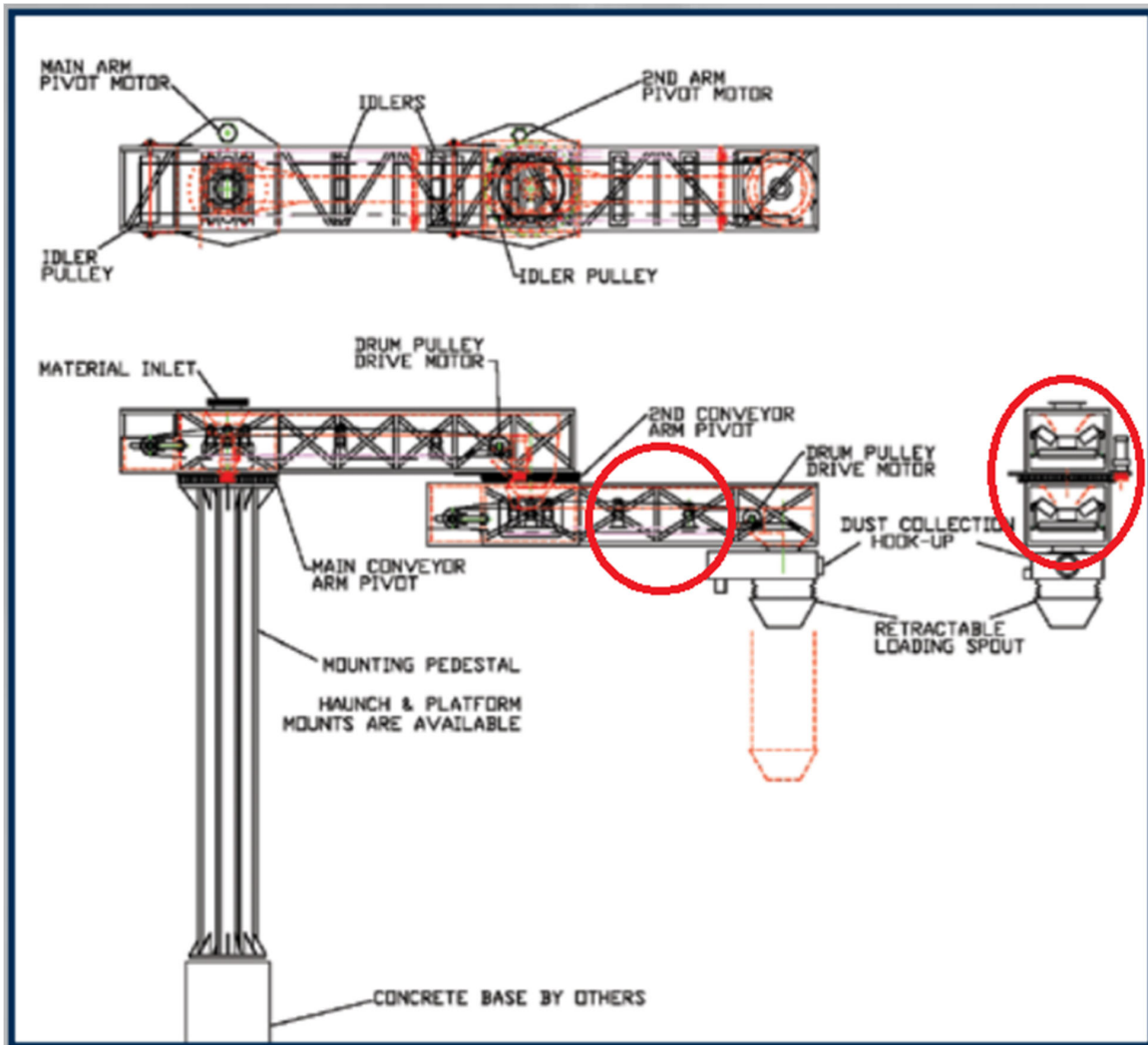
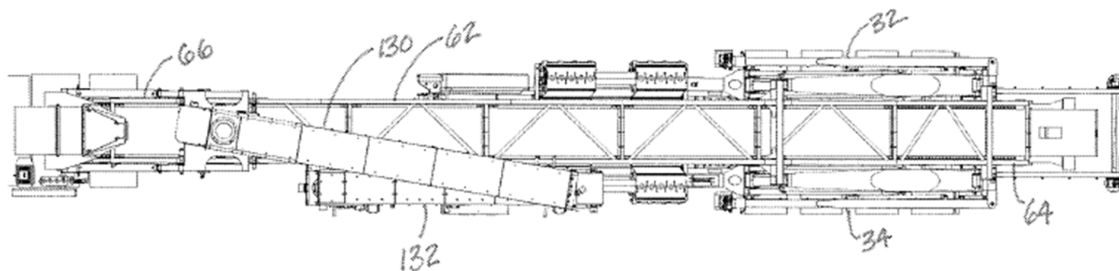


FIG. 8A

In contrast to a conventional roller style belt conveyor, a slider bed belt conveyor utilizes a smooth surface, known as the slider bed, to support the conveyor belt instead of a series of “idler” rollers to create a troughed conveyor belt. Conveyor belts used for slider bed belt conveyors typically incorporate a bare or fabric bottom surface, known as a bare-back belt, to allow it to slide across the slider bed with less friction. A slider bed belt conveyor has the general advantages of less height and lower weight compared to a conventional roller style belt conveyor like the outer belt conveyor shown in *Dynatek*. *Dynatek* clearly uses conventional troughed conveyor belts with “idler” rollers, as seen circled in red in the following annotated figure from *Dynatek*:



In addition, a POSITA would conclude that the inventors of the '689 Patent came up with a creative and unique way to fold the slider bed belt conveyors to further minimize the overall height of the system. As shown in Figure 2B, the inner conveyor 130 lies above the bucket elevator frame 62 and the outer conveyor 132 and chute 164 lie *alongside* the bucket elevator:



Nowhere in *Dynatek* or *Waldner* is such a configuration taught or even suggested. The fact that the inventors of the '689 Patent did not use a *Dynatek* Econoloader-type conveyor confirms that a POSITA without the knowledge provided by the '689 Patent would not have had a reasonable expectation of success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute.

64. In addition, a POSITA reading the '689 Patent would recognize that the inventors of the '689 Patent did not use a mounting system like *Waldner's* (or *Dynatek's*). As shown in Figures 5C, 5D, and 8A-8D, the inventors of the '689 Patent designed and used conveyor support frame 154 instead. Figures 8C and 8D are reproduced below, showing conveyor support frame 154:

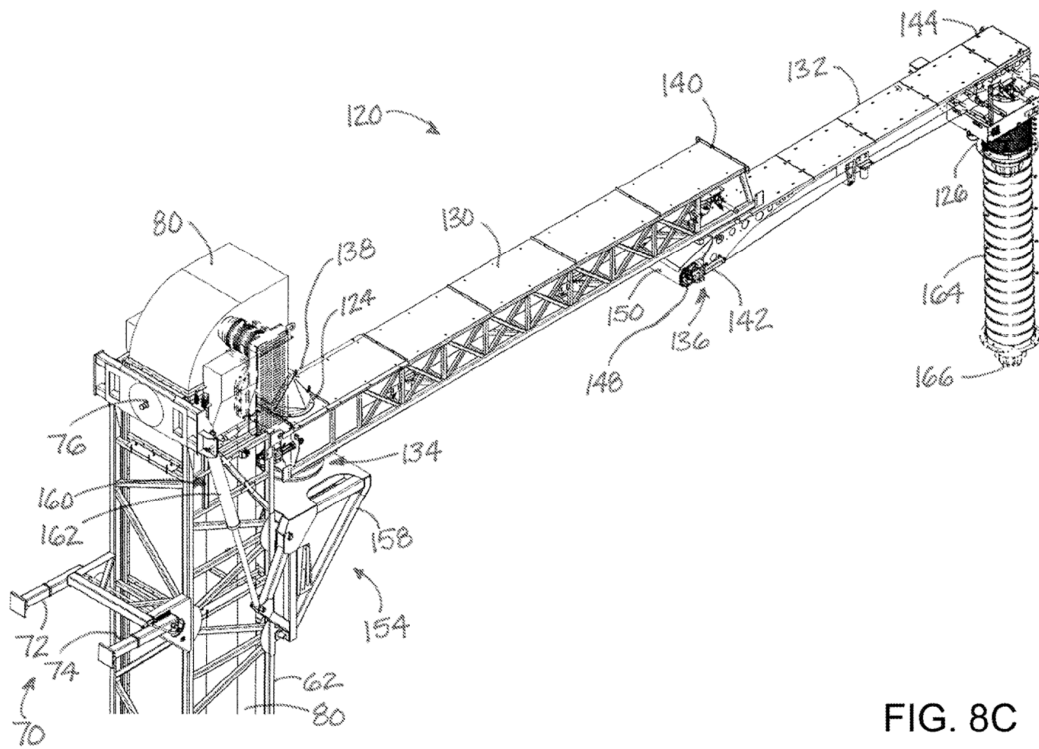


FIG. 8C

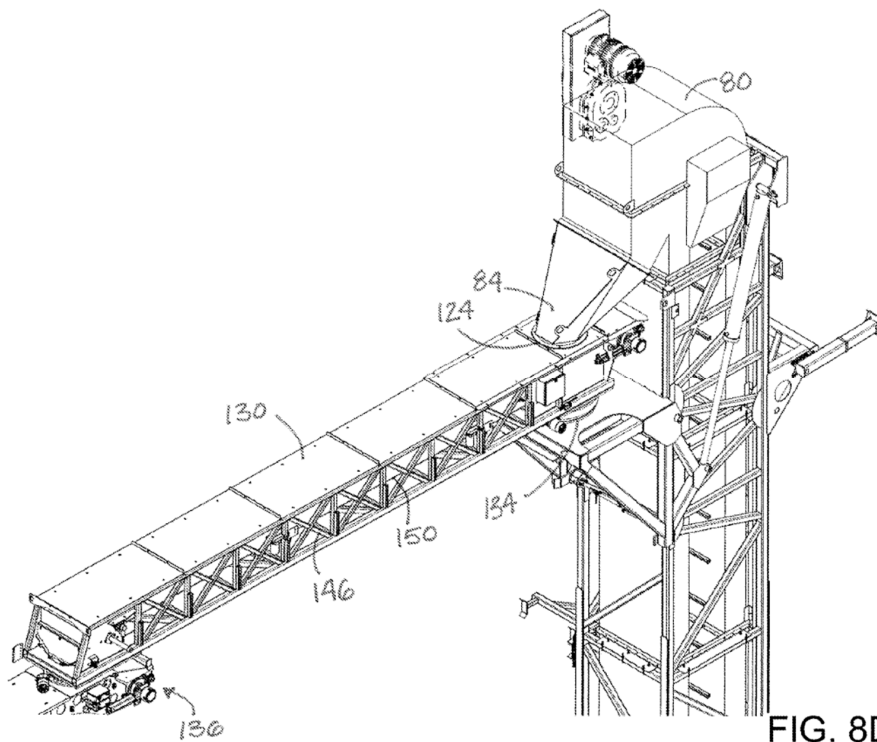


FIG. 8D

In contrast, the mounting system for the chute in *Waldner* uses a single actuator cylinder 266 mounted between (a) the center of *Waldner*'s chute 242 and (b) link 262 mounted to the center of elevator frame 254. This can be seen in Figure 22A from *Waldner*, reproduced below:

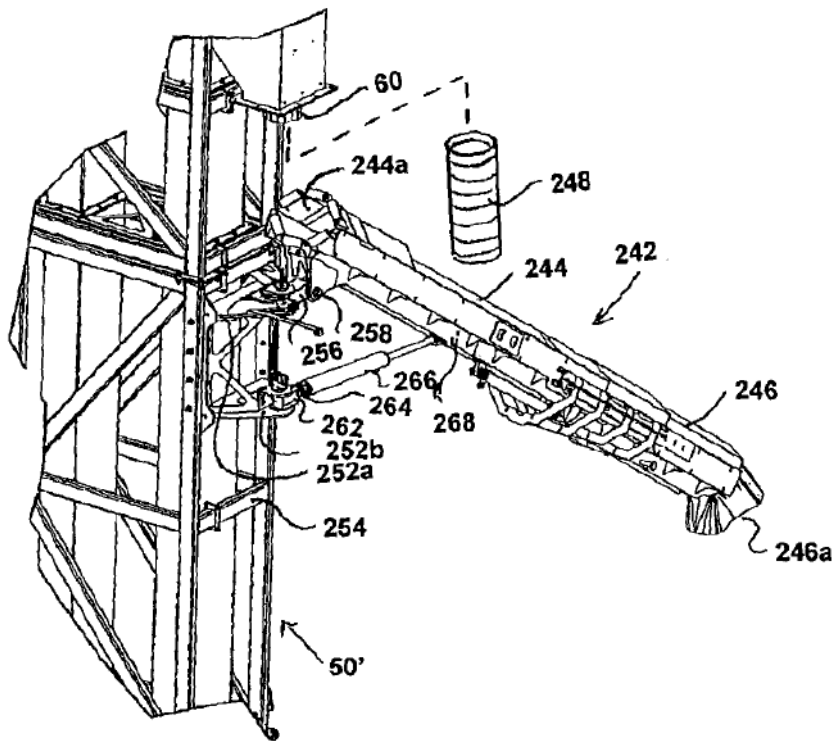
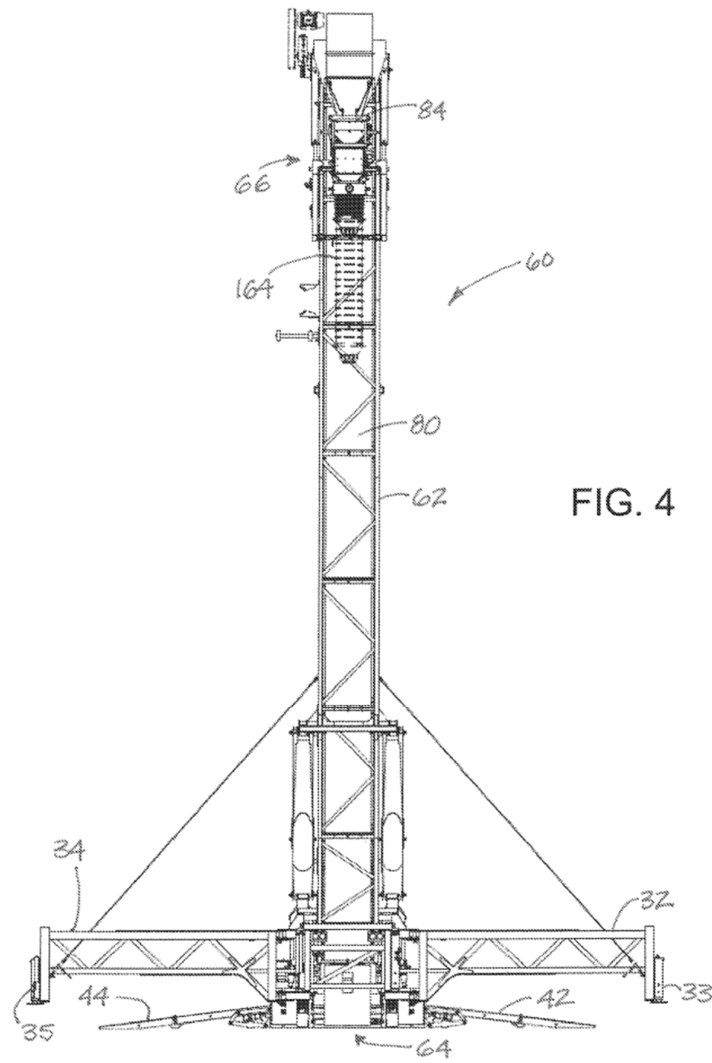


FIGURE 22A

In contrast to the mounting system described in *Waldner*, the mounting points for both the conveyor support frame 154 and the extension cylinders 162 in the '689 Patent are located on the sides of the deployable frame 62, as shown in Figure 8C of the '689 Patent. This spreads the load of the inboard and outboard conveyors across a wider distance to provide more support and stability for the '689 conveyors than

Waldner provides for *Waldner's* chute. This configuration also allows extension cylinders 162 to be placed on each side of the deployable frame, which reduces the load that each cylinder needs to bear. (The fact that the cylinders are placed on each side of the deployable frame also allows for greater compactness when the conveyors are collapsed into a transport/storage position, because the cylinders are not located between the deployable frame and the conveyors.) The fact that the inventors of the '689 Patent did not use a mounting system like *Waldner's* further confirms that a POSITA without the knowledge provided by the '689 Patent would not have had a reasonable expectation of success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute.

65. In addition, a POSITA reading the '689 Patent would recognize that the inventors of the '689 Patent went to great lengths to prevent mistracking of the articulated slider bed belt conveyors. First, there are (1) two guy wires/cables attached to the bucket elevator, (2) a pair of long outrigger arms 32 and 34 with hydraulically adjustable outrigger legs 33 (extending sideways from the bucket elevator), and (3) hydraulic stabilizing legs 36 (extending aft from the bucket elevator) that are used to make sure the bucket elevator is vertically plumb and stays vertically plumb. Figures 4 and 7B of the '689 Patent illustrate these features:



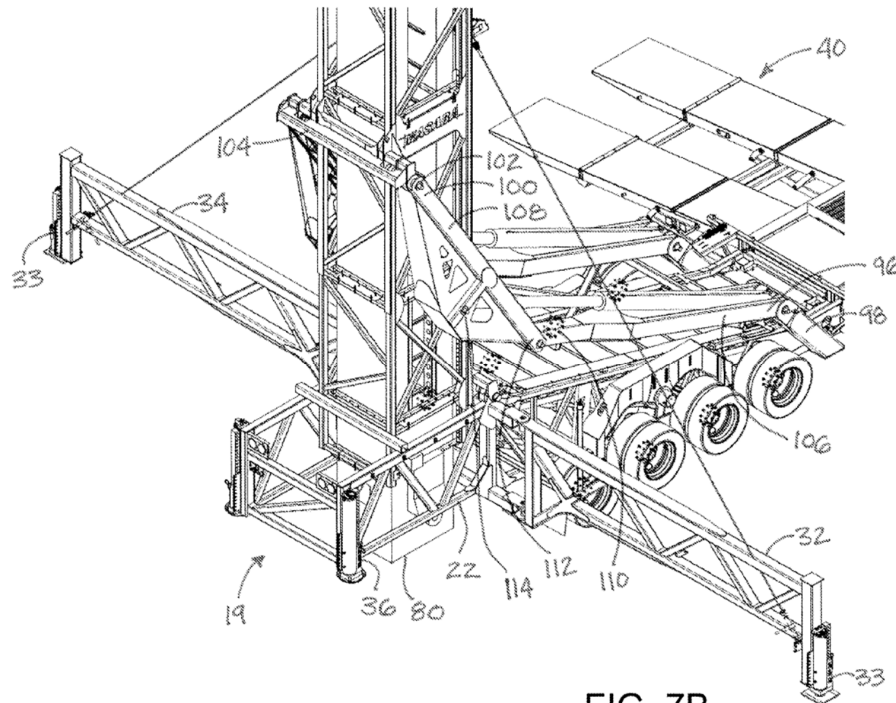
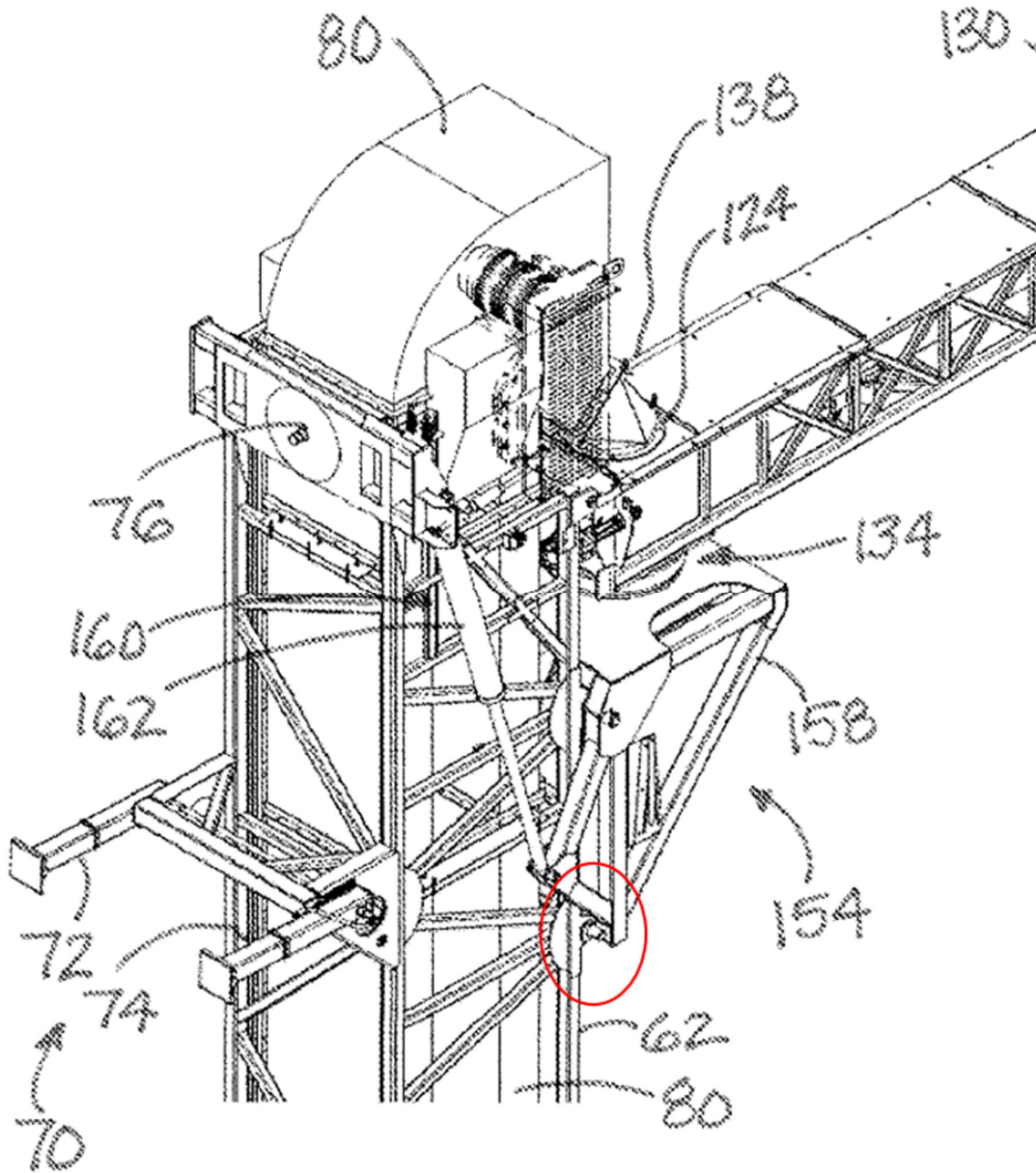


FIG. 7B

The '689 Patent explains that the tension in the guy wires can be adjusted by travel binders and that legs 33 and legs 36 can be adjusted using hydraulics. ('689 Patent, 14:46-60, 14:22-33.) In addition, the '689 Patent explains that when the bucket elevator frame is in the desired vertically plumb position, "lock pins" are used "to secure the deployable frame 62 in the deploy position." ('689 Patent, 14:53-55.) Figure 8C of the '689 Patent also shows the use of at least one lock pin to keep conveyor support frame 154 at a 90-degree angle with respect to the bucket elevator frame 62 once they are both in the operating position:



A POSITA reading the '689 Patent would understand that all of these features are used to (1) stabilize the bucket elevator in a vertically plumb position and thereby address mistracking of the bucket elevator and (2) address mistracking of the belt conveyors that extend from the bucket elevator, in spite of the mobility of the system.

This combination of features is not disclosed in *Waldner* or in *Dynatek*. The fact that the inventors of the '689 Patent did not use a system like *Waldner* or *Dynatek* further confirms that a POSITA without the knowledge provided by the '689 Patent would not have had a reasonable expectation of success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute.

B. Dr. Durham has not shown that the apparatus of Claim 2 would have been rendered obvious by *Waldner* in view of *Dynatek*

66. Because Claim 2 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 2 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

C. Dr. Durham has not shown that the apparatus of Claim 4 would have been rendered obvious by *Waldner* in view of *Dynatek*

67. In paragraph 167, Durham states that discharge member 242 of *Waldner* “is in a near horizontal orientation” and that “the discharge member is substantially perpendicular to the deployable frame of the aggregate elevating assembly.” I disagree. A POSITA would understand that a discharge chute, like that shown in *Waldner*, needs substantial gravity to be able to function, and therefore it cannot be in a “near horizontal orientation” and cannot be “substantially perpendicular” to the aggregate elevating assembly. It appears that Durham is relying on a view in Figure 15 that is distorted by the perspective used in that figure, without considering the actual function of the discharge chute.

68. In paragraph 167, Durham further states that “[t]he teachings of *Dynatek* further support the obviousness of this claim limitation as they show its discharge conveyor oriented substantially perpendicular to its support,” but that assertion ignores all of the reasons that a POSITA would not have expected success in substituting the *Dynatek* conveyor for the discharge chute in *Waldner*, as explained above in paragraphs 52-62.

D. Dr. Durham has not shown that the apparatus of Claim 5 would have been rendered obvious by *Waldner* in view of *Dynatek*

69. Because Claim 5 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 5 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

E. Dr. Durham has not shown that the apparatus of Claim 6 would have been rendered obvious by *Waldner* in view of *Dynatek*

70. In paragraph 175, Durham states: “A POSITA would have understood that collectively brackets 252a/252b, links 256/262, and pivot pins are a conveyor support frame that supports the extension conveyor relative to the aggregate elevating assembly and would have to be moveable when transitioning between lowered and raised positions.” I disagree. First, Claim 6 requires that the conveyor support frame be “movable *with respect to the deployable frame of the aggregate elevating assembly* when the extension conveyor moves between the lowered position and the raised position,” not merely “moveable when transitioning between

50

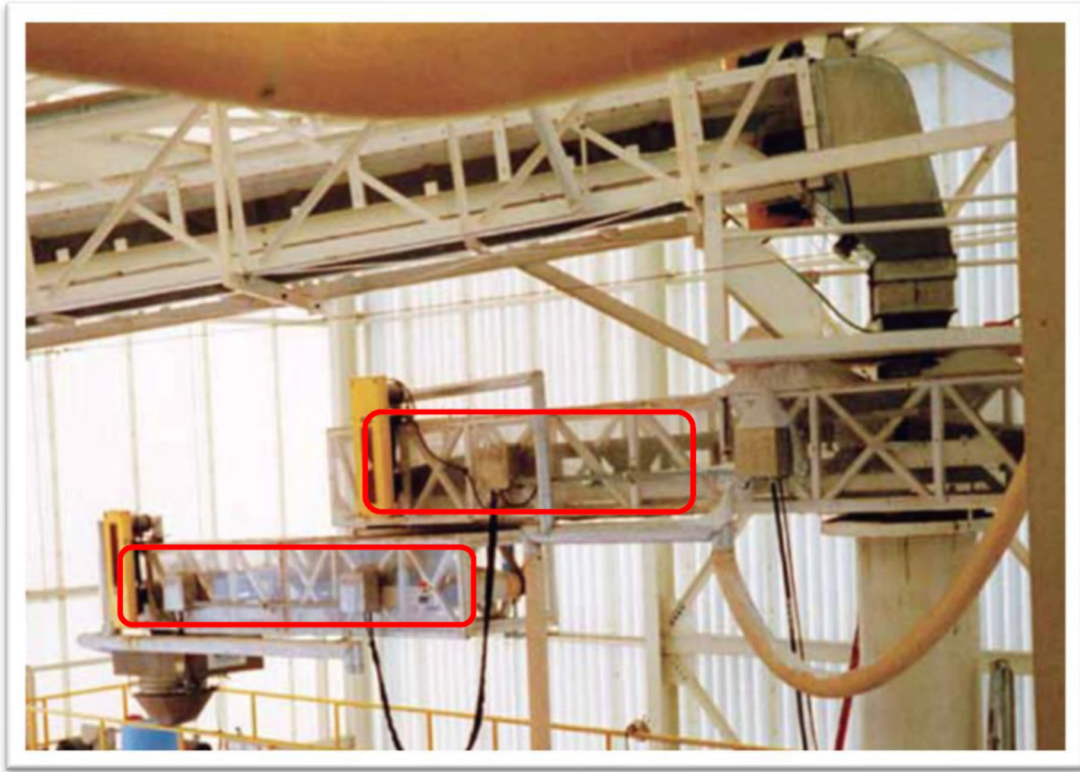
vertical pivot pins depicted by the dotted red line), not up and down, and therefore do not move with respect to the deployable frame *when the discharge chute 242 moves between the lowered position and the raised position*. Likewise, the vertical pivot pins (along the red dashed line) that join brackets 252a/252b to links 256/262 do not move with respect to the deployable frame when the discharge chute 242 moves between the lowered position and the raised position.

72. At his deposition, Durham testified that horizontal pivot pins 258/264 [in magenta] would rotate in place when the discharge chute 242 moves between the lowered positioned and the raised position. (Durham Depo., 120:10-123:11.) If pivot pins 258/264 are formed integrally with links 256/262, Durham is incorrect; in that scenario, pivot pins 258/264 would remain stationary when the discharge chute 242 moves between the lowered position and the raised position (and bushings in the structures engaging with pivot pins 258/264 would rotate about pivot pins 258/264). But even if pivot pins 258/264 are separate from links 256/262 so that friction might allow them to rotate in place when the discharge chute 242 moves between the lowered position and the raised position, pivot pins 258/264 do not get any closer to or further from frame 254, which is what a POSITA would understand when claim 6 states that the conveyor support frame is “movable with respect to the deployable frame of the aggregate elevating assembly.” Moreover, pivot pins 258/264 do not by themselves qualify as a “conveyor support frame” because by themselves they are

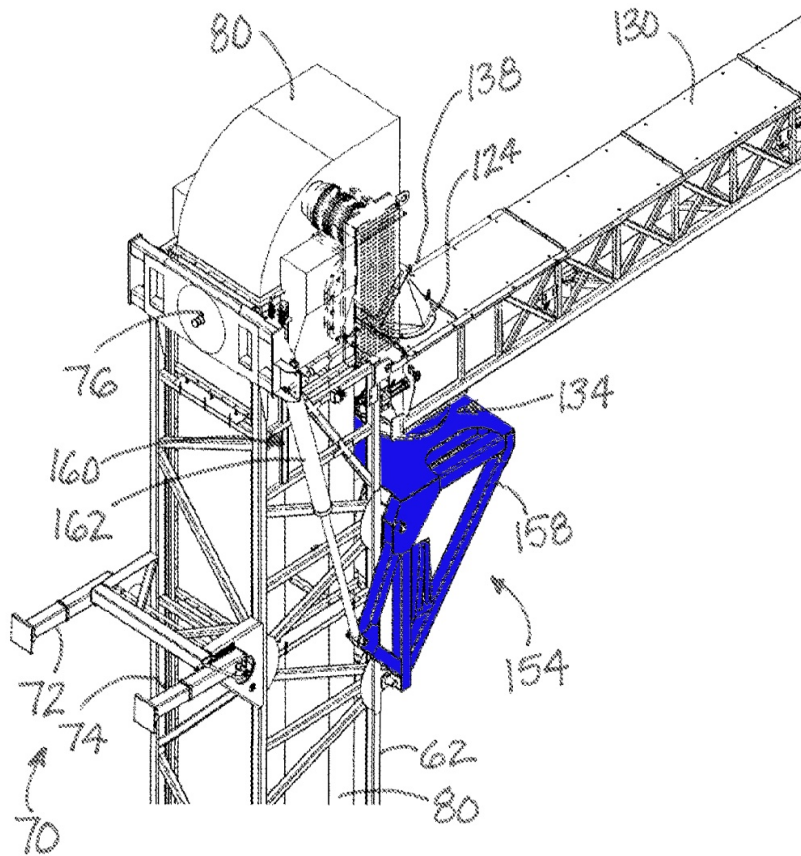
not a “frame” that supports a conveyor. In contrast, see conveyor support frame 154 in Figure 8C of the ’689 Patent.

73. Because brackets 252a/252b, links 256/262, the vertical pivot pins that join them, and horizontal pivot pins 258/264 in *Waldner* are not movable with respect to frame 254 in *Waldner* when the discharge chute 242 moves between the lowered position and the raised position, that combination of components cannot qualify as the “conveyor support frame” required by Claim 6 as Durham asserts, and therefore Durham has failed to show that the combination of *Waldner* and *Dynatek* would meet all of the requirements of Claim 6.

74. In paragraph 178 of his declaration, Dr. Durham suggests that the truss frames supporting the length of the discharge conveyors of *Dynatek*, shown in the annotated figure below, are a “conveyor support frame.”



(Annotations by Dr. Durham.) But a POSITA would understand that the “conveyor support frame” of claim 6 is the support structure that connects the conveyors to the bucket elevator frame and *not* the support structure that is part of the conveyors. The “conveyor support frame 154” is colored blue in the following snippet of Figure 8C, and the '689 Patent explains that it supports “the segments 130, 132 of the extension conveyor on the aggregate elevating assembly 60.” (Ex. 1001, 11:10-20.)



75. Notably, Figure 8C depicts a “truss frame” as part of the inner segment 130 of the extension conveyor, and the ’689 Patent refers to it as “the truss frame of the inboard conveyor segment.” (’689 Patent, 11:46-47.) But the ’689 Patent identifies a *different* structure (154) in Figure 8C as the “conveyor support frame.” Both claim 6 and the ’689 Patent description do not merely require the “conveyor support frame” to “support” the “extension conveyor” (as the truss frames comprising inner segment 130 might be said to do) but further require that it support the extension conveyor “on the aggregate elevating assembly” (which the truss frames comprising inner segment 130 do not do). For the same reason that the truss

frames comprising inner segment 130 do not qualify as the “conveyor support frame,” a POSITA would understand that the truss frames of *Dynatek* are not a “conveyor support frame” as that term is used in the ’689 Patent. As a result, modifying *Waldner* to incorporate a discharge conveyor system like *Dynatek* does nothing to remedy *Waldner*’s lack of the claimed “conveyor support frame” in claim 6 explained above. Consequently, Durham has failed to show that the combination of *Waldner* and *Dynatek* would meet all of the requirements of Claim 6.

F. Dr. Durham has not shown that the apparatus of Claim 7 would have been rendered obvious by *Waldner* in view of *Dynatek*

76. Because Claim 7 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 7 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1. In addition, even if *Waldner*’s actuator 266 qualifies as the “extension actuator” of “the extension conveyor lift structure” of Claim 7 that is “extendable” to move discharge chute 242 “to the raised position,” it is not also “extendable” to “pivot” a “conveyor support frame **away from** the deployable frame.” If anything, the proximal section 244 of discharge chute 242 and the elements that might be said to support it either **remain stationary** or move **toward** the deployable frame when actuator 266 extends. Likewise, when *Waldner*’s actuator 266 retracts, it moves discharge chute 242 “to the lowered position” but does not simultaneously “pivot” a “conveyor support frame **toward** the deployable frame.” If anything, the proximal section 244

of discharge chute 242 and the elements that might be said to support it either **remain stationary** or move **away from** the deployable frame when actuator 266 retracts. Actuator 270 cannot qualify as the “extension actuator” required by Claim 7 because it does not move discharge chute 242 “to the raised position” or “to the lowered position.” Instead, it moves the discharge chute 242 horizontally left and right.

G. Dr. Durham has not shown that the apparatus of Claim 8 would have been rendered obvious by *Waldner* in view of *Dynatek*

77. Because Claim 8 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 8 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

H. Dr. Durham has not shown that the apparatus of Claim 9 would have been rendered obvious by *Waldner* in view of *Dynatek*

78. Because Claim 9 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 9 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

I. Dr. Durham has not shown that the apparatus of Claim 10 would have been rendered obvious by *Waldner* in view of *Dynatek*

79. Because Claim 10 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 10 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

J. Dr. Durham has not shown that the apparatus of Claim 11 would have been rendered obvious by *Waldner* in view of *Dynatek*

80. Because Claim 11 depends from Claim 10 and because Claim 10 depends from Claim 1 and requires all of the elements of Claim 1, Durham has not shown that the apparatus of Claim 11 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 1.

K. Dr. Durham has not shown that the apparatus of Claim 16 would have been rendered obvious by *Waldner* in view of *Dynatek*

1. Limitation 16[h]/Limitation 16[i]: “a conveyor extension assembly for conveying aggregate to locations horizontally outward from the aggregate elevating assembly, the conveyor extension assembly comprising: an extension conveyor for moving aggregate from an inlet of the extension conveyor to an outlet of the extension conveyor...”

81. In paragraphs 205 and 206, Durham incorporates his analysis of limitations 1[h] and 1[i] for limitations 16[h] and 16[i]. For all of the reasons that I disagree with Durham’s analysis of limitations 1[h] and 1[i], I also disagree with Durham’s analysis of limitations 16[h] and 16[i].

2. Limitation 16[k]: “wherein the outboard pivot of the extension conveyor of the conveyor extension assembly is configured to permit transfer of aggregate from the inboard segment to the outboard segment.”

82. In paragraph 209 of his declaration, Durham states that “*Waldner* discloses that material is transferred from the proximal section of its discharge chute member 242 to the distal section.” He then asserts that a POSITA would have modified the discharge chute member 242 of *Waldner* “to connect those elements

with a pivot joint, as taught by *Dynatek*” and that in doing so, “it would have been obvious to use a pivot joint (e.g., similar to the one in *Dynatek*) that allows the passage of particulate material from one end of the first segment to the connected end of the second segment so that the modified discharge chute still transfers material from the proximal section to the distal section.” However, Durham does not provide any reason for modifying the discharge chute of *Waldner* with a pivot joint nor any advantage that would be accomplished by such a modification. Durham’s failure to indicate any reason for modifying the discharge chute of *Waldner* to include the limitation 16[k] of Claim 16 demonstrates that Durham is using improper hindsight to modify *Waldner* to satisfy the claim limitation.

83. Even if there were a reason to modify the discharge chute of *Waldner* to create an articulated chute with a pivot joint, the resulting chute would still not qualify as a “conveyor for moving aggregate,” as claim 16 requires for the “extension conveyor.” Therefore, even if that modification were made, claim 16 would not be satisfied.

3. No Motivation to Combine *Dynatek* with *Waldner*

84. For all of the reasons that Durham has not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 1, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 16.

4. No Reasonable Expectation of Success in Combining *Dynatek* with *Waldner*

85. For all of the reasons that Durham has not shown a reasonable expectation of success in combining *Dynatek* with *Waldner* for purposes of Claim 1, Durham has also not shown a reasonable expectation of success in combining *Dynatek* with *Waldner* for purposes of Claim 16.

L. Dr. Durham has not shown that the apparatus of Claim 17 would have been rendered obvious by *Waldner* in view of *Dynatek*

86. Because Claim 17 depends from Claim 16 and requires all of the elements of Claim 16, Durham has not shown that the apparatus of Claim 17 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 16.

M. Dr. Durham has not shown that the apparatus of Claim 18 would have been rendered obvious by *Waldner* in view of *Dynatek*

- 1. Limitation 18[g]/Limitation 18[h]: “a conveyor extension assembly configured to convey aggregate to locations elevated from the ground surface and horizontally outward from the aggregate elevating assembly, the conveyor extension assembly comprising: an extension conveyor for moving aggregate from an inlet of the extension conveyor at the aggregate elevating assembly to an outlet of the extension conveyor...”**

87. In paragraphs 222 and 223, Durham asserts that “[a] POSITA would have understood that the discharge chute member 242 [of *Waldner*], modified or replaced with the belt-conveyor based discharge member of *Dynatek*, functions as the extension conveyor of the conveyor extension assembly and is configurable to

discharge material from the inlet end 244a through the discharge end 346a and away from the bucket elevator 50” and “[t]hus, the combination of *Waldner* and *Dynatek* teaches or discloses limitation 18[g].” In paragraph 224, Durham incorporates his analysis of limitation 1[h] for limitation 18[h]. For all of the reasons that I disagree with Durham’s analysis of limitations 1[h] and 1[i], I also disagree with Durham’s analysis of limitation 18[g] and 18[h].

2. Limitation 18[j]: “wherein the inboard and outboard segments of the extension conveyor are pivotable with respect to each other in a substantially horizontal operational plane”

88. In paragraph 230, Durham asserts that “[i]t would have been obvious for a POSITA...to modify the discharge chute member 242 to pivotally connect its outboard segment to its inboard segment.” But, as discussed above in connection with limitation 16[k], Durham has not provided any reason for modifying the discharge chute member 242 of *Waldner* to pivotally connect its outboard segment to its inboard segment. And even if there were a reason to modify the discharge chute of *Waldner* to create an articulated chute with a pivot joint, the resulting chute would still not qualify as a “conveyor for moving aggregate,” as claim 16 (and claim 18) requires for the “extension conveyor.” And the resulting chute would also not constitute “inboard and outboard segments” that “are pivotable with respect to each other in a substantially horizontal operational plane,” as claim 18 requires. If the two segments of the chute were “in a substantially horizontal operational plane,” they

would not work, since a chute requires gravity to operate. Therefore, even if that modification were made, claim 18 would not be satisfied.

89. In paragraph 229, Durham points to “Section X.B.a.xii,” but I cannot find any section with that label. Therefore, I cannot respond to whatever Durham may have intended to refer to in that section.

3. No Motivation to Combine *Dynatek* with *Waldner*

90. For all of the reasons that Durham has not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 1, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 18.

4. No Reasonable Expectation of Success in Combining *Dynatek* with *Waldner*

91. I disagree that there would be a reasonable expectation of success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute to arrive at the apparatus of Claim 18. It is clear that an important aspect of *Waldner*’s system is that it is portable/transportable. A POSITA would question whether there would be success in substituting the *Dynatek* Econoloader for the *Waldner* discharge chute in such a portable/transportable system. A POSITA would have perceived that such a substitution would be difficult.

92. The first difficulty arises in creating a mount that allows the articulated *Dynatek* EconoLoader to fold for transport and that, at the same time, ensures that the articulated *Dynatek* EconoLoader is side-to-side level when deployed and placed

in its various operating positions to prevent conveyor belt mistracking of the articulated conveyors during operation. A POSITA would be concerned about mistracking of the conveyor belt for all of the reasons already discussed above in paragraphs 54-57 in connection with Claim 1. As discussed above, none of the mistracking issues discussed above would have been present with the discharge chute 242 in *Waldner*. Therefore, a POSITA would have perceived that Durham's proposed substitution would create additional issues and introduce problems not present with the *Waldner* system, making the substitution much more difficult than an implementation of the *Waldner* system.

93. The second difficulty, as discussed above, is that a belt conveyor system such as the *Dynatek* EconoLoader is much larger and heavier than comparable discharge chutes. The difference in size and weight of belt conveyor systems compared to discharge chutes is magnified with higher material flow rates. In addition, a belt conveyor system requires a much more complex mounting system to handle the increased loads imparted by the higher weights and wind loads compared to a simple discharge chute.

94. The third difficulty, as discussed above, is that it would not have been apparent how to attach the *Dynatek* Econoloader to *Waldner*'s bucket elevator frame such that in the transport configuration the overall system would be transportable with *Dynatek*'s double-stacked height. Rather, a POSITA would have concluded that

adding the two *Dynatek* conveyor frames on top of *Waldner*'s bucket elevator in a transport configuration would make the overall system about 16-17 feet high, such that the overall system would not be road legal.

95. Due to all of these concerns and constraints, a POSITA would have perceived that Durham's proposed substitution would be difficult and would not have had a reasonable expectation of success in the substitution.

N. Dr. Durham has not shown that the apparatus of Claim 19 would have been rendered obvious by *Waldner* in view of *Dynatek*

96. Because Claim 19 depends from Claim 18 and requires all of the elements of Claim 18, Durham has not shown that the apparatus of Claim 19 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 18.

97. In addition, in paragraphs 231-235, Durham points to no disclosure in *Waldner* or *Dynatek* (or in the combination of *Waldner* and *Dynatek*) satisfying the requirement of Claim 19 that "the extension conveyor is movable with respect to the aggregate elevating assembly between a lowered position corresponding to the transport configuration of the apparatus and a raised position corresponding to the operational configuration of the apparatus."

98. In paragraph 231, Durham points to "Sections X.B.a.x and X.B.a.xii," but I cannot find any section with either of those labels. Therefore, I cannot respond to whatever Durham may have intended to refer to in these sections.

O. Dr. Durham has not shown that the apparatus of Claim 20 would have been rendered obvious by *Waldner* in view of *Dynatek*

99. Because Claim 20 depends from Claim 18 and requires all of the elements of Claim 18, Durham has not shown that the apparatus of Claim 20 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 18.

100. In paragraph 238, Durham asserts that “[i]t would have been obvious for a POSITA...to modify the discharge chute member 242 of *Waldner* to pivotally connect its outboard segment to its inboard segment.” But, as discussed above in connection with limitation 16[k] and 18[j], Durham has not provided any reason for modifying the discharge chute member 242 of *Waldner* to pivotally connect its outboard segment to its inboard segment. And even if there were a reason to modify the discharge chute of *Waldner* to create an articulated chute with a pivot joint, the resulting chute would still not qualify as a “conveyor for moving aggregate,” as claims 16 and 18 (and claim 20) requires for the “extension conveyor.” Therefore, even if that modification were made, claim 20 would not be satisfied.

101. In paragraph 236, Durham points to “Sections X.B.a.xi and X.B.a.xii,” but I cannot find any section with either of those labels. Therefore, I cannot respond to whatever Durham may have intended to refer to in these sections.

P. Dr. Durham has not shown that the apparatus of Claim 22 would have been rendered obvious by *Waldner* in view of *Dynatek*

1. Limitation 22[h]: “an extension conveyor for moving aggregate from an inlet of the extension conveyor at the aggregate elevating assembly to an outlet of the extension conveyor...”

102. In paragraph 247, Durham incorporates his analysis of limitation 18[h] for limitation 22[h]. For all of the reasons that I disagree with Durham’s analysis of limitation 18[h], I also disagree with Durham’s analysis of limitation 22[h].

2. Limitation 22[j]: “wherein the inboard segment of the extension conveyor is pivotable with respect to the aggregate elevating assembly at an inboard pivot, the outboard segment of the extension conveyor being pivotable with respect to the inboard segment at an outboard pivot spaced from the elevating assembly by the inboard segment”

103. In paragraph 249, Durham incorporates his analysis of Claim 20 for limitation 22[j]. For all of the reasons that I disagree with Durham’s analysis of Claim 20, I also disagree with Durham’s analysis of limitation 22[j].

3. No Motivation to Combine *Dynatek* with *Waldner*

104. In paragraphs 239-250, Durham relies on his analysis of Claims 1, 18, and 20 to satisfy Claim 22. For all of the reasons that Durham has not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claims 1, 18, and 20, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 22.

4. No Reasonable Expectation of Success in Combining *Dynatek* with *Waldner*

105. In paragraphs 239-250, Durham relies on his analysis of Claims 1, 18, and 20 to satisfy Claim 22. For all of the reasons that Durham has not shown a reasonable expectation of success for purposes of Claims 1, 18, and 20, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 22.

Q. Dr. Durham has not shown that the apparatus of Claim 23 would have been rendered obvious by *Waldner* in view of *Dynatek*

1. Limitation 23[h]: “an extension conveyor for moving aggregate from an inlet of the extension conveyor at the aggregate elevating assembly to an outlet of the extension conveyor...”

106. In paragraph 259, Durham incorporates his analysis of limitation 18[h] for limitation 23[h]. For all of the reasons that I disagree with Durham’s analysis of limitation 18[h], I also disagree with Durham’s analysis of limitation 23[h].

2. Limitation 23[j]: “wherein the inboard segment of the extension conveyor is pivotable with respect to the aggregate elevating assembly at an inboard pivot, the outboard segment of the extension conveyor being pivotable with respect to the inboard segment at an outboard pivot spaced from the elevating assembly by the inboard segment”

107. In paragraph 261, Durham incorporates his analysis of Claim 20 for limitation 23[j]. For all of the reasons that I disagree with Durham’s analysis of Claim 20, I also disagree with Durham’s analysis of limitation 23[j].

3. Limitation 23[k]: “wherein the outboard pivot of the extension conveyor of the conveyor extension assembly is configured to permit transfer of aggregate from the inboard segment to the outboard segment.”

108. In paragraph 262, Durham incorporates his analysis of Claim 16 for limitation 23[k]. For all of the reasons that I disagree with Durham’s analysis of limitation 16[k], I also disagree with Durham’s analysis of limitation 23[k].

4. No Motivation to Combine *Dynatek* with *Waldner*

109. In paragraphs 251-262, Durham relies on his analysis of Claims 16, 18, and 20 to satisfy Claim 23. For all of the reasons that Durham has not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claims 16, 18, and 20, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 23.

5. No Reasonable Expectation of Success in Combining *Dynatek* with *Waldner*

110. In paragraphs 251-262, Durham relies on his analysis of Claims 16, 18, and 20 to satisfy Claim 23. For all of the reasons that Durham has not shown a reasonable expectation of success for purposes of Claims 16, 18, and 20, Durham has also not shown a motivation to combine *Dynatek* with *Waldner* for purposes of Claim 23.

R. Dr. Durham has not shown that the apparatus of Claim 24 would have been rendered obvious by *Waldner* in view of *Dynatek*

111. Because Claim 24 depends from Claim 23 and requires all of the elements of Claim 23, Durham has not shown that the apparatus of Claim 24 would have been obvious in view of *Waldner* and *Dynatek* for all of the same reasons as Claim 23.

V. GROUND 1A: Dr. Durham has not shown that the apparatus of Claims 1-2, 4-11, 16-20, and 22-24 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Sleeman*

A. Dr. Durham has not shown that the apparatus of Claim 1 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Sleeman*

1. Limitation 1[h]/Limitation 1[i]: “a conveyor extension assembly for conveying aggregate to locations horizontally outward from the aggregate elevating assembly, the conveyor extension assembly comprising: an extension conveyor for moving aggregate from an inlet of the extension conveyor to an outlet of the extension conveyor...”

112. In paragraph 277, Durham states that “[i]t would have been obvious to a POSITA to substitute *Sleeman*’s spouts 50, pivot shaft 60, and gear and rack member configuration for discharge chute 242 and a combination of brackets, links, and pivot pins connecting discharge chute 242 to bucket elevator 50 of *Waldner*, and/or to modify the discharge chute 242 of *Waldner*...with the permanent coupling of *Sleeman*’s spouts 50 to main frame 26.” Likewise, in paragraph 279, Durham states: “It would have been obvious to a POSITA to substitute *Sleeman*’s spouts 50 and main frame 26 for discharge chute member 242 and bucket elevator frame 254

of *Waldner*, and/or to modify the discharge chute member 242 of *Waldner*...with the permanent coupling / actuator configuration of *Sleeman*'s spouts 50 to main frame 26." Likewise, in paragraph 283, Durham states: "it would have been obvious for a POSITA ... to modify the spouts 50 of *Sleeman* and/or the discharge chute 242 of *Waldner* to pivotally connect its outboard segment to its inboard segment by an outboard pivot." These statements suggest that Dr. Durham believes that the discharge spouts 50 of *Sleeman* might qualify as the "conveyor extension assembly" and "extension conveyor for moving aggregate..." in Claim 1. I disagree.

113. As explained above, a POSITA would not understand *Sleeman*'s discharge spouts 50 to be a "conveyor extension assembly" or an "extension conveyor for moving aggregate," just as a POSITA would not understand *Waldner*'s discharge chute to be a "conveyor extension assembly" or an "extension conveyor for moving aggregate." In the relevant field of moving aggregate materials, a POSITA would understand that a "conveyor extension assembly" and "extension conveyor for moving aggregate" to be a device that imparts motion to the aggregate to transport it from one point to another. In contrast, *Sleeman*'s discharge spouts are passive devices that do not impart motion to the aggregate. *Sleeman*'s discharge spouts merely direct the flow of the aggregate. In *Sleeman*'s discharge spouts, it is gravity that imparts motion to the aggregate, *i.e.*, it is gravity that moves the aggregate, not the discharge spouts.

2. No Motivation to Combine / No Reasonable Expectation of Success

114. In paragraph 283, Durham states: “It would have been obvious for a POSITA to use the articulated belt conveyor of *Dynatek* with the system of *Waldner*..., as discussed above regarding Reasons to Combine *Waldner* and *Dynatek*” and that “[f]or the same reasons, it would have been obvious for a POSITA to use the articulated belt conveyor of *Dynatek* with the system of *Waldner* as modified per *Sleeman*.” For all of the reasons that Dr. Durham has failed to show that there would be a motivation to substitute *Dynatek*’s articulated belt conveyor for *Waldner*’s discharge chute, he has also failed to show that there would be a motivation to substitute *Dynatek*’s articulated belt conveyor for *Waldner*’s discharge chute as modified in view of *Sleeman*. And for all of the reasons that there would be no reasonable expectation of success in substituting *Dynatek*’s articulated belt conveyor for *Waldner*’s discharge chute, there would be no reasonable expectation of success in substituting *Dynatek*’s articulated belt conveyor for *Waldner*’s discharge chute as modified in view of *Sleeman*.

115. There are no material differences in the discharge spouts of *Sleeman* compared to the discharge chute of *Waldner*, i.e., no differences that are relevant to Claim 1. Therefore, modifying *Waldner*’s discharge chute in view of *Sleeman* results in no material change relative to Claim 1. Consequently, all of the analysis set forth above regarding *Durham*’s proposed combination of *Waldner* and *Dynatek* is

equally applicable to Durham's proposed combination of *Waldner* and *Dynatek* in further view of *Sleeman*.

116. In paragraph 266 of his Declaration, Durham states: "All three references [*Waldner*, *Dynatek*, and *Sleeman*] teach loading aggregate material, such as sand, through a system of conveyors to an elevated location." I disagree that *Dynatek* teaches this. *Dynatek* does not teach "loading aggregate material...through a system of conveyors to an elevated location." *Dynatek* teaches loading aggregate material using two belt conveyors to a location that is **lower** than the location at which the aggregate material begins. *Dynatek* does not elevate aggregate material.

117. In paragraph 267 of his Declaration, Dr. Durham states the problem facing the '689 inventors was "using conveyor belt systems to transfer and discharge material from an elevated location." I disagree with this statement of the problem. As discussed above, in my opinion, the '689 Patent is concerned with the problem of designing a transportable apparatus to transfer aggregate material to an elevated location such as the inlet of a storage silo. Durham's statement of the problem assumes a solution that uses "conveyor belt systems." Also, Durham's statement of the problem does not account for the need for the apparatus to be transportable.

118. In paragraph 270, Durham states that *Waldner*, *Dynatek*, and *Sleeman* "teach different approaches, each with its advantages and disadvantages, to solving the...problem [of] positioning the discharge spout to various positions in 3D space."

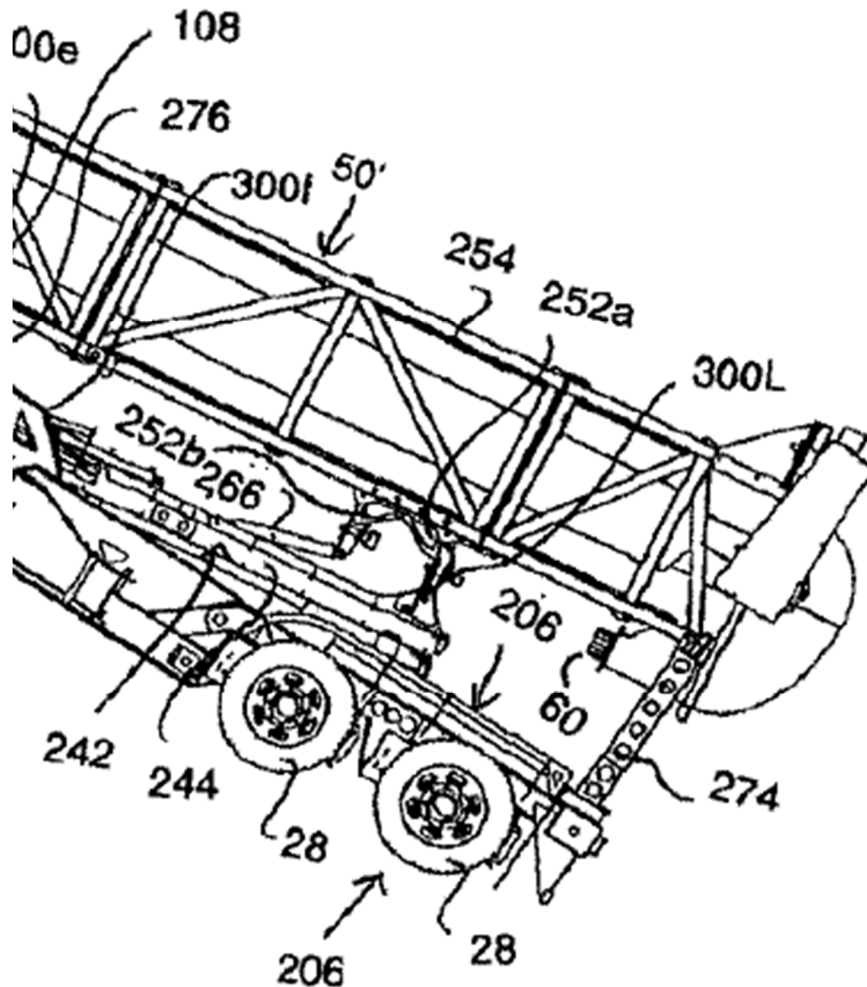
Durham does not specifically address what those “advantages and disadvantages” are. But as discussed above, the articulated two-part conveyor belt of *Dynatek* has numerous disadvantages compared to the discharge chutes of *Waldner* and *Sleeman*, including limitations on mass flow rate, more mechanical components (which results in less reliability and more expense), additional size and weight (which results in challenges in moving it into a transportable/storage position), and increased difficulty in controlling dust. As discussed above, for these reasons, a POSITA would have had multiple reasons not to use the *Dynatek* conveyors in place of the *Waldner* and/or *Sleeman* discharge chutes and would have not had a reasonable expectation of success in doing so.

119. In paragraph 272, Durham states that “*Waldner* teaches detaching its discharge chute 242 from the outlet port of the bucket elevator and attaching it to the elevator frame using brackets 276 when the system is placed in its collapsed (transport) position.” In support of this statement, *Waldner* cites to column 26, lines 46-54 of *Waldner*. But those lines of *Waldner* (and the rest of *Waldner*) do not teach that *Waldner*’s discharge chute detaches from the bucket elevator. Instead, they teach that brackets 276 are used to attach the outer end of the discharge chute to the bucket elevator when the discharge chute is placed in its collapsed (transport) position (i.e., to “secure the discharge member 242 in the collapsed position”). It is apparent that Durham has misunderstood how *Waldner* operates.

120. Durham’s misunderstanding of *Sleeman* is further illustrated in paragraphs 273 and 274 of his declaration. In paragraph 273, he states that *Sleeman* would be “potentially more user-friendly and less labor intensive” than *Waldner* “because it would not require an operator to detach and reattach those components” and that use of *Sleeman*’s discharge chutes “would be quicker than having to attach / detach the discharge chute 242 each time.” In paragraph 274, Durham states that *Waldner* “teaches a discharge member 242 that is removably attached to the bucket elevator,” whereas *Sleeman* “provides a permanent attachment to the elevator.” All of these comments show that Durham has misunderstood how *Waldner* operates.

121. Not only does the portion of *Waldner* cited by Durham show that he misunderstands *Waldner*, but so do other portions of *Waldner*. For example, column 27, lines 59-65 of *Waldner* explains: “A discharge member alignment sensor 300h at the connection between the discharge member 242 and the elevator frame 254 detects the rotational position of the discharge member about the pivot axes of the two mounting brackets 252a, 252b on the elevator frame 254 to confirm receipt [of] the discharge member in alignment with the respective side of the elevator frame when collapsed.” This passage shows that the discharge member 242 is still connected to “the two mounting brackets 252a, 252b” in the collapsed configuration. The figures confirm this. Figure 16, for example, shows that the discharge member

242 is still connected to brackets 252 in the collapsed configuration. The relevant portion of Figure 16 is reproduced below:



122. In summary, Durham's premise for introducing *Sleeman* is that *Waldner's* chute detaches before being lowered to be placed in its collapsed (transport) position whereas *Sleeman's* spouts do not. But it is apparent that

Durham's premise is factually incorrect. Therefore, all of the conclusions that Durham bases on that premise are based on a faulty premise and should be rejected.

B. Dr. Durham has not shown that the apparatus of Claims 2, 4-5, 8-11, 16-20, and 22-24 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Sleeman*

123. In paragraph 286, Durham incorporates by reference all of his analysis for combining *Waldner* with *Dynatek* for purposes of Claims 2, 4-5, 8-11, 16-20, and 22-24. Durham has not shown that the apparatus of Claims 2, 4-5, 8-11, 16-20, and 22-24 would have been obvious in view of *Waldner* in view of *Dynatek* and *Sleeman* for all of the same reasons that Durham has not shown that the apparatus of Claims 2, 4-5, 8-11, 16-20, and 22-24 would have been obvious in view of *Waldner* in view of *Dynatek*.

C. Dr. Durham has not shown that the apparatus of Claim 6 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Sleeman*

124. In paragraph 288, Durham incorporates by reference his discussion about "Claim 6[a] in Ground 1," stating that according to that discussion, "a POSITA would have understood that the conveyor support frame shown in *Dynatek* is a conveyor support frame that supports the extension conveyor relative to the aggregate elevating assembly and would have to be movable when transitioning between lowered and raised positions." But Durham's discussion about "Claim 6[a] in Ground 1" (in his paragraphs 175-179) attempts to rely on *Waldner*, not *Dynatek*,

to satisfy the limitations of Claim 6[a]. Thus, nowhere does Durham provide any substantive analysis that *Dynatek* teaches the limitations of Claim 6[a]. To the extent that Durham is relying on *Waldner* as in his discussion of “Claim 6[a] in Ground 1,” he is incorrect for all the reasons addressed above in response to his discussion of “Claim 6[a] in Ground 1.” To summarize, the components that Durham identifies in *Waldner* as constituting the “conveyor support frame” are not “movable with respect to the deployable frame of the aggregate elevating assembly” when *Waldner*’s discharge chute “moves between the lowered position and the raised position.” Since Claim 6 requires that the “conveyor support frame” be “movable with respect to the deployable frame of the aggregate elevating assembly when the extension conveyor moves between the lowered position and the raised position,” Durham has not shown that *Waldner*’s components satisfy Claim 6.

125. In paragraph 289, Durham points to “swing actuator 68” in *Sleeman* to satisfy “Claim 6[b].” Durham states: “A POSITA would have...understood the swing actuator 68 to be an extension conveyor lift structure that acts on the conveyor support frame to move the extension conveyor.” But, as the annotated version of Figure 12 of *Sleeman* below shows, swing actuator 68 [in orange] is not a “lift structure” and does not move *Sleeman*’s spouts “between the lowered position and the raised position,” as Claim 6 requires. Instead, swing actuator 68 [in orange] acts

upon the rack 66 [in red], which rotates the pinion 64 [in purple] about vertical shaft 62 [blue dashed line], to move *Sleeman's* spouts 50 left and right:

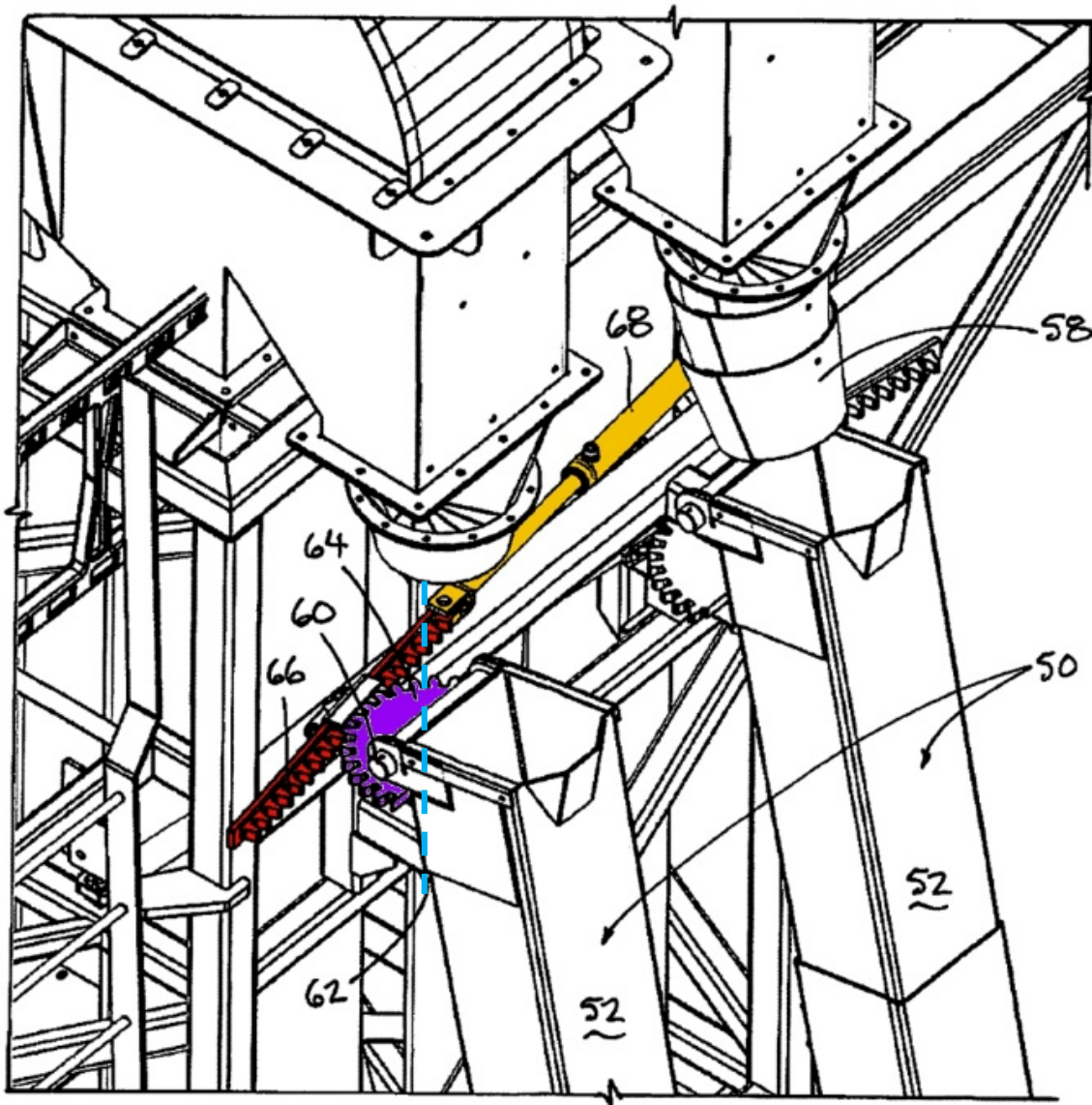


FIG. 12

126. Durham does not point to any disclosure of *Waldner* or *Dynatek*, alone or in combination, as teaching this element. For these reasons, Durham has not shown that the apparatus of Claim 6 would have been obvious in view of *Waldner*, *Dynatek*, and *Sleeman*.

D. Dr. Durham has not shown that the apparatus of Claim 7 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Sleeman*

127. In paragraph 291, Durham points to *Sleeman*'s swing actuator 68 as satisfying Claim 7. But Claim 7 requires an actuator that is "extendable to...move the extension conveyor to the raised position" and "retractable to...move the extension conveyor to the lowered position." As discussed above in connection with Claim 6, swing actuator 68 does not move *Sleeman*'s spouts 50 to a raised position or a lowered position. Instead, swing actuator 68 moves *Sleeman*'s spouts left and right about vertical shaft 62. As discussed above in addressing Claim 7 under Ground 1, Durham does not establish that *Waldner* or *Dynatek* teach the elements of Claim 7 either. Therefore, Durham has not shown that the apparatus of Claim 7 would have been obvious in view of *Waldner*, *Dynatek*, and *Sleeman*.

VI. GROUND 2: Dr. Durham has not shown that the apparatus of Claims 6-7 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Pham*

A. Dr. Durham has not shown that the apparatus of Claim 6 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Pham*

128. In paragraph 293, Durham states: “A POSITA would have been motivated to combine the teachings of *Waldner* and *Dynatek* for the same reasons as those discussed above in Ground 1 Section X.A.” For the reasons already discussed above, I disagree that a POSITA would have been motivated to combine the teachings of *Waldner* and *Dynatek* in the ways that Durham has asserted.

129. In paragraph 294, Durham states that “both *Waldner* and *Dynatek* teach elevated discharge.” If by using the term “elevated discharge,” Durham means to assert that *Dynatek* teaches discharging material at a location that is higher than the location at which the aggregate material begins, I disagree. *Dynatek* does not elevate aggregate material. Durham also states that *Pham*’s upper discharge portion 512 “discharges material from an elevated position, like the discharges of *Waldner* and *Dynatek*.” But the upper discharge portion 512 of *Pham* is the discharge portion of a bucket elevator, and *Dynatek* does not have a bucket elevator. Therefore, *Pham*’s upper discharge portion is not “like the discharge[] of...*Dynatek*.”

130. In paragraph 295 of his Declaration, Durham states the problem facing the ’689 inventors was “using conveyor belt systems to transfer and discharge

material from an elevated location.” I disagree with this statement of the problem. As discussed above, in my opinion, the ’689 Patent is concerned with the problem of designing a transportable apparatus to transfer aggregate material to an elevated location such as the inlet of a storage silo. Durham’s statement of the problem assumes a solution that uses “conveyor belt systems” and focuses only on “transfer and discharge...*from* an elevated location,” ignoring the problem of transferring material *to* an elevated location. Also, Durham’s statement of the problem does not account for the need for the apparatus to be transportable.

131. In paragraph 297, Durham states that “[a] POSITA would be motivated to combine the teachings of *Pham* with those of *Waldner* and *Dynatek* both because of their similarities and because of the advantages taught by *Pham*.” Durham does not identify “the advantages taught by *Pham*” in that paragraph, and the only “advantages” that Durham attributes to the use of *Pham* appear to be set forth in Durham’s paragraphs 300, 306, and 307. In paragraph 300, Durham asserts: “A POSITA would be motivated to add the teachings of *Pham* so that the combined system more easily meets *Waldner*’s goal of a ‘trailer-mounted solution.’” Durham further states: “By having [a] conveyor support frame movable with respect to the deployable frame, as taught by *Pham*, the combined system can be more easily transported on *Waldner*’s trailer.” Durham asserts that a POSITA would “substitut[e] ... the support frame and articulation mechanism of *Pham* ... for ...

[the] brackets 252 of *Waldner*” because it would be “easier to move the conveyor system between a deployed and stowed position.” Likewise, in paragraph 306, Durham asserts that “[i]t would have been obvious for a POSITA to use the support frame 802 of *Pham* with the modified system of *Waldner* and *Dynatek*...to allow the system to be more easily transported on *Waldner*’s trailer.” And in paragraph 307, Durham states: “It would have been obvious for a POSITA to use the articulation mechanism 808 of *Pham* with the modified system of *Waldner* and *Dynatek* to allow the system to be more easily transported on *Waldner*’s trailer.” I disagree. Durham has not shown why using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would result in something that is “more easily transported on *Waldner*’s trailer” or “easier to move the conveyor system between a deployed and stowed position.” Durham provides no explanation for why or how using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would be “easier.” As far as I can tell, using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would **not** result in something that is “more easily transported on *Waldner*’s trailer” or “easier to move the conveyor system between a deployed and stowed position.” Thus, Durham’s reasons for why a POSITA would have combined the teachings of *Pham* with the teachings of *Waldner* are conclusory and without support.

132. Perhaps Durham reaches his “easier” conclusions based on his belief that *Waldner*’s discharge chute must be detached in order to move from the deployed position to the stowed position. If so, that belief about *Waldner* is incorrect for the reasons already stated above. As shown in Figure 9 of *Waldner*, *Waldner*’s discharge chute is not detached when moving from the deployed position to the stowed position.

133. Even if *Pham*’s support frame and articulation mechanism **were** used instead of *Waldner*’s brackets 252, as Durham suggests, the resulting combination would fail to satisfy Claim 1 and therefore would fail to satisfy Claim 6 (because Claim 6 depends from Claim 1 and therefore incorporates all of the requirements of Claim 1). Claim 1 requires that the extension conveyor have an inboard segment that is “pivotally connected to the deployable frame of the aggregate elevating assembly by an inboard pivot” and that “the inboard segment of the extension conveyor of the conveyor extension assembly is pivotable at the inboard pivot about a substantially vertical axis with respect to the deployable frame at the inboard pivot when the extension conveyor is in the raised position.” *Pham*’s support frame and articulation mechanism only allow for up-and-down movement of *Pham*’s auger conveyors and do not allow for left-and-right movement of *Pham*’s auger conveyors.

134. In paragraph 300, Durham states: “Alternatively, the brackets 252 of *Waldner* would have been improved, based on the teachings of *Pham*, to be movable

relative to the bucket elevator to obtain predictable results (easier to move the conveyor system between a deployed and stowed position).” Likewise, in paragraph 306, Durham states: “It would have been obvious for a POSITA...to modify the collective brackets 252a, 252b and actuators 266, 270 of *Waldner* with the movability of support frame 802 of *Pham* to allow the system to be more easily transported on *Waldner*’s trailer.” But Durham does not articulate how brackets 252 “would have been improved” or “modif[ied]...with the movability of support frame 802 of *Pham*.” I cannot discern how brackets 252 “would have been improved” or “modif[ied]” in light of *Pham* to make it “easier to move the conveyor system between a deployed position and stowed position” or “to be more easily transported on *Waldner*’s trailer.” As already discussed above, *Waldner*’s discharge chute already moves between a deployed position and a stowed position.

135. As noted above, Durham states in paragraph 297 that “[a] POSITA would be motivated to combine the teachings of *Pham* with those of *Waldner* and *Dynatek* both because of their similarities....” Durham specifies a number of those alleged similarities in paragraphs 293-296. But the fact that *Waldner* and *Pham* and *Dynatek* may have some similarities would not have been a sufficient reason for a POSITA to have combined *Waldner* and *Pham* and *Dynatek* in the way required by Claim 6. Durham’s assertion cherry picks various features from *Waldner* and *Pham* and *Dynatek* without any valid reason for doing so, apparently only for the purpose

of satisfying Claim 6. In other words, it is apparent that Durham is merely relying on hindsight and using the '689 Patent as a roadmap to select these features from these three references.

136. In paragraph 301, Durham argues that there would have been a “reasonable expectation of success in combining the teachings of *Pham* with the system of *Waldner*/*Dynatek* without undue experimentation.” While I don’t dispute that a POSITA would be **able** to combine the teachings of *Waldner* and *Pham* **if** the POSITA would have conceived of that combination, I do note that Durham misunderstands how those brackets of *Waldner* and *Pham* function. Durham states: “*Waldner* already teaches brackets 252 to support the discharge assembly, and perform the function of *Pham*’s frame 802.” But *Pham*’s frame 802 does more than just “support the discharge assembly” in *Pham*. It also allows the discharge assembly in *Pham* to move up and down, something *Waldner*’s brackets 252 do not do. Thus, Durham’s analysis of how *Pham*’s frame would be substituted for *Waldner*’s brackets is based on a misunderstanding of how *Waldner*’s brackets 252 function.

B. Dr. Durham has not shown that the apparatus of Claim 7 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Pham*

137. In paragraph 308, Durham states: “As explained in Ground 1 regarding Claim 7 and incorporated herein by reference, the combination of *Waldner* and *Dynatek* renders Claim 7 obvious.” I disagree. For all of the reasons discussed above

in connection with Ground 1, the combination of *Waldner* and *Dynatek* does not render Claim 7 obvious.

138. In paragraph 308, Durham also argues that “[t]o the extent that *Waldner* does not explicitly teach Claim 7, ...it would have been obvious for a POSITA to use the articulation mechanism 808 and movability of support frame 802 of *Pham* with the modified system of *Waldner* and *Dynatek* to allow the system to be more easily stored on *Waldner*’s trailer.” But as discussed above, Durham has not shown why using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would result in something that is “more easily transported on *Waldner*’s trailer” or “easier to move the conveyor system between a deployed and stowed position.” Durham provides no explanation for why or how using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would be “easier.” As far as I can tell, using *Pham*’s support frame and articulation mechanism instead of *Waldner*’s brackets 252 would **not** result in something that is “more easily transported on *Waldner*’s trailer” or “easier to move the conveyor system between a deployed and stowed position.” Thus, Durham’s reasons for why a POSITA would have combined the teachings of *Pham* with the teachings of *Waldner* are conclusory and without support.

VII. GROUND 2A: Dr. Durham has not shown that the apparatus of Claims 6-7 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *Pham*

A. Dr. Durham has not shown that the apparatus of Claim 6 or Claim 7 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *Pham*

139. In paragraph 310, Durham states: “As discussed above regarding Grounds 1 and 1A, a POSITA would have been motivated to combine *Waldner*, *Dynatek* and *Sleeman*.” I disagree. For all of the reasons discussed above in connection with Grounds 1 and 1A, Durham has not shown that a POSITA would have been motivated to combine *Waldner*, *Dynatek*, and *Sleeman*. Likewise, in paragraph 310, Durham states: “[A]s discussed above regarding Ground 2, a POSITA would have been motivated to combine the teaches [sic] of *Waldner*, *Dynatek* and *Pham*.” I disagree. For all of the reasons discussed above in connection with Ground 2, Durham has not shown that a POSITA would have been motivated to combine the teachings of *Waldner*, *Dynatek*, and *Pham*. Finally, in paragraph 310, Durham states: “For the same reasons, a POSITA would have been motivated to combine the teaches [sic] of *Waldner*, *Dynatek*, *Sleeman* and *Pham*.” I disagree. For the same reasons as discussed above, Durham has not shown that a POSITA would have been motivated to combine the teachings of *Waldner*, *Dynatek*, *Sleeman*, and *Pham*.

140. In paragraph 311, Durham states: “As explained above in Ground 2, and incorporated by reference, *Waldner* in view of *Dynatek*, and *Pham* renders Claims 6-7 obvious. Nothing in *Sleeman* teaches against the combination discussed in Ground 2. Accordingly, *Waldner* in view of *Dynatek* further in view of *Sleeman* and *Pham* renders Claims 6-7 obvious.” I disagree. For all of the reasons explained above in response to Ground 2, Durham has not shown that *Waldner* in view of *Dynatek* and *Pham* renders Claims 6-7 obvious and therefore Durham has failed to show that *Waldner* in view of *Dynatek* and further in view of *Sleeman* and *Pham* would have rendered Claims 6-7 obvious.

VIII. GROUND 3: Dr. Durham has not shown that the apparatus of Claims 3, 12, 21, or 25 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Auld*

A. Dr. Durham has not shown that the apparatus of Claim 3 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Auld*

141. In paragraph 313, Durham states: “A POSITA would have been motivated to combine the teachings of *Waldner* and *Dynatek* for the same reasons as those discussed above in Ground 1.” I disagree for all of the reasons already stated above in connection with Ground 1.

142. In paragraph 315, Durham states: “...*Auld* discloses a portable system used for handling and storage of aggregate material (i.e., concrete / cement).” With this statement, Durham implies that the “cement” in *Auld* is an “aggregate.” And at

his deposition, Dr. Durham asserted that “cement” is an “aggregate” because an “aggregate” is a substance with “varying particle size.” (Durham Depo., 72:5-73:13.) I disagree. An article published by the Association of Equipment Manufacturers states that “aggregates” are “raw materials that are produced from natural sources and extracted from pits and quarries, including gravel, crushed stone, and sand.” And “[w]hen used with a binding medium (like water, cement, and asphalt), they are used to form compound materials, such as asphalt, concrete, and Portland cement concrete.” (Ex. 2034.) Another article published by the American Concrete Institute defines an “aggregate” as “granular material, such as sand, gravel, crushed stone, crushed hydraulic cement concrete, or air-cooled iron blast-furnace slag, used with hydraulic cement to produce either concrete or mortar. It is divided into two groups by size, as coarse aggregate (material retained on the 4.75-mm (No. 4) sieve), and fine aggregate (material passing the 4.75-mm (No. 4) sieve) (ACI 221R).” (Ex. 2035.) Thus, cement is not an “aggregate.” *Auld* itself recognizes this distinction between “aggregate” and cement. *Auld* repeatedly refers to an “aggregate batching plant 10,” which handles “stone, gravel, and sand” (1:47) and refers to a “cement plant 40,” which handles cement. *Auld* uses the term “aggregate” several times but never uses the term “aggregate” to refer to cement.

143. In paragraphs 316 and 328, Durham states that in *Auld*, “the cement batching plant stores and handles ‘stone, gravel, and sand.’” That is incorrect. *Auld*

states that it is “[t]he aggregate bin” that “has compartments which may contain stone, gravel and sand” (1:45-46), and the aggregate bin is part of the aggregate plant 10, not the cement plant 40.

144. In paragraphs 317-320, Durham points to *Waldner*’s teaching to use a trailer with a gooseneck connection with hitch coupler 22 and *Waldner*’s teaching that “[o]ther hitch types may alternatively be employed.” Similarly, in paragraph 328, Durham points to *Waldner*’s teaching that “[o]ther hitch types may alternatively be employed.” In paragraph 318, Durham then states that the king pin 57 in *Auld* would be such an alternative hitch type. But Durham goes further than merely employing an alternative hitch type. In paragraph 320, Durham not only states that it would have been obvious to use the king pin 57 of *Auld* instead of the gooseneck connection of *Waldner* but that it would **also** have been obvious to have the king pin “connected directly to *Waldner*’s elevator 50.” Durham has pointed to no reason that a POSITA would have connected *Auld*’s king pin “directly to *Waldner*’s elevator 50.” The statement in *Waldner* that “[o]ther hitch types may alternatively be employed” would at most have been a reason for a POSITA to use *Auld*’s king pin 57 on *Waldner*’s trailer, not on *Waldner*’s elevator 50.

145. In paragraph 320, Durham states: “A POSITA would have recognized the advantages of replacing the ‘hitch coupler’ 22 of *Waldner* with the king pin 57 of *Auld*, connected directly to *Waldner*’s elevator 50, and would have been

motivated to gain those advantages, including a reduction in frame material and a reduction in overall length of the trailer.” Similarly, in paragraph 331, Durham states: “It would have been obvious for a POSITA to use the king pin 57 of *Auld* with the modified system of *Waldner* and *Dynatek*...to gain reduction in frame material and a reduction in overall length of the trailer.” I disagree that a POSITA would have recognized the advantages of connecting king pin 57 of *Auld* “directly to *Waldner*’s elevator 50,” specifically “a reduction in frame material” or “a reduction in overall length of the trailer.” A POSITA would not have conceived of doing such a thing, and particularly not because of a suggestion to try “[o]ther hitch types.” Durham has offered no other reason why a POSITA would have done such a thing.

146. Even if a POSITA had been aware of both *Auld* and *Waldner*, a POSITA would not have viewed the king pin 57 attached to silo 41 in *Auld* and conceived of attaching a king pin to elevator 50 of *Waldner*. When two things are similar to each other, it may be natural for a POSITA to think of doing to one what is done to the other. But here, there are substantial differences between the silo 41 in *Auld* and the elevator 50 in *Waldner*. First, a silo is not a bucket elevator and performs a storage function which is different from the transferring function of a bucket elevator. Therefore, *Auld* does not show a king pin attached to a bucket elevator or anything like it; instead, it shows a king pin attached to a silo. Second, in

Auld, the entirety of the silo 41 (including wheels 58) is turned upright and lifted into position by the use of a crane. (*Auld*, 5:3-4). In contrast, the bucket elevator 50 (and the bucket elevator 50') in *Waldner* is rotated upward by hydraulic cylinders coupled between a trailer frame and the housing of the bucket elevator while the wheels 28 of Waldner's trailer remain on the ground. (*Waldner*, 15:22-35, 19:25-34, 24:66-25:2.) The king pin in *Auld* is not attached to a structure that rotates upwards relative to wheels resting on the ground. Instead, it is attached to a structure that is attached to wheels and whose entirety is turned upright and lifted into position. Because of these differences, a POSITA would not have viewed king pin 57 attached to silo 41 in *Auld* and thought about attaching a king pin to bucket elevator 50 in *Waldner*. The silo 41 in *Auld* and the bucket elevator 50 in *Waldner* are simply not analogous enough to each other for a POSITA to have thought of doing to one what is done to the other. This is especially true because *Waldner* already has a hitch coupler 22 that allows *Waldner*'s structure to be attached to a transport vehicle, so a POSITA would not have recognized any need to attach a structure for performing that same function at some other location in *Waldner*. Instead, such a modification would have required creativity beyond that of a POSITA, and it is apparent that Durham is relying on hindsight in order to propose such a modification.

147. In paragraph 320, Durham also states: "A POSITA would have also recognized that the same vehicle could be used for transport of the modified

Waldner/Dynatek/Auld trailer by simply replacing the ball of a gooseneck connection with the fifth wheel of the kingpin connection.” Similarly, in paragraph 331, Durham states: “A POSITA would have also recognized that the same vehicle could be used for transport of the modified *Waldner/Dynatek/Auld* trailer by simply replacing the ball of a gooseneck connection with the fifth wheel of the kingpin connection.” Durham further states in paragraphs 320 and 331 that “[t]his would have resulted in a distribution of load more evenly across the bed of the transport vehicle (truck).” I disagree. A kingpin/fifth wheel connection would provide the same distribution advantages across the bed of the transport vehicle as a gooseneck connection. Both are single-point connections, and the hitch point for both types of connections are in the same position above the back axle(s) of the transport vehicle. Because the connection point for each connection is in the same position relative to the bed of the transport vehicle, those connection points result in the same weight distribution across the bed of the transport vehicle. Durham offers no reason or evidence that a kingpin/fifth wheel connection would have a more even distribution across the bed of the transport vehicle than a gooseneck connection.

148. Durham concludes paragraph 320 by stating that “[t]his combination is simply the substitution of one known component (*Auld*’s kingpin 57) for another (hitch coupler 22 of *Waldner*).” But connecting *Auld*’s kingpin “directly to *Waldner*’s elevator 50” is not “simply the substitution” of *Auld*’s kingpin 57 for the

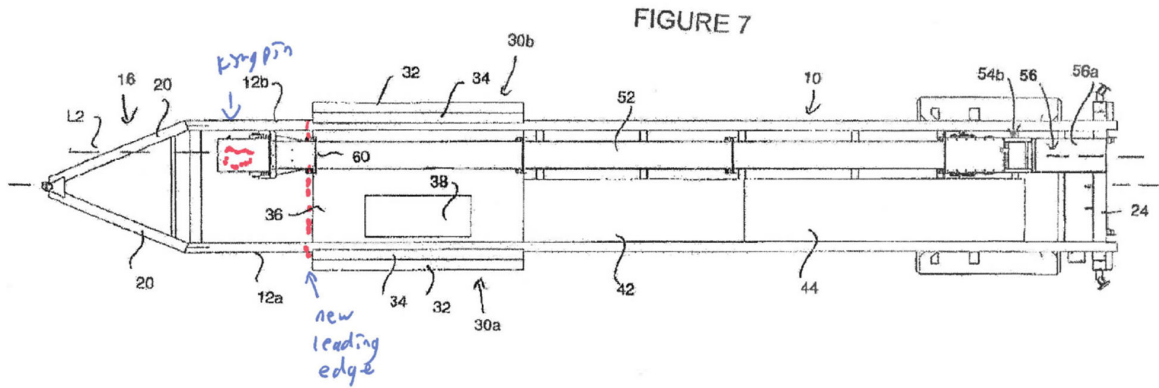
hitch coupler 22 of *Waldner*. A simple substitution would have been to use *Auld*'s king pin 57 on *Waldner*'s trailer, not on *Waldner*'s elevator 50.

149. In paragraph 321, Durham states: “Alternatively, a POSITA would have been motivated to modify *Waldner*'s hitch coupler 22 to connect to *Waldner*'s elevator 50 to gain the same advantage.” Presumably, Durham's reference to “the same advantage” refers to the “advantages” of “a reduction in frame material and a reduction in overall length of the trailer” referenced in paragraph 320. And in paragraph 331, Durham states: “It would have been obvious for a POSITA to...modify the hitch coupler 22 of *Waldner* with the location of the king pin 57 of *Auld* to gain reduction in frame material and a reduction in overall length of the trailer.” I disagree that a POSITA would have been motivated to attach *Waldner*'s hitch coupler 22 to *Waldner*'s elevator 50 instead of *Waldner*'s trailer. A POSITA would not have conceived of attaching *Waldner*'s hitch coupler 22 to *Waldner*'s elevator 50 for all of the reasons that a POSITA would not have conceived of attaching *Auld*'s king pin to *Waldner*'s elevator 50, and the advantages of doing so would only have been apparent to a POSITA **after** being told to do so, e.g., after being shown the invention of the '689 patent. In other words, the advantages of attaching *Waldner*'s hitch coupler 22 to *Waldner*'s elevator 50 would not have been a motivation for a POSITA to do so because a POSITA would not have conceived of doing so in the first place.

150. In fact, if a POSITA would have conceived of attaching *Waldner's* hitch coupler 22 to *Waldner's* elevator 50, implementing that attachment would have created a number of problems. First, because *Waldner's* elevator 50 is off-center relative to the wheels 28 (as seen in *Waldner* Figure 7), attaching *Waldner's* hitch coupler 22 to *Waldner's* elevator 50 would result in alignment/wear problems with the tires associated with wheels 28. It is for this reason that those of skill in the art recognize that a hitch should be located on the centerline of an axle.³ And moving *Waldner's* elevator 50 to be centered between those wheels 28 would either require reconfiguring the location of first belt conveyor 42 and the inclined second belt conveyor 44 or widening the distance between wheels 28. But reconfiguring the location of conveyors 42 and 44 would have introduced yet additional complications and widening the distance between wheels 28 would have made the structure less transportable. It is apparent that Durham is relying on hindsight to suggest attaching *Waldner's* hitch coupler 22 to *Waldner's* elevator 50 and has not thought through all the implications of doing so.

³ For example, Dexter—one of the main suppliers of heavy-duty axles—teaches in an Operation Maintenance Service Manual that the axle centerline and trailer centerline should be within 1/4 inch of each other and that the distances from the hitch to the outsides of the axle should be within 1/8 inch of each other. (Dexter Manual (Ex. 2036), pp. 9-10 & Fig. 4.)

151. At his deposition, Durham was first asked where a king pin would be added to *Waldner's* bucket elevator 50, and he provided the following annotation to Figure 7 of *Waldner* showing where the king pin would be located:



(Durham Depo., 124:22-126:21; Ex. 2002.) Durham then quickly acknowledged that a POSITA would have recognized that having the king pin off the centerline of the trailer would create problems. (Durham Depo., 126:21-127:1.) However, he asserted that switching the bucket elevator 50 to the opposite side of the trailer and swapping it with the conveyors 42 and 44 would somehow allow the king pin to be located on the bucket elevator closer to the centerline of the trailer. (Durham Depo., 127:2-130:12.) I disagree. Switching the bucket elevator 50 to the opposite side of the trailer and swapping it with the conveyors 42 and 44 would simply create the mirror image of Figure 7 of *Waldner* and would not allow the king pin to be located any closer to the centerline of the trailer than before. At his deposition, Durham also suggested moving the king pin off center of the bucket elevator to place the king pin

closer to (but not at) the center line of the trailer. (Durham Depo., 127:17-21, 129:9-13.) But placing the king pin so that it is offset from the centerline of the bucket elevator 50 would add torsional forces to the already-present bending forces in the bucket elevator during towing and would require reinforcement in the bucket elevator (and would not solve the off-the-trailer-centerline problems). If a POSITA had thought of the idea of putting a king pin on the bucket elevator (and there is every reason to believe that a POSITA would not have thought of such an idea), these additional complications would have motivated a POSITA not to do so. Durham's proposed reconfigurations and the complications introduced by those proposed reconfigurations demonstrate that Durham is relying on hindsight to suggest attaching *Waldner's* hitch coupler 22 to *Waldner's* elevator 50.

152. In paragraph 322, Durham states: "A POSITA would have had a reasonable expectation of success" because "both couplers, a hitch coupler and kingpin, were well known and commonly used devices applicable across a broad selection of towing applications" and because "[t]here is no indication that *Auld's* kingpin 57 would be difficult to use or incompatible with the *Waldner* system." I do not disagree with the proposition that a POSITA would have found it obvious to substitute a kingpin for hitch coupler 22 and would have had a reasonable expectation of success in doing so, but I disagree that a POSITA would have found it obvious to attach *Auld's* kingpin 57 or *Waldner's* hitch coupler 22 **to the *Waldner***

elevator 50. As explained above, Durham is relying on hindsight to propose such an attachment. Moreover, as discussed above, attaching *Waldner*'s hitch coupler 22 to *Waldner*'s off-center elevator 50 would have been "difficult to use" and "incompatible with the *Waldner* system," and mounting *Auld*'s kingpin 57 to *Waldner*'s off-center elevator 50 would have been "difficult to use" and "incompatible with the *Waldner* system" for the same reasons.

153. In paragraph 323, Durham discusses the function of *Waldner*'s outrigger arms 62a and 62b. I cannot discern the relevance of that discussion since Claim 3 does not discuss the use of outrigger arms.

154. In paragraph 323 Durham points to the parking stand 61 in *Auld*, and in paragraph 325, Durham states: "A POSITA would have recognized the advantages of including *Auld*'s parking stand with *Waldner*'s system, e.g., providing stability to the bucket elevator 50 when lowered in the stored position." That statement assumes that a POSITA would have **already** removed the front of the trailer used in *Waldner* and attached *Auld*'s kingpin 57 or *Waldner*'s hitch coupler 22 to *Waldner*'s bucket elevator 50. For the reasons discussed above, it would not have been obvious to a POSITA to remove the front of the trailer used in *Waldner* and to attach *Auld*'s kingpin 57 or *Waldner*'s hitch coupler 22 to *Waldner*'s bucket elevator 50.

155. In paragraph 326, Durham states that "a POSITA would have understood that kingpins and landing legs useful for transporting silos would also be

useful in transporting conveyor systems used to fill them.” It is true that a POSITA would have understood that kingpins and landing legs are useful when transporting all kinds of things (including silos), but the understanding of that simple premise would not have led a POSITA to have removed the front of *Waldner*’s trailer and to have attached a kingpin and landing leg to *Waldner*’s elevator 50. It is apparent that Durham is relying on hindsight to imply that such a modification would have been obvious based on the general allegations of similarity in paragraph 326.

156. For all of these reasons, Durham has not established that Claim 3 would have been obvious. In addition, because Claim 3 depends from Claim 2 and because Claim 2 depends from Claim 1, Claim 3 would not have been obvious for all of the reasons that Durham has not established that Claims 1 and 2 would have been obvious.

B. Dr. Durham has not shown that the apparatus of Claim 12 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Auld*

1. Limitations 12[p] and 12[a] through 12[j]

157. For his attack on Claim 12 under Ground 3, Durham addresses limitations 12[p] and 12[a] through 12[j] of Claim 12 by incorporating by reference (in paragraphs 333-343) his analysis for Claim 1 under Ground 1. For all of the reasons that I disagree with Durham’s analysis of Claim 1 under Ground 1, I disagree

with his analysis of limitations 12[p] and 12[a] through 12[j] of Claim 12 under Ground 3.

2. **Limitation 12[k]: “wherein the base assembly has at least one axle and a pair of wheels mounted on the at least one axle such that the base assembly is transportable across the ground surface”**

158. For his attack on Claim 12 under Ground 3, Durham addresses limitation 12[k] of Claim 12 by incorporating by reference (in paragraph 344) his analysis for Claim 2 under Ground 1. For all of the reasons that I disagree with Durham’s analysis of Claim 2 under Ground 1, I disagree with his analysis for limitation 12[k] of Claim 12 under Ground 3.

3. **Limitation 12[l]: “wherein the aggregate elevating assembly includes trailer structure configured to permit the apparatus to be towed across a ground surface, the trailer structure being positioned adjacent to the ground surface when the deployable frame is in the storage position”**

159. For his attack on Claim 12 under Ground 3, Durham addresses limitation 12[l] of Claim 12 by incorporating by reference (in paragraph 345) his analysis for Claim 3 under Ground 3. For all of the reasons that I disagree with Durham’s analysis of Claim 3 under Ground 3, I disagree with his analysis for limitation 12[l] of Claim 12 under Ground 3.

4. **Limitation 12[m]: “wherein the trailer structure comprises: at least one landing leg mounted on the deployable frame to**

rest upon the ground surface when the deployable frame is in the storage position”

160. In paragraphs 346-347, Durham attacks limitation 12[m] of Claim 12 with substantially the same analysis that he used in paragraphs 323-326. I address Durham’s analysis in paragraphs 323-326 above in paragraphs 153-155. My response to Durham’s analysis in paragraphs 323-326 is equally applicable here.

5. Limitation 12[n]: “a kingpin mounted on the deployable frame toward the free end of the deployable frame, the kingpin being directed in a same direction as the least one landing leg to engage a hitch of a towing vehicle when the deployable frame is in the storage position”

161. In paragraphs 348-349, Durham attacks limitation 12[n] of Claim 12 with substantially the same analysis that he used to attack Claim 3. I disagree with Durham’s analysis of limitation 12[n] of Claim 12 for all of the reasons that I disagree with substantially that same analysis by Durham in connection with Claim 3.

C. Dr. Durham has not shown that the apparatus of Claim 21 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Auld*

162. For his attack on Claim 21 under Ground 3, Durham incorporates by reference (in paragraph 350) his analysis for Claim 3 under Ground 3. For all of the reasons that I disagree with Durham’s analysis of Claim 3 under Ground 3, I disagree with his analysis for Claim 21 under Ground 3. In addition, because Claim 21

depends from Claim 18, Claim 21 would not have been obvious for all of the reasons that Claim 18 would not have been obvious.

D. Dr. Durham has not shown that the apparatus of Claim 25 would have been rendered obvious by *Waldner* in view of *Dynatek* and *Auld*

1. Limitations 25[p] and 25[a] through 25[i]

163. For his attack on Claim 25 under Ground 3, Durham addresses limitations 25[p] and 25[a] through 25[i] of Claim 25 by incorporating by reference (in paragraphs 352-361) his analysis for Claim 18 under Ground 1. For all of the reasons that I disagree with Durham's analysis of Claim 18 under Ground 1, I disagree with his analysis for those limitations of Claim 25 under Ground 3.

2. Limitation 25[j]: “wherein the aggregate elevating assembly includes trailer structure configured to permit the apparatus to be towed across a ground surface, the trailer structure being positioned adjacent to the ground surface when the deployable frame is in the storage position; and”

164. For his attack on Claim 25 under Ground 3, Durham addresses limitation 25[j] of Claim 25 by incorporating by reference (in paragraph 362) his analysis for limitation 12[l] of Claim 12 under Ground 3. For all of the reasons that I disagree with Durham's analysis of limitation 12[l] of Claim 12 under Ground 3, I disagree with his analysis for limitation 25[j] of Claim 25 under Ground 3.

3. Limitation 25[k]: “wherein the trailer structure comprises: at least one landing leg mounted on the deployable frame to

rest upon the ground surface when the deployable frame is in the storage position; and”

165. For his attack on Claim 25 under Ground 3, Durham addresses limitation 25[k] of Claim 25 by incorporating by reference (in paragraph 363) his analysis for limitation 12[m] of Claim 12 under Ground 3. For all of the reasons that I disagree with Durham’s analysis of limitation 12[m] of Claim 12 under Ground 3, I disagree with his analysis for limitation 25[k] of Claim 25 under Ground 3.

4. Limitation 25[l]: “a kingpin mounted on the deployable frame toward a free end of the deployable frame, the kingpin being directed in a same direction as the one landing leg to engage a hitch of a towing vehicle when the deployable frame is in the storage position.”

166. For his attack on Claim 25 under Ground 3, Durham addresses limitation 25[l] of Claim 25 by incorporating by reference (in paragraph 364) his analysis for limitation 12[n] of Claim 12 under Ground 3. For all of the reasons that I disagree with Durham’s analysis of limitation 12[n] of Claim 12 under Ground 3, I disagree with his analysis for limitation 25[l] of Claim 25 under Ground 3.

IX. GROUND 3A: Dr. Durham has not shown that the apparatus of Claims 3, 12, 21, or 25 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *Auld*

A. No Motivation to Combine / No Reasonable Expectation of Success

167. In paragraph 366, for his attack on Claims 3, 12, 21, and 25 under Ground 3A, Durham incorporates by reference his arguments that POSITA would have been motivated to combine *Waldner*, *Dynatek*, and *Sleeman* by incorporating

by reference his analysis for combining those references in Grounds 1 and 1A. Durham also incorporates by reference his arguments that POSITA would have been motivated to combine *Waldner*, *Dynatek*, and *Auld* by incorporating by reference his analysis for combining those references in Ground 3. For all of the reasons that I disagree with Durham's analysis concerning reasons for combining *Waldner*, *Dynatek*, and *Sleeman*, including no expectation of success for such a combination, in Grounds 1 and 1A, and for all of the reasons that I disagree with his analysis concerning reasons for combining *Waldner*, *Dynatek*, and *Auld* in Ground 3, I disagree with his analysis for combining those references in Ground 3A. For the same reasons a POSITA would not have been motivated to combine *Waldner*, *Dynatek*, and *Sleeman*, or *Waldner*, *Dynatek*, and *Auld* with any expectation of success, a POSITA would also not have been motivated to combine *Waldner*, *Dynatek*, *Sleeman*, and *Auld* with an expectation of success to arrive at the inventions of Claims 3, 12, 21, and 25.

B. Dr. Durham has not shown that Claims 3, 12, 21, and 25 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *Auld*

168. In paragraph 367 of his report, Durham incorporates by reference his analysis of Claims 3, 12, 21, and 25 in Ground 3. But his analysis of those claims in Ground 3 does not address *Sleeman*, and he offers no analysis of *Sleeman* in Ground 3A either. Durham merely asserts that “[n]othing in *Sleeman* teaches against the

combination discussed in Ground 3” to conclude that “*Waldner* in view of *Dynatek*, *Sleeman*, and *Auld* renders Claims 3, 12, 21 and 25 obvious.” Having provided no analysis of *Sleeman* in Ground 3A, either expressly or by reference to other sections of his report, Durham has not shown how a POSITA would have combined *Sleeman* with *Waldner*, *Dynatek*, and *Auld* to render obvious Claims 3, 12, 21, and 25. Additionally, for all the reasons I provide in my analysis of *Sleeman* in Ground 1A, and my analysis of the prior art combinations in Grounds 1 and 3, the combination of *Waldner*, *Dynatek*, *Sleeman*, and *Auld* does not render obvious Claims 3, 12, 21, and 25.

X. GROUND 4: Dr. Durham has not shown that the apparatus of Claims 13-15 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*

A. No Motivation to Combine / No Reasonable Expectation of Success

169. In paragraph 369, Durham states: “A POSITA would have been motivated to combine the teachings of *Waldner* and *Dynatek* for the same reasons as those discussed above in Ground 1 Section X.A.” For all of the reasons already stated above in response to Durham’s arguments associated with Ground 1, I disagree that a POSITA would have been motivated to combine the teachings of *Waldner* and *Dynatek* to satisfy Claims 1, 16, 18, or 22, with a reasonable expectation of success. For the same reasons, a POSITA would not have been motivated to combine the

teachings of *Waldner* and *Dynatek* to partially satisfy independent Claim 13 with a reasonable expectation of success.

170. In paragraph 369, Durham also states: “A POSITA would have been further motivated to combine the teachings of *McIver* with those of *Waldner* and *Dynatek* for similar reasons.” But the reasons Durham provides for combining *Waldner* and *Dynatek* are inapplicable to *McIver*. For example, Durham asserts that a POSITA would have combined *Waldner* and *Dynatek* because “Both *Waldner* and *Dynatek* are directed to conveying aggregate material...” (paragraph 111), “both *Waldner* and *Dynatek* teach elevated systems for conveying the aggregate material” (paragraph 111), “both *Waldner* and *Dynatek* were relevant to a problem allegedly solved by the ’689 Patent, using conveyor belt systems to transfer and discharge material from an elevated location” (paragraph 112), “A POSITA building the *Waldner* system would have looked to other known conveyor systems, such as *Dynatek*, that achieve similar objectives, *e.g.*, to optimize its design and/or to potentially incorporate commercially-available components to enhance control and/or particle movement rates” (paragraph 115), “A POSITA would have recognized that the combination of [*Dynatek*’s] ‘nearly 330 degrees of rotation’ and vertical discharge from ‘3 to 60 feet’ means of discharge to various positions in 3D space, similar to *Waldner*” (paragraph 116), “a POSITA would have been motivated to substitute the EconoLoader of *Dynatek* for the discharge chute of *Walder*, *e.g.*, to

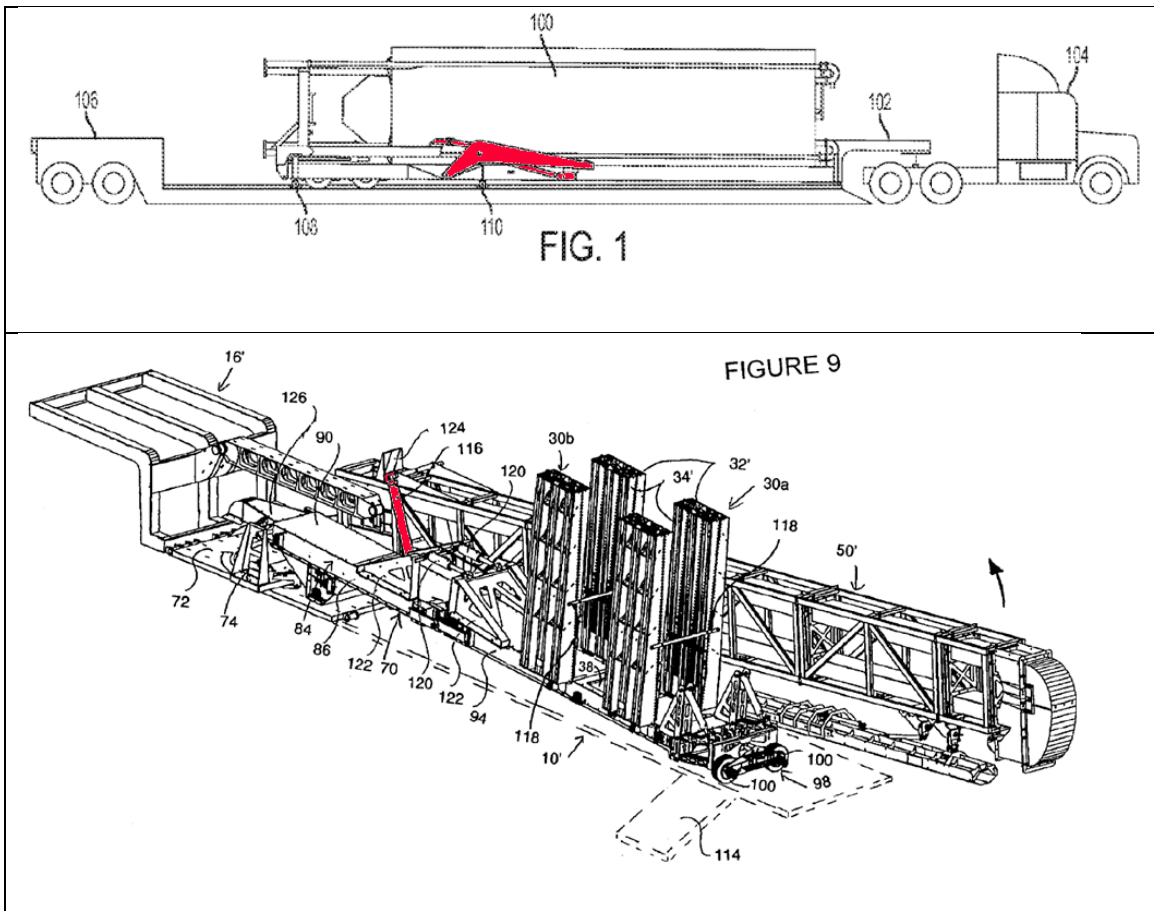
maximize the rotation and reach of the system, optimize dust control, enhance mechanical control, and/or increase discharge rates” (paragraph 118), “to increase the range of motion of the discharge point, and using controllable conveyor belts of *Dynatek* instead of the discharge chute of *Waldner* to improve control of delivery and discharge of the particulate matter” (paragraph 118), and “the additional control of the speed of the conveyor [in *Dynatek*] allows for better control and discharge rates” (paragraph 118). None of these reasons are applicable to *McIver* because each of these reasons pertains specifically to conveyor systems and *McIver* does not teach a conveyor system—*McIver* teaches a transportable silo storage system. Thus, Durham is incorrect in stating in paragraph 369 of his declaration that a POSITA would have been “motivated to combine the teachings of *McIver* with those of *Waldner* and *Dynatek* for similar reasons.”

171. In paragraph 370, Durham states: “Like the ’689 Patent, *Waldner*, and *Dynatek*, *McIver* is directed to transportable silo systems that receive and store material, such as sand or proppants, used in hydraulic fracturing.” But the ’689 Patent, *Waldner*, and *Dynatek* are not directed to transportable silo systems. *Waldner* discloses that its portable conveyor system is for use in filling storage bins or tanks, but it does not disclose that the storage bins or tanks are transportable. (*Waldner*, 1:16, 1:20, 1:28, 15:13, 16:10-11, 16:48-49, 26:63.) *Dynatek* discloses loading a “transport vehicle” such as a “truck, railcar or barge” but does not disclose filling

silos. (Ex. 1005, pp. 2, 3.) And the '689 Patent certainly discloses filling silos, but Durham does not point to a disclosure in the '689 Patent about transportable silos.

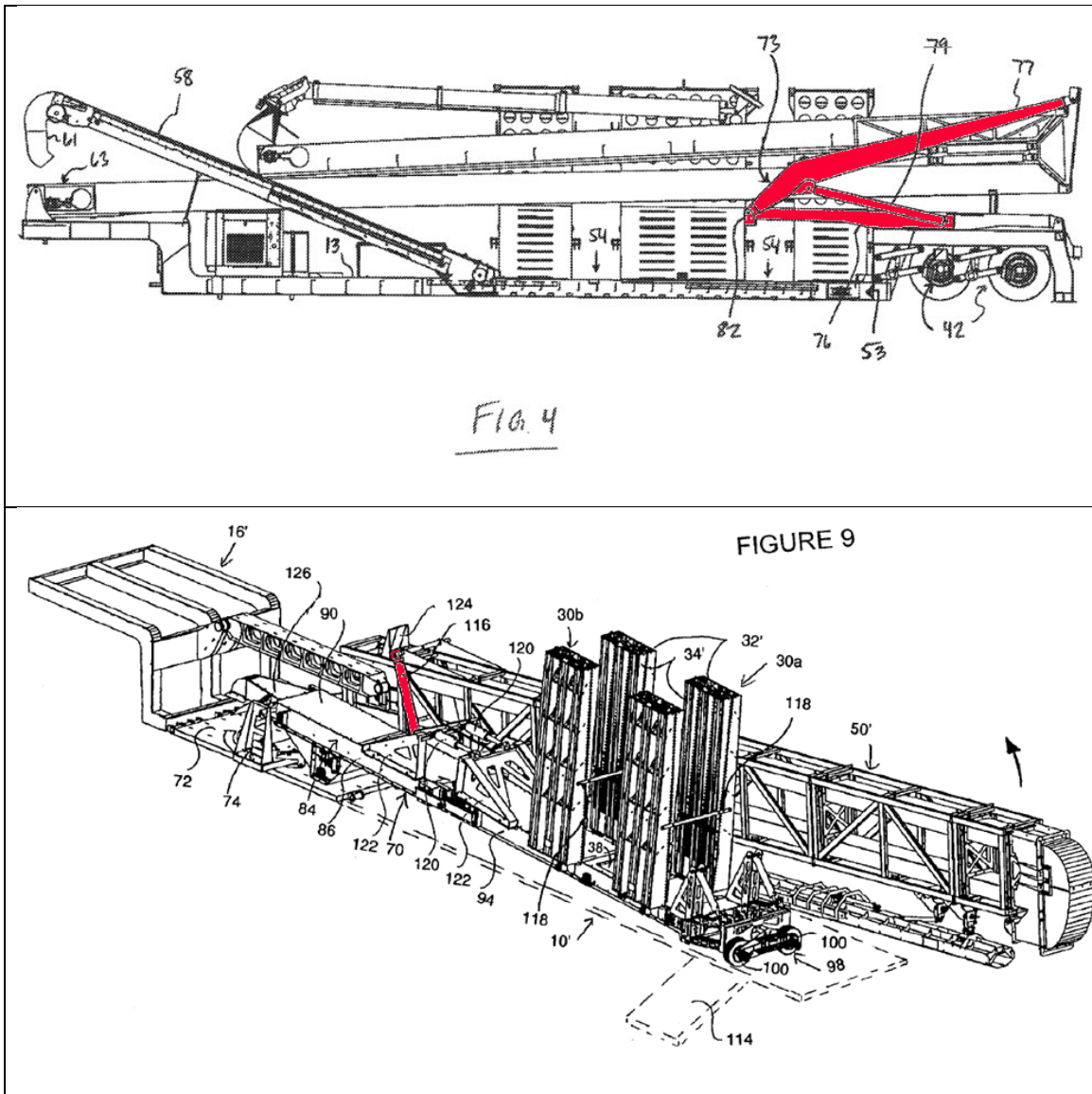
172. In paragraph 373, Durham states: “A POSITA would have recognized that the rocker arm mechanism of *McIver* would increase the range of motion of the system without extending the length of the cylinder 202, and would increase compactness when in the folded / lowered configuration, and would have been motivated to include the rocker arm mechanism in the system of *Waldner* / *Dynatek* to take advantages of these benefits.” Durham then states that this modification would be “using a known technique of a physical linkage being actuated by an actuator from *McIver* instead of solely a hydraulic cylinder in *Waldner* to increase compactness of folding/lowered configuration.” But Durham has not shown that using the rocker arm mechanism of *McIver* would increase compactness in the folded / lowered configuration if substituted for the cylinders 116 in *Waldner*. Figure 1 of *McIver* (reproduced below) shows the rocker arm mechanism of *McIver* in the folded / lowered configuration, and Figure 9 of *Waldner* (reproduced below) shows cylinders 116 in the folded / lowered configuration. It is not apparent that the rocker arm mechanism shown in Figure 1 of *McIver* is more compact than cylinders 116 shown in Figure 9 of *Waldner*. Furthermore, Durham has not established why a POSITA would have recognized compactness as a need for *Waldner*. Therefore, Durham has not established that a POSITA would have had a motivation to make

such a modification to *Waldner*. And even if a POSITA would have had a motivation to make such a modification, that motivation would have been outweighed by the apparent disadvantages of using the more complex lifting mechanism of *McIver* (e.g., more parts, more fail points, increased maintenance, etc.).



173. In paragraphs 375-377, Durham argues that *Friesen* (Exhibit 1010) somehow provides a motivation to use *McIver*'s lifting arm structure in *Waldner* in place of *Waldner*'s hydraulic cylinders 116. I disagree that *Friesen* provides a motivation to use *McIver*'s lifting arm structure in *Waldner*. That is not logical.

Friesen discloses a different lifting structure than *McIver*. In paragraph 377, Durham states: “A POSITA would have recognized that *Friesen*’s scissor-style linkage 73 is more compact and has a longer range of motion than *Waldner*’s cylinders 116, and so similar structures could have been used in place of *Waldner*’s cylinders.” But Durham has not shown that *Friesen*’s scissor-style linkage 73 is more compact than the cylinders 116 in *Waldner*. Figure 4 of *Friesen* (reproduced below) shows the scissor-style linkage 73 of *Friesen* in the folded / lowered configuration, and Figure 9 of *Waldner* (reproduced below) shows cylinders 116 in the folded / lowered configuration. It is not apparent that the scissor-style linkage 73 shown in Figure 4 of *Friesen* is more compact than cylinders 116 shown in Figure 9 of *Waldner*. Again, Durham has not established why a POSITA would have recognized compactness as a need for *Waldner*. Therefore, Durham has not established that a POSITA would have had a motivation to make such a modification to *Waldner*. And, again, even if a POSITA would have had a motivation to make such a modification, that motivation would have been outweighed by the apparent disadvantages of using the more complex lifting mechanism of *McIver* or *Friesen* (e.g., more parts, more fail points, increased maintenance, etc.).



B. Dr. Durham has not shown that the apparatus of Claim 13 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*

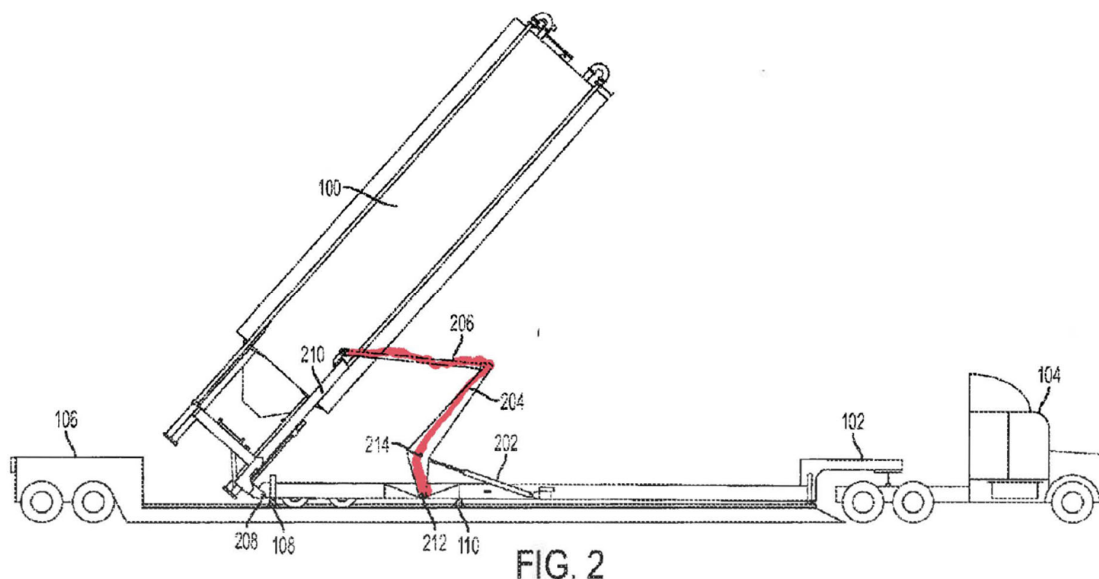
1. Limitations 13[p] and 13[a] through 13[j]

174. In paragraphs 378-388, for his attack on Claim 13 under Ground 4, Durham addresses limitations 13[p] and 13[a] through 13[j] of Claim 13 by

incorporating by reference his analysis for Claim 1 under Ground 1. For all of the reasons that I disagree with Durham's analysis of Claim 1 under Ground 1, I disagree with his analysis for those limitations of Claim 13 under Ground 4.

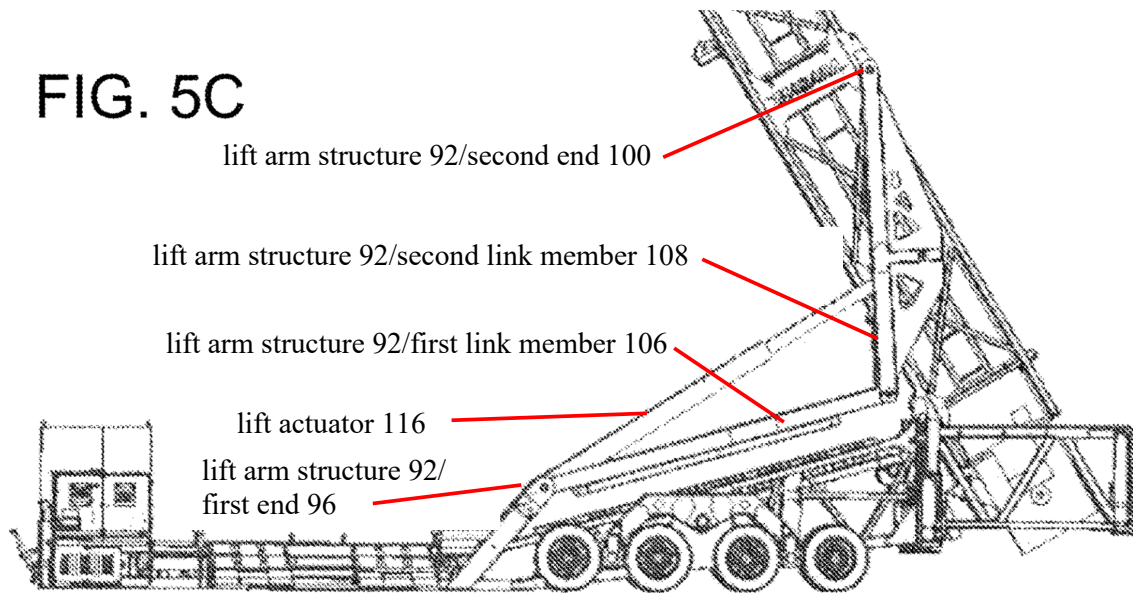
2. Limitation 13[l]: “at least one lift arm structure mounted on the base frame and the deployable frame and forming a linkage between the base frame and the deployable frame, the at least one lift arm structure being articulated between opposite first and second ends of the arm structure; and”

175. In paragraph 394, Durham states: “*McIver* further discloses the actuator 202 being connected to and applying a force between the ends of the rocker arm 204 and that the rocker arm is articulated between opposite first and second ends of the arm structure.” It is unclear what Durham's declaration is referring to with the term “the arm structure” at the end of this sentence. At his deposition, Durham clarified that the term “arm structure” refers to the structure highlighted in red in Figure 2 of *McIver* reproduced below:



(Durham Depo., 138:17-139:24; Ex. 2001.) In other words, Durham clarified that the “arm structure” refers to rocker arm 204 (including pivot point 214) and arm 206. (Durham Depo., 139:16-24.) As such, Durham is incorrect to conclude that “rocker arm is articulated between opposite first and second ends of the arm structure.” As already noted, Claim 13 requires “the at least one lift arm structure being articulated between opposite first and second ends of the arm structure.” A POSITA would understand that in that context, “articulated” means being comprised of two connected parts that move relative to one another. As shown in Figures 7A and 7B of the ’689 Patent, for example, lift arm structure 92 is “articulated” between its first end 96 and its second end 100 because lift arm structure 92 is comprised of first link member 106 and second link member 108 that pivot with respect to each other. (See

'689 Patent, 8:57-64.) The annotated version of Figure 5C below labels some of these structures in a side view:



In contrast, in *McIver*, rocker arm 204 is not “articulated” between the first and second opposite ends of the “arm structure” that Durham has identified because rocker arm 204 is one integral structure, not two connected structures that move relative to one another.

176. Thus, Durham has not shown that *McIver* satisfies the requirement of limitation 13[1] that “the at least one lift arm structure being articulated between opposite first and second ends of the arm structure.”

C. Dr. Durham has not shown that the apparatus of Claim 14 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*

177. Claim 14 depends from Claim 13 and incorporates all of the requirements of Claim 13. Therefore, Durham has not shown that Claim 14 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver* for all of the reasons that Durham has not shown that Claim 13 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*.

D. Dr. Durham has not shown that the apparatus of Claim 15 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*

178. Claim 15 depends from Claim 13 and incorporates all of the requirements of Claim 13. Durham has not shown that Claim 15 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver* for all of the reasons that Durham has not shown that Claim 13 would have been rendered obvious by *Waldner* in view of *Dynatek* and *McIver*.

XI. GROUND 4A: Dr. Durham has not shown that the apparatus of Claims 13-15 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *McIver*

A. No Motivation to Combine / No Reasonable Expectation of Success

179. In paragraph 403, for his attack on Claims 13-15 under Ground 4A, Durham incorporates by reference his arguments that POSITA would have been motivated to combine *Waldner*, *Dynatek*, and *Sleeman* by incorporating by reference his analysis for combining those references in Grounds 1 and 1A. Durham also

incorporates by reference his arguments that a POSITA would have been motivated to combine *Waldner*, *Dynatek*, and *McIver* by incorporating by reference his analysis for combining those references in Ground 4. For all of the reasons that I disagree with Durham's analysis concerning reasons for combining *Waldner*, *Dynatek*, and *Sleeman*, including no expectation of success for such a combination, in Grounds 1 and 1A, and for all of the reasons that I disagree with his analysis concerning reasons for combining *Waldner*, *Dynatek*, and *McIver* in Ground 4, I disagree with his analysis for combining those references in Ground 4A. For the same reasons a POSITA would not have been motivated to combine *Waldner*, *Dynatek*, and *Sleeman*, or *Waldner*, *Dynatek*, and *McIver* with any expectation of success, a POSITA would also not have been motivated to combine *Waldner*, *Dynatek*, *Sleeman*, and *McIver* with an expectation of success to arrive at the inventions of Claims 13-15.

B. Dr. Durham has not shown that Claims 13-15 would have been rendered obvious by *Waldner* in view of *Dynatek*, *Sleeman*, and *McIver*

180. In paragraph 404 of his report, Durham incorporates by reference his analysis of Claims 13-15 in Ground 4. But his analysis of those claims in Ground 4 does not address *Sleeman*, and he offers no analysis of *Sleeman* in Ground 4A either. Durham merely asserts that “[n]othing in *Sleeman* teaches against the combination discussed in Ground 4” to conclude that “*Waldner* in view of *Dynatek*, *Sleeman*, and

McIver renders Claims 13-15 obvious.” Having provided no analysis of *Sleeman* in Ground 4A, either expressly or by reference to other sections of his report, Durham has not shown how a POSITA would have combined *Sleeman* with *Waldner*, *Dynatek*, and *McIver* to render obvious Claims 13-15. Additionally, for all the reasons I provide in my analysis of *Sleeman* in Ground 1A, and my analysis of the prior art combinations in Grounds 1 and 3, the combination of *Waldner*, *Dynatek*, *Sleeman*, and *McIver* does not render obvious Claims 13-15.

XII. CONCLUSION

181. I hereby declare under penalty of perjury of the laws of the United States of America that the foregoing statements are true to the best of my knowledge; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the results of these proceedings.

Dated: April 28, 2025



Signature of Declarant
Travis A. Anderson

APPENDIX 1

Travis Adair Anderson, BSME

Overview
Work History
Skills/Experience
Patents/Publications/Leadership Roles
Expert Testimony
Education/Certifications

Overview

Expert witness with over 40 years of hands-on experience in engineering to help courts make informed decisions on specialized and/or technically complex legal cases. Engineering experience includes mechanical systems, hydraulic systems, aggregate material storage and conveyance equipment, oil & gas fracturing equipment, and vegetation control equipment.

Work History

2024–current Expert Witness (Seguin)

Self-employed contract position providing technical knowledge and unbiased opinions, reports, and deposition/court testimony on specialized and/or technically complex legal cases.

2017–2023 Engineering Group Leader; NOV-Rolligon (College Station)

Managed and supervised a team of engineers in the development and improvement of Proppant Equipment used in the Hydraulic Fracturing of Oil & Gas Wells. Major project example was the [Sandbank Proppant Silo System](#). Development of the Sandbank System required close and direct interaction with sales, customers, suppliers, manufacturing, and upper management. Currently have two Sandbank Systems deployed in Argentina, where I led my team in the training and commissioning with the customer of the equipment in January 2021. Led my team in two field trials with the System in West Texas in October 2021 and January 2022.

2008–2017 Director of Engineering; NOV-Appco (San Antonio)

Directed the engineering activities of a team of engineers and designers in the development and improvement of Proppant Equipment used in the Hydraulic Fracturing of Oil Wells. Equipment consisted of a variety of conveyors, bucket elevators, silos, chutes, dust collectors containing multiple components including hydraulic, electrical, and mechanical components.

1989–2008 Engineering Manager/Product Engineer; Alamo Group, Inc. (Seguin)

In the role of Engineering Manager, managed an engineering team in developing new products and improvements/enhancements to existing products. Projects were generated from requests by sales, marketing, manufacturing and production, and required close interaction with these groups, as well as directly with customers. Acted as the technical consultant for hydraulic related issues arising from the various engineering teams and the Customer Service team. Developed engineering standards

and procedures, such as a process to analyze special order requests from customers for technical feasibility and ROI. Developed and implemented a workflow system that decreased project implementation time from an average of six weeks down to an average of one week.

In the role of Product Engineer, designed and developed new products and product enhancements from concept to customer. Supervised prototype personnel in creating prototypes of new products and product enhancements. Oversaw drafters and designers in detailing and documenting new product projects.

Throughout entire career at Alamo Group, held a variety of engineering positions including design engineer, engineering liaison, product compatibility engineer, product compatibility engineering supervisor, and new product development engineering supervisor.

Skills/Experience

Extensive experience in multiple software packages including SolidWorks, SolidWorks FEA, AutoCAD, various ERP Systems, Excel, Word, PowerPoint, Outlook, Teams, Planner, Adobe Acrobat, etc.

Have developed training curriculum and taught intracompany classes on multiple topics including hydraulics, blueprint reading, and CAD/SolidWorks. Have developed training curriculums and taught customer classes on product/equipment operation, maintenance, and troubleshooting. Have developed training curriculums and taught classes for outside organizations, including being the Geometric Dimensioning and Tolerancing instructor for the “Tri-County Machinist Apprenticeship Program”

Vast hydraulic knowledge and experience with components, equipment, circuit design, and troubleshooting. Extensive experience in hydraulic safety and have developed safety procedures, policies and safety signage/decals for multiple products and equipment.

Patents/Publications/Leadership Roles

US Patent US6311746 “Circular Saw Head”

US Patent US12077372 “Proppant Supply System”

Published Patent Application US20240271515A1 “Direct Feed Proppant System”

WIPO Publication Number WO/2001/098096 (WO2001098096A1) “Suspension Lock-out System and Methodology”

SPE-163528-MS “Dust Collection System for Personnel Health During Fracturing Operations”
(Paper presented at the SPE/IADC Drilling Conference in Amsterdam, March 2013)

SPE-166451-MS “Field Deployment of Fracturing Site Sand Fill Dust Mitigation System”
(Paper presented at the SPE Annual Technical Conference and Exhibition, September 2013)

Chairperson for the Engineering Controls Committee of the National STEPS Network Respirable Silica Focus Group from ~2011-2014 and assisted in writing the OSHA-NIOSH Hazard Alert DTSEM 6/2012

Expert Testimony

**2009 07-1589 US DISTRICT COURT FOR THE N.D. OF OHIO EASTERN DIVISION -
Cartner et al v. Alamo Group, Inc.; Alamo Group, Inc. (Seguin, TX)**

Patent infringement case (07-1589 - Cartner et al v. Alamo Group, Inc.) involved two types of hydraulic braking systems that the company I worked for, Alamo Group, used on various mower heads to quickly slow and stop the mower blades when they were turned off rather than allowing them to “free-wheel” to a stop. Jack Cartner, owner of MoTrim, had a patent on a similar hydraulic system.

Education/Certifications

May 1989 Bachelor of Science Mechanical Engineering — Texas A&M University

**Lean Manufacturing Certification — Alabama Technology Network-University of Alabama
& Auburn University**

**NOV Manufacturing Leadership Program — Jesse H. Jones Graduate School of Business,
Rice University**

APPENDIX 2

EXHIBITS REFERENCED	
Exhibit Number	Description
1001	U.S. Patent No. 11,780,689 (“the ’689 Patent”)
1003	Declaration of Dr. Robert Durham (“Durham Decl.”)
1004	U.S. Patent No. 9,663,303 (“ <i>Waldner</i> ”)
1005	Dynatek EconoLoader™ – Belt Conveyor Design (“ <i>Dynatek</i> ”)
1006	U.S. Patent No. 11,691,831 (“ <i>Sleeman</i> ”)
1008	U.S. Patent No. 10,633,174 (“ <i>Pham</i> ”)
1009	U.S. Patent No. 3,090,501 (“ <i>Auld</i> ”)
1010	U.S. Patent No. 10,577,198 (“ <i>Friesen</i> ”)
1011	U.S. Patent No. 8,926,252 (“ <i>McIver</i> ”)
1021	OSHA NIOSH Hazard Alert—Worker Exposure to Silica During Hydraulic Fracturing
1028	U.S. Patent Application Publication 2021/0354910 (“ <i>Grimes</i> ”)
2001	U.S. Patent No. 8,926,252 to McIver et al. As Annotated During March 26, 2025 Deposition of Dr. Robert Durham
2002	Figures 6 and 7 of U.S. Patent No. 9,663,303 to Waldner et al. As Annotated During March 26, 2025 Deposition of Dr. Robert Durham
2003	Transcript of March 26, 2025 Deposition of Dr. Robert Durham (“Durham Depo.”)
2032	CTRM Center, “No, its not ‘Fracking’” at https://www.ctrmcenter.com/blog/fracking/
2033	Drillers.com, “Fracking Vs Fracing – The End of the Debate?” at https://drillers.com/fracking-vs-fracing-end-debate
2034	Association of Equipment Manufacturers, “Construction Aggregates 101: What They Are (And Why They Matter)” at https://web.archive.org/web/20210713195729/https://www.aem.org/news/construction-aggregates-101-what-they-are-and-why-they-matter
2035	American Concrete Institute, “What is aggregate?” at https://www.concrete.org/frequentlyaskedquestions.aspx?faqid=704
2036	Dexter Axle Company, Operation Maintenance Service Manual: Heavy Duty Suspension System at https://www.dextergroup.com/user_area/content_media/raw/heavy-duty-suspension-system-lit-012-00.pdf