

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FERNO-WASHINGTON, INC. and FERNO GROUP, INC.,

Petitioners,

v.

STRYKER CORPORATION,

Patent Owner

U.S. Patent No. RE 44,884

Issued: May 13, 2014

Title: AMBULANCE COT WITH PINCH SAFETY

Inter Partes Review No. IPR2024-00042

DECLARATION OF GLEN STEVICK, PH.D, P.E.

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I. INTRODUCTION

1. I have been retained by Vorys, Sater, Seymour and Pease LLP on behalf of Ferno-Washington, Inc. and Ferno Group, Inc. (collectively, “Ferno”) to provide my opinion concerning the validity of claims 3 and 4 of U.S. Patent No. RE44,884 (Ex. 1001, the “’884 Patent”) in support of Ferno’s Petition for *Inter Partes* Review (“IPR”) of the ’884 Patent. Attached hereto as Exhibit 1003 is a true and correct copy of my Curriculum Vitae summarizing my background and experience, as well as a listing of my experience as an expert witness. I have personal knowledge of the facts and opinions set forth in this declaration and believe them to be true. If called upon to do so, I would testify thereto. I have been warned that willful false statement and the like are punishable by fine or imprisonment or both.

II. BACKGROUND AND QUALIFICATIONS

2. I am a Registered Professional Engineer by training and education. I received a Bachelor of Science degree in Mechanical Engineering from Michigan Technological University in 1980, a Master’s degree in Mechanical Engineering from the University of California in 1981, and a Ph.D. degree in Mechanical Engineering from the University of California, Berkeley in 1993, majoring in Material Behavior and Design, with minors in Structural Analysis and Dynamics and Controls.

3. I am a registered Professional Engineer in the states of California, Florida, Mississippi, and Texas and a member of the American Society of Mechanical Engineers and the American Society of Civil Engineers.

4. I have over 40 years of experience as an engineering consultant in the areas of failure analysis and design of mechanical and mechanical-electrical systems and structures. I am founder of and Principal Consultant at Berkeley Engineering And Research, Inc. ("BEAR"). Projects relevant to the subject patent have involved the design of moving support beds for burn victims, numerous patent cases involving beds (articulating beds with controllers, storage of parts and assembly, airbeds, and folding beds), a patent case involving folding carts, the failure analysis of hospital beds and chairs, the design and failure analysis of connectors (hitches, 5th wheels, bolted connections, plastic snap connections), and the teaching of bolted and other connections at UC Berkeley in their senior Mechanical Engineering Design Courses.

5. From August 1990 to January 1991, I was an instructor for the U.C. Berkeley Mechanical Engineering Department's senior design course for which I conducted lectures on the design of bolted joints, springs, gears, bearings, chain drives, wire ropes, linkages and other mechanical components. For this course, I also guided students through a major design project, designing a powered wheelchair that would lift persons to and from a standing position.

6. From March 1982 to January 1989, I worked for Chevron, where I was a Project Engineer from 1981 to 1982 and an Engineering Mechanics Specialist from 1982 to 1989. My responsibilities included, among other things, the design and/or redesign of bolted and other connections in compressors, turbines, and automated heading and de-heading valves.

7. I have authored many articles, presentations, and other publications over the course of my career in the mechanical engineering field, ranging from the design of dampers for the Golden Gate Bridge, to the design of heavy lift cranes, to the prevention of blowouts in deep-water drilling such as the Deepwater Horizon blowout on the Gulf of Mexico.

8. I am listed as an inventor on five patents: U.S. Patent No. 6,119,461, entitled "Thermal-Electric Container," U.S. Patent Nos. 7,620,209 and 7,961,912, entitled "Method and Apparatus for Dynamic Space-Time Imaging System," U.S. Patent No. 8,395,376, entitled "Method and Apparatus for Magnetic Response Imaging System," and U.S. Patent No. 9,279,738, entitled "Method and Apparatus for Detecting and Monitoring Oil Spills and Leaks."

9. Additional details of my background and testimonial experience are set forth in Exhibit 1003, which provides a more complete description of my background and work experience, and lists the presentations, articles and other publications I have authored or to which I have contributed.

10. BEAR is being compensated at the rate of \$550 per hour for my preparatory work, travel time, and time spent in depositions.

III. RELEVANT LEGAL STANDARDS

11. I am not a lawyer and will not provide any legal opinions. Although I am not a lawyer, I have been informed and understand that certain legal standards are to be applied by technical experts in forming opinions regarding the meaning and validity of patent claims.

A. Patentability

12. I am informed that for an invention claimed in a patent to be valid and patentable, it must be, among other things, new and not obvious in light of what was known and came before it. That which was known or came before the invention claimed is generally referred to as “prior art.”

13. I am informed that there are two ways in which prior art may render a patent claim unpatentable. First, the prior art can be shown to “anticipate” the claim. Second, the prior art can show that the claim was obvious to a person of ordinary skill in the art of the invention (“POSITA”) at the time the invention was made.

14. **Anticipation:** I am informed that a claim is anticipated if all of the elements, features or “limitations” of the claim are found expressly or inherently in a single prior art document or device. In general, prior art documents consist of publications and patents dated before the invention or more than one year before the

filing of the patent application, as well as prior art devices that were on sale or in public use in this country before the invention or more than one year before the filing of the patent application.

15. **Obviousness**: I am informed that whether a claimed invention is obvious is a question of law, with underlying factual inquiries that are determined from the perspective of a person of ordinary skill in the art (“POSITA”) at the time of the claimed invention.

16. I am informed that a claimed invention is obvious if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a POSITA.

17. I am informed that obviousness involves consideration of the following underlying factual inquiries:

- determining the scope and content of the prior art;
- ascertaining the differences between the claimed invention and the prior art;
- resolving the level of ordinary skill in the art; and
- evaluating objective evidence or “secondary considerations” of non-obviousness, if present, such as commercial success, long-

felt but unresolved needs, failure of others, industry praise, and unexpected results.

18. I am informed that a reference must be analogous art to the claimed invention in order to be properly considered for use in an obviousness inquiry. I am informed that a reference is analogous art to the claimed invention if:

- the reference is from the same field of endeavor as the claimed invention (even if it addresses a different problem); or
- the reference is reasonably pertinent to the problem faced by the inventor (even if it is not in the same field of endeavor as the claimed invention).

19. I am informed that whether a reference is reasonably pertinent turns on how the problem faced by the inventor is reflected, either explicitly or implicitly, in the specification.

20. I am informed that the following are exemplary rationales that may support a conclusion of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;

- Use of known techniques to improve a similar method or product in the same way;
- Applying a known technique to a known method or product ready for improvement to yield predictable results;
- Obvious to try – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

21. In addition to the above, I am informed that a POSITA may resort to logic, judgment and common sense available to him or her at the time of the invention to find a claim feature obvious, even if the prior art relied on does not explicitly state or teach that feature. I am informed that when common sense is relied on to find a feature obvious, the reasoning for that conclusion must be articulated with sufficient clarity.

22. Regarding “objective evidence” or “secondary considerations,” if present, I am informed that for such evidence to be relevant to the obviousness of a claim, there must be a causal relationship (called a “nexus”) between the claim and the evidence. I am also informed that such objective evidence may include: commercial success of products covered by the patent claims; long-felt need for the invention; failed attempts by others to solve the problem addressed by the invention; copying of the invention by others in the field; unexpected results achieved by the invention; praise of the invention; the taking of licenses under the patent by others; expressions of surprise by experts and those skilled in the art at the making or use of the invention; and that the patentee proceeded contrary to the accepted wisdom of the prior art.

23. I am informed that a POSITA is also a person of ordinary creativity. I am further informed that the obviousness analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, but, instead, can take into account “ordinary innovation” that does no more than yield predictable results, which are inferences and creative steps that a POSITA would be understood to employ.

24. I am informed that sometimes it will be necessary to look to interrelated teachings of multiple patents and publications; the effects of demands known to the relevant field or present in the marketplace; and the background knowledge

possessed by a person having ordinary skill in the art. I am informed that all these issues may be considered to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

25. I understand that in an *inter partes* review, “the petitioner shall have the burden of proving a proposition of unpatentability,” including a proposition of obviousness, “by a preponderance of the evidence.” 35 U.S.C. § 316(e).

B. Prior Art

26. Among other things, I am informed that prior art could include printed publications in or outside of the United States by the applicant before the claimed invention was discovered, patents or printed publications more than one year before the date of the application, and patent applications filed, or patents granted on an application filed in the United States before the invention was discovered.

27. I am further informed that information that constitutes prior art generally must be information that was publicly disclosed before the date of the claimed invention. I am informed that, for the purposes of determining the date of the claimed invention in a patentability analysis, the “effective filing date” of the subject matter of the claims must be considered.

28. I understand that the ’884 Patent claims priority to provisional application no. 60/613,151, filed on September 24, 2004. Thus, I have been instructed to assume for purposes of my analysis that the effective filing date is

September 24, 2004. In other words, I should consider as “prior art” any patents or publications publicly available prior to that date, or a patent application filed in the United States before the invention was discovered. I also understand that because the claimed priority date of the ’884 Patent is prior to the effective date of the American Invent’s Act (“AIA”), the prior art status of references is to be evaluated under the “pre-AIA” standard.

C. Person of Ordinary Skill In The Art

29. The ’884 Patent defines its field of invention as follows:

This invention relates to an ambulance cot and accessories. This invention also relates to an ambulance cot having a wheel supported base and a litter raisable and lowerable by a powered elevating mechanism oriented between the base and the litter.

(Ex. 1001 at col. 1, ll. 25-29.)

30. In particular, the claims of the ’884 Patent are directed to an ambulance cot with a cot frame, a base frame, and an X-frame support mechanism connected to the base and cot frames that supports the litter frame in a plurality of positions, with the frame members having mounts that engage the base or litter frames when the base and litter frames are proximate to each other.

31. I am familiar with the knowledge and capabilities of one of ordinary skill in the art of ambulance cots and accessories. A POSITA in September 2004 would have had a working knowledge of the general area of mechanisms that are used in collapsible wheeled structures, such as vehicle and transmission jacks,

wheelchairs, baby carriages and/or shopping carts; as well as stationary collapsible devices such as scissor lifts, tables and ironing boards. A POSITA would have had a bachelor's degree in mechanical engineering, or an equivalent, and two years of industry experience. Lack of work experience can be remedied by additional education, and vice versa.

32. I have been informed and understand that a POSITA is a hypothetical person who is presumed to be aware of all pertinent prior art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

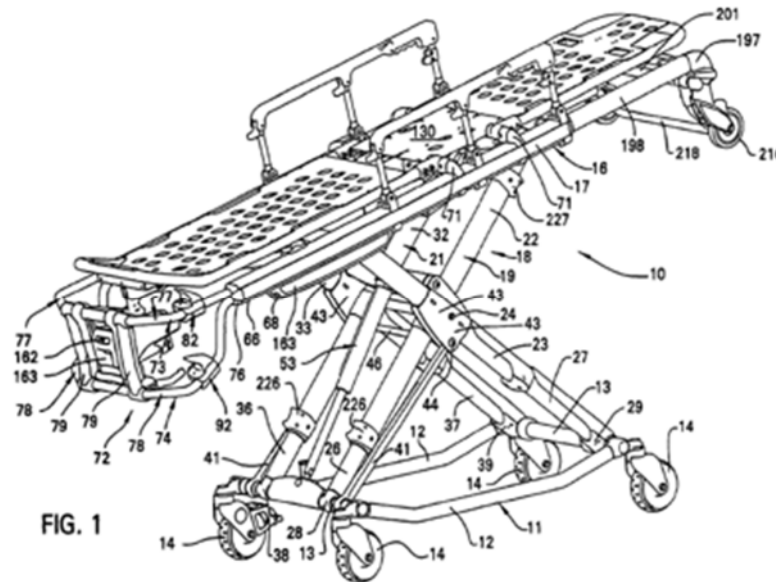
33. In forming my opinions in this matter, I have relied on the '884 Patent claims, disclosure and prosecution history, and the exhibits to the Petition, including the prior art relied on in my opinion. I have also relied on my knowledge and experience in designing mechanical apparatuses as discussed above and as further set forth in my Curriculum Vitae, Exhibit 1003.

IV. BRIEF OVERVIEW OF THE '884 PATENT

A. Scope and Content of the '884 Patent

34. The '884 Patent relates to "to an ambulance cot and accessories." (Ex. 1001 at col. 1, 1:25.) The cot **10** includes a base frame **11** comprising longitudinally extending side rails **12** and crosswise extending rails **13** forming a rectangle. (*Id.* at col. 4, ll. 23-26.) The cot further includes a litter **16** comprising a litter frame **17**. The litter frame **17** is connected to the base frame **11** by an elevating mechanism **18**

which is comprised of side-by-side oriented “X” frames **19** and **21**. (*Id.* at col. 4, ll. 29-34.) See FIG. 1:



34. As the cot is lowered into the position shown in Figure 3, “mounts **226** (FIG. 1) will operatively engage a cross rail provided on the underside of the litter **16** and additional mounts **227** will rest on the cross rail **13** on the base.” (Ex. 1001 at col. 19, ll. 49-52.)

35. The '884 Patent also discloses numerous other features and accessories, including a hydraulic circuit for controlling the extension and collapsing of the cot (Ex. 1001 at col. 8, l. 45 – col. 11, l.33); a wireless diagnostic tool (*id.* at col. 11, l.33 – col. 12, l.35); and a retractable head section and latch (*id.* at col. 15, l.48 – col. 18, l.22). None of these features, however, are claimed in the '884 Patent; instead, all

claims of the '884 Patent are directed merely to the interaction of the X frame members, the mounts and cross rails on the litter and the base of the cot.

36. The challenged claims of the '884 Patent, claims 3 and 4, read as follows:

3. An ambulance cot, comprising:

a base frame;

a litter frame; and

an X-frame support mechanism interconnecting said base frame and said litter frame and being configured to support said litter frame in one of a plurality of positions relative to said base frame, said support mechanism including at least one pair of frame members pivotally secured to each other proximate the mid-length thereof, said at least one pair of frame members each having opposite ends respectively secured to one of said base frame and said litter frame, at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said [base] *litter* frame, said first mount being configured to [respectively] engage said base frame in response to said litter frame becoming proximate said base frame; and

wherein said base frame has longitudinally extending side rails and at least one crosswise member interconnecting said side rails and being oriented in a path of movement of said first mount as said litter frame becomes proximate said base frame so that said first mount engages and rests upon said at least one crosswise member.

4. The ambulance cot according to claim **3**, wherein said first mount engages and rests upon said at least one crosswise member [and] between the respective said side rails of said base frame.

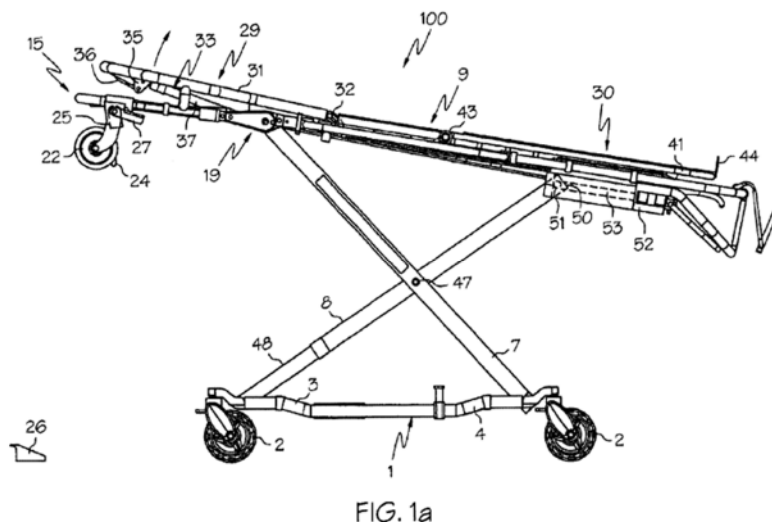
(Ex. 1001 at col. 22, ll. 22-48.)

V. BRIEF OVERVIEW OF THE SCOPE AND CONTENT OF THE PRIOR ART

A. U.S. Patent No. 6,701,545 to Ferneau et al. (“Ferneau A”)

37. Ferneau *et al.* (Ex. 1008) (“Ferneau A” or the “545 Patent”) is titled “Multiple Level Roll-In Cot” and was issued on March 9, 2004 based on application no. 10/227,765 filed August 26, 2002. (*Id.* at p.1.) I understand that Ferneau A constitutes prior art against the ’884 Patent under 35 U.S.C. § 102(a) (pre-AIA).

38. Ferneau A discloses an ambulance cot comprising a generally rectangular cot frame **9** and an undercarriage **1**. Undercarriage **1** includes opposing side frame members **3** and **4**, connected by transverse frame members **5** and **6**. (Ex. 1008 at col. 3, ll. 45-48; FIGS. 1, 2a.) Cross-forming frame members **7**, **8**, **7a** and **8a** connect cot frame **9** and undercarriage **1**, as seen in Figures 1a and 3:



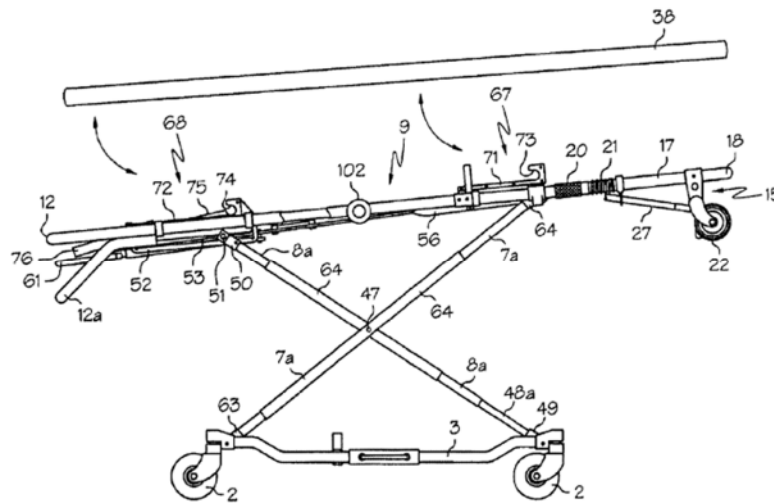
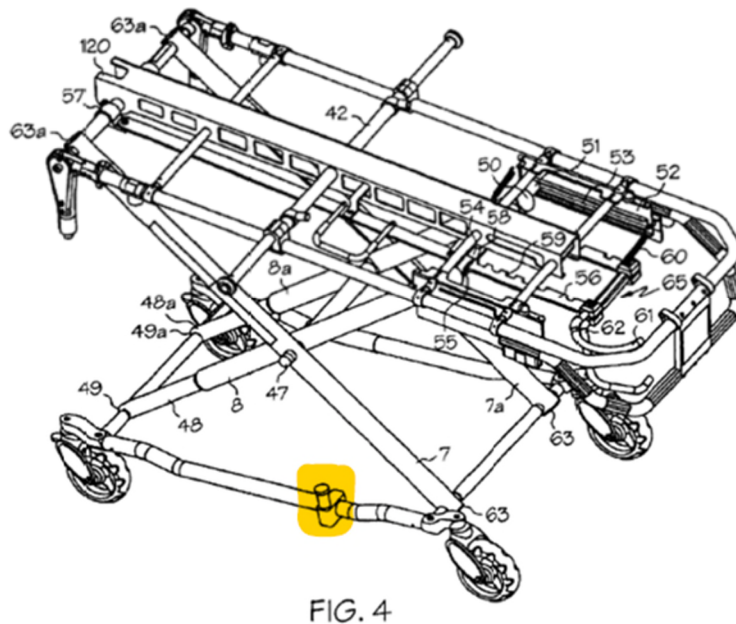


FIG. 3

39. The pairs of cross-forming frame members **7**, **8**, **7a** and **8a** are pivotally connected by a pivot rod **47** where the frame members intersect. Members **8** and **8a** telescopically receive extensions **48** and **48a** at their lower ends, which extensions are pivotally connected to transverse frame member **5**. (Ex 1008 at col. 5, ll. 1-8; FIG. 1a.) Another aspect of Ferneau A, best seen in highlighted Figure 4 below, is that a side frame member of the base frame includes an unnumbered and undiscussed post:



It would be readily apparent to a POSITA that this post is for supporting the cot frame **9** when the cot is collapsed. In fact, such functionality was so well within the knowledge and skill of a POSITA at the time, that it is not surprising to me that the inventors never specifically discussed it.

40. I understand that Ferneau A was not of record before the Patent Office during prosecution of the '884 Patent.

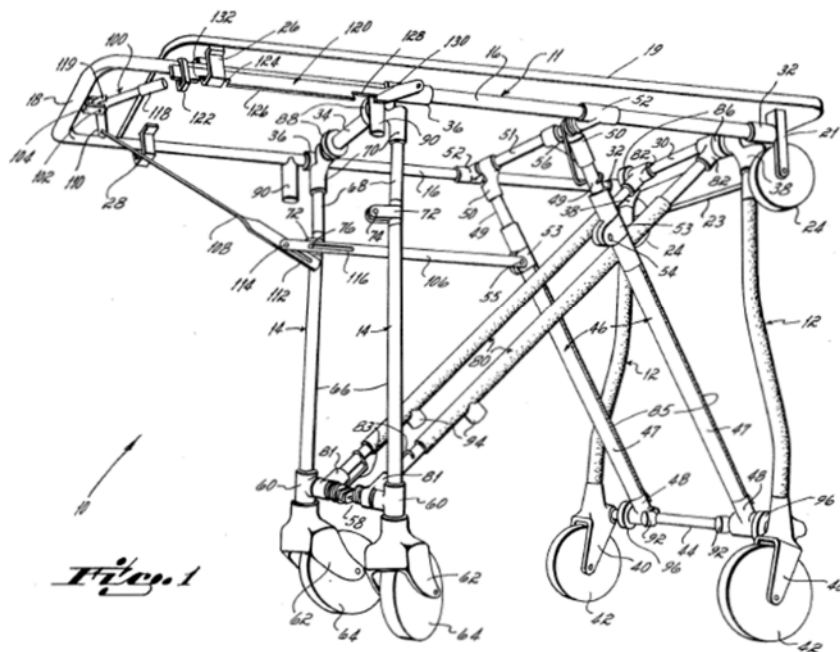
B. U.S. Patent No. 4,192,541 to Ferneau (“Ferneau B”)

41. Ferneau (Ex. 1009) (“Ferneau B” or the “’541 Patent”), titled “Carts Having Extensible Auxiliary Wheels,” was issued on March 11, 1980 based on application no. 875,994 dated February 8, 1978. I understand that Ferneau B constitutes prior art against the '884 Patent under 35 U.S.C. § 102(b) (pre-AIA).

42. Ferneau B discloses a cart **10** that includes a frame **11** having depending forward legs **12** and rearward legs **14**. (Ex. 1009 at col. 2, ll. 65-66.) The forward legs are secured at their upper ends to fittings **38**, which enable the forward legs to swing rearward. The lower ends of the legs **12** have wheel yokes **40** fixed thereto, and lower crossbar **44** is fixed to the wheel yokes **40**. (*Id.* at col. 3, ll. 20-25.) Toggle braces **46** are also attached at their lower sections via T-fittings **48** to the lower crossbar **44**. (*Id.* at 26-27.)

43. Rear legs **14** are interconnected by a crossbar **58** which is secured by T-fitting **60** at the lower end of the legs **14**. (Ex. 1009 at col. 3, ll. 41-43.) Diagonal braces **80** are secured to T-fittings **81** and are rotatably mounted to crossbar **58**. (*Id.* at col. 3, ll. 54-55.)

44. Crossbar **44** also includes a pair of rubber bumpers **92** that are aligned so that when the legs of cart **10** are collapsed, bumpers **92** will engage a similar pair of bumpers **94** mounted on braces **80** when the legs are collapsed. (*Id.* at col. 4, ll. 15-18.) *See* Figure 1:



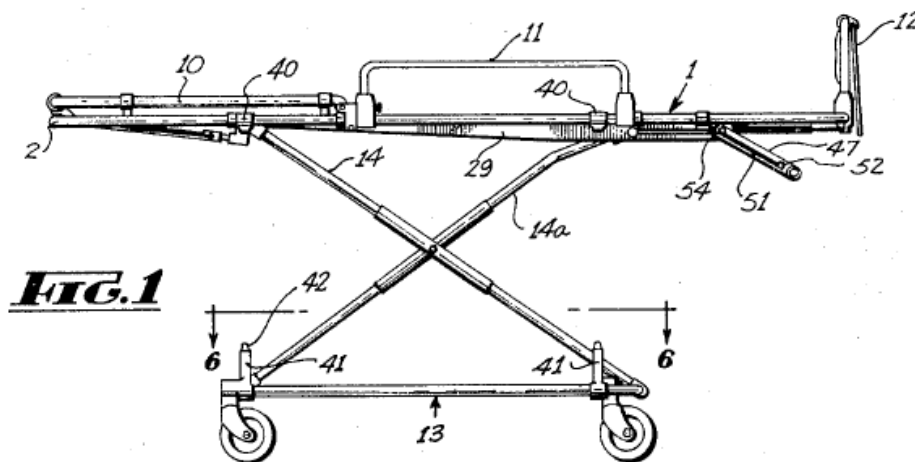
C. U.S. Patent No. 3,644,944 to Bourgraf et al. (“Bourgraf”)

45. Bourgraf (Ex. 1010) is titled “Ambulance Cot Construction,” was issued on February 29, 1972 and filed on May 20, 1970. I understand that Bourgraf constitutes prior art against the ’884 Patent under 35 U.S.C. § 102(a) (pre-AIA).

46. Bourgraf discloses an elevating cot comprising a cot frame **1** and an undercarriage **13**. Undercarriage **13** comprises a generally rectangular frame having side members **16** and **17**, end frame members **18** and **19**, and cross-forming members **14**, **14a**, **15** and **15a**. (Ex. 1010 at col. 3, ll. 18-20; FIG. 6.) The lower ends of cross-forming members **14** and **15** are pivotally connected to a telescoping extension **25**

(*id.* at col. 3, ll. 30-32) so that, as the cot frame **1** is lowered, extension **25** will extend. (See *id.* at FIG. 6.)

47. Undercarriage **13** also comprises corner posts **41** mounted on fittings **20, 21, 22, and 23**. The corner posts **41** support the cot frame **1** via sockets **40** when the cot is lowered. (Ex. 1010 at col. 4, ll. 15-22; FIG. 4.) See Figure 1:



D. Reasons for Combining Prior Art References

48. In my opinion, a person of ordinary skill in the art would have ample reason to combine the above prior art references in the manner described herein. Each of the prior art references is directed to an ambulance cot or similar wheeled accessory. Thus, the references are all in the same field as the claimed invention.

49. As set forth in detail below, the Ferneau A reference includes all of the structural elements of claims 3 and 4 of the '884 Patent with the exception of the first and second mounts situated on the frame members. Ferneau A does include a

post that supports the cot frame when the cot is lowered. Moreover, mounts similar to those in the '884 Patent are disclosed in the Ferneau B and Bourgraf references. A POSITA would recognize that mounts such as this are commonly used in devices having collapsing or folding legs to prevent damage to the legs or members against which the legs fold or collapse, including preventing metal on metal scratching, as well as to guard against pinching an operator's finger during a collapsing operation.

50. Another motivation to provide mounts on a device such as that disclosed in Ferneau A would be to soften the impact when legs or frame members come into contact with each other. This aspect is particularly relevant when dealing with a device such as an ambulance cot which may be transporting an injured or ill patient, where a jarring contact could cause further injury or discomfort.

51. Mounts such as those disclosed in Ferneau B and Bourgraf are shown in structurally analogous applications long predating the priority date of the '884 Patent. For example, U.S. Patent No. 1,138,156 (Ex. 1011) shows a folding tray with leg frames **4** and **5** that are connected to the tray via spring hinges **8**. (Ex. 1011 at p.1, ll. 76-86.) The legs of the leg frames have rubber buffers **9** that engage the underside of the tray when the leg frames are folded. (*Id.* at 88-91.) U.S. Patent No. 3,262,202 (Ex. 1012) shows a set of shears having a pair of bumper means **32** that absorb shock when the shear handles are brought together. (Ex. 1012 at 2:9-14; Fig. 1.) U.S. Patent No. 7,017,986 (Ex. 1013) discloses a folding chair having rear

legs **12** and **22** and front legs **11** and **21**. (Ex. 1013 at col. 1, ll. 35-45.) The rear legs **12** and **22** have ends with ends caps **28** and **29** respectively, so that when the chair is in an open, unfolded position, the front legs **11** and **21** rest on the end caps **28** and **29** (*id.* at 28-41), which buffer the contact between the sets of legs.

52. The use of mounts such as described above is therefore a very common application that would be well within the skill of a POSITA. Adapting the Ferneau A reference to accommodate such mounts would not require any experimentation, and would have an expectation of total success.

VI. CLAIMS 3 AND 4 OF THE '884 REISSUE PATENT ARE INVALID

A. Ground 1: Claims 3 and 4 Are Rendered Obvious Under 35 U.S.C. § 103 (pre-AIA) by Ferneau A in View of Ferneau B

53. In my opinion claims 3 and 4 would have been obvious to a POSITA in view of Ferneau A in view of Ferneau B.

1. Claim 3

a. “An ambulance cot, comprising:”

54. The '545 Patent teaches “a multiple level elevating cot adapted to be rolled into emergency vehicles,” *i.e.*, an ambulance cot. (Ex. 1008 at Abstract, col. 1, l.5, col. 2, ll. 21-23, 30-32, 44-46.)

b. “a base frame;”

55. The '545 Patent teaches that ambulance cot **100** comprises a base frame (undercarriage **1**). (Ex. 1008 at col. 3, ll. 39-61.)

c. “a litter frame; and”

56. The '545 Patent teaches that the ambulance cot has a litter frame (cot frame **9**). (Ex. 1008 at col. 4, ll. 25-30; Figs 1a, 2a, 3.)

d. “an X-frame support mechanism interconnecting said base frame and said litter frame and being configured to support said litter frame in one of a plurality of positions relative to said base frame,”

57. The '545 Patent teaches an X-Frame support mechanism (defined by members **7**, **8**, **7a** and **8a**) interconnecting the base frame (undercarriage **1**) and the litter frame (cot frame **9**). The support mechanism interconnects the base frame and the cot frame and supports the litter frame in one of a plurality of positions: “the cot frame **9** . . . may be selectively secured in a plurality of elevational positions or collapsed against the undercarriage **1**.” (Ex. 1008 at col. 5, ll. 45-48.)

e. “said support mechanism including at least one pair of frame members pivotally secured to each other proximate the mid-length thereof,”

58. The '545 Patent teaches at least one pair of frame members (cross-members **7**, **8**, **7a** and **8a**) pivotally secured to each other by way of pivot rod **47** at approximately the mid-length thereof. (Ex. 1008 at col. 3, ll. 49-60; col. 5, ll. 1-12, 35-67; Fig. 4.)

- f. **“said at least one pair of frame members each having opposite ends respectively secured to one of said base frame and said litter frame,”**

59. The '545 Patent teaches that the at least one pair of frame members (cross-members **7**, **8**, **7a** and **8a**) have opposite ends respectively secured to one of the base frame (undercarriage **1**) and the litter frame (cot frame **9**). (Ex. 1008 at col. 5, ll. 35-44; Fig. 4).

- g. **“at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said [base] litter frame,”**

60. The '545 Patent does not disclose at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said litter frame.

61. However, the '541 Patent discloses a cart **10** having diagonal braces **46**, **80** forming an X-frame support. (Ex. 1009 at col. 2, l.65 – col. 3, l.1, col. 3, ll. 20-35, 54-65; FIG. 1.) A lower crossbar **44** is fixed to wheel yokes **40**. (*Id.* at col. 3, l.24; FIG. 1.) Rubber bumpers (*i.e.*, mounts) **94** are mounted on the diagonal braces **80** and are configured to engage rubber bumpers **92** on the lower crossbar **44** when the legs of the car are collapsed. (*Id.* at col. 4, ll. 15-18; FIG. 1.)

62. Although the mounts in the '541 Patent are not situated between the mid-length of the X-frame members and the litter frame, it would have been obvious to a POSITA given the teaching of the '545 Patent in view of the '541 Patent to

situate mounts between the mid-length of the X frame members and the litter frame of the '545 Patent. A POSITA would be motivated to make this modification because it would prevent metal-to-metal contact between the cross-forming frame members **7** and **8** and the crossbars of the undercarriage **1** of the '545 Patent. It would thus act to prevent damage to the metal members and prevent pinching of an operator's fingers and as a further benefit would soften the contact between the members, which would in turn help to prevent injury or discomfort to patients. It would have been well within the technical capabilities of a POSITA to situate the mounts in such location, would not have required undue experimentation, and would have had a high expectation of success.

62a. To the extent that the post in the '545 Patent serves largely the same function as the mounts in the '541 Patent, a POSITA would nevertheless be motivated to use mounts such as those disclosed in the '541 Patent with the '545 Patent because doing so would remove from the base frame of the '545 Patent a protruding knob, which could ensnarl a pant leg or shoelace. Using mounts rather than the post would also lessen the possibility that an operator's finger or other extremity could be pinched between the post and the cot frame.

- h. “said first mount being configured to [respectively] engage said base frame in response to said litter frame becoming proximate said base frame; and”**

63. Modifying the '545 Patent in view of the teachings of the '541 Patent, as discussed above, by situating at least one mount on one of cross-forming frame members **7** and **8** (or **7a** and **8a**), between the mid-length thereof and the litter frame would cause the mount to engage the base frame (undercarriage **1**) in response to the litter frame (cot frame **9**) becoming proximate to the base frame (undercarriage **1**). (See Ex. 1008 at col. 5, ll. 35-37; FIGS. 1a, 1b, 3, 4, 5.)

- i. “wherein said base frame has longitudinally extending side rails and at least one crosswise member interconnecting said side rails and being oriented in a path of movement of said first mount as said litter frame becomes proximate said base frame so that said first mount engages and rests upon said at least one crosswise member.”**

64. The '545 Patent discloses that the base frame (undercarriage **1**) has longitudinally extending side rails (side members **3**, **4**) that are interconnected by at least one crosswise member (transverse frame members **5**, **6**). As modified by the teachings of the '541 Patent, the crosswise member (transverse frame member **5** or **6**) is oriented in a path of movement such that the mount will engage and rest upon the at least one crosswise member. (Ex. 1008 at col. 5, ll. 1-12, 35-37; FIGS. 1a, 1b, 3, 4, 5.)

65. Accordingly, in my opinion, claim 3 of the '884 Reissue Patent is invalid as obvious over the combination of Ferneau A and Ferneau B.

2. Claim 4

a. “The ambulance cot according to claim 3,”

66. Claim 4 of the '884 Patent depends from claim 3, and the discussion above regarding claim 3 is incorporated herein by reference.

b. “wherein said first mount engages and rests upon said at least one crosswise member [and] between the respective said side rails of said base frame.”

67. When the cot disclosed in the '545 Patent is modified according to the teachings of the '541 Patent, for the reasons set forth with respect to claim 3, the mount on the modified '545 Patent cot will engage and rest upon the crosswise member (transverse frame member **5, 6**) between the side rails (side members **3, 4**) of the base frame (undercarriage **1**). (Ex. 1008 at FIG. 4; col. 5, ll. 35-37.)

68. Accordingly, in my opinion, claim 4 of the '884 Patent is invalid as obvious over the combination of Ferneau A and Ferneau B

B. Ground 2: Claims 3 and 4 Are Rendered Obvious Under 35 U.S.C. § 103 (pre-AIA) By Ferneau A in View of Bourgraf and Further in View of Ferneau B

69. In my opinion claims 3 and 4 of the '884 Patent would have been obvious to a POSITA in view of the Ferneau A-Bourgraf-Ferneau B combination.

1. Claim 3

a. “An ambulance cot, comprising:”

70. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

b. “a base frame;”

71. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

c. “a litter frame; and”

72. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

d. “an X-frame support mechanism interconnecting said base frame and said litter frame and being configured to support said litter frame in one of a plurality of positions relative to said base frame,”

73. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

e. “said support mechanism including at least one pair of frame members pivotally secured to each other proximate the mid-length thereof,”

74. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

- f. **“said at least one pair of frame members each having opposite ends respectively secured to one of said base frame and said litter frame,”**

75. For the same reason as discussed with respect to Ground 1, above, Ferneau A discloses this element.

- g. **“at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said [base] litter frame,”**

76. The '545 Patent does not disclose at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said litter frame.

76a. As discussed above in my summary of the '545 Patent, in my opinion a POSITA would understand that the cot frame rests on the unnumbered and discussed post in Figure 4 of the '545 Patent and that this serves several functions, including avoiding pinching of an operator's fingers or other extremities if the cot frame were to contact the base frame.

76b. To the extent, however, that a POSITA would not understand this from the '545 Patent alone, the Bourgraf patent makes clear that corner posts **41** engage the sockets **40** mounted on the cot frame. Thus, to the extent Ferneau A does not disclose the posts engaging the cot frame, it would be obvious to modify Ferneau A in view of Bourgraf so that the post engages the cot frame.

77. Bourgraf discloses an undercarriage **13** comprising side and end frame members **16, 17, 18** and **19** interconnected by fittings **20, 21, 22** and **23**, each fitting supporting a corner post **41**. The corner posts **41** support the cot frame **1** through sockets **40** when the cot frame **1** is lowered toward undercarriage **13**. (Ex. 1010 at col. 3, ll. 2025, col. 4, ll. 18-22.) Corner posts **41** correspond to mounts **226** and **227** in the '884 Patent.

78. Although the posts in the '545 Patent and Bourgraf are not situated between the mid-length of the X-frame members and the litter frame, it would have been obvious to a POSITA given the teaching of the '545 Patent in view of Bourgraf and the '541 Patent to situate mounts between the mid-length of the X frame members and the litter frame of the '545 Patent. A POSITA would be motivated to make this modification because it would prevent metal-to-metal contact between the cross-forming frame members **7** and **8** and the crossbars of the undercarriage **1** of the '545 Patent members and prevent pinching of an operator's fingers and as a further benefit would soften the contact between the members, which would in turn help to prevent injury or discomfort to patients. It would have been well within the technical capabilities of a POSITA to situate the mounts in such location, would not have required undue experimentation, and would have had a high expectation of success.

- h. said first mount being configured to [respectively] engage said base frame in response to said litter frame becoming proximate said base frame; and”**

79. Modifying the '545 Patent in view of the teachings of Bourgraf and the '541 Patent, as discussed above, by situating at least one mount on one of cross-forming frame members **7** and **8** (or **7a** and **8a**), between the mid-length thereof and the litter frame, would cause the mount to engage the base frame (undercarriage **1**) in response to the litter frame (cot frame **9**) becoming proximate to the base frame (undercarriage **1**). (See Ex. 1008 at col. 5, ll. 35-37; FIGS. 1a, 1b, 3, 4, 5.)

- i. “wherein said base frame has longitudinally extending side rails and at least one crosswise member interconnecting said side rails and being oriented in a path of movement of said first mount as said litter frame becomes proximate said base frame so that said first mount engages and rests upon said at least one crosswise member.”**

80. The '545 Patent discloses that the base frame (undercarriage **1**) has longitudinally extending side rails (side members **3**, **4**) that are interconnected by at least one crosswise member (transverse frame members **5**, **6**). As modified by the teachings of Bourgraf and the '541 Patent, the crosswise member (transverse frame member **5** or **6**) would be oriented in a path of movement such that the mount will engage and rest upon the at least one crosswise member. (Ex. 1008 at col. 5, ll. 1-12, 35-37; FIGs. 1a, 1b, 3, 4, 5.)

81. Accordingly, in my opinion, claim 3 of the '884 Patent is invalid as obvious over the combination of Ferneau A and Bourgraf and further in view of Ferneau B.

2. Claim 4

a. “The ambulance cot according to claim 3,”

82. Claim 4 of the '884 Patent depends from claim 3, and the discussion above regarding claim 3 is incorporated herein by reference.

b. “wherein said first mount engages and rests upon said at least one crosswise member [and] between the respective said side rails of said base frame.”

83. When the cot disclosed in the '545 Patent is modified according to the teachings of Bourgraf and the '541 Patent, for the reasons set forth with respect to claim 3, the mount on the modified '545 Patent cot will engage and rest upon the crosswise member (transverse frame member **5, 6**) between the side rails (side members **3, 4**) of the base frame (undercarriage **1**). (Ex. 1008 at FIG. 4; col. 5, ll. 35-37.)

84. Accordingly, in my opinion, claim 4 of the '884 Patent is invalid as obvious over the combination of Ferneau A and Bourgraf and further in view of Ferneau B.

VII. JURAT

85. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of

the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in this case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

86. I hereby declare that all statements made in this Declaration of my own knowledge are true, that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: 10-12-2023 By: 
Glen Stevick, Ph.D, P.E.