

5. U.S. Patent No. 10,058,464 (the “464 Patent”): Claims 1-3, 7-19, & 21;
6. U.S. Patent No. 11,090,207 (the “207 Patent”): Claims 1-7;
7. U.S. Patent No. D794205 (the “205 Design Patent”): Claim 1;
8. U.S. Patent No. D833623 (the “623 Design Patent”): Claim 1; and
9. U.S. Patent No. D875950 (the “950 Design Patent”): Claim 1 (collectively the “Asserted Claims”).

The information provided herein shall not be deemed an admission regarding the enforceability or scope, if any, of any Asserted Claim or the proper construction of the Asserted Claims or any terms contained therein. Ferno notes that in certain instances Stryker’s Infringement Contentions are unclear as to how the accused products purportedly meet certain limitations. Accordingly, the information herein is based on information reasonably available at this time. Moreover, because the Court has yet to construe the Asserted Claims, Ferno expressly reserves the right to amend or supplement these preliminary invalidity contentions including, for example, if its understanding of the Asserted Claims changes, including if the Court construes them, or if the alleged priority date of any Asserted Claims changes. Ferno reserves the right to withdraw or add prior art to this disclosure in light of the Court’s claim construction rulings, or as information is obtained from parties or third parties during the course of discovery.

Since many of the Asserted Patents are related, certain elements in the Asserted Claims are common to more than one Asserted Patent. As a non-exhaustive example, Stryker’s three design patents all cover the same device. Ferno has stated its contentions with respect to any given claim element along with the identification of where that element can be found in the Asserted Claims. These preliminary invalidity contentions as they relating to any element apply to every claim in which that element or its equivalent is found. Further, a contention that any one element of a claim

renders a claim invalid for any reason means that the entire claim is invalid for that reason, regardless of how many other grounds for invalidity are otherwise provided, or how many other elements are invalid.

Ferno's discovery and investigation in connection with this lawsuit are ongoing, and thus, these disclosures are based on information available to date. Ferno has not yet completed its investigation, collection of information, discovery, or analysis relating to this action, and discovery may require Ferno to modify, amend or supplement these preliminary invalidity contentions.

Ferno reserves the right to modify, amend or supplement these preliminary invalidity contentions as additional information becomes available and as discovery and its investigation proceed. Ferno further reserves the right to amend these preliminary invalidity contentions should Stryker assert additional infringement theories. Ferno's preliminary invalidity contentions are set forth below and in exhibits annexed hereto. These preliminary invalidity contentions are made solely for the purpose of this action.

Ferno submits its preliminary invalidity contentions as follows:

A. S.D. Ohio Pat. R. 103.4(a)(1)

Pursuant to S.D. Ohio Pat. R. 103.4(a)(1), Ferno hereby identifies prior art that anticipates each of the Asserted Claims or renders the Asserted Claims obvious either alone or in combination.

1. Patents and Patent Publications

Country of Origin	Number	Date of Issue	Name
U.S.A.	U.S. 3,644,944 ("944 Patent")	February 29, 1972	Ambulance Cot Construction
U.S.A.	U.S. 3,869,144 ("144 Patent")	March 4, 1975	Latching mechanism for securing a vehicle to a transporter
U.S.A.	US 4,097,941 ("941 Patent")	July 4, 1978	Emergency cot with spring- biased retractable wheel carriage
U.S.A.	U.S. 4,192,541	March 11, 1980	Cart having extensible

	(“541 Patent”)		auxiliary wheels
U.S.A.	U.S. 5,092,722 (“722 Patent”)	March 3, 1992	Automatically adaptable fastening system for wheeled cots and similar devices
U.S.A.	US 5,205,601 (“601 Patent”)	April 27, 1993	Ambulance lock
U.S.A.	U.S. 5,575,026 (“026 Patent”)	November 19, 1996	Emergency stretcher with x-frame support
U.S.A.	U.S. 5,913,559 (“559 Patent”)	June 22, 1999	Fastening track, cot transport vehicle adapted to secure the fastening track, and cot fastening system incorporating same
U.S.A.	U.S. 5,987,673 (“673 Patent”)	November 23, 1999	Undercarriage extension
U.S.A.	U.S. 6,701,545 (“545 Patent”)	March 9, 2004	Multiple level roll-in cot
U.S.A.	U.S. 6,389,623 (“623 Patent”)	May 21, 2002	Ambulance stretcher with improved height adjustment feature
U.S.A.	U.S. 6,654,973 (“973 Patent”)	December 2, 2003	Mobile lift-assisted patient transport device
U.S.A.	U.S. 6,796,757 (“757 Patent”)	September 28, 2004	Ambulance cot lock
U.S.A.	U.S. 6,908,133 (“133 Patent”)	June 21, 2005	Device for preventing emergency vehicle bumper interference with cot wheel deployment
U.S.A.	U.S. 7,478,855 (“855 Patent”)	January 20, 2009	Ambulance cot loading and unloading device
U.S.A.	U.S. 8,308,212 (“212 Patent”)	November 13, 2012	Cot fastening system
U.S.A.	U.S. 8,439,416 (“416 Patent”)	May 14, 2013	Ambulance cot and loading and unloading system
U.S.A.	U.S. 10,568,787 (“787 Patent”)	February 25, 2020	Cot fastening system having a crash stable, cot fastener track and method of affixing an emergency cot thereto
Great Britain	GB 2283137 (“GB ‘137”)	Filed: October 22, 1993	Arrangement for preventing driving of a battery powered vehicle during charging
Japan	JPH 10315819 (“JP ‘819”)	Filed: May 17, 1997	Lock device for slide rail

B. S.D. Ohio Pat. R. 103.4(a)(2)

1. Applied Prior Art Reference Chart

Prior Art Reference	Asserted Claims that It Anticipates	Asserted Claims that It Renders Obvious, Alone or in Combination
The '623 Patent		For the reasons explained in Exhibit A, the '623 Patent renders Claims 1-10, 12-13, & 15-22 of the '968 Patent obvious when combined with the knowledge of a POSITA, the '673 Patent, and JP '819.
The '855 Patent		For the reasons explained in Exhibit B, the '623 Patent renders Claims 1-2 and 10 of the '855 Patent obvious when combined with any of: (a) the knowledge of a POSITA; or (b) the knowledge of a POSITA and GB '137.
The '545 Patent		For the reasons explained in Exhibit C, the '545 Patent renders Claims 3 and 4 of the '884 Patent obvious when combined with any of: (a) the knowledge of a POSITA; or (b) the knowledge of a POSITA and the '541 Patent.
The '787 Patent		For the reasons explained in Exhibit D, the '787 Patent renders Claims 1-3, 7-19, and 21 of the '464 Patent obvious when combined with any of: (a) the knowledge of a POSITA; or (b) the knowledge of a POSITA, the '212 Patent and the '757 Patent. For the reasons explained in Exhibit E, the '787 Patent renders Claims 1-7 of the '207 Patent obvious when combined with any of: (a) the knowledge of a POSITA; or (b) the knowledge of a POSITA, the '212 Patent and the '757 Patent.
The '212 Patent	For the reasons explained in Exhibit F, the '212 Patent anticipates the claim of the '623 Design Patent. For the reasons explained in Exhibit F, the '212 Patent anticipates the claim of the	For the reasons explained in Exhibit D, the '212 Patent renders Claims 1-3, 7-19, and 21 of the '464 Patent obvious when combined with any of: (a) the '787 Patent and the knowledge of a POSITA; or (b) the '787 Patent and the '757 Patent and the knowledge of a POSITA,

Prior Art Reference	Asserted Claims that It Anticipates	Asserted Claims that It Renders Obvious, Alone or in Combination
	'950 Design Patent. For the reasons explained in Exhibit F, the '212 Patent anticipates the claim of the '205 Design Patent.	For the reasons explained in Exhibit E, the '212 Patent renders Claims 1-7 of the '207 Patent obvious when combined with any of: (a) the '787 Patent and the knowledge of a POSITA; or (b) the '787 Patent, the knowledge of a POSITA and the '757 Patent. For the reasons explained in Exhibit F, the '212 Patent renders the claim of the '623 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '212 Patent renders the claim of the '950 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '212 Patent renders the claim of the '205 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved.
The '722 Patent	For the reasons explained in Exhibit F, the '722 Patent anticipates the claim of the '950 Design Patent. For the reasons explained in Exhibit F, the '722 Patent anticipates the claim of the '205 Design Patent.	For the reasons explained in Exhibit F, the '722 Patent renders the claim of the '950 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '722 Patent renders the claim of the '205 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved.

Prior Art Reference	Asserted Claims that It Anticipates	Asserted Claims that It Renders Obvious, Alone or in Combination
The '559 Patent	For the reasons explained in Exhibit F, the '559 Patent anticipates the claim of the '950 Design Patent.	For the reasons explained in Exhibit F, the '559 Patent renders the claim of the '950 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '559 Patent renders the claim of the '205 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved.
The '757 Patent	For the reasons explained in Exhibit F, the '757 Patent anticipates the claim of the '950 Design Patent. For the reasons explained in Exhibit F, the '757 Patent anticipates the claim of the '205 Design Patent.	For the reasons explained in Exhibit F, the '757 Patent renders the claim of the '950 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '757 Patent renders the claim of the '205 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved.
The '416 Patent	For the reasons explained in Exhibit F, the '416 Patent anticipates the claim of the '950 Design Patent. For the reasons explained in Exhibit F, the '416 Patent anticipates the claim of the '205 Design Patent.	For the reasons explained in Exhibit F, the '416 Patent renders the claim of the '950 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved. For the reasons explained in Exhibit F, the '416 Patent renders the claim of the '205 Design Patent obvious when combined with the knowledge of a designer of ordinary skill who designs articles of the type involved.

C. S.D. Ohio Pat. R. 103.4(a)(3)

The attached charts identify where to find every element of the Asserted Claims in each prior art reference or combination of prior art references identified above. The specific reasons such combinations would have been obvious to a person of ordinary skill in the art (“POSITA”) can be found in the introductory pages immediately preceding each of the claim charts. Moreover, identification of any claim element in these charts with respect to any prior art element is not an admission that the scope of the respective claim or element satisfies 35 U.S.C. § 112. Rather, many of the claim limitations of the Asserted Patents lack support in the written description, are not enabled, or are indefinite and thus violate 35 U.S.C. § 112.

D. S.D. Ohio Pat. R. 103.4(a)(4)

Pursuant to S.D. Ohio Pat. R. 103(a)(4), Ferno submits the following identification of preliminary invalidity contentions based upon violation of 35 U.S.C. § 112. However, such identification at this stage of litigation is necessarily preliminary; for example, until the Court has construed the claim language, determination as to whether the Asserted Claims violate the various sections of 35 U.S.C. § 112 is impossible. Therefore, Ferno reserves the right to amend its disclosures of invalidity under 35 U.S.C. § 112 following the Court’s claim construction order.

Subject to the Court’s determination of the meaning of the claim language, Ferno contends that many of the Asserted Claims reach beyond the scope of the alleged invention purportedly described in the specification, such that the disclosure of the Asserted Patents does not reasonably convey to those of ordinary skill in the art that the inventor had possession of the claimed subject matter as of the filing date, in violation of the written description requirement of 35 U.S.C. § 112. Ferno also contends that the disclosure of the Asserted Patents does not contain sufficient information regarding the subject matter of many of the Asserted Claims as to enable one skilled

in the pertinent art to make and use the claimed invention, in violation of the enablement requirement of 35 U.S.C. § 112. Ferno further contends that many of the Asserted Claims fail to inform those of ordinary skill in the art about the scope of the invention with reasonable certainty, such that the Asserted Claims are indefinite under 35 U.S.C. § 112.

1. 35 U.S.C. §112(a) or 35 U.S.C. §112, paragraph 1 (pre-AIA), Written Description

Ferno contends that Claims 2, 5-10 of the ‘571 Patent and Claims 3, 6, 17, 21, 22 of the ‘968 Patent reach beyond the scope of the alleged invention purportedly described in the specification, such that the disclosures of the ‘571 and ‘968 Patents do not reasonably convey to those of ordinary skill in the art that the inventors had possession of the claimed subject matter as of the priority date, in violation of the written description requirement of 35 U.S.C. § 112.

a. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having a deployment mechanism (including the “deployment mechanism having a detection device configured to detect a presence and an absence of a force urging a change in distance between said litter frame and said base frame to cause said base frame and said litter frame to become oriented closer together” in claim 2), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

b. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having a detection device (including “a detection device configured to detect a presence and an absence of a force urging a change in distance between said litter frame and said base frame to cause said base frame and said litter frame to become oriented closer together” in claim 2), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

c. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot that has a control mechanism that moves a base frame and a litter frame toward each other at

differing speeds predicated on whether the base frame is supported on a surface and the litter frame is supported by an external support separate from an elevating mechanism (including “a control mechanism on said cot configured to facilitate said movement of said base frame and said litter frame toward each other and at differing speeds predicated on at least one of whether said base frame is supported on said surface and said litter frame is supported by an external support separate from said elevating mechanism” in claim 5), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

d. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot that moves a litter frame toward a base frame at a first speed when the base frame is supported on a surface, moves the base frame toward the litter frame at a second speed when the litter frame is supported by an external support, and wherein the second speed is greater than the first speed (including “when said base frame is supported on said surface, said control mechanism controls said elevating mechanism to move said litter frame toward said base frame at a first speed” and “when said litter frame is supported by the external support separate from said elevating mechanism, said control mechanism controls said elevating mechanism to move said base frame toward said litter frame at a second speed” in claim 8, and “wherein said second speed is greater than said first speed” in claim 10), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

e. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having an elevation mechanism with first and second speeds that are pre-selected (including “wherein said control mechanism is configured such that when said base frame is supported on said surface, said control mechanism controls said elevating mechanism to move said litter frame toward said base frame at a preselected speed” in claim 6, “wherein said control mechanism is

configured such that when said litter frame is supported by the external support separate from said elevating mechanism, said control mechanism controls said elevating mechanism to move said base frame toward said litter frame at a pre-selected speed “ in claim 7, and “wherein said first and second speeds are each pre-selected” in claim 9), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

f. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having an elevation mechanism with a second pre-selected speed that is significantly different than a first pre-selected speed (including “said second preselected speed is significantly different than said first pre-selected speed” in claim 9), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

g. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot with a deployment mechanism having a rapid movement (including “said control mechanism being configured to effect a rapid movement of said deployment mechanism in response to said detection device detecting an absence of said force and in response to an operation of said manually operable device” and “and said manually operable device, is operated, said base frame will be rapidly drawn toward said litter frame by said deployment mechanism” in claim 2), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

h. To the extent that any asserted claim of the ‘968 Patent covers an ambulance cot having a head portion with a blocking pin (including “the head portion further comprising a ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin” in claim 17), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

i. To the extent that any asserted claim of the ‘968 Patent covers an ambulance

cot having a head portion or a handle with a link pin (including “the head portion further comprising a ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin” in claim 17, “further comprising the handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage” in claim 21, and “further comprising the latch disabler preventing the movement of the handle about the axis of the cross rail by blocking the link pin” in claim 22), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

j. To the extent that any asserted claim of the ‘968 Patent covers an ambulance cot having a latch mechanism linkage (including “handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage, the linkage having a second end for engaging the latch mechanism, and the latch mechanism comprising a retractable latch pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail” in claim 21), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

k. To the extent that any asserted claim of the ‘968 Patent covers an ambulance cot having a locking mechanism (including “a locking mechanism for selectively fixing the position of the head section in one of an extended and a retracted position, the locking mechanism configured for actuation by the first and second handles” in claim 3, and “the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail” in claim 6), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

l. To the extent that any asserted claim of the ‘968 Patent covers an ambulance

cot having a locking mechanism linkage (including “a pin extending from each handle into the interior of a respective bracket for engaging a first end of a locking mechanism linkage, the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail” in claim 6), such claim violates the written description requirement of 35 U.S.C. § 112 and is invalid.

2. 35 U.S.C. §112(a) or 35 U.S.C. §112, paragraph 1 (pre-AIA), Enablement

Ferno contends that Claims 2, 5-10 of the ‘571 Patent and Claims 3, 6, 17, 21, 22 of the ‘968 Patent violate the enablement requirement of 35 U.S.C. § 112.

a. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having a deployment mechanism (including the “deployment mechanism having a detection device configured to detect a presence and an absence of a force urging a change in distance between said litter frame and said base frame to cause said base frame and said litter frame to become oriented closer together” in Claim 2), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

b. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having a detection device (including “a detection device configured to detect a presence and an absence of a force urging a change in distance between said litter frame and said base frame to cause said base frame and said litter frame to become oriented closer together” in Claim 2), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

c. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot that has a control mechanism that moves a base frame and a litter frame toward each other at

differing speeds predicated on whether the base frame is supported on a surface and the litter frame is supported by an external support separate from an elevating mechanism (including “a control mechanism on said cot configured to facilitate said movement of said base frame and said litter frame toward each other and at differing speeds predicated on at least one of whether said base frame is supported on said surface and said litter frame is supported by an external support separate from said elevating mechanism” in Claim 5), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

d. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot that moves a litter frame toward a base frame at a first speed when the base frame is supported on a surface, moves the base frame toward the litter frame at a second speed when the litter frame is supported by an external support, and wherein the second speed is greater than the first speed (including “when said base frame is supported on said surface, said control mechanism controls said elevating mechanism to move said litter frame toward said base frame at a first speed” and “when said litter frame is supported by the external support separate from said elevating mechanism, said control mechanism controls said elevating mechanism to move said base frame toward said litter frame at a second speed” in Claim 8, and “wherein said second speed is greater than said first speed” in Claim 10), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

e. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having an elevation mechanism with first and second speeds that are pre-selected (including “wherein said control mechanism is configured such that when said base frame is supported on said surface, said control mechanism controls said elevating mechanism to move said litter frame toward said base frame at a preselected speed” in Claim 6, “wherein said control mechanism is

configured such that when said litter frame is supported by the external support separate from said elevating mechanism, said control mechanism controls said elevating mechanism to move said base frame toward said litter frame at a pre-selected speed “ in Claim 7, and “wherein said first and second speeds are each pre-selected” in Claim 9), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

f. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot having an elevation mechanism with a second pre-selected speed that is significantly different than a first pre-selected speed (including “said second preselected speed is significantly different than said first pre-selected speed” in Claim 9), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

g. To the extent that any asserted claim of the ‘571 Patent covers an ambulance cot with a deployment mechanism having a rapid movement (including “said control mechanism being configured to effect a rapid movement of said deployment mechanism in response to said detection device detecting an absence of said force and in response to an operation of said manually operable device” and “and said manually operable device, is operated, said base frame will be rapidly drawn toward said litter frame by said deployment mechanism” in Claim 2), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

h. To the extent that any asserted claim of the ‘968 Patent covers an ambulance cot having a head portion with a blocking pin (including “the head portion further comprising a ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin” in Claim 17), the specification does not enable the full scope of such claim, and the claim

violates the enablement requirement of 35 U.S.C. §112 and is invalid.

i. To the extent that any asserted claim of the '968 Patent covers an ambulance cot having a head portion or a handle with a link pin (including "the head portion further comprising a ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin" in Claim 17, "further comprising the handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage" in claim 21, and "further comprising the latch disabler preventing the movement of the handle about the axis of the cross rail by blocking the link pin" in Claim 22), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

j. To the extent that any asserted claim of the '968 Patent covers an ambulance cot having a latch mechanism linkage (including "handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage, the linkage having a second end for engaging the latch mechanism, and the latch mechanism comprising a retractable latch pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail" in Claim 21), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

k. To the extent that any asserted claim of the '968 Patent covers an ambulance cot having a locking mechanism (including "a locking mechanism for selectively fixing the position of the head section in one of an extended and a retracted position, the locking mechanism configured for actuation by the first and second handles" in Claim 3 and "the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable

pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail” in Claim 6), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

l. To the extent that any asserted claim of the ‘968 Patent covers an ambulance cot having a locking mechanism linkage (including “a pin extending from each handle into the interior of a respective bracket for engaging a first end of a locking mechanism linkage, the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail” in Claim 6), the specification does not enable the full scope of such claim, and the claim violates the enablement requirement of 35 U.S.C. §112 and is invalid.

3. 35 U.S.C. §112(b) or 35 U.S.C. §112, paragraph 2 (pre-AIA), Indefiniteness

Ferno contends that asserted Claims 2 and 9 of the ‘571 Patent and Claim 17 of the ‘968 Patent fail to inform those of ordinary skill in the art about the scope of the invention with reasonable certainty, and that the Asserted Claims are invalid as indefinite under 35 U.S.C. § 112.

a. Claim 2 of the ‘571 Patent is indefinite and invalid under 35 U.S.C. § 112 because it requires a “control mechanism being configured to effect a rapid movement of said deployment mechanism in response to said detection device detecting an absence of said force and in response to an operation of said manually operable device” and “said manually operable device, is operated, said base frame will be rapidly drawn toward said litter frame by said deployment mechanism” without providing reasonable certainty as to what speed is considered “rapid.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 898-99, 134 S. Ct. 2120, 2123 (2014)

(finding that a “patent is invalid for indefiniteness if its claims, read in light of the patent's specification and prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention”).

b. Claim 9 of the ‘571 Patent is indefinite and invalid under 35 U.S.C. § 112 because it requires “first and second speeds [that] are each pre-selected and said second preselected speed is significantly different than said first pre-selected speed” without providing reasonable certainty about what difference in speed is considered to be “significantly different.”

c. Claim 17 of the ‘968 Patent is indefinite and invalid under 35 U.S.C. § 112 because it recites “the link pin” without providing antecedent basis for “link pin,” and as such the scope of the claim is not reasonably ascertainable to a person of ordinary skill in the art.

d. The claim of the ‘623 Design Patent is indefinite, as its inconsistent drawings preclude understanding the scope of the claimed design. Design patents—where the claims are based on drawings—are indefinite if one skilled in the art, viewing the design as an ordinary observer, would understand the scope of the design with reasonable certainty based on the claim and visual disclosure. *See In re Maatita*, 900 F.3d 1369, 1377 (Fed. Cir. 2018). A visual disclosure may be inadequate—and its associated claim indefinite—if it includes multiple, internally inconsistent drawings. *See Times Three Clothier, LLC v. Spanx, Inc.*, Case No. 13-cv-2157, 2014 U.S. Dist. LEXIS 59448, at *22-23 (S.D.N.Y. Apr. 29, 2014).

The ‘623 Design Patent claims only the outermost portion of the design of Stryker’s Performance-Load manual cot fastener product (the “**Stryker Cot Fastener**”), little more than the shape of what Stryker calls the “linear transfer system” or “frame” (hereinafter the “**Linear Transfer System**” or “**Frame**”). However, the ‘623 Design Patent also disclaims the underside of the Frame entirely, including, it would seem, its shape. If the ‘623 Design Patent does not claim

the shape of the Frame, it is completely unclear what the ‘623 Design Patent does claim. Figures 1 and 6, claiming the shape of the Frame, are completely inconsistent with Figure 7, which disclaims that same shape. See Exhibit F, Section I., C., ‘623 Design Patent Invalidity Contention Chart.

E. The Stryker Design Patents Are Primarily Functional, And, Therefore, Invalid.

1. Applicable Law: Design Patent Functionality.

“A design patent must claim an ornamental design, not one dictated by function.” *Auto. Body Parts Ass’n v. Ford Glob. Techs., LLC*, 930 F.3d 1314, 1318 (Fed. Cir. 2019). A defendant may seek to invalidate a design patent on the grounds that it claims a “primarily functional” design. *Id.* (citing *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316, 1320 (Fed. Cir. 2016)). While a valid design patent “may contain some functional elements,” a patented design that is “essential to the use of the article” is not valid. *Auto. Body Parts Ass’n*, 930 F.3d at 1318 (citing *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1123 (Fed. Cir. 1993)). A design that serves “only functional purposes” is not ornamental. *Static Control Components, Inc. v. Lexmark Int’l, Inc.*, 697 F.3d 387, 421 (6th Cir. 2012).

When analyzing a design patent for functionality, courts consider the overall appearance of the article in its entirety. The Federal Circuit has identified the following factors as relevant to determining whether a claimed design is dictated by function:

1. Whether the protected design represents the best design;
2. Whether alternative designs would adversely affect the utility of the specified article;
3. Whether there are any concomitant utility patents;
4. Whether the advertising touts particular features of the design as having specific utility; and
5. Whether there are any elements in the design or an overall appearance clearly not dictated by function.

Auto. Body Parts Ass’n, 930 F.3d at 1318–19 (citing *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*,

796 F.3d 1312, 330 (Fed. Cir. 2015)); see *Berry Sterling Corp. v. Prescor Plastics, Inc.*, 122 F.3d 1452, 1456 (Fed. Cir. 1997). Another relevant factor is whether the “appearance of the article may become a ‘matter of concern’ at any point during the article’s ‘normal and intended use’” to consumers. *Static Control Components, Inc.*, 697 F.3d at 421 (quoting *In re Webb*, 916 F.2d 1553, 1558 (Fed. Cir. 1990)). Although not dispositive, the Federal Circuit has “often emphasized the presence or absence of alternative designs,” with the presence of such alternatives “increas[ing] the likelihood that a design serves a primarily ornamental purpose.” *Auto. Body Parts Ass’n*, 930 F.3d at 1319 (simplified).

2. The Stryker Design Patents Are Primarily Functional, And, Therefore, Invalid.

The Stryker Design Patents, when viewed in their entireties, are primarily functional, dictated by the function of the Stryker Cot Fastener. Initially, the Stryker Cot Fastener is a product designed to secure cots to the floors of compartments of emergency vehicles so that patients can be safely transported. The Stryker Cot Fastener allows this “without the need for the cot to be precisely aligned with the fastening system[], but which then precisely aligns the cot as the cot is pushed along the fastening system.” ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207. Consumers of the Stryker Cot Fastener are EMS workers and other healthcare professionals working in and around ambulances and other emergency vehicles, often during emergencies.

During its normal and intended use, the Stryker Cot Fastener’s appearance could hardly be of less concern to its users. When EMS workers are preparing to use the Stryker Cot Fastener, they are primarily concerned with providing treatment to patients, securing patients in a cot, and safely securing that cot to the floor of an ambulance for transport. Indeed, Stryker’s own advertising of the Stryker Cot Fastener correctly notes “[d]uring the most critical moments of an

emergency, you're focused on the patient." ECF No. 26-5, Stryker Cot Fastener Brochure. Perhaps most obviously, when the Stryker Cot Fastener is actually in use (*i.e.*, performing its function of securing a cot to the floor of an ambulance), it is largely not even visible to the user, as it is covered by the cot it has secured. The manner in which the Stryker Cot Fastener is used, thus, weighs heavily in favor of invalidity due to functionality. *See Static Control Components, Inc.*, 697 F.3d at 421 (quoting *In re Webb*, 916 F.2d 1553, 1558 (Fed. Cir. 1990)).

Furthermore, the factors the Federal Circuit has identified as relevant to design patent functionality weigh in favor of invalidity. Most obviously, there are concomitant utility patents that explicitly describe how and why all of the claimed design features are functional. In addition, Stryker's advertising of the Stryker Cot Fastener explicitly touts virtually every conceivable individual feature of the claimed designs as having specific utility.

The Frame (Claimed In All Three Stryker Design Patents)

The Frame is entirely functional by Stryker's own admissions. Notably, the '623 Design Patent claims primarily the ornamental design of the Frame that runs around the outside of the Stryker Cot Fastener. So, to the extent the Frame is primarily functional, the '623 Design Patent must be invalid. The '205 Design Patent and '950 Design Patent also claim the ornamental design of the Frame, but also claim other aspects of the Stryker Cot Fastener's design, which will be discussed in further detail below. Though indistinguishable from the Frame in the drawings of the '623 Design Patent, the '623 Design Patent also seemingly claims the tops only of the two end support structures near the head end of the Stryker Cot Fastener that are perpendicular to the central rectangular guide. These structures serve to elevate central guide to form an open frame or cage that is sized to straddle and extend over an antler anchoring assembly to be placed inside the Stryker Cot Fastener. *See* ECF Nos. 18-5 & 18-17. These structures serve only this functional

purpose, and are no more ornamental than the Frame that runs around the rest of the outside of the Stryker Cot Fastener.

Concomitant utility patents, specifically the ‘464 Patent and the ‘207 Patent (the “*Concomitant Utility Patents*”), which Stryker has also asserted against Ferno in this Action, cover the “Cot Fastening System” of which the Stryker Cot Fastener is the only component part. In the Concomitant Utility Patents, Stryker describes the Frame—and specifically its design and shape—in explicitly functional terms. The specifications of the Concomitant Utility Patents explains that that the Frame is comprised of two sections (one parallel, and the other, closer to the head end of the Stryker Cot Fastener, widening and then becoming again parallel) that cooperate to guide the cot into the compartment of an emergency vehicle.² The shape of the Frame, specifically the widening nature of the second section, serves the specifically functional purpose of—being slightly more narrow than the spacing between the cot load wheels to form a guide for the cot load wheels and being wider than the first section—allowing the cot to be placed unaligned on the cot fastener to be guided and secured into place by the very shape of the Frame.³ Thus, the Concomitant Utility Patents, by the terms of their own specifications, demonstrate that the shape and design of the Frame are completely dictated by functional considerations.

Furthermore, Stryker advertises that the Linear Transfer System “[g]uides and centers the cot during loading and unloading.” ECF No. 26-5, Stryker Cot Fastener Brochure. Pointing specifically to the first portion of the Frame (the railing running parallel, closer to the foot end of the Stryker Cot Fastener) in an advertising YouTube video, Stryker explains that this component provides “[g]uided loading and unloading.” <https://www.youtube.com/watch?v=EQ3ap1hPZvk>,

² See Exhibit F, Section I., C., ‘623 Design Patent Invalidity Contention Chart; ECF Nos. 18-5 & 18-17, the Concomitant Utility Patents.

³ See *id.*

last accessed June 13, 2023. Stryker’s advertising also notes that the Linear Transfer System allows for “[g]uided loading and unloading support improvise operator efficiency by reducing cot drift.” ECF No. 26-5. Stryker’s touting the functionality of the Frame design in its advertising confirms what is clear from the specifications of the Concomitant Utility Patents. Namely, that the appearance of the Frame is completely dictated by its function of guiding and centering the cot for loading or unloading from an emergency vehicle.

The “V”-Shaped Head End Dock Surface

The “V”-Shaped Head End Dock Surface is also entirely functional. The ‘205 Design Patent and ‘950 Design Patent both claim the ornamental design of the “V”-Shaped Head End Dock Surface. Notably, the ‘950 Design Patent claims only the designs of the Frame and the “V”-Shaped Head End Dock Surface and a small channel behind it, so, to the extent that these features are dictated by functional considerations, the ‘950 Design Patent must be invalid. The ‘205 Design Patent claims additional aspects of the Stryker Cot Fastener’s design, which will be discussed in further detail below.

As is true of the Frame, the Concomitant Utility Patents describe the “V”-Shaped Head End Dock Surface, specifically its shape, in wholly functional terms. They explain that the “V-Shaped” arrangement of the surface guides the head end of the cot attachment into a narrow channel which aligns the head end cot attachment to be secured into a catch, which also facilitates the alignment of the foot end cot attachment. The specifications of the Concomitant Utility Patents reveal that the “V”-Shaped Head End Dock Surface (and the narrow channel leading up to the catch) are dictated by functional considerations.⁴

⁴ See Exhibit F, Section I., C., ‘905 Design Patent Invalidity Assertion Chart; ECF Nos. 18-5 & 18-17, the Concomitant Utility Patents.

Furthermore, in its advertising, Stryker touts the head end dock as “[s]ecur[ing] the head end of the cot into place when in transport position.” Accordingly, Stryker’s own words prove conclusively that the only two design features—the Frame and the “V”-Shaped Head End Dock Surface (and the narrow channel behind it)—claimed in the ‘905 Design Patent are completely dictated by their functions, and that the ‘905 Design Patent is, therefore, primarily functional. Furthermore, the functionality of the “V”-Shaped Head End Dock weighs in favor of a finding that the design claimed in the ‘205 Design Patent is, likewise, primarily functional.

Additional Features Claimed Only In The ‘205 Design Patent

Stryker claims additional design features of the Stryker Cot Fastener only in the ‘205 Design Patent. As with the Frame and V-Shaped Head End Dock discussed above, however, Stryker describes each individual feature, in the Concomitant Utility Patents and its advertising, in exclusively functional terms. Simply put, the design of the Stryker Cot Fastener, taken as a whole, is dictated by functional considerations, so the ‘205 Design Patent is invalid.

Similar to the “V”-Shaped Head End Dock Surface, the Concomitant Utility Patents describe the angled (also, “V”-Shaped) surfaces of the *foot end* dock as helping to provide a precise alignment for the foot end cot attachment with the latch of the foot end dock as the cot moves further into the emergency vehicle along the Frame.⁵ The Concomitant Utility Patents further describe the latch itself in wholly functional terms, explaining how the latch traps the foot end cot attachment and how it can be released when performing that function.⁶ Plus, Stryker’s advertising describes the “Foot end latch” of the Stryker Cot Fastener as functional, “[l]ock[ing] the foot place when in transport position.” ECF No. 26-5. Thus, the foot end dock and latch, the designs of

⁵ See Exhibit F, Section I, C., ‘205 Design Patent Invalidity Assertion Chart; ECF Nos. 18-5 & 18-17, the Concomitant Utility Patents.

⁶ See *id.*

which are claimed in the ‘205 Design Patent are dictated by function.

The Concomitant Utility Patent specifications call the center portions of the Stryker Cot Fastener—visible in between the head end dock and the foot end dock of the drawings of the ‘205 Design Patent and past the head end dock—guides (hereinafter, a “**Guide**” or “**Guides**”). The Guides are perfectly rectangular in shape, and, unsurprisingly, the specifications of the Concomitant Utility Patents describe the Guides in wholly functional terms. The Concomitant Utility Patents explain that the Guides are “for guiding the cot safety bar along the frame and maintaining a cot safety bar [] in an un-deployed position so that it does not bind when the cot is being loaded onto or unloaded from the stationary frame.” ECF Nos. 18-5 & 18-17. The Concomitant Utility Patents also explain that the Guide surface may be comprised of a low friction materials to promote the efficiency of the Stryker Cot Fastener’s function.⁷ Besides the fact that the Guides are completely unadorned rectangles, so not ornamental in and of themselves, the Concomitant Utility Patents explain that they are dictated by functionality. In addition, Stryker’s advertising touts a “Removable tool kit” that seemingly sits underneath the Guides as being “[e]asy to clean and maintain with a simple removal process.” ECF No. 26-5. To the extent that this feature is claimed in the ‘205 Design Patent, this feature is also dictated by its function (*i.e.*, fitting in the Stryker Cot Fastener and being easily removable for cleaning).

In its advertising materials, Stryker touts additional features of the Stryker Cot Fastener as being functional, though it is not clear whether or to what extent these features are claimed in the ‘205 Design Patent. Specifically, Stryker describes the “Positive action foot end release” (the “**Release Button**”) as “[d]isengag[ing] the cot.” ECF No. 26-5. The Release Button appears to refer merely to a red button on the foot end of the Stryker Cot Fastener. *See id.* The Concomitant

⁷ *See id.*

Utility Patents explain that the Release Button is specifically configured to allow its use with minimal force, to prevent damage to the release mechanism.⁸ Based upon the drawings and specifications in the Concomitant Utility Patents, this button can also be placed on different parts of the foot end of the cot. This is consistent with Stryker’s advertising, which depicts the Release Button on the very front of the Stryker Cot Fastener, as opposed to the side as is depicted in the drawings of the Concomitant Utility Patents. To the extent that the Release Button is claimed in the ‘205 Design Patent (as the ‘205 Design Patent seems to claim nearly every element of the Stryker Cot Fastener), its appearance is clearly dictated by its function.⁹

General Shape & Overall Appearance

Moreover, the general shape and overall appearance of the Stryker Cot Fastener are dictated by its function. To perform its stated function of allowing a cot to be manually loaded and secured into an emergency vehicle without having to have the cot precisely aligned, the Stryker Cot Fastener needs to be thin near its foot end and widening near its head end.

Nowhere in Stryker’s advertising materials does Stryker even mention the appearance of the Stryker Cot Fastener. Instead, Stryker uses terms such as “safest,” “most advanced,” “more efficient,” “strategically designed,” “keep[ing] occupants safe in the event of an ambulance accident,” “power washable,” and “easily removable” to describe the Stryker Cot Fastener and components thereof. ECF No. 26-5. Stryker calls out the Stryker Cot Fastener’s “Safety,” “Efficiency,” and “Reliability,” not its ornamental appearance. *Id.* Stryker also touts the Stryker

⁸ *See id.*

⁹ Likewise, Stryker describes the “Adaptable floor plate and safety hook” as being “[c]ompatible with Stryker’s Power-LOAD technologies and “connect[ing] to the cot safety bar during loading and unloading.” This feature does not appear to be claimed in the ‘205 Design Patent, nor does it feature in the Concomitant Utility Patents. However, to the extent relevant, its appearance is clearly dictated by functional considerations.

Cot Fastener's compliance with crash test standards and its compatibility with other Stryker systems. *Id.* Stryker's own words confirm what would be obvious to a designer of ordinary skill in the relevant art: the Stryker Cot Fastener's appearance is dictated by its function. The Stryker Cot Fastener's appearance is completely unimportant to consumers with respect to its normal and intended use, namely, safely securing cots to the floors of emergency vehicles for transport.

EXHIBIT A

I. US 7,725,968: Obviousness Under 35 U.S.C. § 103(a)

A. Reasons to Combine the ‘623 Patent with the ‘673 Patent and/or JP ‘819 and the Knowledge of a POSITA

Under § 103(a), Claims 1-10, 12-13, and 15-22 of the ‘968 Patent are obvious over the ‘623 Patent when combined with the ‘673 Patent and/or JP ‘819 and the knowledge of a person of ordinary skill in the art.

Emergency cots that are operable to be loaded into an emergency vehicle, such as an ambulance, have long had a litter frame and a base. Moreover, such emergency cots have long had an ability to effect changes in vertical elevation.¹⁰ For example, when a front of the emergency cot is disposed on a floor of a cargo area of an ambulance, the base can be configured to elevate or lower the base relative to the litter frame so that the collapsed emergency cot may be pushed into the cargo area of the ambulance. It is also well known to use a pair of longitudinally extending side rails (extending from a head end to a food end of the emergency cot). It is also well-known to those of ordinary skill in the art to have a retractable, generally U-shaped head section of the cot.

Engineers and product designers have long designed emergency cots such that a user is able to move one or more sections of the cot for a more slim profile, for greater maneuverability, for more compact storage, etc., such as the ‘623 Patent. The ‘623 Patent discloses an emergency cot for use in connection with an emergency vehicle. The emergency cot of the ‘623 Patent has a litter frame, a base and the ability to effect changes in vertical elevation. The ‘623 Patent also discloses an emergency cot having a part of longitudinally extending side rails (extending from a head end to a food end of the emergency cot). The ‘623 Patent also discloses an emergency cot having a movable, generally U-shaped head section of the cot.

The ‘673 Patent discloses an extendable hand grip ambulance cot. More specifically, the

¹⁰ See the ‘944 Patent, ‘941 Patent, ‘026 Patent and ‘973 Patent.

‘673 Patent discloses a cot where the hand grip/control arrangements each comprises a locking handle fitted to the end of a hollow tube which is slidable within a hollow frame. In the ‘673 Patent, the locking handles of the emergency cot are retractable within the cot, and are locked in place by protrusions that fit within openings of the hollow tube.

Applying similar mechanics and functionality as the protrusions and openings of the ‘673 Patent, JP ‘819 discloses a seat capable of sliding into multiple lockable positions by way of locking teeth that are disposed within slots. To unlock the seat, a handle connected to a pin is rotated about an axis to lift a lever which, in turn, lifts a lock piece having locking teeth out of a series of slots, thereby allowing the seat to slide to a new position. This is highly similar to the ‘968 Patent’s locking system which uses a handle and a pin to articulate a retractable pin which, in turn, engages with slots in the side rail of the cot.

It would have been well within the technical grasp of the POSITA (and quite frankly common sense) to combine the emergency cot disclosed by the ‘623 Patent (including the movable, generally U-shaped head section) with the retractable arms of the ‘673 Patent. The generally U-shaped head section of the ‘623 Patent pivots from an extended position to a downwards position for a more slim profile, for greater maneuverability, and for more compact storage. So too, the ‘673 Patent discloses the use of locking, retractable arms to effect a more slim profile, for greater maneuverability, and for more compact storage. The POSITA would immediately recognize that the movable, generally U-shaped head section of the ‘623 Patent could accomplish this same objective by using a locking, retractable head, *i.e.*, by using the same retractable element as the locking arms in the ‘673 Patent. Simply stated, there is no other practical way of stowing the generally U-shaped head section (*i.e.*, in order to have a slim profile, the generally U-shaped head section could either retract or pivot downwards—moving upwards or side-to-side would be

counterproductive as it would increase rather than decrease the footprint of the emergency cot).

It would have been obvious to a POSITA to combine these references with the knowledge of a person of ordinary skill in the art because that retracting the head section is the only other position (other than the downward position used in the '623 Patent) in which the purpose of making the head section movable are accomplished. The use of such a device represents zero innovation whatsoever. For example, rotation of a component such a pin (reference numeral 6 in JP '819) to unlock a locking member is well known in view of JP '819. It would have been obvious to a POSITA to modify the handles of the '673 Patent (which had a similar locking pin in connection with horizontal telescoping movement) to include such the rotating pin of JP '819 to move the protrusions (reference numeral 28 in the '673 Patent) out of the openings (reference numeral 29 in the '673 Patent).

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). It would have been obvious to one of ordinary skill in the art to combine the '673 Patent with the '623 Patent to provide the cot of the '623 Patent with extending and retracting functionality. The '623 Patent already had a generally U-shaped head section which could be moved in a rotational fashion for a more compact profile. Likewise, the '673 Patent employed the familiar element of using retracting handles for a more compact profile. It would have been obvious to the POSITA to combine the use of the cot according to the '673 Patent with the knowledge of how retracting members could minimize a cot's profile from the '623 Patent. This would have predictably yielded an emergency cot which could retract—rather than rotate—the head member. Similarly, the additional or alternative addition of JP '819 discloses features (teeth) that fit into another feature (slots) which are actuated by a handle connected to a pin.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the

art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that the cot disclosed in the ‘673 Patent includes a head section capable of being rotated for a more compact profile and that it would be obvious to, instead, retract the head section (especially in view of the retraction features of the ‘673 Patent). The POSITA would have had only a finite number of possible design choices with respect to the operation of a device to render the drive mechanism inoperative. Particularly, there are only two positions for which it makes sense to move the head section to give the cot a more compact profile (without removing the head section): retracting or rotating downwards. The number “two” is clearly a finite number. It would have been obvious to try to use the known operation of retractable, locking cot members to render the head section retractable rather than rotatable. Similarly, the additional or alternative addition of JP ‘819 discloses features (teeth) that fit into another feature (slots) which are actuated by a handle connected to a pin. It would have been obvious to try combining these elements with the ‘737 Patent inasmuch as the ‘673 Patent uses a highly similar feature (projection) which fits into another feature (openings) which are actuated by a handle connected to a pin.

- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** See *KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to ensure the cot has a more compact profile (*e.g.*, when the cot is being stored), a POSITA would have found it obvious to make the head section retractable. By using the same motivation which led to the implementation of retractable arms in the ‘673 Patent, the POSITA would have arrived at the claimed invention. Similarly, the additional or alternative addition of JP ‘819 discloses features (teeth) that fit into another feature (slots) which are actuated by a handle connected to a pin. A POSITA would be motivated to use the rotating handle from JP ‘819 inasmuch as it is a common means of engaging / disengaging a locking pin.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a retractable member of an emergency cot is well-known in the art and present in a wide-variety of products (including the ‘623 Patent). It is also

well known in the art that an emergency cot with a generally U-shaped head member can accomplish a more compact profile by having the head member move from an engaged position into a non-engaged position. Accordingly, use of the technique of using a retractable member to render the generally U-shaped head member retractable-rather than rotatable—would be well-known to a POSITA. Thus, the technique of using a retractable, generally U-shaped head member in connection with an emergency cot is obvious and clearly not beyond the skill of the POSITA. Similarly, the additional or alternative addition of JP ‘819 discloses features (teeth) that fit into another feature (slots) which are actuated by a handle connected to a pin. This is a well-known technique which has been used in similar devices, i.e., devices in which a device is locked or unlocked by articulating the position of a pin within a hole using a rotating handle.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘623 Patent is combined with the ‘673 Patent and/or JP ‘819 and the Knowledge of a POSITA.

B. Claim Chart for Combining the ‘623 Patent with the ‘673 Patent and/or JP ‘819 and the Knowledge of a POSITA

‘968 Patent		
Claim 1 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
A	An ambulance cot comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘623 Patent discloses an ambulance cot (called an “ambulance stretcher” or “emergency stretcher” (reference numeral 10)) as shown in the image below from FIG. 1 of the ‘623 Patent: FIG. 1

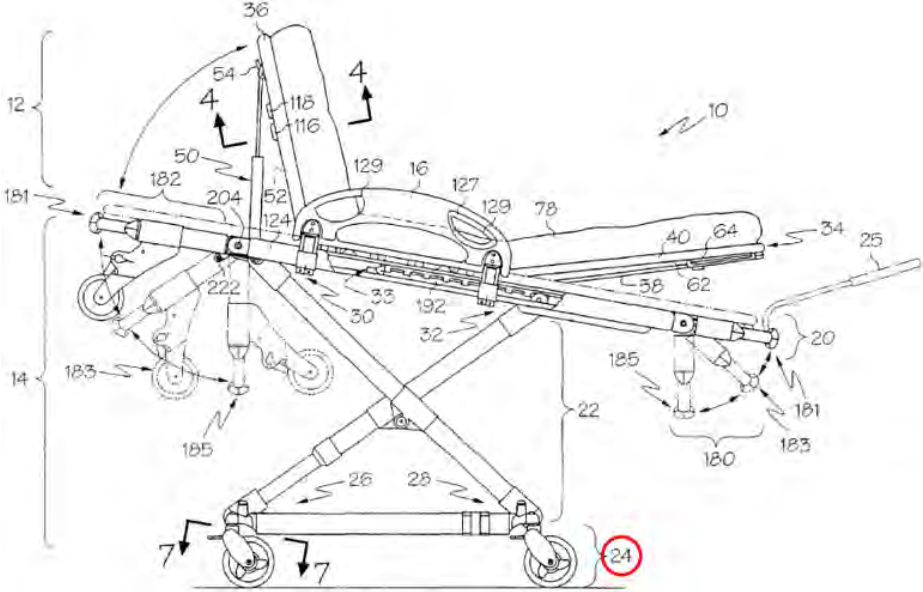
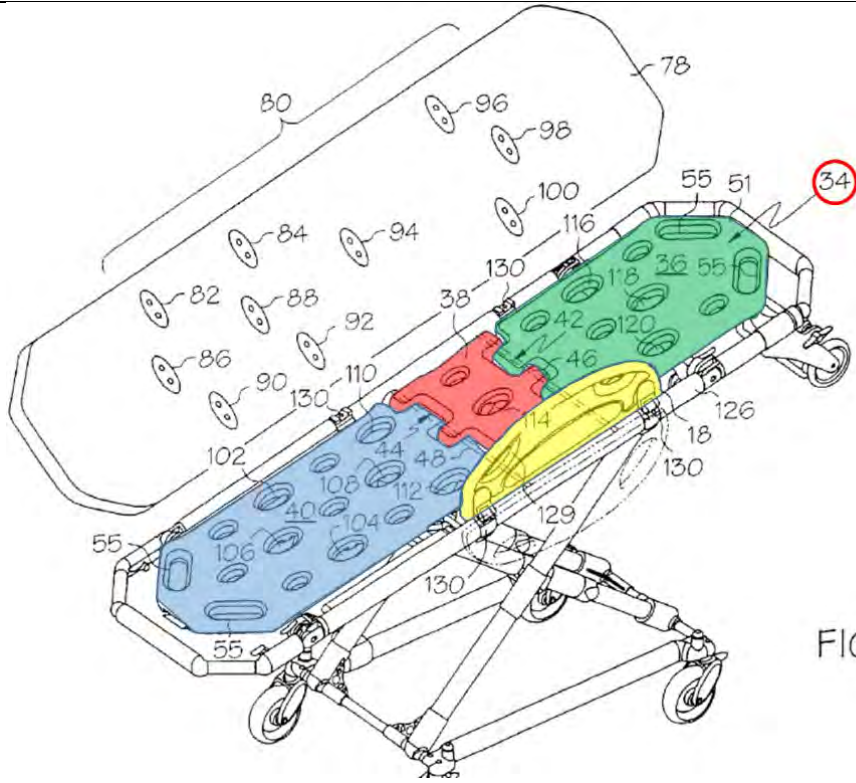
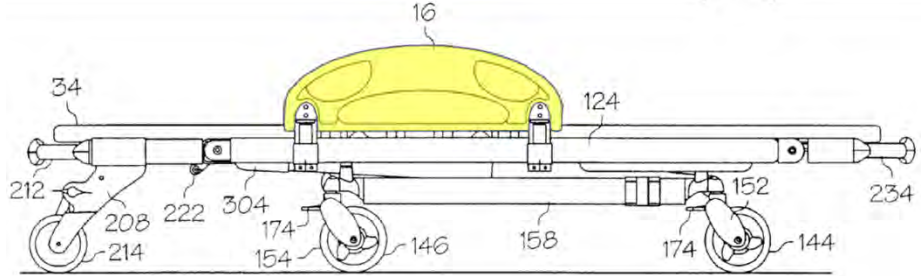
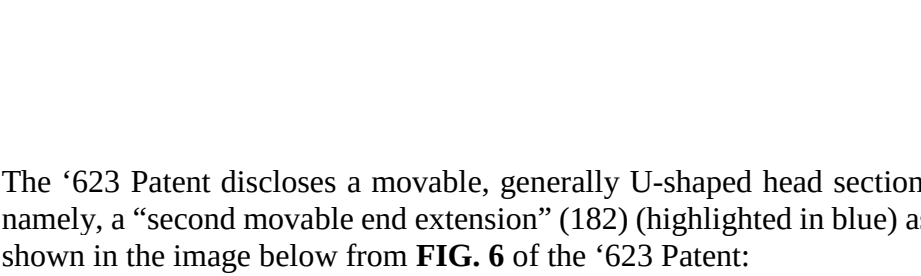
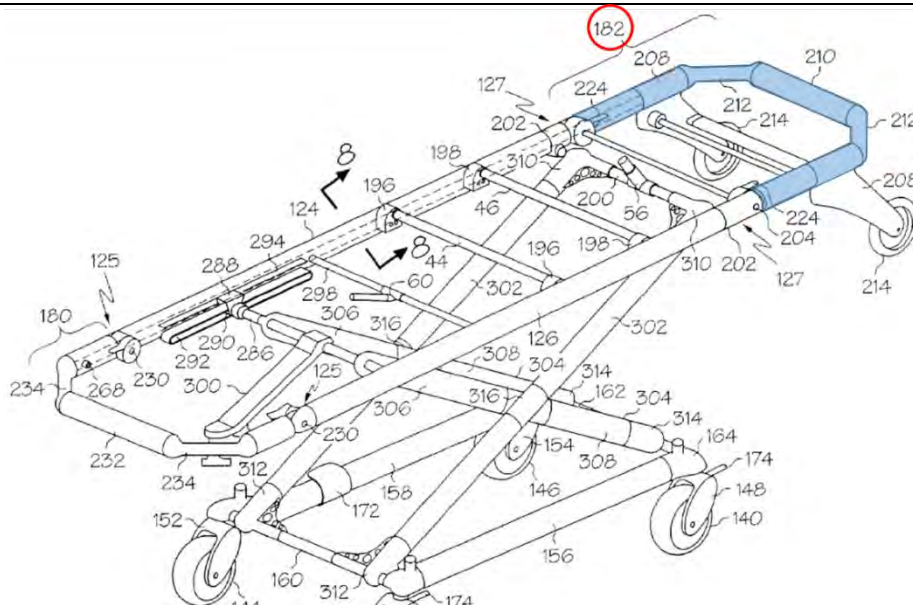
B	a wheeled base; and	The '623 Patent discloses a "wheeled base frame" (reference numeral 24) as shown in the image below from FIG. 1 of the '623 Patent:  FIG. 1
C	a patient litter disposed above and supported for adjustable vertical movement on said base by a support mechanism, the patient litter comprising:	The '623 Patent discloses that typical prior art "includes a patient litter vertically movable by an X-frame undercarriage" '623 Patent, col. 1, lns. 13-14. Moreover, the '623 Patent itself discloses a litter (called a "patient support" (reference numeral 12)) which is disposed above and supported for adjustable vertical movement on said base by a support mechanism, namely, a support mechanism comprising an "undercarriage" (reference numeral 14) as shown in the image below from FIG. 1 of the '623 Patent:

		FIG. 1
D	a pair of longitudinally extending side rails, the side rails configured to extend from a head end to a foot end of the patient litter;	The '623 Patent discloses that the "patient support 12 includes a ... bed 34 that is articulated in thirds, forming a vertically adjustable back rest portion 36 [highlighted in green below in an image taken from FIG. 2 of the '623 Patent], a seat portion 38 [highlighted in red below], and a vertically adjustable leg support portion 40 [highlighted in blue below]" ('623 Patent, col. 4, lns. 19-23) with longitudinally extending "side-arm supports" (reference numerals 16 and 18) highlighted in yellow below which span from the head end (<i>i.e.</i>, the back rest portion (36)) to the foot end (<i>i.e.</i>, the leg support portion (40)):

		 FIG. 2 A side view of the cot having side rails (highlighted in yellow) is shown in the image below from FIG. 12 of the '623 Patent: 
E	a retractable, generally U-shaped head section, the head section having a pair of parallel legs connected by a cross rail, the legs being configured to be slidably received into	The '623 Patent discloses a movable, generally U-shaped head section, namely, a “second movable end extension” (182) (highlighted in blue) as shown in the image below from FIG. 6 of the '623 Patent: 

the interior of the respective longitudinally extending side rails, a pair of brackets connecting the legs to a head rail, a cross rail pivotally received by the brackets, at least one handle pivotally mounted for movement about an axis corresponding to or parallel to the axis of the cross rail, the handle being connected to a pin configured for rotation about the axis of rotation defined by or parallel to the axis of the cross rail.



This “second movable end extension” (182) is “rotatably connected to said distal ends 127 of said longitudinal frame members 124 and 126.” ‘623 Patent, col. 6, lns. 56-58. In other words, this U-shaped head section rotates—rather than retracts—for a more compact profile.

FIG. 37 of the ‘968 Patent (reproduced and highlighted below) helps illustrate this limitation. More specifically, the ‘968 Patent explains that “the retractable head section 197 is generally U shaped, namely, having a pair of parallel legs 198 and 199.” These legs are “configured to be slidably received into the interior of the respective longitudinally extending side rails.” These limitations are shown in the image below taken from **FIG. 37** of the ‘968 Patent, in which the two parallel legs (198 and 199) have been highlighted in blue while the longitudinally extending side rails (66) have been highlighted in purple:

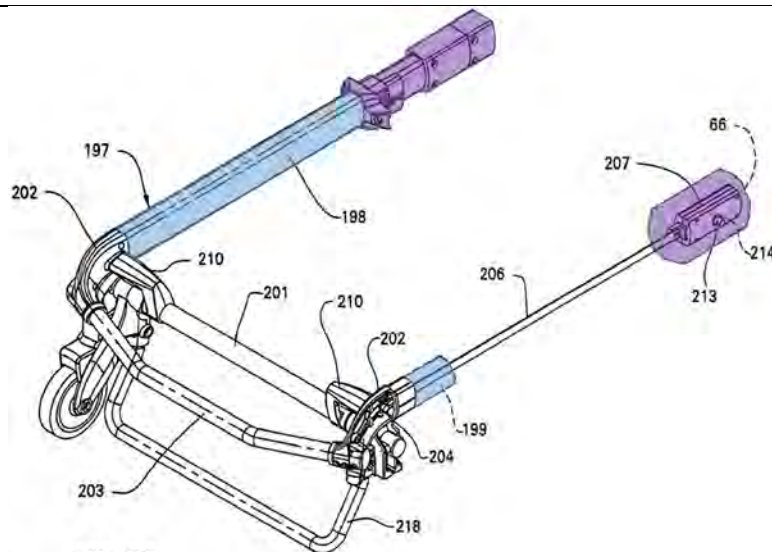


FIG. 37

The '673 Patent discloses an extendable hand grip ambulance cot. More specifically, the '673 Patent discloses a cot where the "hand grip/control arrangements (for there are two) each comprises a handle 19, 9 fitted to the end of a hollow rectangular section aluminium [sic] tube 20, 8. Each tube 20, 8 is slidable within a hollow upper frame member 21, 7 of the undercarriage in a parallel longitudinal direction."

The enlarged detail below taken from **FIG. 2** of the '673 Patent depicts these legs (highlighted in blue) and the longitudinally extending side rails (highlighted in purple):

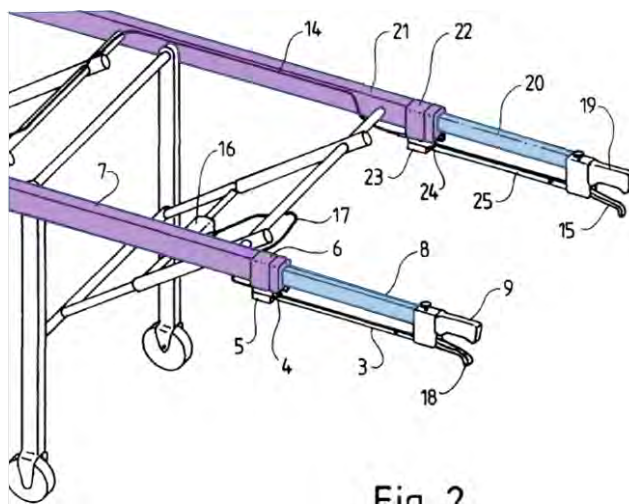


Fig. 2

Claim 1 of the '968 Patent further includes that the pair of parallel legs are "connected by a cross rail." **FIG. 37** of the '968 Patent discloses this cross rail (reference numeral 201) as shown below in the image taken from **FIG. 37** (with the cross rail highlighted in yellow):

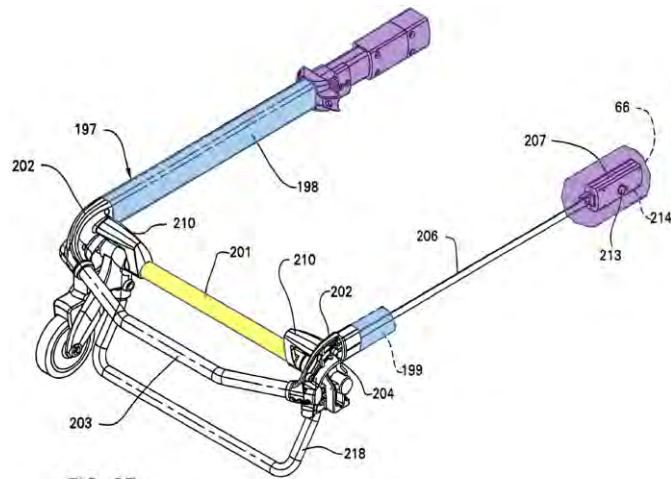


FIG. 37

The '673 Patent discloses a cross rail (called a "mechanism" (reference numeral 16)) connecting the parallel legs as shown below in the annotated image from FIG. 2 (with the cross rail highlighted in yellow):

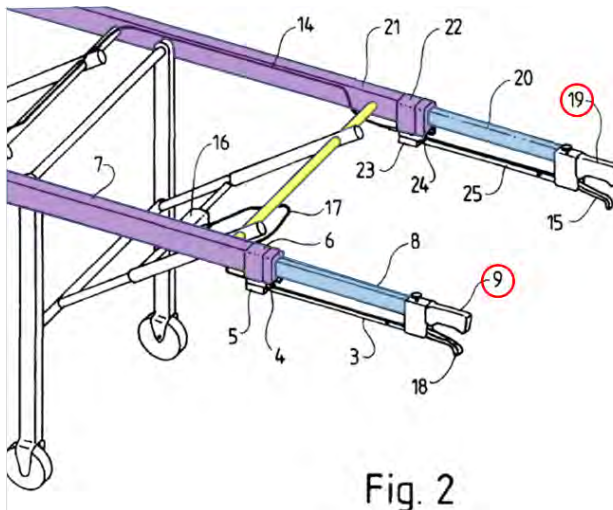


Fig. 2

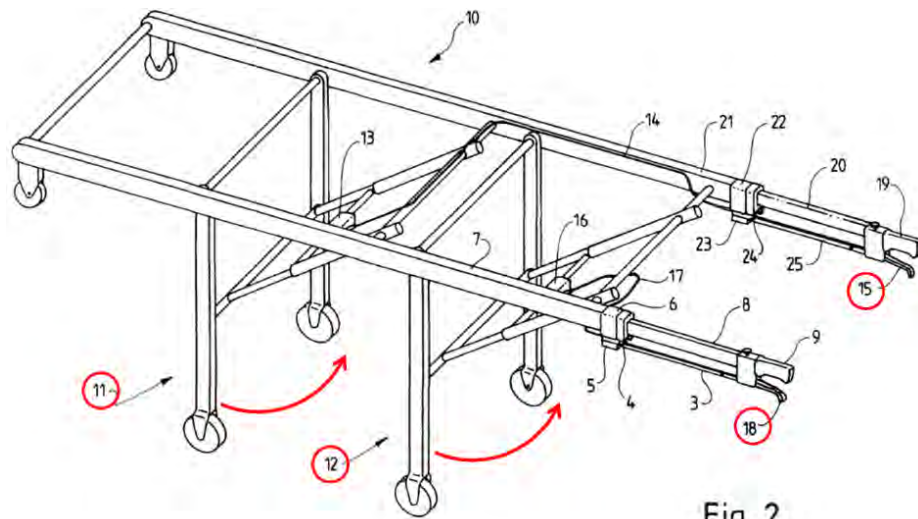
Claim 1 of the '968 Patent further includes a limitation directed towards "a pair of brackets connecting the legs to a head rail, a cross rail pivotally received by the brackets, at least one handle pivotally mounted for movement about an axis corresponding to or parallel to the axis of the cross rail, the handle being connected to a pin configured for rotation about the axis of rotation defined by or parallel to the axis of the cross rail."

First, the text of the '968 Patent itself points to prior art concerning this limitation, namely, U.S. Patent Application Serial No. 10/850,144 (subsequently issued as the '133 Patent). See '968 Patent, col. 17, lns. 4-13.

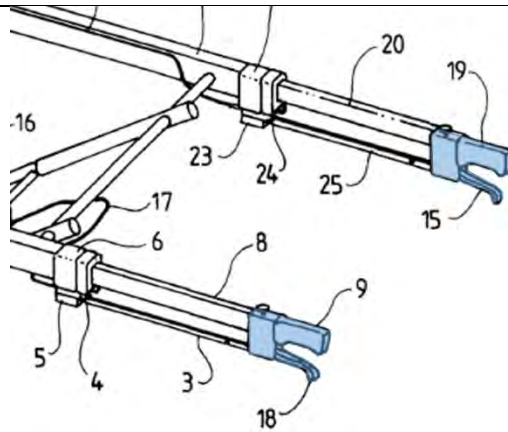
Second, numerous other prior art references disclose similar handles which are connected to a pin configured for rotation.

The specification of the '968 Patent explains that "[t]he handles 210 are fixed to the cross rail 201 for pivotal movement with the cross rail 201 about an axis corresponding to or parallel to the axis of the cross rail 201 in order to facilitate the movement of a pin 204 projecting from each handle 210 about an axis of rotation defined by or parallel to the axis of the cross rail 201. The pin 204 extends through an arcuate slot 215 in the bracket 202." In other words, rotating the handle causes a locking pin to either advance (*i.e.*, lock) or retreat (*i.e.*, unlock) in a slot.

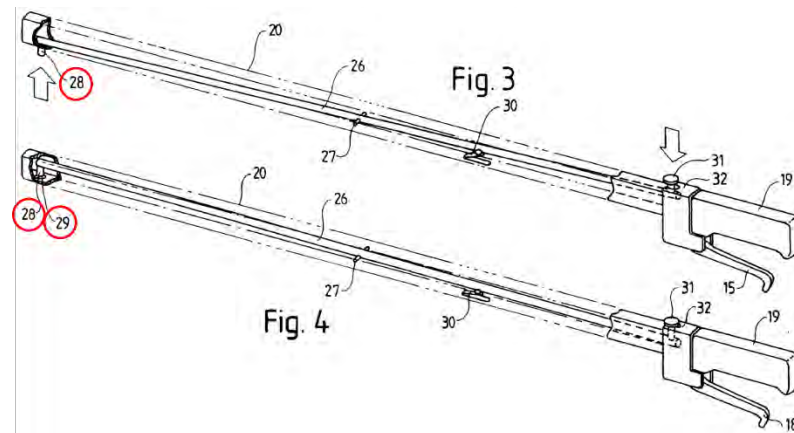
As a first example, the '673 Patent discloses the use of two handles (19, 9 – circled in red in the image above). These handles control the positioning of height adjustable legs (11, 12). More specifically, when levers (15, 18) are squeezed, the height adjustable legs (11, 12) and rotate upwards or downwards to move into an engaged or non-engaged position. For example, the image below taken from **FIG. 2** of the '673 Patent shows the legs (11, 12) in an engaged position, while the red arrows show the direction of rotation for the legs to move into a non-engaged position:



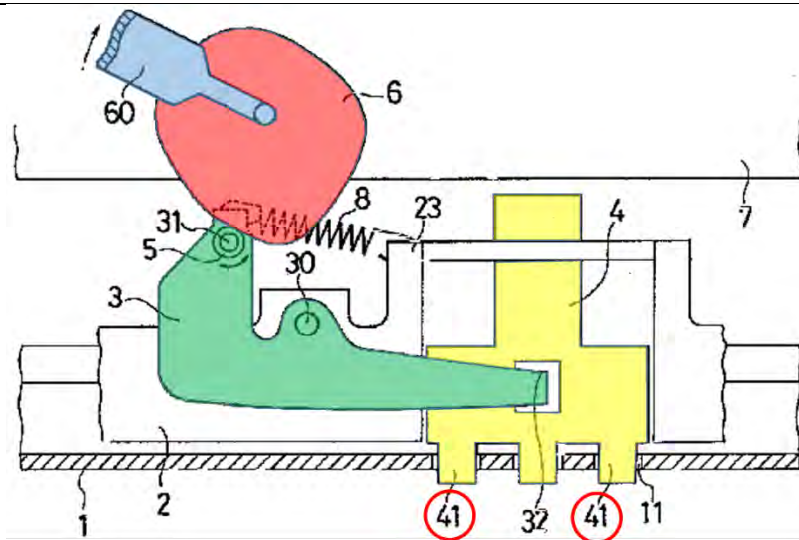
As a second example, the '673 Patent discloses the use of two handles (19, 9) each having levers (15, 18) which, when squeezed, actuate the position of adjustable cot legs. The image below is taken from **FIG. 2** of the '673 Patent and shows each actuating handle / lever assembly (highlighted in blue):



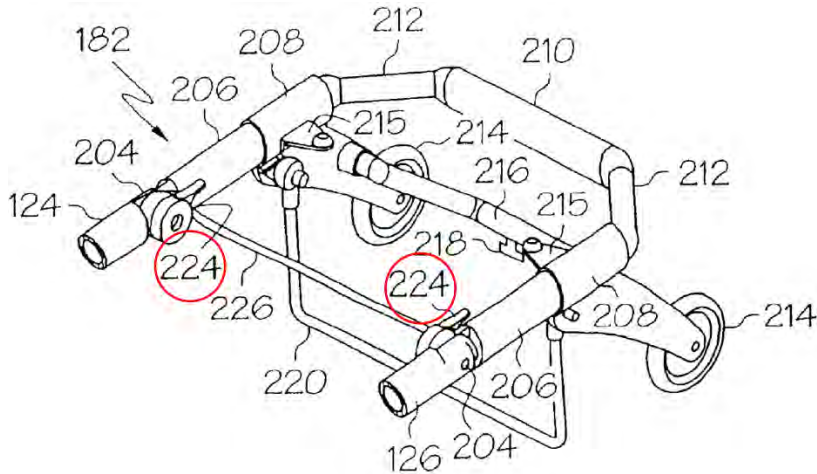
The '673 patent further discloses pins (called "projections" (reference numeral 28)) going into slots (called "openings (reference numeral 29)) to lock the extendible legs in place (see **FIGS. 3** and **4** reproduced below):



The image below is taken from **FIG. 2** of JP '819. As shown below, JP '819 discloses a handle (reference numeral 60) (highlighted in blue) connected to a pin (reference numeral 6) (highlighted in red) wherein the handle (60) is configured for rotation to lift a lever (reference numeral 3) (highlighted in green) to remove locking teeth (reference numeral 41) (encircled in red) of a lock piece (reference numeral 4) (highlighted in yellow) from slots 11 to unlock a seat so that the seat may slide to a new position:



It would have been obvious to one of ordinary skill in the art to combine the '673 Patent with the '623 Patent to provide the cot of the '623 Patent with extending and retracting functionality. The '623 Patent already had a generally U-shaped head section which could be moved in a rotational fashion for a more compact profile. By combining this with the '673 Patent, it would have been obvious to a POSITA that the U-shaped head section could be moved to become more compact by retracting—rather than rotating—the parallel legs. It would have been obvious for a POSITA to combine these references inasmuch as they both involve ambulance cots having a movable frame and inasmuch as they both accomplish a similar purpose (using the movable frame to give the cot a more compact profile). It would have also been obvious to provide a locking mechanism (whether from the combination of the '673 Patent with the '623 Patent alone or from these in combination with other prior art such as the locking mechanism disclosed in JP '819). Among other reasons, it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. Rather, it is obvious that the U-shaped head section should lock in place when it is put into an engaged or a non-engaged position. This is also obvious in view of the locking mechanism employed by the '673 Patent. More specifically, the '673 Patent includes a locking bar (26) which includes a projection (28) used to lock the retractable cot handles in place. This locking bar is held under tension by a leaf spring (3) and is unlocked by depressing a button which “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged from the stretcher frame and the slidable tube” ('673 Patent, col. 4, lns. 61-64) allowing the retractable arms to be adjusted.

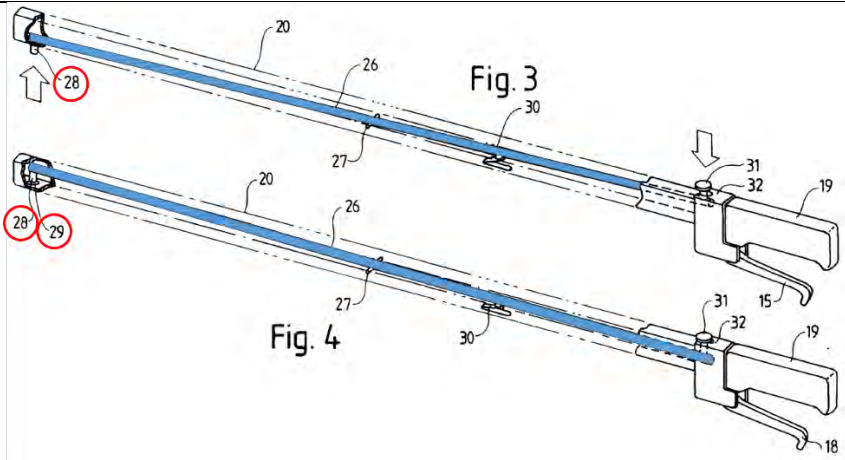
‘968 Patent		
Claim 2 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
	The ambulance cot according to claim 1,	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference.
F	wherein the at least one handle comprises first and second handles, the first and second handles being affixed to the cross rail such that actuation of either of the first and second handles effects a rotation of the cross rail and actuation of the other handle.	The ‘623 Patent discloses two handles (called “release levers” (reference numeral 224)) as shown in the image below taken from FIG. 9 of the ‘623 Patent:  Actuation of one of these handles causes actuation of the other. Similarly, the ‘673 Patent discloses the use of two handles (19, 9) each having levers (15, 18) which, when squeezed, independently allow the position of adjustable cot legs to rotate. The image below is taken from FIG. 2 of the ‘673 Patent and shows each actuating handle / lever assembly (highlighted in blue):

		In view of this prior art, it would have been obvious to a POSITA to have two handles affixed to the cross rail such that actuation of either handle effects a rotation of the cross rail and actuation of the other handle.
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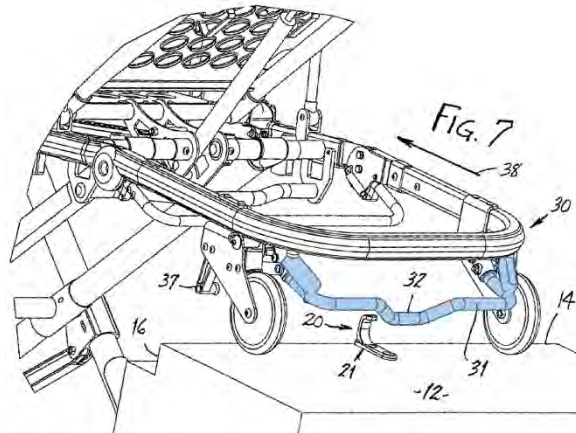
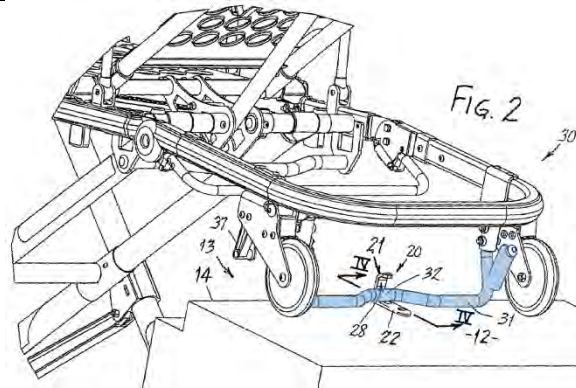
‘968 Patent		
Claim 3 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
	The ambulance cot according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
G	further comprising a locking mechanism for selectively fixing the position of the head section in one of an extended and a retracted position, the locking mechanism configured for actuation by the first and second handles.	The enlarged detail below taken from FIG. 2 of the ‘673 Patent depicts retractable legs (8, 20) (highlighted in blue) going into side rails (21) (highlighted in purple): Fig. 2 It would be obvious to make the cot of the ‘623 Patent have a slidable

		head section rather than a rotating (i.e., drop down) head section to provide length adjusting capabilities. It would have also been obvious to employ a “locking mechanism” inasmuch as it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. It would have been obvious to a POSITA that the U-shaped head section should lock in place when it is put into an engaged or a non-engaged position. This is also obvious in view of the locking mechanism employed by the ‘673 Patent. More specifically, the ‘673 Patent includes a locking bar (26) which includes a projection (28) used to lock the retractable cot handles in place. This locking bar is held under tension by a leaf spring (3) and is unlocked by depressing a button which “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged from the stretcher frame and the slidable tube” (‘673 Patent, col. 4, lns. 61-64) allowing the retractable arms to be adjusted.
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‘968 Patent		
Claim 4 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
H	The ambulance cot according to claim 3, further comprising a locking mechanism deactivation mechanism for preventing the locking mechanism from becoming disengaged by the actuation of the first or second handle.	This claim is dependent on Claim 3. As such, each claim element of the chart for Claim 3, above, is incorporated herein by reference. It would have also been obvious to employ a “locking mechanism” inasmuch as it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. It would have been obvious to a POSITA that the U-shaped head section should lock in place when it is put into an engaged or a non-engaged position. This is also obvious in view of the locking mechanism employed by the ‘673 Patent. More specifically, the ‘673 Patent includes a locking bar (26) (highlighted in blue in the image below taken from FIGS. 3 and 4 from the ‘673 Patent) which includes a projection (28) used to lock the retractable cot handles in place. This locking bar is held under tension by a leaf spring (3) and is unlocked by depressing a button which “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged from the stretcher frame and the slidable tube” (‘673 Patent, col. 4, lns. 61-64) allowing the retractable arms to be adjusted:

		 This spring biased locking bar and button acts as both a locking mechanism and a deactivation mechanism (<i>e.g.</i>, the generally U-shaped head section cot is unlocked (<i>i.e.</i>, deactivated) by depressing the button which, in turn “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged....” ‘673 Patent, col. 4, lns. 62-64) (emphasis added).
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‘968 Patent		
Claim 5 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
I	The ambulance cot according to claim 4, further comprising a safety bar being configured to engage the locking mechanism deactivation mechanism.	This claim is dependent on Claim 4. As such, each claim element of the chart for Claim 4, above, is incorporated herein by reference. Moreover, the ‘968 Patent itself notes that what is now the ‘133 Patent included a “safety bar” which could be “rotated upwardly in a counterclockwise fashion, by an attendant, toward the head end of the ambulance cot to clear a hook mounted at the mouth of an ambulance cargo area.” ‘968 Patent, col. 17, lns. 4-9. The “safety bar” disclosed by the ‘133 Patent is shown below (highlighted in blue) in images taken from FIGS. 2 and 3 of the ‘133 Patent. As can be seen in FIG. 2 (at left), the safety bar (31) has an engaged position to lock the cot into an ambulance, while FIG. 3 shows that the safety bar (31) can be rotated into an unengaged position to unlock the cot:



In the '968 Patent, a highly similar "safety bar" (reference numeral 218) is rotated to lock the latch mechanism (reference numeral 207) into position as shown in the image below taken from FIG. 62 of the '968 Patent (the "safety bar" (218) is highlighted in blue):

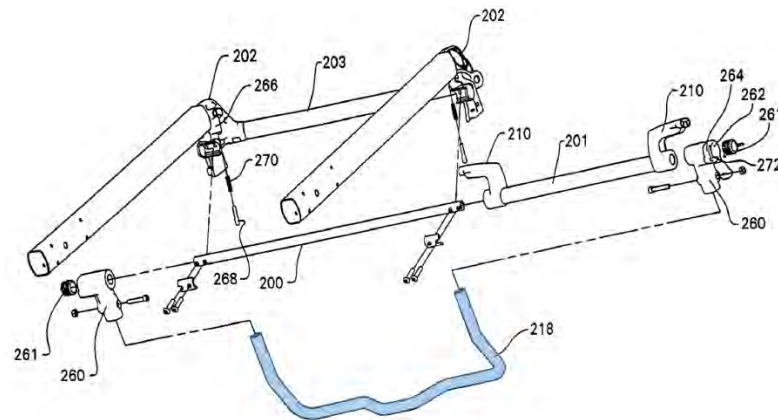
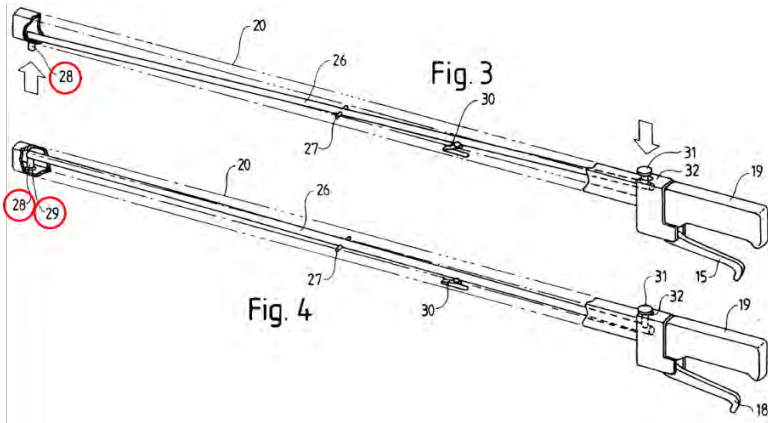


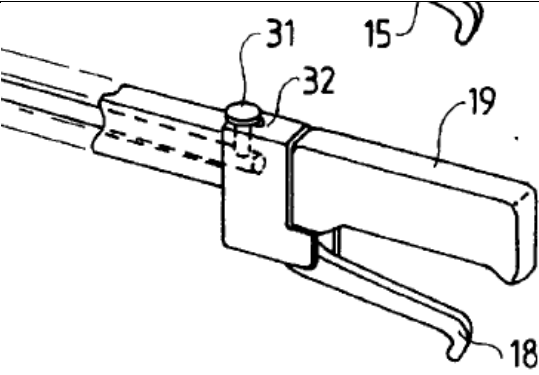
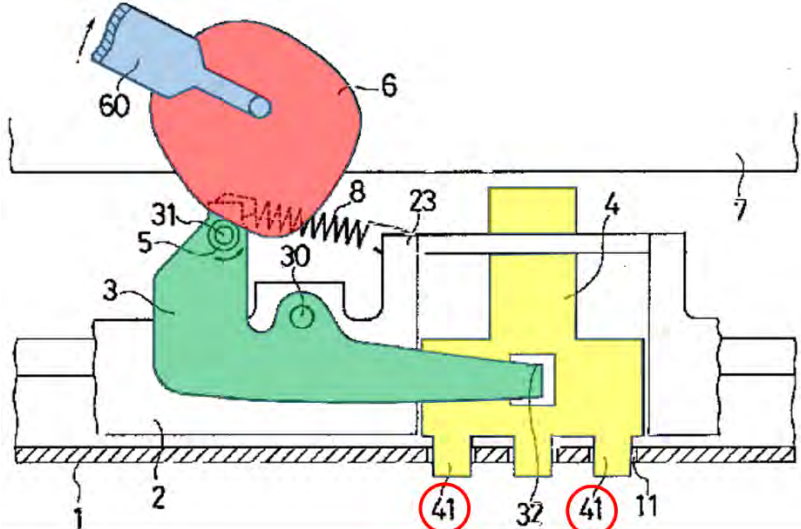
FIG. 62

It would have been obvious to a POSITA that the "safety bar" in the '133 Patent (which locks the cot in place) could, instead, be used to lock the latch mechanism in place (which, in turn, locks the cot in place). Both

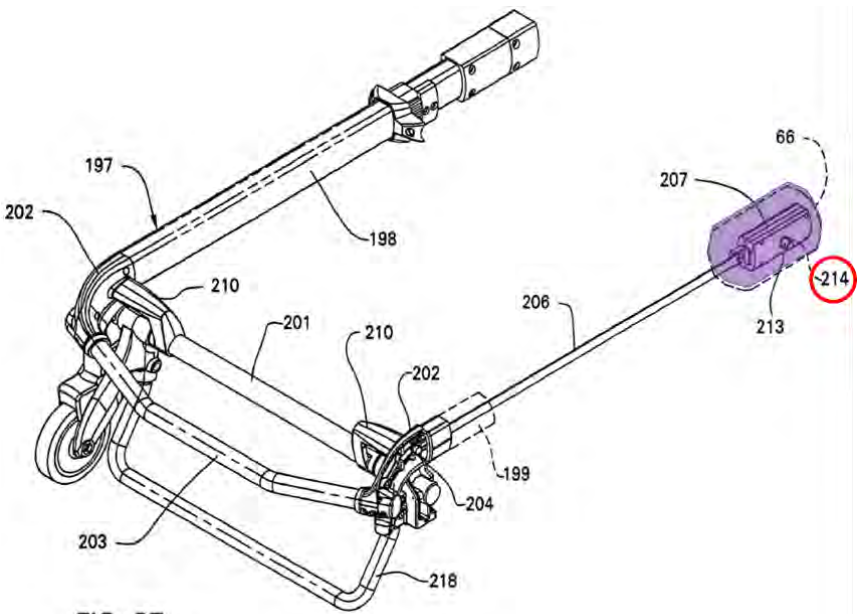
		technologies are applied to highly similar ambulance cots, have the same general appearance and perform the same general function (locking the cot in place – one directly and the other indirectly).
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‘968 Patent		
Claim 6 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
J	The ambulance cot according to claim 3, further comprising a pin extending from each handle into the interior of a respective bracket for engaging a first end of a locking mechanism linkage, the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the	This claim is dependent on Claim 3. As such, each claim element of the chart for Claim 3, above, is incorporated herein by reference. Claim 6 of the ‘968 Patent includes “a pin extending from each handle into the interior of a respective bracket for engaging a first end of a locking mechanism linkage, the linkage having a second end for engaging the locking mechanism, the locking mechanism comprising a retractable pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail.” As shown in FIGS. 3 and 4 below from the ‘673 Patent, this reference disclose a retractable pin (called a “projection” (reference numeral 28)) going into a receiver¹¹ (called “openings (reference numeral 29)) to lock the extendible legs in place. These retractable pins (28) are connected are also connected to a linkage (called a “locking bar” (reference numeral 26)) which, in turn, is connected to a pin (called a “button” (reference numeral 31)) extending from each handle into the interior of a respective bracket (called a “housing” (reference numeral 32)):  The image below shows an enlarged detail from FIG. 3 of the ‘673 Patent better showing how the pin (called a “button” (reference numeral 31)) extends from each handle into the interior of a respective bracket (called a “housing” (reference numeral 32)):

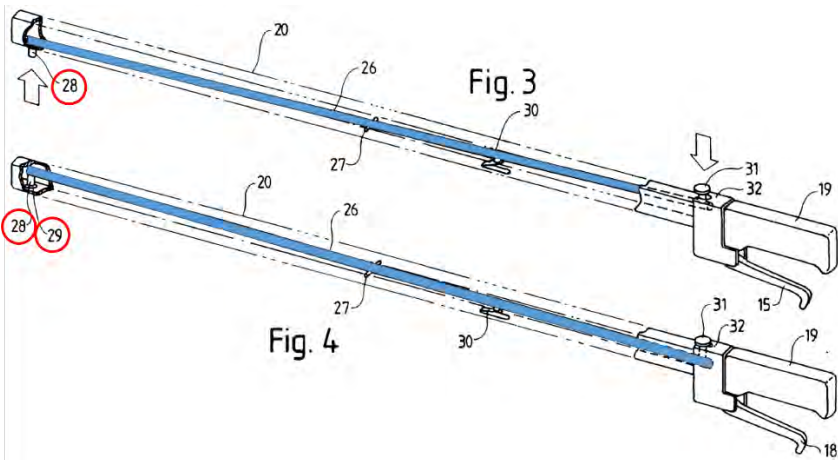
¹¹ The term “receivers” is not defined and could give rise to an issue under 35 U.S.C. § 112.

side rail.	 As another example, the image below is taken from FIG. 2 of JP '819. As shown below, JP '819 discloses a handle (reference numeral 60) (highlighted in blue) connected to a pin (reference numeral 6) (highlighted in red) wherein the handle (60) is configured for rotation to lift a lever (reference numeral 3) (highlighted in green) to remove locking teeth (reference numeral 41) (encircled in red) of a lock piece (reference numeral 4) (highlighted in yellow) from slots 11 to unlock a seat so that the seat may slide to a new position: 
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'968 Patent		
Claim 7 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
K	The ambulance cot according to claim 6, wherein the plurality of receivers	This claim is dependent on Claim 6. As such, each claim element of the chart for Claim 6, above, is incorporated herein by reference. The image below is taken from FIG. 37 of the '968 Patent. The specification of the '968 Patent explains that a plurality of holes (reference number 214) (circled in red below) “are provided along the length of the side rails 66 and are configured to receive therein the latch pin 213 when in the extended

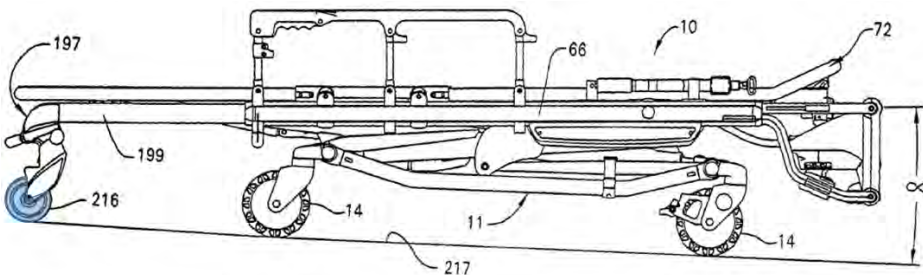
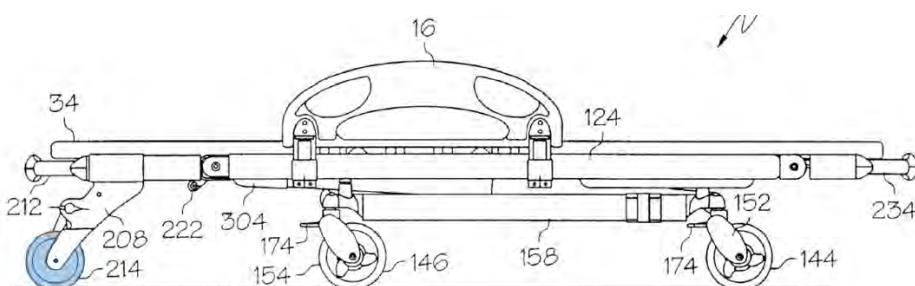
	within the side rail are covered so as to be inaccessible from outside the side rail.	position thereof as shown in FIG. 37.” ‘968 Patent, Col 16, Ins. 51-54. The ‘968 Patent further explains that these holes “are located such that access to them is not possible, i.e., under a bumper provided on the exterior of the litter rail 66.” ‘968 Patent, Col 16, Ins. 54-56. This bumper is highlighted in purple below:  FIG. 37 The ‘968 Patent explains that “[t]his is done for protection against inadvertent release, foreign matter, or potential pinching point.” ‘968 Patent, Col 16, Ins. 56-58. It would have been obvious to a POSITA to use a cover (such as a bumper) to “protect[] against inadvertent release, foreign matter, or potential pinching point.” Claim 7 merely recites the same invalid matter as Claim 6 with the addition of what is essentially a dust cover. Merely adding such a cover does not do anything to render Claim 7 non-obvious.
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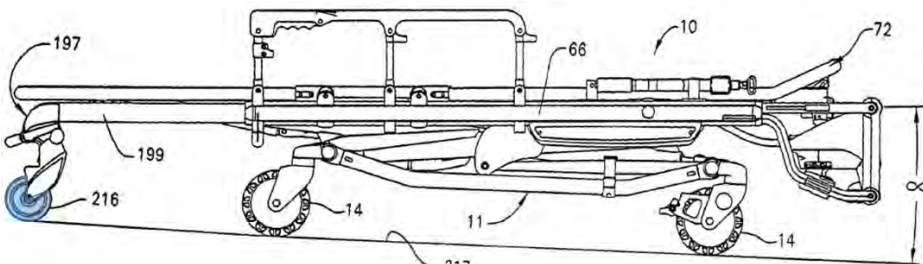
‘968 Patent		
Claim 8 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
L	The ambulance cot according to claim 6, wherein the locking mechanism deactivation mechanism operates by	This claim is dependent on Claim 6. As such, each claim element of the chart for Claim 6, above, is incorporated herein by reference. It would have also been obvious to employ a “locking mechanism” inasmuch as it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. It would have been obvious to a POSITA that the U-shaped head section should lock in place when it is put into an engaged or a non-engaged position.

	preventing movement of the pin extending from each handle into the respective bracket.	This is also obvious in view of the locking mechanism employed by the '673 Patent. More specifically, the '673 Patent includes a locking bar (26) (highlighted in blue in the image below taken from FIGS. 3 and 4 from the '673 Patent) which includes a projection (28) used to lock the retractable cot handles in place. This locking bar is held under tension by a leaf spring (3) and is unlocked by depressing a button which “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged from the stretcher frame and the slidable tube” ('673 Patent, col. 4, lns. 61-64) allowing the retractable arms to be adjusted:  This spring biased locking bar and button acts as both a locking mechanism and a deactivation mechanism (e.g., the generally U-shaped head section cot is unlocked (i.e., deactivated) by depressing the button which, in turn “overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged....” '673 Patent, col. 4, lns. 62-64) (emphasis added).
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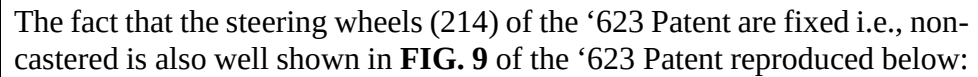
'968 Patent		
Claim 9 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
M	The ambulance cot according to claim 1, further comprising the head section including a pair of steering	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference. Claim 9 includes an emergency cot having “a pair of steering wheels.”¹² The '968 Patent's specification explains that “[w]hen the retractable head section 197 is extended to the position illustrated in FIG. 36, the load wheels 216 will engage the support surface 217 to provide a steering effect for the cot as it is moved over the surface 217 (a “steer” condition).” '968 Patent, col. 18, lns. 38-42.

¹² The term “steering wheels” is not defined and could give rise to an issue under 35 U.S.C. § 112.

	wheels.	The image below is taken from FIG. 36 of the '968 Patent and shows these steering wheels aka "load wheels" (216) highlighted in blue:  Such loading wheels are well known in the prior art. For example, the '623 Patent discloses such loading wheels (reference numeral 214). The image below is taken from FIG. 12 of the '623 Patent showing such loading wheels aka steering wheels highlighted in blue: 
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'968 Patent		
Claim 10 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
N	The ambulance cot according to claim 9, further comprising the steering wheels being mounted for rotation about a fixed axis (i.e. non-castered).	This claim is dependent on Claim 9. As such, each claim element of the chart for Claim 9, above, is incorporated herein by reference. Claim 10 includes an emergency cot having a pair of "steering wheels"¹³ which are "non-castered." As can be seen in the side-by-side comparison below taken from FIG. 36 of the '968 Patent (top) and FIG. 12 of the '623 Patent (bottom), the '623 Patent discloses the same non-castered steering wheels as claimed in Claim 10: 

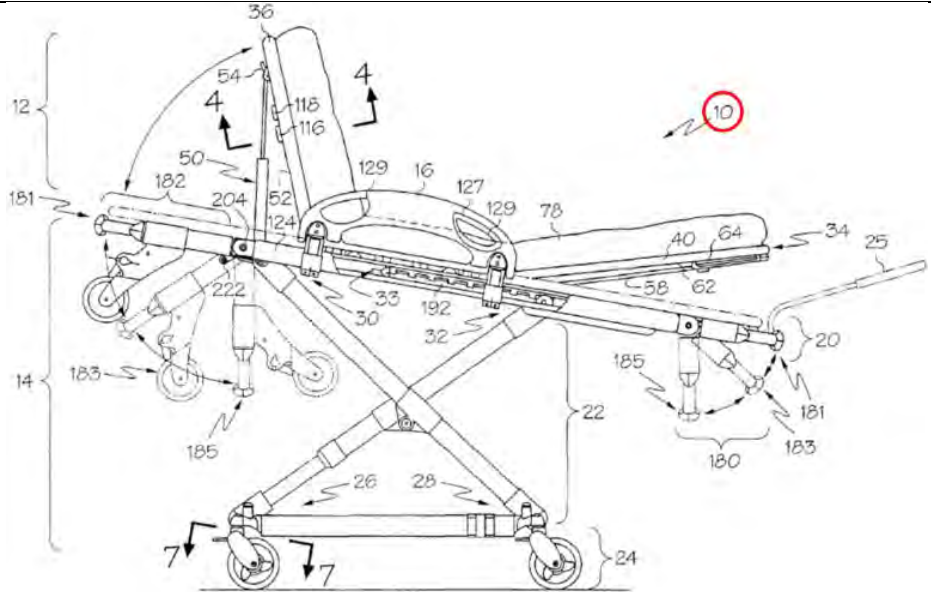
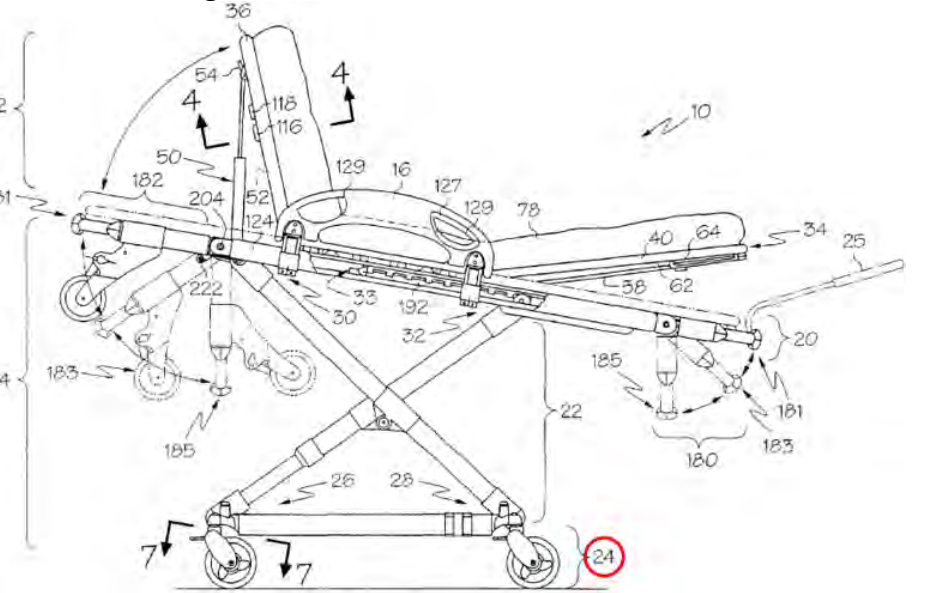
¹³ The term "steering wheels" is not defined and could give rise to an issue under 35 U.S.C. § 112.



	surface, the angle α being between 1°-10°.	emergency cot at an angle α relative to a support surface (with the angle α being between 1°-10°). As noted above in the analysis with respect to Claims 9 and 10 of the ‘968 Patent, the ‘623 Patent discloses non-castered steering wheels (but has four castered primary wheels (reference numerals 140-146). See, e.g., ‘623 Patent, col. 1, lns. 62-63 (“[t]he wheeled base is rectangular and supports caster wheels at its corners....”). Self-evidently, when the cot disclosed in the ‘623 Patent is in a fully collapsed position, the two fixed steering wheels would impede movement of the cot in various directions (whereas the four main caster wheels could freely move in all directions). It would have been obvious to slightly angle the cot such that only the four caster wheels make contact with the support surface, i.e., the floor.
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‘968 Patent		
Claim 13 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
P	The ambulance cot according to claim 12, further comprising the angle α being between 2°-3°.	This claim is dependent on Claim 12. As such, each claim element of the chart for Claim 12, above, is incorporated herein by reference. In the same way as a slight angle of between 1 and 10 degrees is obvious, a subset of that range (i.e., 2 to 3 degrees) is obvious.

‘968 Patent		
Claim 15 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
Q	An ambulance cot comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘623 Patent discloses an ambulance cot (called an “ambulance stretcher” or “emergency stretcher” (reference numeral 10)) as shown in the image below from FIG. 1 of the ‘623 Patent:

		 FIG. 1
R	a wheeled base; and	The '623 Patent discloses a “wheeled base frame” (reference numeral 24) as shown in the image below from FIG. 1 of the '623 Patent:  FIG. 1
S	a patient litter disposed above and supported for adjustable vertical movement on said base by a	The '623 Patent discloses that typical prior art “includes a patient litter vertically movable by an X-frame undercarriage” ‘623 Patent, col. 1, lns. 13-14. Moreover, the '623 Patent itself discloses a litter (called a “patient support” (reference numeral 12)) which is disposed above and supported for adjustable vertical movement on said base by a support mechanism, namely, a support mechanism comprising an “undercarriage” (reference numeral 14)

	support mechanism, the patient litter comprising:	as shown in the image below from FIG. 1 of the '623 Patent:
		FIG. 1
T	a pair of longitudinally extending side rails, the side rails configured to extend from a head end to a foot end of the patient litter;	The '623 Patent discloses that the “patient support 12 includes a ... bed 34 that is articulated in thirds, forming a vertically adjustable back rest portion 36 [highlighted in green below in an image taken from FIG. 2 of the '623 Patent], a seat portion 38 [highlighted in red below], and a vertically adjustable leg support portion 40 [highlighted in blue below]” ('623 Patent, col. 4, lns. 19-23) with longitudinally extending “side-arm supports” (reference numerals 16 and 18) highlighted in yellow below which span from the head end (<i>i.e.</i>, the back rest portion (36)) to the foot end (<i>i.e.</i>, the leg support portion (40)):

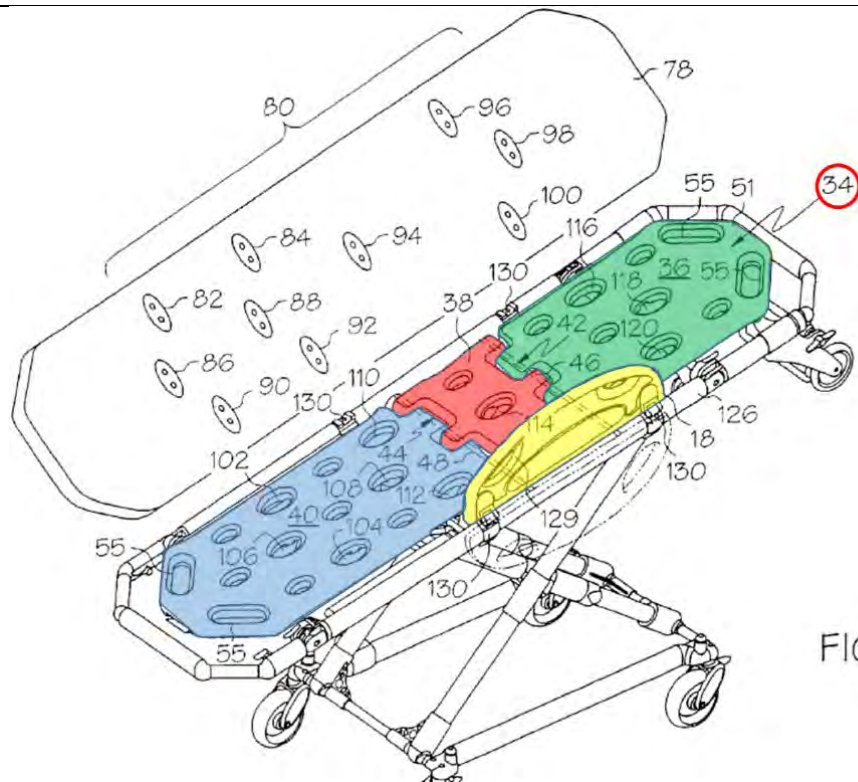
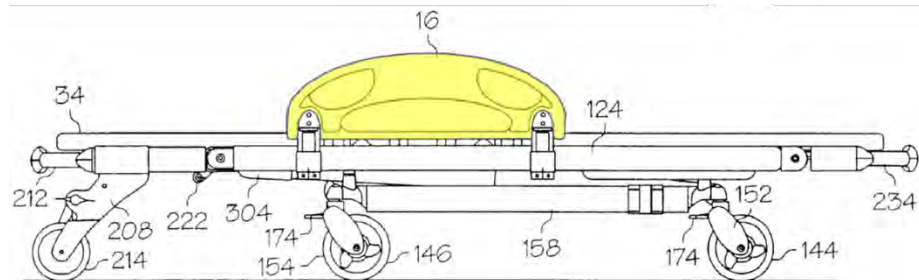


FIG. 2

A side view of the cot having side rails (highlighted in yellow) is shown in the image below from **FIG. 12** of the '623 Patent:

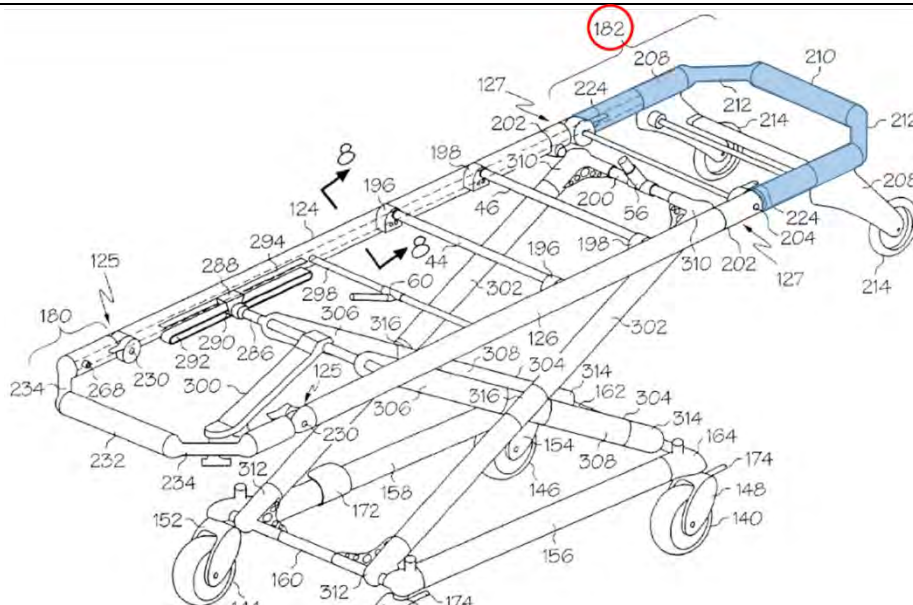


U

a retractable, generally U-shaped head section, the head section having a pair of parallel legs connected by a cross rail, the legs being configured to be slidably received by the respective

The '623 Patent discloses a movable, generally U-shaped head section, namely, a "second movable end extension" (182) (highlighted in blue) as shown in the image below from **FIG. 6** of the '623 Patent:

longitudinally extending side rails, and at least one handle pivotally mounted for movement about an axis of the cross rail, a latch mechanism for selectively fixing the position of the head section in at least one of an extended and a retracted position, the latch mechanism configured for operation by the at least one handle, and



This “second movable end extension” (182) is “rotatably connected to said distal ends 127 of said longitudinal frame members 124 and 126.” ‘623 Patent, col. 6, lns. 56-58. In other words, this U-shaped head section rotates—rather than retracts—for a more compact profile.

FIG. 37 of the ‘968 Patent (reproduced and highlighted below) helps illustrate this limitation. More specifically, the ‘968 Patent explains that “the retractable head section 197 is generally U shaped, namely, having a pair of parallel legs 198 and 199.” These legs are “configured to be slidably received into the interior of the respective longitudinally extending side rails.” These limitations are shown in the image below taken from **FIG. 37** of the ‘968 Patent, in which the two parallel legs (198 and 199) have been highlighted in blue while the longitudinally extending side rails (66) have been highlighted in purple:

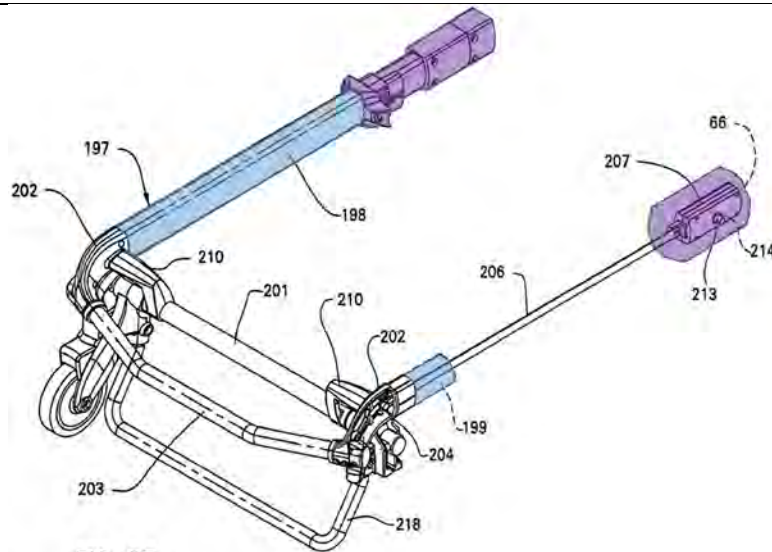


FIG. 37

The '673 Patent discloses an extendable hand grip ambulance cot. More specifically, the '673 Patent discloses a cot where the "hand grip/control arrangements (for there are two) each comprises a handle 19, 9 fitted to the end of a hollow rectangular section aluminium tube 20, 8. Each tube 20, 8 is slidable within a hollow upper frame member 21, 7 of the undercarriage in a parallel longitudinal direction."

The enlarged detail below taken from **FIG. 2** of the '673 Patent depicts these legs (highlighted in blue) and the longitudinally extending side rails (highlighted in purple):

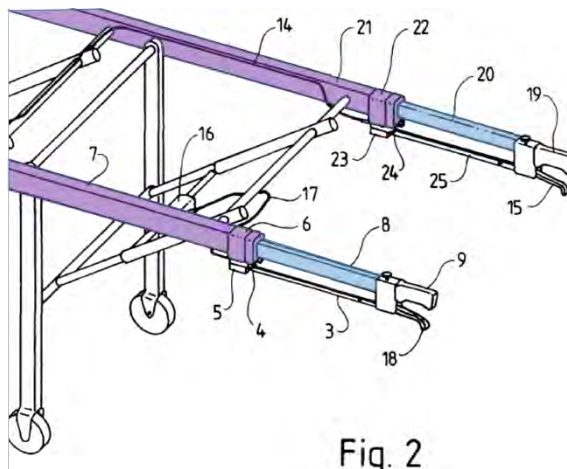
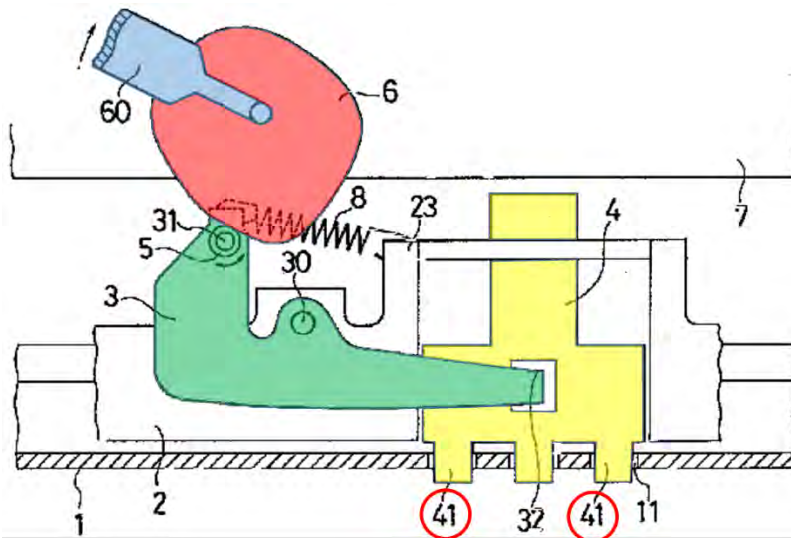


Fig. 2

As a second example, the image below is taken from FIG. 2 of JP '819. As shown below, JP '819 discloses a handle (reference numeral 60) (highlighted in blue) connected to a pin (reference numeral 6) (highlighted in red) wherein the handle (60) is configured for rotation to lift a lever (reference numeral 3) (highlighted in green) to remove locking teeth

(reference numeral 41) (encircled in red) of a lock piece (reference numeral 4) (highlighted in yellow) from slots 11 to unlock a seat so that the seat may slide to a new position:



It would have been obvious to one of ordinary skill in the art to combine the '673 Patent with the '623 Patent to provide the cot of the '623 Patent with extending and retracting functionality. The '623 Patent already had a generally U-shaped head section which could be moved in a rotational fashion for a more compact profile. By combining this with the '673 Patent, it would have been obvious to a POSITA that the U-shaped head section could be moved to become more compact by retracting—rather than rotating—the parallel legs. It would have been obvious for a POSITA to combine these references inasmuch as they both involve ambulance cots having a movable frame and inasmuch as they both accomplish a similar purpose (using the movable frame to give the cot a more compact profile). It would have also been obvious to provide a locking mechanism (whether from the combination of the '673 Patent with the '623 Patent alone or from these in combination with other prior art such as the locking mechanism disclosed in the '819 Patent.

In particular, this “latch mechanism” would have also been obvious inasmuch as it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. It would have been obvious to a POSITA that the U-shaped head section should lock in place when it is put into an engaged or a non-engaged position. For example, the “latch mechanism” of the '968 Patent (207) is best shown in **FIG. 37** shown below:

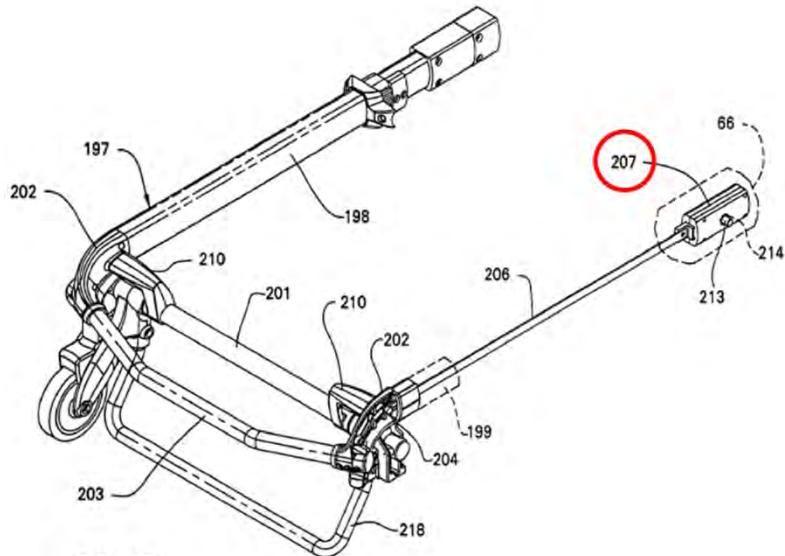
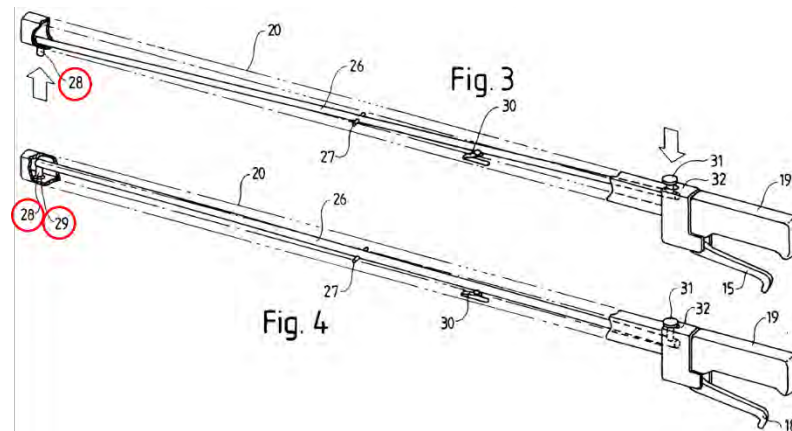
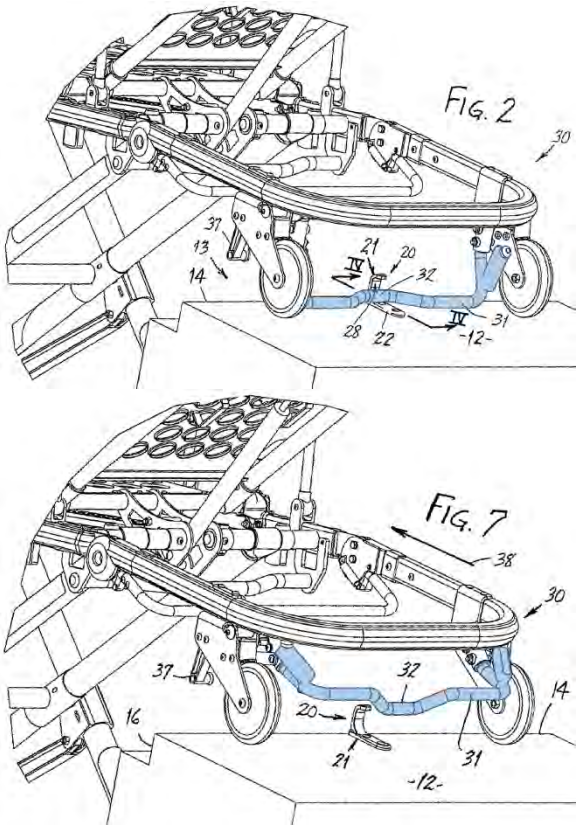


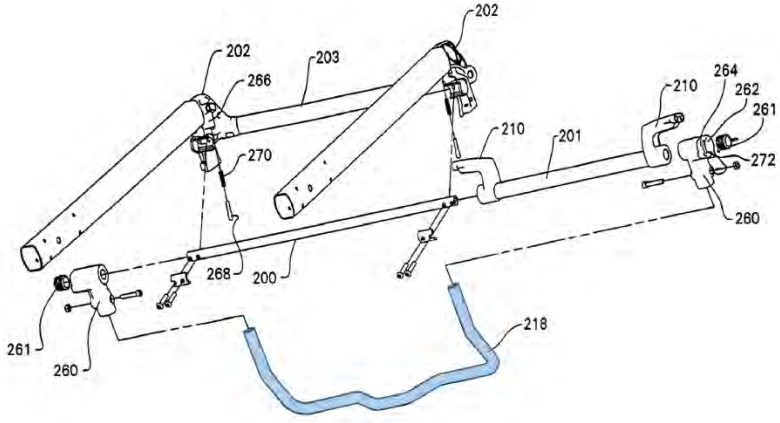
FIG. 37

This latch mechanism (207) includes a pin (213) that fits in holes (214) of the side rails (66). The '673 patent functions the same way, with pins (called "projections" (reference numeral 28)) going into openings (29) to lock the extendible legs in place (see **FIGS. 3 and 4** of the '673 Patent reproduced below):



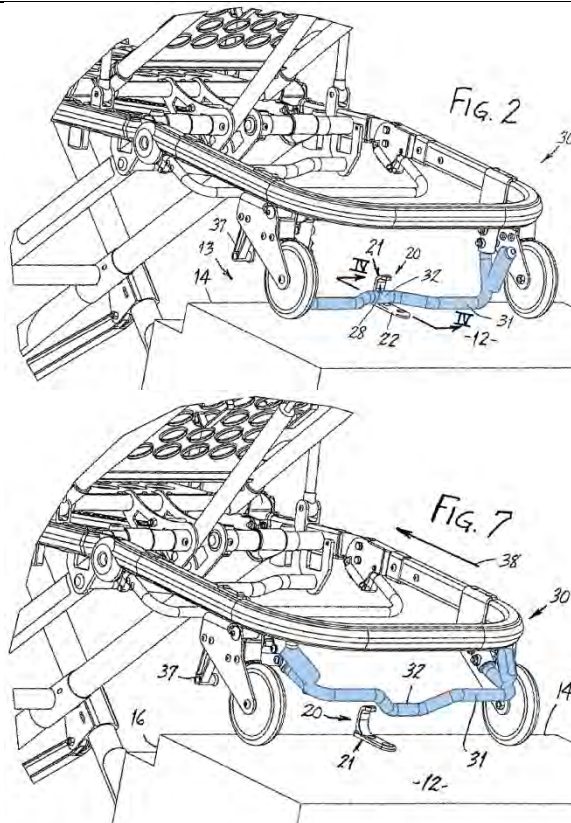
This is also obvious in view of the locking mechanism employed by the '673 Patent. More specifically, the '673 Patent includes a locking bar (26) which includes a projection (28) used to lock the retractable cot handles in place. This locking bar is held under tension by a leaf spring (3) and is unlocked by depressing a button which "overcomes the resiliency in the spring and enables the locking bar to pivot and the projection to be disengaged from the stretcher frame and the slidable tube" ('673 Patent, col. 4, lns. 61-64) allowing the retractable arms to be adjusted. This spring biased locking bar and button acts as both a locking mechanism and a deactivation mechanism (e.g., the generally U-shaped head section cot is unlocked (i.e., deactivated) by depressing the button which, in turn "overcomes the resiliency in the

		spring and enables the locking bar to pivot and the projection to be <u>disengaged....</u> ‘673 Patent, col. 4, lns. 62-64) (emphasis added).
V	a latch disabler configured to prevent the operation of the latch mechanism by the at least one handle.	The ‘968 Patent explains that the “latch disabler” is nothing more than a safety bar. More specifically, the ‘968 Patent explains that the “safety bar 218 can also be rotated upwardly in a clockwise fashion toward the interior of the cot, and function as a ‘latch disabler’ to prevent release of the latch mechanism 207.” ‘968 Patent, Col 17, lns. 10-13. The ‘968 Patent itself notes that what is now the ‘133 Patent included a “safety bar” which could be “rotated upwardly in a counterclockwise fashion, by an attendant, toward the head end of the ambulance cot to clear a hook mounted at the mouth of an ambulance cargo area.” ‘968 Patent, col. 17, lns. 4-9. The “safety bar” disclosed by the ‘133 Patent is shown below (highlighted in blue) in images taken from FIGS. 2 and 3 of the ‘133 Patent. As can be seen in FIG. 2 (at left), the safety bar (31) has an engaged position to lock the cot into an ambulance, while FIG. 3 shows that the safety bar (31) can be rotated into an unengaged position to unlock the cot:  In the ‘968 Patent, a highly similar “safety bar” (reference numeral 218) is rotated to lock the latch mechanism (reference numeral 207) into position as

		shown in the image below taken from FIG. 62 of the '968 Patent (the "safety bar" (218) is highlighted in blue):  FIG. 62 It would have been obvious to a POSITA that the "safety bar" in the '133 Patent (which locks the cot in place) could, instead, be used to lock the latch mechanism in place (which, in turn, locks the cot in place). Both technologies are applied to highly similar ambulance cots, have the same general appearance and perform the same general function (locking the cot in place – one directly and the other indirectly).
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'968 Patent		
Claim 16 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
W	The ambulance cot according to claim 15, the head section further comprising a safety bar connected by a mounting bracket for pivotal movement about the axis of the cross rail, the mounting bracket including a head portion	This claim is dependent on Claim 15. As such, each claim element of the chart for Claim 15, above, is incorporated herein by reference. The '968 Patent itself notes that what is now the '133 Patent included a "safety bar" which could be "rotated upwardly in a counterclockwise fashion, by an attendant, toward the head end of the ambulance cot to clear a hook mounted at the mouth of an ambulance cargo area." '968 Patent, col. 17, lns. 4-9. The "safety bar" disclosed by the '133 Patent is shown below (highlighted in blue) in images taken from FIGS. 2 and 3 of the '133 Patent. As can be seen in FIG. 2 (at left), the safety bar (31) has an engaged position to lock the cot into an ambulance, while FIG. 3 shows that the safety bar (31) can be rotated into an unengaged position to unlock the cot:

eccentrically disposed about the axis of the cross rail.



In the '968 Patent, a highly similar "safety bar" (reference numeral 218) is rotated to lock the latch mechanism (reference numeral 207) into position as shown in the image below taken from FIG. 62 of the '968 Patent (the "safety bar" (218) is highlighted in blue):

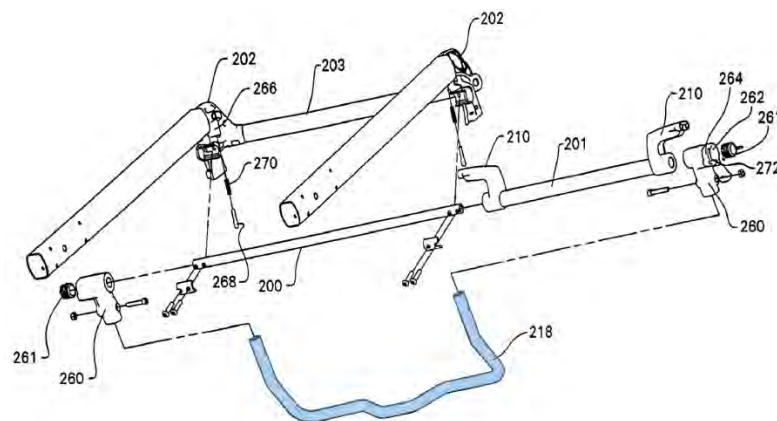
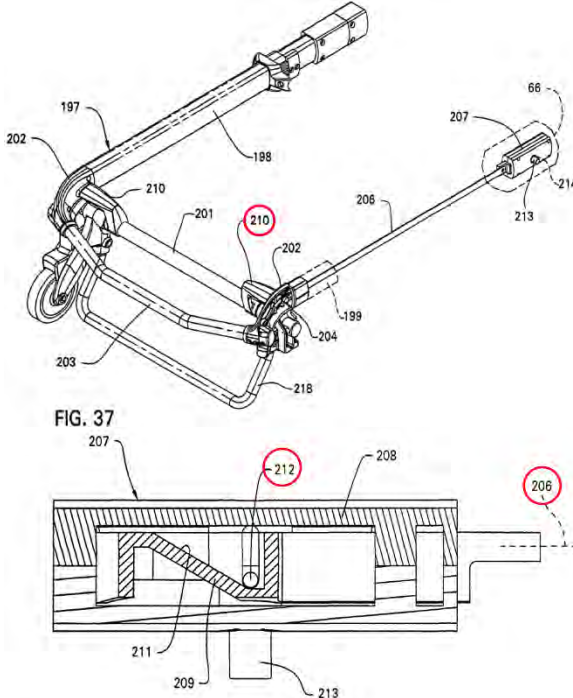


FIG. 62

It would have been obvious to a POSITA that the "safety bar" in the '133 Patent (which locks the cot in place) could, instead, be used to lock the latch mechanism in place (which, in turn, locks the cot in place). Both technologies are applied to highly similar ambulance cots, have the same

		general appearance and perform the same general function (locking the cot in place – one directly and the other indirectly).
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‘968 Patent		
Claim 17 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
X	The ambulance cot according to claim 16, the head portion further comprising a ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin.	This claim is dependent on Claim 16. As such, each claim element of the chart for Claim 16, above, is incorporated herein by reference. Claim 17 of the ‘968 Patent includes a “ramp portion configured for displacing a blocking pin within one of the parallel legs to block the link pin.”¹⁴ The ‘968 Patent explains that when the “handle 210 is rotated about the axis of rotation” this causes a pin (reference numeral 204) to move which, in turn, causes a “leftward movement of the linkage 206 in each leg ... to cause the pin 212 to shift in its position illustrated in FIG. 42 to the position illustrated in FIG. 43, namely, a position wherein the latch pin 212 has been retracted laterally into the housing 208 of the latch mechanism 207.” The images below are taken from FIGS. 37 and 42-43 and show the handle (210) and the corresponding movement of the link pin (212):  FIG. 37 FIG. 42

¹⁴ The terms “blocking pin” and “link pin” are not defined (and “the link pin” lacks an antecedent basis), and could give rise to an issue under 35 U.S.C. § 112.

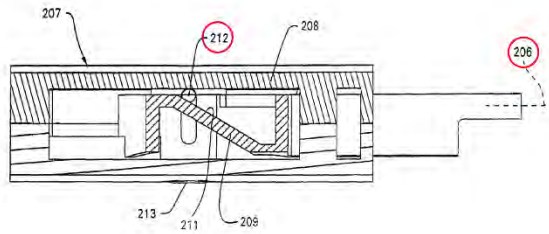
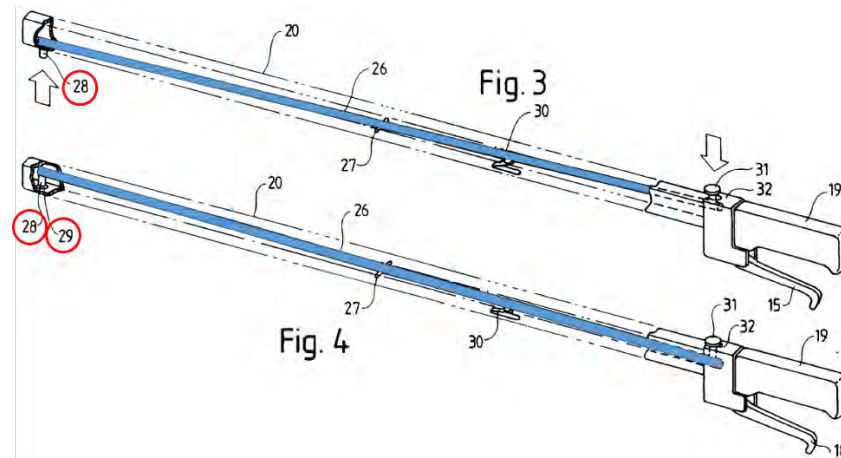


FIG. 43

This acts to mechanically connect the latch pins (213) to the handle (210) so that when the handle is rotated, the latch pins extend or retract into a plurality of holes (reference number 214).

A POSITA would have found this obvious. For example, as noted above with respect to Claim 4 of the '968 Patent, it would have been obvious to employ a "locking mechanism" inasmuch as it is important that the U-shaped section not move freely from an engaged to a non-engaged position (e.g., when the cot is in transport within an ambulance) as this could cause patient injury or damage to the cot. It would have also been obvious in view of the locking mechanism employed by the '673 Patent. For example, the image below is taken from **FIGS. 3 and 4** of the '673 Patent. As shown below, the '673 Patent includes a linkage (the locking bar (26) highlighted in blue) connecting two pins (i.e., a projection (28) and a button (31)) as shown below:



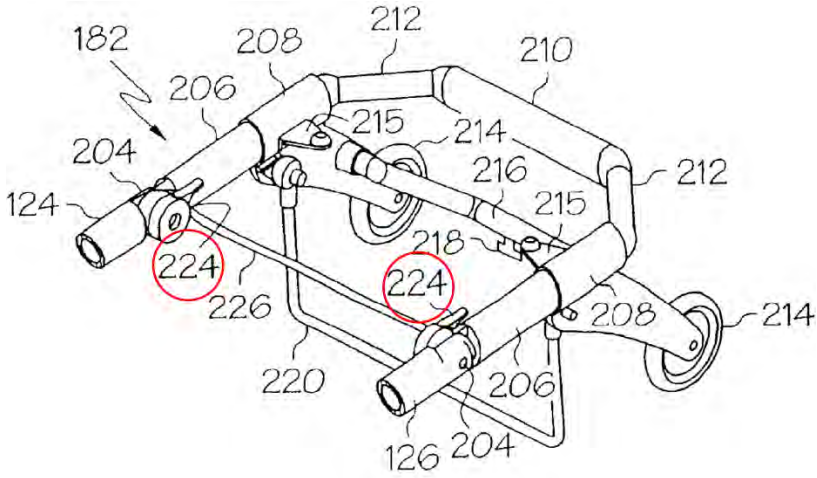
The minor mechanical differences recited in this claim are not inventive, they are merely commonly recognized mechanical means which a POSITA would employ.

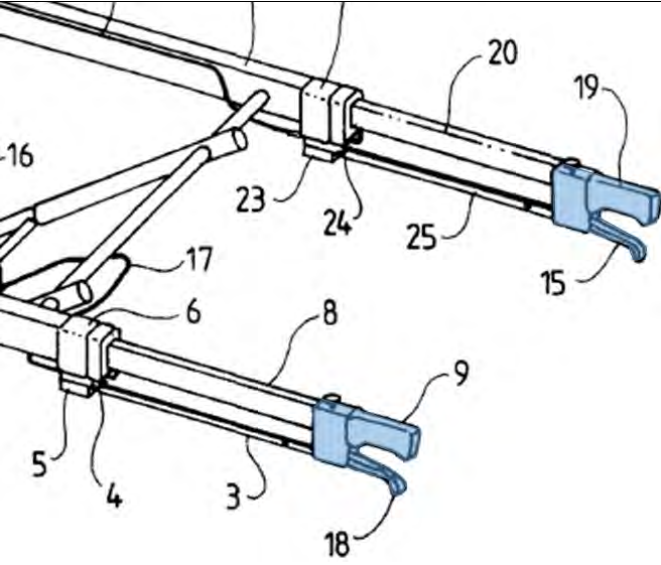
'968 Patent		
Claim 18 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
Y	The	This claim is dependent on Claim 17. As such, each claim element of the

	ambulance cot according to claim 17, the at least one handle further comprising a first handle and a second handle, each associated with a respective parallel leg and corresponding latch mechanism within the respective parallel leg.	chart for Claim 17, above, is incorporated herein by reference. As noted above in the analysis with respect to Claim 17 of the ‘968 Patent, the locking mechanism employed by the ‘673 Patent already contains a first handle and a second handle associated with a respective parallel slidable member.
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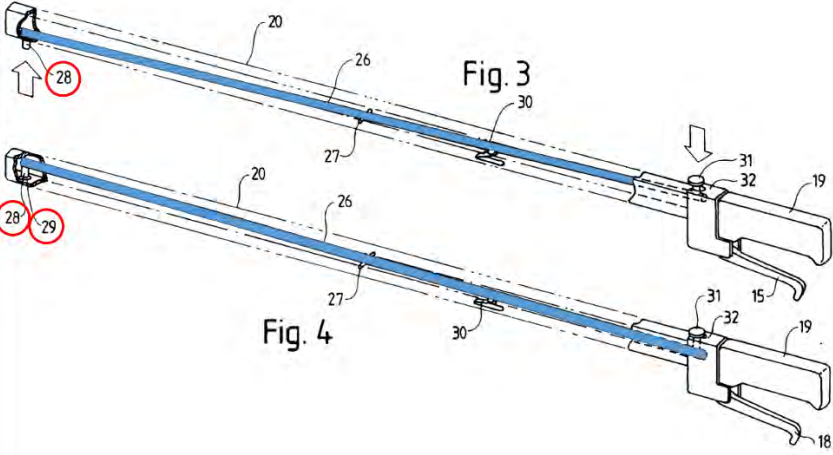
‘968 Patent		
Claim 19 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
Z	The ambulance cot according to claim 18, further comprising a pair of latch disablers, each associated with a respective parallel leg, handle and latch mechanism.	This claim is dependent on Claim 18. As such, each claim element of the chart for Claim 18, above, is incorporated herein by reference. The ‘968 Patent explains that the “latch disabler” is nothing more than a safety bar. More specifically, the ‘968 Patent explains that the “safety bar 218 can also be rotated upwardly in a clockwise fashion toward the interior of the cot, and function as a ‘latch disabler’ to prevent release of the latch mechanism 207.” ‘968 Patent, Col 17, lns. 10-13. As noted above with respect to Claim 16, it would have been obvious to a POSITA to include a “latch disabler” in view of the safety bar disclosed in the ‘133 Patent (which locks the cot in place) since it could, instead, be used to lock the latch mechanism in place (which, in turn, locks the cot in place). As noted above with respect to Claim 15, both technologies are applied to highly similar ambulance cots, have the same general appearance and perform the same general function (locking the cot in place – one directly and the other indirectly). For these same reasons, it would have been obvious to use a pair of latch disablers. Here the ‘968 Patent discloses a “pair” of latch disablers since both ends of the safety bar form one latch disabler. It would have been obvious to a POSITA that both ends of the symmetrical safety bar disclosed in the ‘133 Patent should be used as latch disablers. For example, only locking one of the

		legs would result in only a partially secure U-shaped head section. In other words, the unlocked leg would be able to move if a force was applied to the U-shaped head section. A POSITA would have found it obvious to use the symmetrical safety bar to create a part of latch disablers associated with a respective leg.
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'968 Patent		
Claim 20 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
AA	The ambulance cot according to claim 18, the first and second handles being affixed to the cross rail such that actuation of either of the first and second handles effects a rotation and actuation of the other handle.	This claim is dependent on Claim 18. As such, each claim element of the chart for Claim 18, above, is incorporated herein by reference. The '623 Patent discloses two handles (called “release levers” (reference numeral 224)) as shown in the image below taken from FIG. 9 of the '623 Patent:  Actuation of one of these handles causes actuation of the other. Similarly, the '673 Patent discloses the use of two handles (19, 9) each having levers (15, 18) which, when squeezed, independently allow the position of adjustable cot legs to rotate. The image below is taken from FIG. 2 of the '673 Patent and shows each actuating handle / lever assembly (highlighted in blue):

		 In view of this prior art, it would have been obvious to a POSITA to have two handles affixed to the cross rail such that actuation of either handle effects a rotation of the cross rail and actuation of the other handle.
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'968 Patent		
Claim 21 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
AB	The ambulance cot according to claim 15, further comprising the handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage, the linkage having a second end for engaging the latch mechanism,	This claim is dependent on Claim 15. As such, each claim element of the chart for Claim 15, above, is incorporated herein by reference. Moreover, Claim 21 of the '968 Patent includes “the handle including a link pin extending into the interior of a respective leg for engaging a first end of a latch mechanism linkage.” Claim 17 of the '968 Patent also includes “the linkage having a second end for engaging the latch mechanism” and a requirement that “the latch mechanism comprising a retractable latch pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail.” A POSITA would have found this obvious. For example, the image below is taken from FIGS. 3 and 4 of the '673 Patent. As shown below, the '673 Patent includes a linkage (<i>i.e.</i>, the locking bar (26) highlighted in blue) connecting a pin (<i>i.e.</i>, a button (31)) which is in a handle to a retractable pin (<i>i.e.</i>, a projection (28)) configured to engage a receiver (<i>i.e.</i>, an opening (29)) to form a latch mechanism:

and the latch mechanism comprising a retractable latch pin configured to engage one of a plurality of receivers within the side rail for fixing the position of the head section relative to the side rail.	
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‘968 Patent		
Claim 22 – Obvious over US 6,389,623 + (US 5,987,673 and/or JPH 10315819) + POSITA		
AC	The ambulance cot according to claim 21, further comprising the latch disabler preventing the movement of the handle about the axis of the cross rail by blocking the link pin.	This claim is dependent on Claim 21. As such, each claim element of the chart for Claim 21, above, is incorporated herein by reference. Moreover, Claim 21 of the ‘968 Patent requires a “latch disabler preventing the movement of the handle about the axis of the cross rail by blocking the link pin.” The ‘968 Patent explains that the “latch disabler” is nothing more than a safety bar. More specifically, the ‘968 Patent explains that the “safety bar 218 can also be rotated upwardly in a clockwise fashion toward the interior of the cot, and function as a ‘latch disabler’ to prevent release of the latch mechanism 207.” ‘968 Patent, Col 17, lns. 10-13. It would have been obvious to a POSITA to include a “latch disabler” in view of the safety bar disclosed in the ‘133 Patent (which locks the cot in place) since it could, instead, be used to lock the latch mechanism in place (which, in turn, locks the cot in place). As noted above with respect to Claim 15, both technologies are applied to highly similar ambulance cots, have the same general appearance and perform the same general function (locking the cot in place – one directly and the other indirectly). For these same reasons, it would have been obvious to use the latch disabler to prevent movement of the handle by blocking the link pin. As noted above with respect to Claims 17 and 21, the link pin is merely used to help mechanically connect the latch pins (213) to the handle (210). It would have been obvious to a POSITA to prevent movement of the handle using a latch disabler (i.e., a

		safety bar) by blocking the link pin since arresting the movement of the link pin would prevent the handle from also moving.
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EXHIBIT B

I. US 8,056,950: Obviousness Under 35 U.S.C. § 103(a)

Under § 103(a), Claims 1-2 and 10 of the '950 Patent are obvious over: (a) the '855 Patent when combined with the knowledge of a person of ordinary skill in the art at the time of the alleged invention; and/or (b) the '855 Patent when combined with the '212 Patent and/or the '757 Patent and the knowledge of a person of ordinary skill in the art at the time of the alleged invention.

A. Reasons to Combine the '855 Patent With the Knowledge of a POSITA

Under § 103(a), Claims 1-2 and 10 of the '950 Patent are obvious over the '855 Patent when combined with the knowledge of a person of ordinary skill in the art.

Emergency cots that are operable to be loaded into an emergency vehicle, such as an ambulance, have long had a litter frame and a base frame. Moreover, such emergency cots have long had an ability to effect changes in elevation of the litter frame relative to the base frame.¹⁵ For example, when a front of the emergency cot is disposed on a floor of a cargo area of an ambulance, the base frame can be configured to elevate or lower the base frame relative to the litter frame so that the collapsed emergency cot may be pushed into the cargo area of the ambulance. It is also well known to use a selectively activatable drive mechanism to effect such changes in elevation.

It is well-known to those of ordinary skill in the art that such a drive mechanism should be deactivated once the cot is in position within the ambulance, *i.e.*, once the cot is in a predetermined location within the cargo area of the ambulance. Failing to do so could result in damage to the emergency cot and/or injury to a patient supported by the cot.

Engineers and product designers have long designed emergency cots such that a user deactivates the cot's drive when the cot is placed within the cargo area of an ambulance. Engineers

¹⁵ See the '944 Patent, '941 Patent, '026 Patent and '973 Patent.

and product designers have also used devices which can determine the presence of an emergency cot within the cargo area of an ambulance such as the '855 Patent. These devices are located within the cargo area of an ambulance such that-given the known dimensions of the cot-the devices are only activated when the cot is fully within the cargo area of an ambulance. In other words, the activation of the device is determinative as to the location of the emergency cot within the cargo area of an ambulance.

The '855 Patent discloses an emergency cot for use in connection with an emergency vehicle. The emergency cot of the '855 Patent has a litter frame, a base frame and the ability to effect changes in elevation of the litter frame relative to the base frame. This allows the emergency cot disclosed in the '855 Patent to be secured to the floor of an emergency cot, then for the legs of the emergency cot to raise up to collapse the emergency cot. In other words, this effects a change in elevation of the litter frame relative to the base frame. The '855 Patent also discloses a device which operatively determines the presence / absence of the emergency cot in the cargo area of the ambulance. More specifically, the '855 Patent discloses a device which operatively determines the presence / absence of the emergency cot in the cargo area of the ambulance and begins recharging the battery of the cot once it is in such cargo area.

It would have been well within the technical grasp of the POSITA (and quite frankly common sense) to enable this device to render the drive mechanism inoperative when the cot is in the cargo area of the ambulance. Once the cot is fully collapsed and pushed into the cargo area of the ambulance, the drive mechanism should no longer be operated. For example, operating the drive mechanism while the cot is within the cargo area could cause the cot to disengage from the cot fastening system. As another example, operating the drive mechanism while the cot is within the cargo area could cause harm to any patient secured in the cot, just as it could cause harm to

emergency personnel who may be in the ambulance. Disabling the drive mechanism while the cot is within the cargo area is purely dictated by the design of the emergency cot. The POSITA would immediately recognize that the drive mechanism should only be disabled once it has been operatively determined that the cot is in the correct position, *i.e.*, once the cot is located within the cargo area of the ambulance. Simply stated, there is no other position of the cot when it would make sense to render the drive mechanism inoperative (*e.g.*, rendering the drive mechanism inoperative while the cot is anyway other than within the cargo area of the ambulance would effectively disable the cot and render it useless for its intended function).

It would have been obvious to a POSITA to render the drive mechanism inoperative in response to a determination that the cot is within the cargo area of the ambulance because that is the only position in which the drive mechanism is not needed to actuate the legs of the cot. The use of such a device represents zero innovation whatsoever.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the ‘855 Patent as well as the general knowledge that the drive mechanism of the cot should be rendered inoperative when the cot was placed within the cargo area of an ambulance. It would have been obvious to the POSITA to combine the use of the cot according to the ‘855 Patent with the knowledge of where the cot should be located before the drive mechanism is rendered inoperative. The requirement of rendering such drive mechanism inoperative when the cot was located in the desired position (*i.e.*, within the cargo area of an ambulance) would have predictably yielded an emergency cot which could not inadvertently change height when it is loaded into an ambulance.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp.

If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that the cot disclosed in the ‘855 Patent includes a device operatively capable of determining the presence and absence of the cot within the cargo area of an ambulance and that it would be obvious to use this information as a basis for rendering the drive mechanism of the cot in operative. The POSITA would have had only a finite number of possible design choices with respect to the operation of a device to render the drive mechanism inoperative. Particularly, there is only one position of the cot for which it makes sense to render the drive mechanism inoperative: when the cot is within the cargo area of the ambulance. The number “one” is clearly a finite number. It would have been obvious to try to use the known operative determination of the presence / absence of the cot in the cargo area of the ambulance to render the drive mechanism inoperative when the cot is within such cargo area.

- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** See *KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to ensure the cot does not move upwards or downwards when the cot when it is in a certain position (*i.e.*, within the cargo area) of the ambulance, a POSITA would have found it obvious to disable the drive mechanism when the cot is within the cargo area of the ambulance. By disabling the cot’s drive mechanism only when it is operatively determined to be within the cargo area, the POSITA would have arrived at the claimed invention.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a device to operative determine when a cot is within the cargo area of an ambulance is well-known in the art and present in a wide-variety of products (including the ‘855 Patent). It is also well known in the art that the drive mechanism should not be engaged when the cot is in a certain position (*i.e.*, within the cargo area) of the ambulance. Accordingly, use of such determination to render the drive mechanism inoperative is common knowledge and well-known to a POSITA. Thus, the technique of using the rendering the drive mechanism inoperative once the cot is determined to be in the cargo area of an ambulance is obvious and clearly not beyond the skill of the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the '855 Patent is combined with the knowledge of a POSITA.

B. Reasons to Combine the '855 Patent with GB '137 and the Knowledge of a POSITA

Under § 103(a), Claims 1-2 and 10 of the '950 Patent are obvious over the '855 Patent when combined with GB '137 and the knowledge of a person of ordinary skill in the art.

For similar reasons stated above with respect to the combination of the '855 Patent and the knowledge of a POSITA, it would have been obvious to combine the '855 Patent with GB '137 and the knowledge of a POSITA to arrive at these Claims.

The '855 Patent discloses an emergency cot for use in connection with an emergency vehicle having a litter frame, a base frame and the ability to effect changes in elevation of the litter frame relative to the base frame. The '855 Patent also discloses a device which operatively determines the presence / absence of the emergency cot in the cargo area of the ambulance. More specifically, the '855 Patent discloses a device which operatively determines the presence / absence of the emergency cot in the cargo area of the ambulance and begins recharging the battery of the cot once it is in such cargo area.

GB '137 discloses a device which prevents human transport device (an electric vehicle) from functioning when it is connected to a charger. GB '137 also discloses a connector on the vehicle that is operable to be connected to a connector of a charger. The connector includes a switch that disconnects power to the motor when the connector of the charger is connected to the connector of the vehicle. In other words, GB '137 discloses a device to render a drive mechanism inoperative when a system is charging.

It would have been well within the technical grasp of the POSITA to combine the

emergency cot from the ‘855 Patent (which includes a device which charges a cot when it is inside the cargo area of an ambulance) with GB ‘137 (which includes a device which renders a drive mechanism inoperative when a human transport device is charging). More specifically, it would have been obvious to a POSITA to include a charger with a connector in the cargo area of an ambulance that is configured to connect to a connector on a cot. Opening of the switch both operatively determines the presence of the cot in the cargo area (the charger is in the cargo area) and would render the cot’s drive mechanism inoperative when the connector is connected to connector of the cot. It would have been obvious to a POSITA to combine a reference for charging an electric powered cot in the cargo area of an ambulance with a reference that discloses disconnecting power to a motorized device while the device is charging.

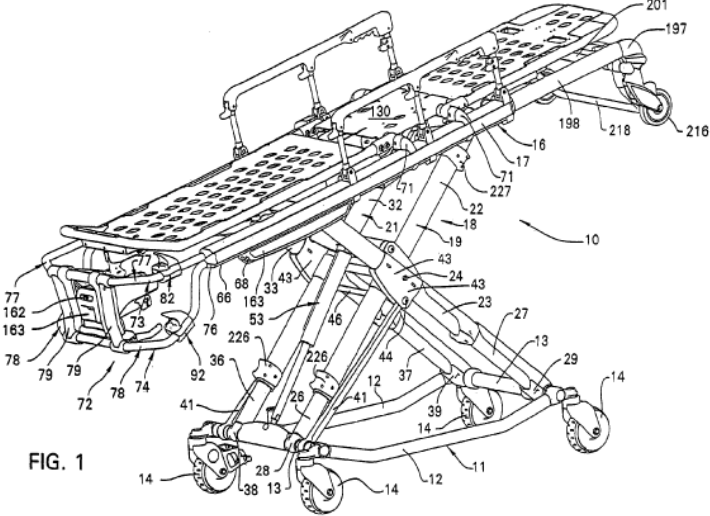
- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the ‘855 Patent and GB ‘137 as well as the general knowledge that the drive mechanism of the cot should be rendered inoperative when the cot was placed within the cargo area of an ambulance. It would have been obvious to the POSITA to combine the use of the cot according to the ‘855 Patent (which includes a device to charge a cot when it is inside the cargo area of an ambulance) and GB ‘137 (which renders a drive mechanism inoperative when a device is charging). The requirement of rendering such drive mechanism inoperative when the cot was located in the desired position (*i.e.*, within the cargo area of an ambulance) combined with a device for rendering the drive inoperative would have predictably yielded an emergency cot which could not inadvertently change height when it is loaded into an ambulance.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that the cot disclosed in the ‘855 Patent includes a device operatively capable of determining the presence and absence of the cot within the cargo area of an ambulance and that it would be obvious to use this information as

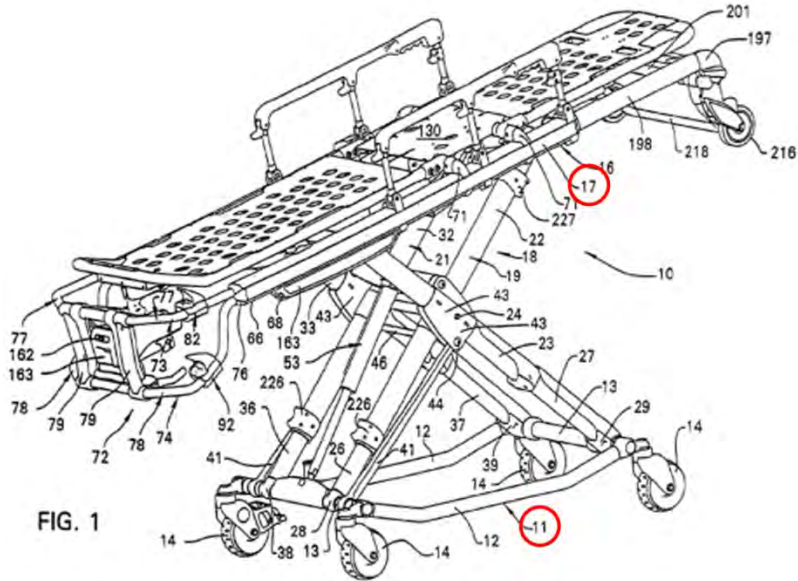
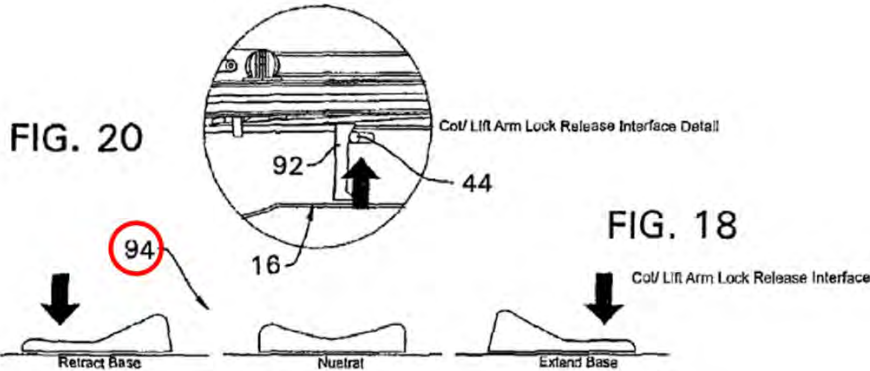
a basis for rendering the drive mechanism of the cot inoperative. The POSITA would have likewise immediately recognized that this same device (which charges a cot) could be combined with GB '137 (which renders a drive inoperative when a device is being charged). The POSITA would have had only a finite number of possible design choices with respect to the operation of a device to render the drive mechanism inoperative. Particularly, there is only one position of the cot for which it makes sense to render the drive mechanism inoperative: when the cot is within the cargo area of the ambulance. The number "one" is clearly a finite number. It would have been obvious to try to use the known operative determination of the presence / absence of the cot in the cargo area of the ambulance to render the drive mechanism inoperative when the cot is within such cargo area.

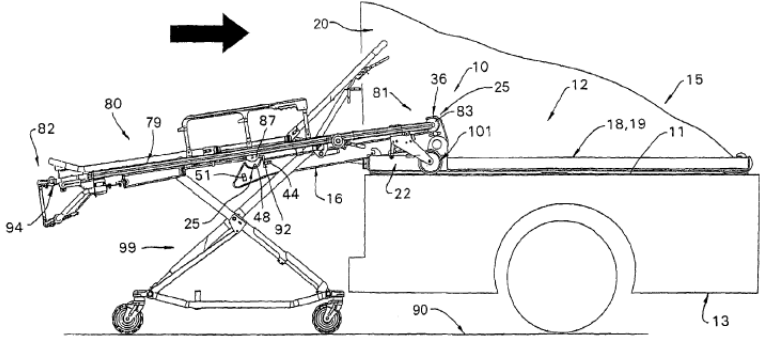
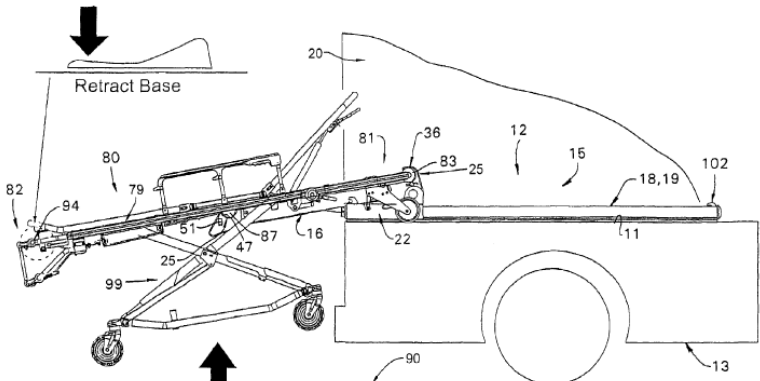
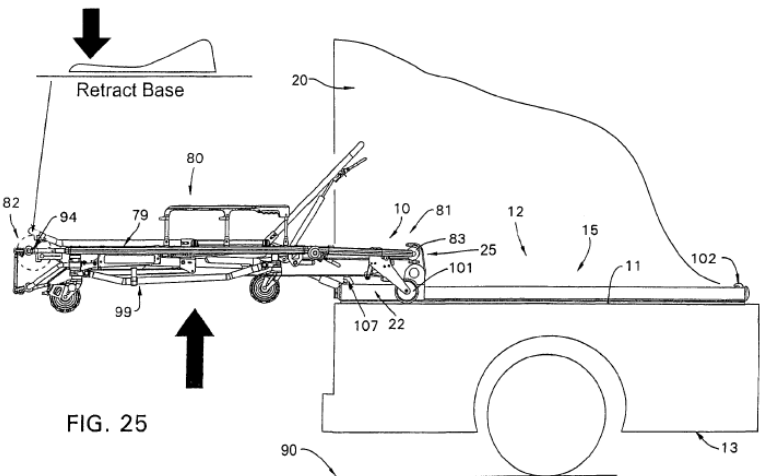
- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** See KSR, 550 U.S. at 418 ("Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does."). Motivated by the need to ensure the cot does not move upwards or downwards when the cot when it is in a certain position (*i.e.*, within the cargo area) of the ambulance, a POSITA would have found it obvious to disable the drive mechanism when the cot is within the cargo area of the ambulance. By disabling the cot's drive mechanism (using the disclosure from GB '137) only when it is operatively determined to be within the cargo area (from the '855 Patent), the POSITA would have arrived at the claimed invention.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** KSR, 550 U.S. at 417 ("If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."). The use of a device to operative determine when a cot is within the cargo area of an ambulance is well-known in the art and present in a wide-variety of products (including the '855 Patent). It is also well known in the art that the drive mechanism should not be engaged when the cot is in a certain position (*i.e.*, within the cargo area) of the ambulance. GB '137 further discloses rendering a drive mechanism inoperative when a device for transporting humans is being charged, while the '855 Patent discloses a device for charging an emergency cot when it is operatively determined to be in the cargo area of an ambulance. Accordingly, use of such determination to render the drive mechanism inoperative is common knowledge and well-known to a POSITA. Thus, the technique of using the rendering the drive mechanism inoperative once the cot is determined to be in the cargo area of an ambulance is obvious and clearly not beyond the skill of the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘787 Patent and the ‘212 Patent and/or the ‘757 is combined with the knowledge of a POSITA.

C. **Claim Chart for Combining the ‘855 Patent and the Knowledge of a POSITA and/or GB ‘137**

'950 Patent		
Claim 1 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)		
A.	A combination of an ambulance cot and an ambulance having a cargo area, comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘855 Patent discloses an “ambulance cot” as shown in the image below from Figure 1:  FIG. 1 The ‘855 Patent further discloses the use of this ambulance cot inside an “ambulance having a cargo area.” For example, the specification of the ‘855 Patent discusses how the ambulance cot is configured to engage with “a safety hook provided on the floor surface <i>of a cargo area of an ambulance</i>” (emphasis added). ‘855 Patent, col. 18, lns. 21 – 22.
B.	a base frame and a litter frame on said ambulance cot;	The ‘855 Patent discloses an “ambulance cot” having a “base fame” (11) and a “litter frame” (17) as shown in the annotated image below from Figure 1.

		 FIG. 1
C.	a selectively activatable drive mechanism for an elevating mechanism interconnecting said base frame and said litter frame and being configured to effect changes in elevation of said litter frame relative to said base frame; and	The '855 Patent discloses a three position "toggle switch" (94) which allows a user to put the ambulance cot into a "retract base" condition, a "neutral" condition, or an "extend base" condition as shown in the annotated image below from Figure 20:  Selecting either the "retract base" or the "extend base" position on the "toggle switch" (94) effects an operation of the motor (97) to contract or expand the base (99). This effects a change in elevation of the litter frame (17) relative to the base frame (11) of the ambulance cot as shown in the three image progression below taken from Figures 23, 24 and 25:

		 FIG. 23  FIG. 24  FIG. 25
D.	a first device located in the cargo area of the ambulance and a second device mounted on	The '855 Patent discloses that when the emergency cot is within the cargo area of an ambulance such that the cot "reaches the position illustrated in FIG. 27, the electrical contacts 32 and 33 will interconnect so that the battery 98 onboard the ambulance cot 80 will be recharged by the electrical system onboard the ambulance 13 and through the electrical connection provided by the interconnected set of contacts 48 and 88." '855 Patent, col. 8, lns. 3-10. An image taken from Figure 27

said ambulance cot, at least one of said first and second devices being configured (1) to operatively determine the presence and absence of said ambulance cot in said cargo area and (2) to render said drive mechanism inoperative in response to a determination that said ambulance cot is present in said cargo area.

depicting the cot in a charging position inside the cargo area of the ambulance is shown below:

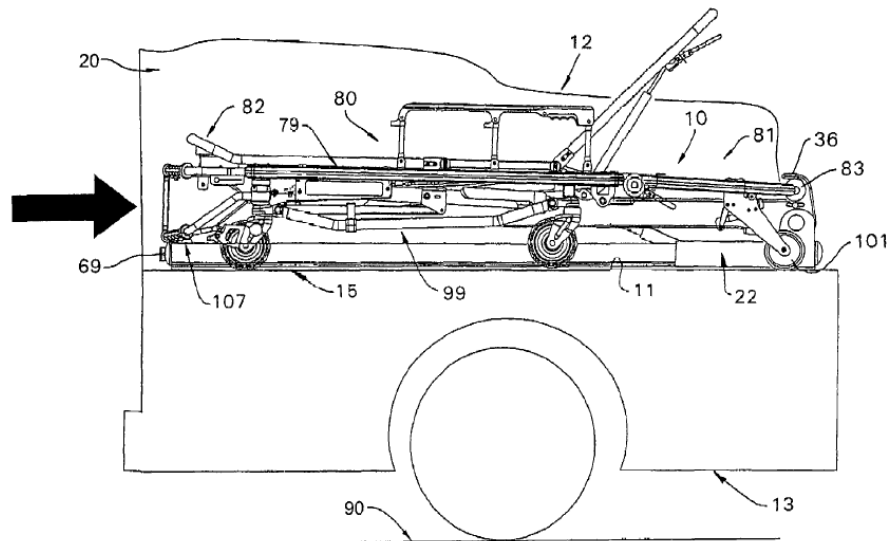
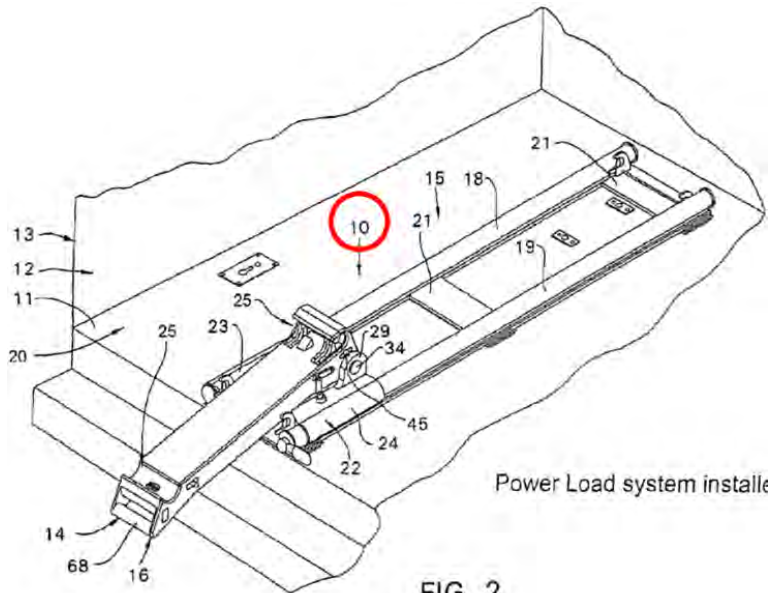


FIG. 27

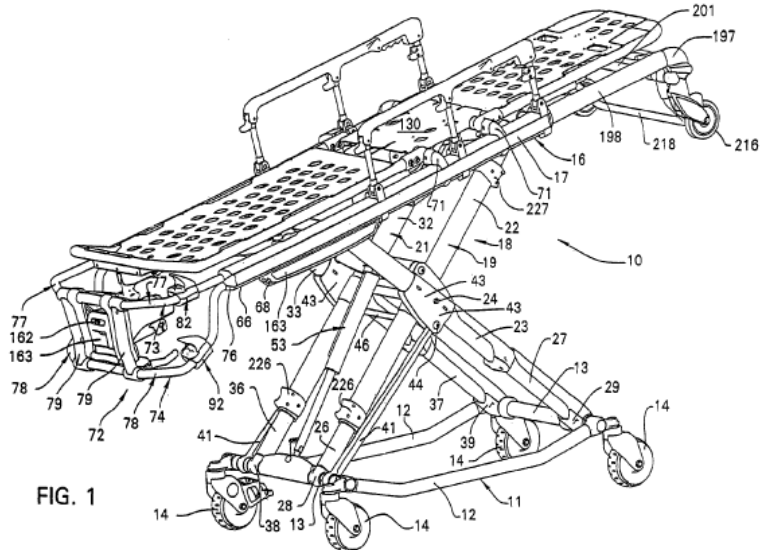
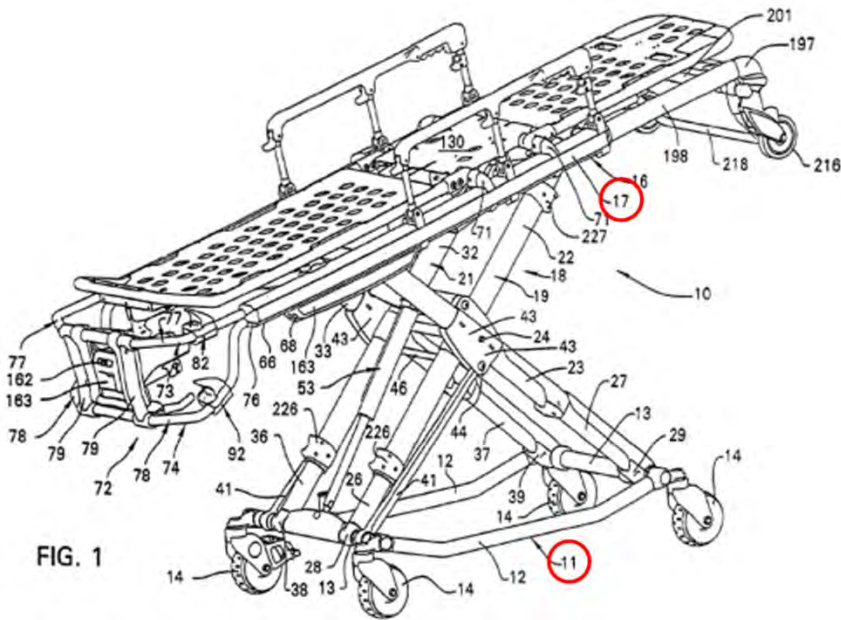
Thus, the '855 Patent discloses a device which can: (a) determine the presence of the cot in the cargo area; and (b) charge the cot when it is in such cargo area; since both of the electrical contacts (32 and 33) are inside the ambulance's cargo area (see, e.g., Figures 1 and 12). In other words the cot battery is only recharged once it is operatively determined that the cot is within the ambulance's cargo area.

Moreover, it would have been obvious to a POSITA to use at least one device to both "operatively determine the presence and absence of said ambulance cot in said cargo area" and render the "drive mechanism inoperative in response to a determination that said ambulance cot is present in said cargo area." For example, GB '137 discloses a device which prevents an electric vehicle from functioning when it is connected to a charger. Page 3, 3rd paragraph. GB '137 also discloses a connector (3) on the vehicle that is operable to be connected to a connector (4) of a charger (1). The connector (3) includes a switch that disconnects power to the motor when the connector (4) of the charger (1) is connected to the connector (3) of the vehicle. It would have been obvious to a POSITA to include a charger (1) with a connector (4) in the cargo area of an ambulance that is configured to connect to a connector (3) on a cot. Opening of the switch both operatively determines the presence of the cot in the cargo area (the charger (1) is in the cargo area) and would render the cot's drive mechanism inoperative when the connector (4) is connected to connector (3) of the cot. It would have been obvious to a POSITA to combine a reference for charging an electric powered cot in

		the cargo area of an ambulance with a reference that discloses disconnecting power to a motorized device while the device is charging.
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‘950 Patent		
Claim 2 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)		
	The combination according to claim 1,	This claim is dependent on independent claim 1. As such, claim elements A. through D. of the claim chart for claim 1, above, are incorporated herein by reference.
E.	wherein said first device includes an in-ambulance device for securing the ambulance cot in place in said cargo area.	The ‘855 Patent discloses a “connection mechanism” which is “provided on the trolley and the ambulance cot which is configured to interconnect and securely hold the ambulance cot on the trolley.” As shown below in the image taken from Figure 2, the trolley (10) secures the ambulance cot in the ambulance:  FIG. 2 The ‘855 Patent further explains that the “ambulance cot 80 is now secured inside the cargo area 12 of the ambulance 13 at four spaced locations defined by the spaced hook-like configurations 103 illustrated in FIG. 10. In addition, the head end 81 of the ambulance cot 80 is secured to the trolley 22 by the hook-like configuration 36 and associated sets of toggle levers 38 and 39.” ‘855 Patent, col. 8, lns. 37-43.

‘950 Patent		
Claim 10 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)		
F.	A combination of an ambulance cot and an ambulance	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘855 Patent discloses an “ambulance cot” as shown in the image below from Figure 1:

‘950 Patent Claim 10 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)		
	having a cargo area, comprising:	 FIG. 1 The ‘855 Patent further discloses the use of this ambulance cot inside an “ambulance having a cargo area.” For example, the specification of the ‘855 Patent discusses how the ambulance cot is configured to engage with “a safety hook provided on the floor surface <i>of a cargo area of an ambulance</i>” (emphasis added). ‘855 Patent, col. 18, lns. 21 – 22.
G.	a base frame and a litter frame on said ambulance cot;	The ‘855 Patent discloses an “ambulance cot” having a “base frame” (11) and a “litter frame” (17) as shown in the annotated image below from Figure 1.  FIG. 1

'950 Patent

Claim 10 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)

The '855 Patent discloses a motor (97) to contract or expand the base (99). This effects a change in elevation of the litter frame (17) relative to the base frame (11) of the ambulance cot as shown in the three image progression below taken from Figures 23, 24 and 25:

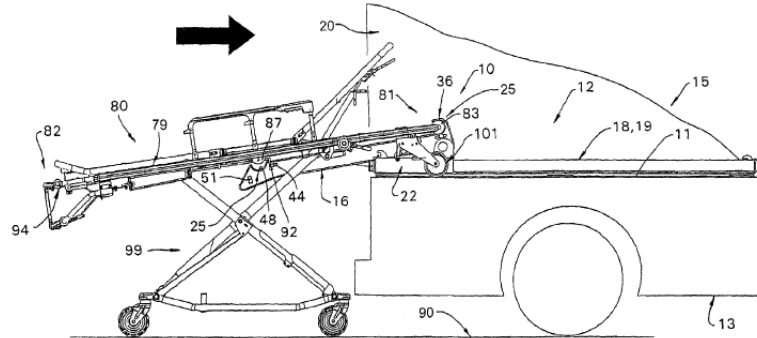


FIG. 23

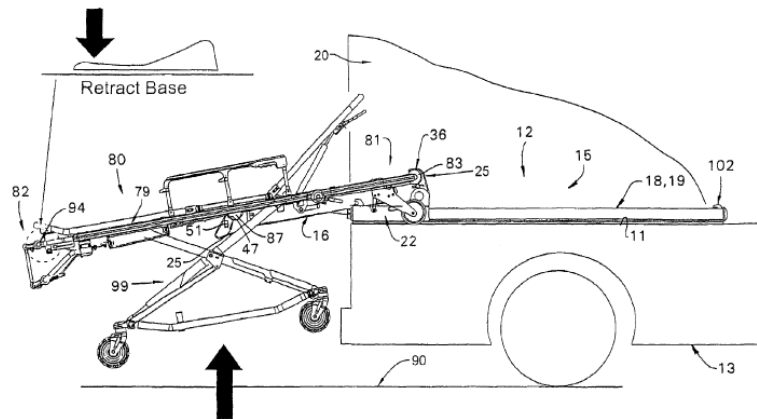


FIG. 24

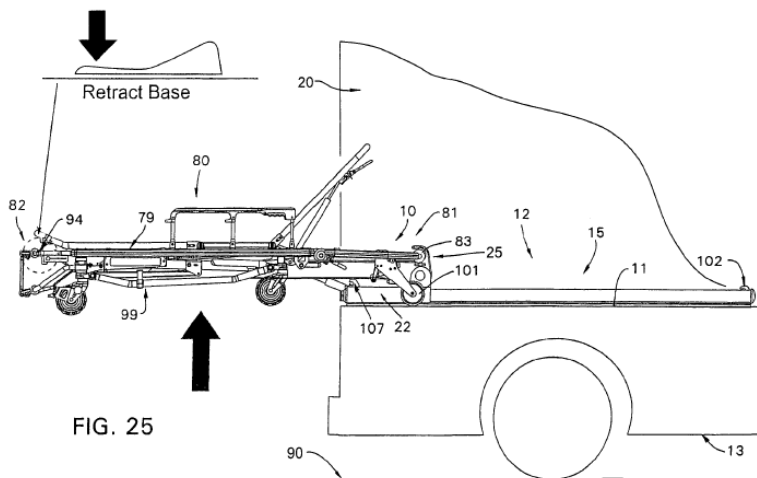
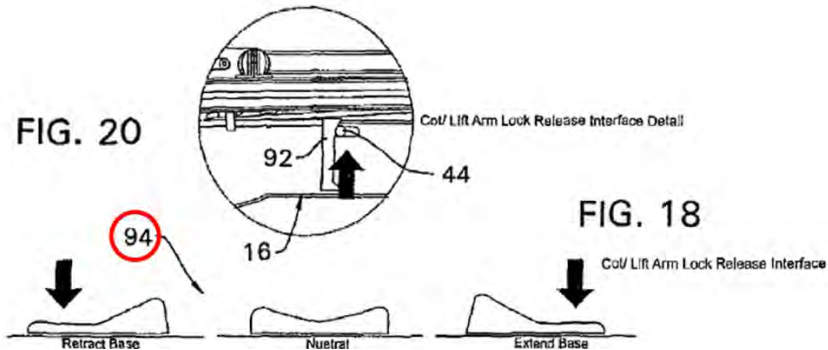


FIG. 25

H. an elevating mechanism interconnecting said base frame and said litter frame and being configured to effect changes in elevation of said litter frame relative to said base frame;

‘950 Patent		
Claim 10 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)		
I.	a selectively activatable drive motor and associated hydraulic pump driven by said drive motor, a hydraulic cylinder connected in fluid circuit with said hydraulic pump, said cylinder having a reciprocal rod operatively connected to said elevating mechanism to effect said changes in elevation of said litter frame relative to said base frame in response to reciprocation of said rod; and	The ‘855 Patent discloses the motor (97) discussed with respect to limitation “H.” above. The ‘855 Patent further explains that “[t]he motor 97 could be a conventional DC drive motor for rotatably driving an input shaft of a hydraulic pump configured to be connected in fluid circuit with a hydraulic cylinder, the extendible and retractable rod of which is connected to the movable cross member on the cot 80 to facilitate a powered raising and lowering of the cot base 99.” col. 6, lns. 41-47. The motor (97) is selectively activatable inasmuch as the ‘855 Patent further discloses a three position “toggle switch” (94) which controls the motor (97) (col. 7, lns. 45 – 48); allowing a user to put the ambulance cot into a “retract base” condition, a “neutral” condition or an “extend base” condition as shown in the annotated image below from Figure 20:  FIG. 20 shows a circular inset labeled 'Cot/Lift Arm Lock Release Interface Detail' with a toggle switch (94) and a rod (16) connected to a cot (44). Below this, three diagrams show the cot in 'Retract Base', 'Neutral', and 'Extend Base' positions, each with a downward arrow indicating the direction of movement. FIG. 18 is labeled 'Cot/Lift Arm Lock Release Interface' and shows a similar detail.
J.	a first device located in the cargo area of the ambulance and a second device mounted on said ambulance cot, at least one of said first and second devices being configured (1) to operatively	The ‘855 Patent discloses that when the emergency cot is within the cargo area of an ambulance such that the cot “reaches the position illustrated in FIG. 27, the electrical contacts 32 and 33 will interconnect so that the battery 98 onboard the ambulance cot 80 will be recharged by the electrical system onboard the ambulance 13 and through the electrical connection provided by the interconnected set of contacts 48 and 88.” ‘855 Patent, col. 8, lns. 3-10. An image taken from Figure 27 depicting the cot in a charging position inside the cargo area of the ambulance is shown below:

'950 Patent

Claim 10 – Obvious over US 7,478,855 + (POSITA and/or GB2283137)

determine the presence and absence of said ambulance cot in said cargo area and (2) to render said drive motor inoperative in response to a determination that said ambulance cot is present in said cargo area.

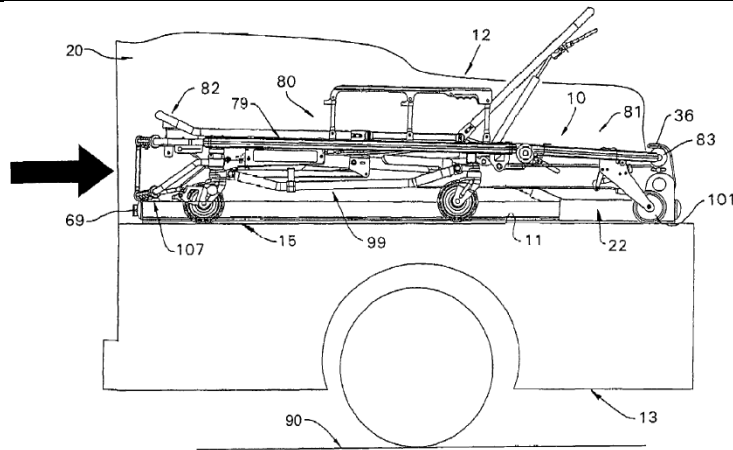


FIG. 27

Thus, the '855 Patent discloses a device which can: (a) determine the presence of the cot in the cargo area; and (b) charge the cot when it is in such cargo area; since both of the electrical contacts (32 and 33) are inside the ambulance's cargo area (*see, e.g.*, Figures 1 and 12). In other words the cot battery is only recharged once it is operatively determined that the cot is within the ambulance's cargo area.

Moreover, it would have been obvious to a POSITA to use at least one device to both "operatively determine the presence and absence of said ambulance cot in said cargo area" and render the "drive motor inoperative in response to a determination that said ambulance cot is present in said cargo area." For example, GB '137 discloses a device which prevents an electric vehicle from functioning when it is connected to a charger. Page 3, 3rd paragraph. GB '137 also discloses a connector (3) on the vehicle that is operable to be connected to a connector (4) of a charger (1). The connector (3) includes a switch that disconnects power to the motor when the connector (4) of the charger (1) is connected to the connector (3) of the vehicle. It would have been obvious to a POSITA to include a charger (1) with a connector (4) in the cargo area of an ambulance that is configured to connect to a connector (3) on a cot. Opening of the switch both operatively determines the presence of the cot in the cargo area (the charger (1) is in the cargo area) and would render the cot's drive motor inoperative when the connector (4) is connected to connector (3) of the cot. It would have been obvious to a POSITA to combine a reference for charging an electric powered cot in the cargo area of an ambulance with a reference that discloses disconnecting power to a motorized device while the device is charging.

EXHIBIT C

I. US RE 44,884 Patent: Obviousness Under 35 U.S.C. § 103(a)

Under § 103(a), Claims 3 and 4 of the '884 Patent are obvious over the '545 Patent when combined with the knowledge of a person of ordinary skill in the art at the time of the alleged invention, and are obvious over the '545 Patent when combined with the '541 Patent and the knowledge of a person of ordinary skill in the art at the time of the alleged invention.

A. Reasons to Combine the '545 Patent With the Knowledge of a POSITA

Under § 103(a), Claims 3 and 4 of the '884 Patent are obvious over the '545 Patent when combined with the knowledge of a person of ordinary skill in the art.

Emergency cots that are operable to be loaded into an emergency vehicle, such as an ambulance, have long had an “X-frame” having a scissor motion that allows a base frame to rise toward a litter frame (*i.e.*, the frame that supports the patient).¹⁶ For example, when a front of the emergency cot is disposed on a floor of a cargo area of an ambulance, the X-frame is controlled to raise the base frame toward the litter frame so that the collapsed emergency cot may be pushed into the cargo area of the ambulance.

Collapsing the base frame by the scissor motion of the X-frame may cause it and/or the X-frame to come into contact with an underside of the litter frame, depending on the construction of the emergency cot. As the base frame, the X-frame, and the litter frame are in most cases fabricated from metal, there is metal-to-metal contact between the base frame and/or the X-frame and the underside of the litter frame. In one example, portions of the X-frame may directly contact a cross-bar of the base frame. As another example, portions of the base frame may directly contact the underside of the litter frame.

It is well-known to those of ordinary skill in the art that metal-to-metal contact between

¹⁶ See the '944 Patent, '941 Patent, '026 Patent and '973 Patent.

components is undesirable for many reasons. For example, metal-to-metal contact between components can cause damage to the components at the point of contact due to the repeated contact occurrences. As another example, metal-to-metal contact between components can be jarring to a user, such as a patient supported by a litter frame, because the shock is absorbed solely by the metal components themselves, which causes vibrations to travel within the metal components.

Engineers and product designers have long used protective shock absorbers such as rubber bumpers or mounts to prevent contact between rigid surfaces to eliminate damage to the components, as well as to absorb the force between the contacting components to minimize vibrations.¹⁷ These rubber bumpers are obviously placed at the location(s) where the metal-to-metal contact occurs, and thus their locations are dictated specifically by the design of the product. In other words, the location of a rubber bumper is limited to a specific location on the product.

The '545 Patent discloses an ambulance cot having an X-frame that interconnects a base frame to a litter frame. Mounts are positioned on side members of the base frame to contact an underside of the litter frame, which prevents direct metal-to-metal contact between the base frame and the underside of the litter frame. The '545 Patent includes only a passing reference to the mounts—further indicating that these components were considered common and not worthy of meaningful discussion. It would have been well within the technical grasp of the POSITA (and quite frankly common sense) to place the mounts of the '545 Patent at the very locations where metal-to-metal contact would occur depending on the shape and configuration of the base frame, the X-frame and the litter frame. Thus, the location of mounts is purely dictated by the design of the ambulance cot. The POSITA would immediately recognize to place the mounts (*e.g.*, rubber bumpers) on the members of the X-frame between their mid-lengths and the litter frame if the

¹⁷ *E.g.*, rubber bumpers, rubber stops, door stops and the like.

design of the ambulance cot dictates that the base frame will contact a member of the base frame between their mid-lengths and the litter frame. Simply stated, there is no other location for placement of the mounts when the members of the X-frame contact the base frame between their mid-lengths and the litter frame. It would have been obvious to a POSITA to place mounts at the claimed locations on the X-frame because the claimed locations are the only locations on which they may be placed. The placement of the mounts at the claimed locations represents zero innovation whatsoever.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

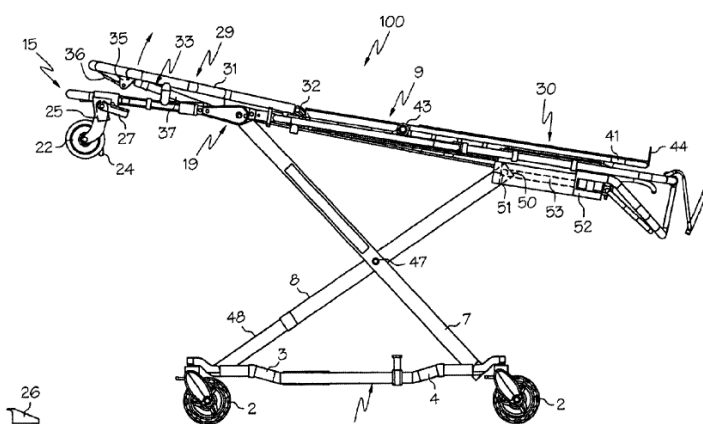
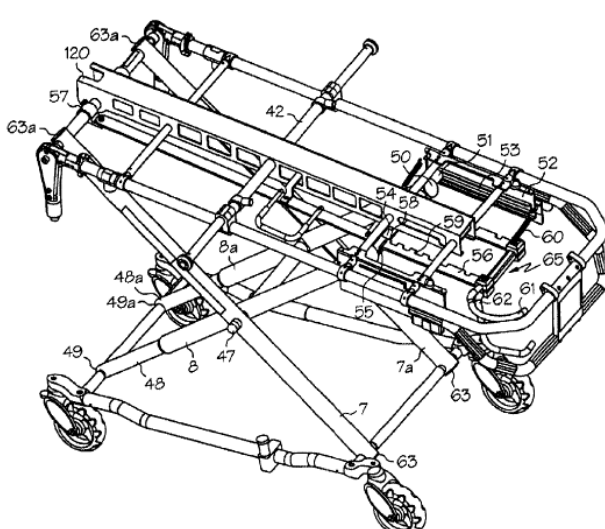
- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the ‘545 Patent as well as the general knowledge of where to place mounts to prevent metal-to-metal contact between components. It would have been obvious to the POSITA to combine the use of mounts according to the ‘545 Patent with the knowledge of where mounts should be positioned to avoid metal-on-metal contact. The requirement of placing the mounts at a location of metal-to-metal contact would have predictably yielded an ambulance cot having mounts located on members of the X-frame between their mid-length and the litter frame when the design of the ambulance cot dictates metal-to-metal contact between the X-frame and the base frame between the mid-length and the litter frame of the members of the X-frame.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that mounts should be placed at one or more locations on the ambulance cot to prevent the problem of metal-to-metal contact. The POSITA would have had only a finite number of possible design choices with respect to the placement of the mounts. Particularly, there are only three locations on which to

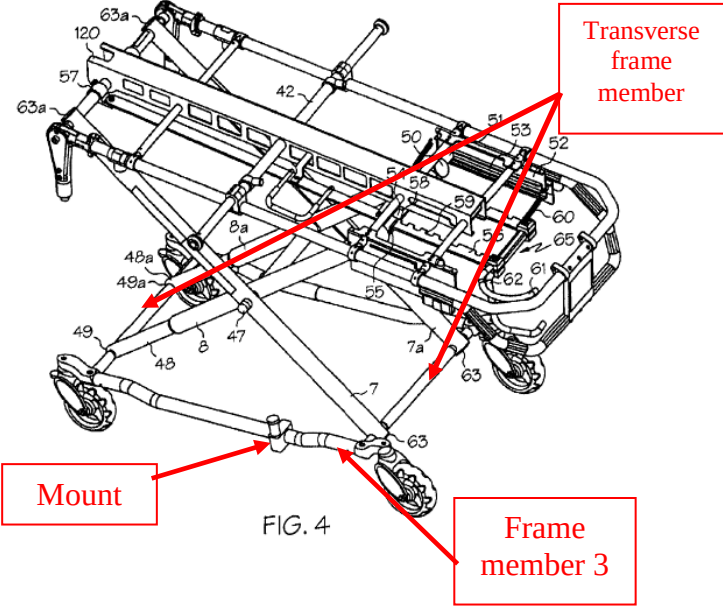
place the mounts: the base frame, the X-frame, and the litter frame. The number “three” is clearly a finite number. It would have been obvious to try to place the mounts on the members of the X-frame between their mid-length and the litter frame when the design of the ambulance cot provides for metal-to-metal contact between the members of the X-frame and the base frame.

- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** *See KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to dampen the force at the location of metal-to-metal contact between the members of the X-frame and the base frame, a POSITA would have found it obvious to provide mounts on the members of the X-frame at the claimed location. By moving the mounts of the ‘545 Patent to the members of the X-frame between their mid-length and the litter frame to prevent contact between the X-frame and the base frame, the POSITA would have arrived at the claimed invention.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a mount or rubber bumper at a location to prevent metal-to-metal contact is present in a wide-variety of products. Accordingly, use of such mounts or rubber bumpers is common knowledge and well-known to a POSITA. Thus, the technique of the use of mounts for dampening purposes is obvious and clearly not beyond the skill of the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘545 Patent is combined with the knowledge of a POSITA.

B. Claim Chart for Combining the ‘545 Patent With the Knowledge of a POSITA

‘884 Patent Claim 3 – Obvious over US 6,701,545 + POSITA		
A.	3. An ambulance cot, comprising: a base frame;	The ‘545 Patent teaches an ambulance cot 100 comprising a base frame (undercarriage 1). (‘545 Patent at Claims 7 and 13; col. 3, lns. 39-61; col. 5, lns. 13-67; FIG. 1a.)  FIG. 1a
B.	a litter frame; and	The ‘545 Patent teaches the ambulance cot has a litter frame (cot frame 9) (‘545 Patent at Claims 1, 3, 4, 6, 7, 9, 12, 13, 15, 17, 18, 20, 21; col. 3, lns. 49-60; col. 4, lns. 25-30; FIGS. 1a, 3.)
C.	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,	The ‘545 Patent teaches an X-frame support mechanism (defined by cross-forming members 7, 8, 7a, 8a) interconnecting said base frame (undercarriage 1) and said litter frame (cot frame 9) and being configured to support said litter frame (cot frame 9) in one of a plurality of positions relative to said base frame (undercarriage 1). (‘545 Patent at Claim 13; col. 3, lns. 49-60; col. 5, lns. 1-12; col. 5, lns. 35-44; col. 5, lns. 45-67; FIG. 4.)  FIG. 4

D.	said support mechanism including at least one pair of frame members pivotally secured to each other proximate the mid-length thereof,	The '545 Patent teaches at least one pair of frame members (cross-forming members 7, 8, 7a, 8a) pivotally secured to each other (by way of pivot rod 47) proximate the mid-length thereof ('545 Patent at Claim 13; col. 3, lns. 49-60; col. 5, lns. 1-12; col. 5, lns. 35-44; col. 5, lns. 45-67; FIG. 4.)
E.	said at least one pair of frame members each having opposite ends respectively secured to one of said base frame and said litter frame,	The '545 Patent teaches said at least one pair of frame members (cross-forming members 7, 8, 7a, 8a) each having opposite ends respectively secured to one of said base frame and said litter frame. ('545 Patent at col. 5, lns. 35-44; FIG. 4.)
F.	at least one of said pair of frame members having a first mount oriented between said mid-length thereof and said [base] litter frame,	The '545 Patent teaches a mount connected to a frame member 3, 4. ('545 Patent, FIGS. 1a, 1b, 3, 4, 5)  FIG. 4 It would have been obvious to a POSITA to position the mount in any location on the cot 100 to aid in the resting of the cot frame 9 on the undercarriage 1, including the cross-forming members 7, 8, 7a, 8a. It would have been obvious to try to place the mount(s) on the cross-

		forming frame members 7, 8, 7a, 8a because there are a small number of predictable solutions. Namely, placing the mount on the undercarriage 1, the cross-forming frame members 7, 8, 7a, 8a, or the cot frame 9 to prevent metal-to-metal contact between the cross-forming frame members 7, 8 7a, 8a and the transverse frame members of the undercarriage 1. It would have been well within the technical grasp of a POSITA to position the mount of the '545 Patent oriented between a mid-length of the pair of frame members (cross-forming frame members 7, 8, 7a, 8a) and the litter frame (cot frame 9).
G.	said first mount being configured to [respectively] engage said base frame in response to said litter frame becoming proximate said base frame; and	The modification of the '545 Patent having the mount on the frame members (cross-forming frame members 7, 8, 7a, 8a) 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). ('545 Patent at col. 5, lns. 35-37; FIGS. 1a, 1b, 3, 4, 5.)
H.	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	The '545 Patent modified by the understanding of a POSITA teaches that the base frame (undercarriage 1) has side rails (side members 3, 4) that are interconnected by at least one crosswise member (transverse frame member 5, 6) that are orientated in a path movement of the litter frame (cot frame 9) as the litter frame (cot frame 9) becomes proximate the base frame (undercarriage 1) so that the first modified mount engages and rests upon the at least one crosswise member (transverse frame member 5, 6). ('545 Patent at col. 5, lns. 1-12 and 35-37; FIGS. 1a, 1b, 3, 4, 5.)

knowledge of a POSITA, it would have been obvious to combine the ‘545 Patent with the ‘541 Patent and the knowledge of a POSITA to arrive at these Claims.

As stated above, the ‘545 Patent discloses an ambulance cot having an X-frame that interconnects a base frame to a litter frame. Mounts are positioned on side members of the base frame to contact an underside of the litter frame, which prevents direct metal-to-metal contact between the base frame and the underside of the litter frame.

The ‘541 Patent, which issued on March 11, 1980 and lists Richard Ferneau, the founder of Ferno-Washington, as the inventor, discloses a cart having an X-frame that is defined by a pair of braces. A pair of rubber bumpers are provided on a lower portion of each brace. These rubber bumpers are positioned to engage pair of corresponding rubber bumpers on a crossbar between two wheels of the cart.

It would have been well within the technical grasp of the POSITA to place the mounts of the ‘545 Patent at the very locations where metal-to-metal contact would occur depending on the shape and configuration of the base frame, the X-frame and the litter frame. In view of the ‘541 Patent, the POSITA would immediately be motivated to modify the ‘545 Patent to position mounts on the members of the X-frame at the claimed location to eliminate metal-to-metal contact of the members of the X-frame between their mid-lengths and the litter and the base frame. It would have been obvious to a POSITA to place mounts at the claimed locations on the X-frame because the claimed locations are the only locations on which they may be placed, and the ‘541 Patent teaches the placing of rubber bumpers on braces of an X-Frame.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable

results.”). A POSITA would have been familiar with the ‘545 Patent and the ‘541 Patent, as well as the general knowledge of where to place mounts to prevent metal-to-metal contact between components. It would have been obvious to the POSITA to modify the ‘545 Patent with the position of the mounts on the X-frame as taught by the ‘541 Patent to prevent metal-on-metal contact between the X-frame and the crossbar of the base frame disclosed by the ‘545 Patent. The requirement of placing the mounts at a location of metal-to-metal contact would have predictably yielded an ambulance cot having mounts located on members of the X-frame between their mid-length and the litter frame when the design of the ambulance cot dictates metal-to-metal contact between the X-frame and the base frame between the mid-length and the litter frame of the members of the X-frame.

- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that mounts should be placed at one or more locations on the ambulance cot to prevent the problem of metal-to-metal contact. The POSITA would have had only a finite number of possible design choices with respect to the placement of the mounts. It would have been obvious to try to place the mounts on the members of the X-frame between their mid-length and the litter frame when the design of the ambulance cot provides for metal-to-metal contact between the members of the X-frame and the base frame, particularly in view of the ‘541 Patent.
- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** *See KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to dampen the force at the location of metal-to-metal contact between the members of the X-frame and the base frame, a POSITA would have found it obvious to provide mounts on the members of the X-frame at the claimed location, particularly in view of the ‘541 Patent. By moving the mounts of the ‘545 Patent to the members of the X-frame between their mid-length and the litter frame to prevent contact between the X-

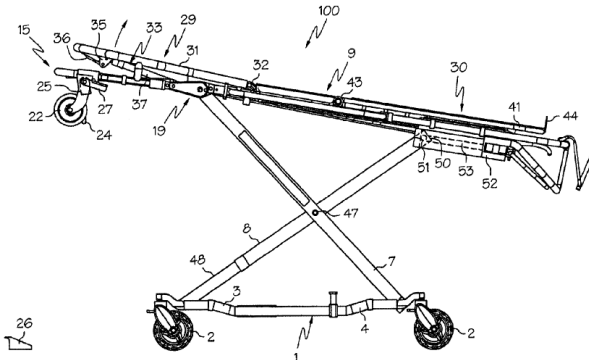
frame and the base frame, the POSITA would have arrived at the claimed invention.

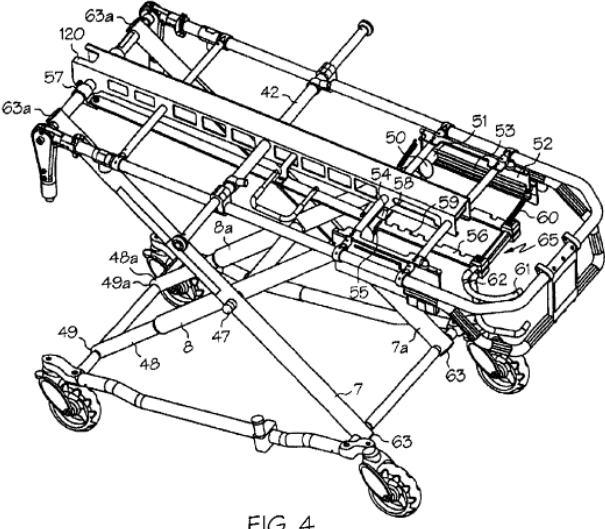
- **The claimed invention merely uses a known technique to improve similar products in the same way.** KSR, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a mount or rubber bumper at a location to prevent metal-to-metal contact is present in a wide-variety of products. Accordingly, use of such mounts or rubber bumpers is common knowledge and well-known to a POSITA. Thus, the technique of the use of mounts for dampening purposes is obvious and clearly not beyond the skill of the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts

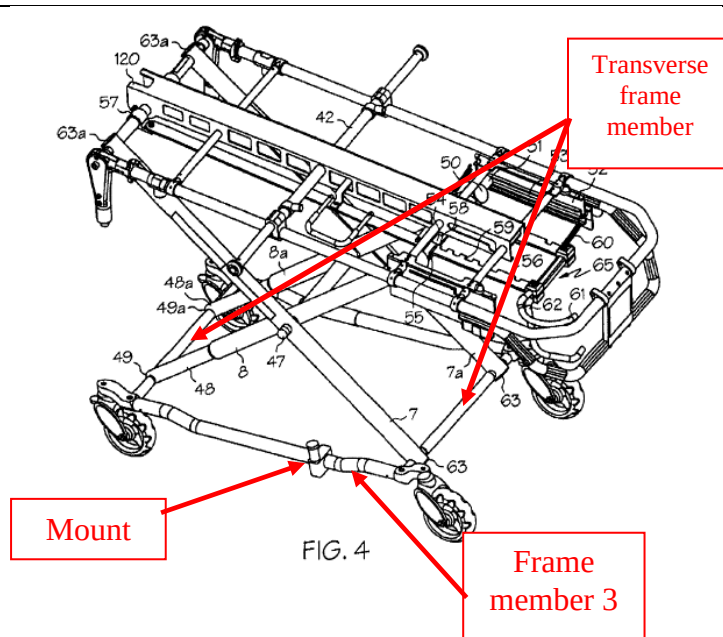
wherein the ‘545 Patent is combined with the ‘541 Patent and the knowledge of a POSITA.

D. Claim Chart for Combining the ‘545 Patent With the ‘541 Patent and the Knowledge of a POSITA

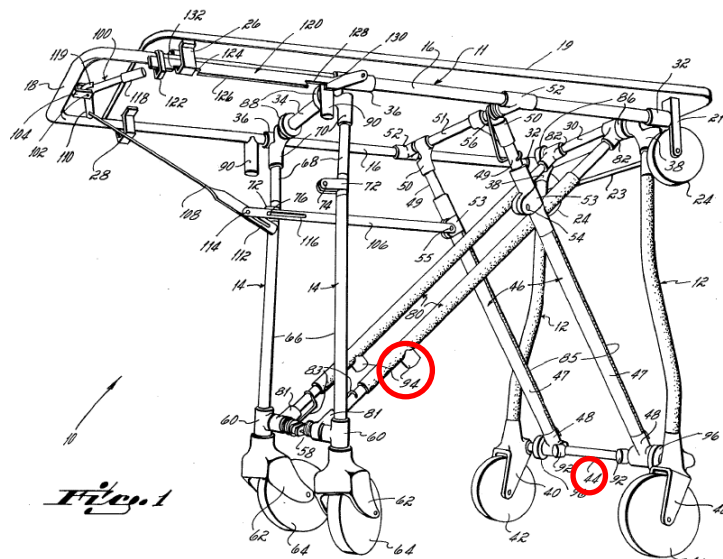
‘884 Patent		
Claim 3 – Obvious over US 6,701,545 + US 4,192,541 + POSITA		
A.	3. An ambulance cot, comprising: a base frame;	The ‘545 Patent teaches an ambulance cot 100 comprising a base frame (undercarriage 1). (‘545 Patent at Claims 7 and 13; col. 3, lns. 39-61; col. 5, lns. 13-67; FIG. 1a.)  FIG. 1a
B.	a litter frame; and	The ‘545 Patent teaches the ambulance cot has a litter frame (cot frame 9) (‘545 Patent at Claims 1, 3, 4, 6, 7, 9, 12, 13, 15, 17, 18, 20, 21; col. 3, lns. 49-60; col. 4, lns. 25-30; FIGS. 1a. 3.)
C.	an X-frame support mechanism	The ‘545 Patent teaches an X-frame support mechanism (defined by cross-forming members 7, 8, 7a, 8a) interconnecting said base frame (undercarriage 1) and said litter frame (cot frame 9) and being configured

	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,	to support said litter frame (cot frame 9) in one of a plurality of positions relative to said base frame (undercarriage 1). ('545 Patent at Claim 13; col. 3, lns. 49-60; col. 5, lns. 1-12; col. 5, lns. 35-44; col. 5, lns. 45-67; FIG. 4.)  FIG. 4
D.	said support mechanism including at least one pair of frame members pivotally secured to each other proximate the mid-length thereof,	The '545 Patent teaches at least one pair of frame members (cross-forming members 7, 8, 7a, 8a) pivotally secured to each other (by way of pivot rod 47) proximate the mid-length thereof ('545 Patent at Claim 13; col. 3, lns. 49-60; col. 5, lns. 1-12; col. 5, lns. 35-44; col. 5, lns. 45-67; FIG. 4.)
E.	said at least one pair of frame members each having opposite ends respectively secured to one of said base frame and said litter frame,	The '545 Patent teaches said at least one pair of frame members (cross-forming members 7, 8, 7a, 8a) each having opposite ends respectively secured to one of said base frame and said litter frame. ('545 Patent at col. 5, lns. 35-44; FIG. 4.)
F.	at least one of said pair of frame	The '545 Patent teaches a mount connected to a frame member 3, 4. ('545 Patent, FIGS. 1a, 1b, 3, 4, 5.)

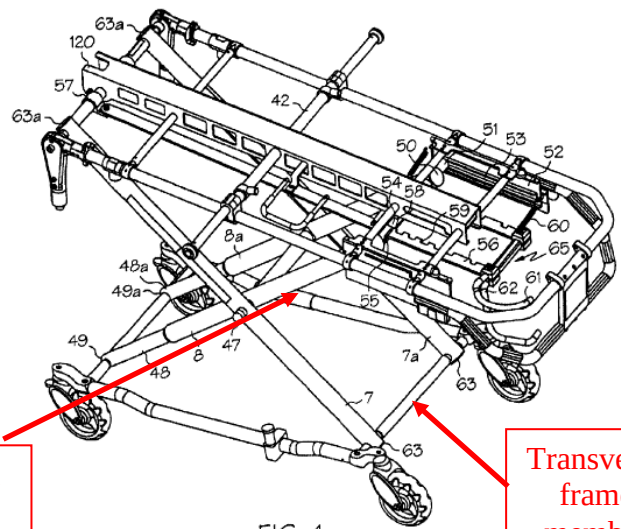
members having a first mount oriented between said mid-length thereof and said [base] litter frame,



Further, the '541 Patent teaches a cart 10 having diagonal braces 46, 80 that form an X-frame support. ('541 Patent at col. 2, ln. 65 – col. 3, ln. 1; col. 3, lns. 20-35; col. 3, lns. 54-65; FIG. 1.) A lower crossbar 44 is fixed to wheel yokes 40. ('541 Patent at col. 3, ln. 24; FIG. 1.) Rubber bumpers 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. ('541 Patent at col. 4, lns. 15-18; FIG. 1.)



It would have been obvious to a POSITA to position the mount of the '545 Patent on the cross-forming members 7, 8 between the mid-length and the litter frame in view of the '541 Patent, which teaches placing a

		mount 94 on braces 80 of an X-frame to contact a crossbar 44, because doing so would prevent metal-to-metal contact between the cross-forming frame members 7, 8 and the crossbars of the undercarriage 1 of the '545 Patent. It would have been well within the technical grasp of the POSITA to position the mount of the '545 Patent oriented between a mid-length of the pair of frame members (cross-forming frame members 7, 8, 7a, 8a) and the litter frame (cot frame 9), particularly in view of the '541 Patent.
G.	said first mount being configured to [respectively] engage said base frame in response to said litter frame becoming proximate said base frame; and	The modification of the '545 Patent having the mount on the frame members (cross-forming frame members 7 and 8 and/or 7a and 8a) 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). ('545 Patent at col. 5, lns. 35-37; FIGS. 1a, 1b, 3, 4, 5.)
H.	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.	The '545 Patent modified by the '541 Patent and the understanding of a POSITA teaches that the base frame (undercarriage 1) has side rails (side members 3, 4) that are interconnected by at least one crosswise member (transverse frame member 5, 6) that are orientated in a path movement of the litter frame (cot frame 9) as the litter frame (cot frame 9) becomes proximate the base frame (undercarriage 1) so that the first modified mount engages and rests upon the at least one crosswise member (transverse frame member 5, 6). ('545 Patent at col. 5, lns. 1-12 and 35-37; FIGS. 1a, 1b, 3, 4, 5.) 

'884 Patent		
Claim 4 – Obvious over US 6,701,545 + US 4,192,541 + POSITA		
	This claim is dependent on independent claim 3. As such, elements A. through H. of the claim chart for claim 3, above, are incorporated herein by reference.	
I.	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.	The '545 Patent modified by the '541 Patent and the understanding of a POSITA yields a cot wherein the modified mount engages and rests upon the at least one crosswise member (transverse frame member 5, 6) between the side rails (side members 3, 4) of the base frame (undercarriage 1) ('545 Patent, FIG. 4; col. 5, lns. 35-37.)

EXHIBIT D

I. US 10,058,464: Obviousness Under 35 U.S.C. § 103(a)

Under § 103(a), Claims 1-3, 7-19, and 21 of the '464 Patent are obvious over: (a) the '787 Patent when combined with the knowledge of a person of ordinary skill in the art at the time of the alleged invention; and/or (b) the '787 Patent when combined with the '212 Patent and the knowledge of a person of ordinary skill in the art at the time of the alleged invention.

A. Reasons to Combine the '787 Patent With the Knowledge of a POSITA

Under § 103(a), Claims 1-3, 7-19, and 21 of the '464 Patent are obvious over the '787 Patent when combined with the knowledge of a person of ordinary skill in the art.

Emergency cot fastening system have long been located within emergency vehicles (such as ambulances) to fasten emergency cots into the vehicle for secure transport.¹⁸ Such fastening systems generally have: (a) a component which guides the emergency cot into a certain location; and (b) a component which detachably fastens the emergency cot to the vehicle.

Guiding a cot to a certain location within an emergency vehicle is important inasmuch as the fastening component is often located in a certain area within the emergency vehicle. It is also important to secure the cot so that it that the cot does not disengage while the emergency vehicle is in transit (which could create a risk of severe harm or death for a patient who is being transported on the cot).

It is well-known to those of ordinary skill in that art that emergency cots are loaded into the back of an ambulance, then directed into the interior compartment of the ambulance. It is also well-known to those of ordinary skill in the art that emergency cots generally need to be guided into a specific location within the interior compartment of the ambulance where equipment can be mounted to fasten the emergency cot to the floor of the ambulance. It is also well-known to those

¹⁸ See, e.g., the '144 Patent, the '722 Patent and the '601 Patent.

of ordinary skill in that art that the shape of the fastening system itself can be used to so guide an emergency cot into such a fastener.

Engineers and product designers have long used first and second restraint assemblies to engage and hold an emergency cot in place within an ambulance. Engineers and product designers have also long used the configuration of side rails to guide a cot into locking engagement with these first and second restrain assemblies as the cot is moved from the opening of an ambulance into the cargo area of the ambulance.

The '787 Patent discloses a cot fastening system designed to be mounted to the floor of an emergency vehicle. This cot fastening system has first and second restraint assemblies which engage with an emergency cot when the cot is loaded into the emergency vehicle, *i.e.*, when the cot is moved in a loading direction. The '787 Patent further discloses that the frame of the cot fastening system has a first section with a first width and a second section with a second width which is wider than the first width (both widths less than the wheel spacing of the cot) to guide the cot into alignment for fastening within the compartment of the ambulance, *i.e.*, to guide the cot when it is moved in a loading direction. It would have been well within the technical grasp of the POSITA (and quite frankly common sense) to use a first restraint assembly (to engage with a head end cot attachment) and a second restraint assembly (to engage with a foot end cot attachment) to fasten the cot within the cargo area of an ambulance. The placement of these restraint assemblies in connection with certain sections of the frame having a first width and a second width represents zero innovation whatsoever.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results. See *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S.**

398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the ‘787 Patent as well as the general knowledge of where to place the restraint assemblies relative to a section of the fastener with a first width and a section of the fastener with a second width to ensure that the cot is fastened to the ambulance. It would have been obvious to the POSITA to combine the use of a cot fastening system according to the ‘787 Patent with such restraint assemblies. Moreover, doing so would have predictably yielded a fastening system for fastening an emergency cot as claimed in the ‘464 Patent.

- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that the ‘787 Patent covers the essence of the ‘464 Patent and that the use of the restraint assemblies / corresponding widths of the ‘787 Patent would result in a cot fastening system or fastening a cot as claimed in the ‘464 Patent.
- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** *See KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to fasten a cot to the cargo area of an ambulance, a POSITA would have found it obvious to provide a first and second restraint assembly and to position such restraint assemblies along sections of the fastener having different widths as disclosed in the ‘787 Patent.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a first and second restraint assembly for coupling a foot end and head end, respectively, of a cot to the cargo area of an ambulance is common knowledge and well-known to a POSITA in view of the ‘787 Patent. Thus, the technique of the use of such restrains is obvious and clearly not beyond the skill of

the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the '464 Patent is combined with the knowledge of a POSITA.

B. Reasons to Combine the '787 Patent with the '212 Patent and/or the '757 Patent and the Knowledge of a POSITA

Under § 103(a), Claims 1-3, 7-19, and 21 of the '464 Patent are obvious over the '787 Patent when combined with the '212 Patent and/or the '757 Patent and the knowledge of a person of ordinary skill in the art.

For similar reasons stated above with respect to the combination of the '787 Patent and the knowledge of a POSITA, it would have been obvious to combine the '787 Patent with the '212 Patent and/or the '757 Patent and the knowledge of a POSITA to arrive at these Claims.

The '787 Patent (which issued to Ferno-Washington, Inc.) discloses a cot fastening system designed to be mounted to the floor of an emergency vehicle. This cot fastening system has first and second restraint assemblies which engage with an emergency cot when the cot is loaded into the emergency vehicle, *i.e.*, when the cot is moved in a loading direction. The '787 Patent further discloses that the frame of the cot fastening system has a first section with a first width and a second section with a second width which is wider than the first width (both widths less than the wheel spacing of the cot) to guide the cot into alignment for fastening within the compartment of the ambulance, *i.e.*, to guide the cot when it is moved in a loading direction.

The '212 Patent (which also issued to Ferno-Washington, Inc.), discloses a cot fastening system having a rail structure functionally identical to that disclosed in the '464 Patent, and having a first and second restraint assembly. The '212 Patent further discloses a spring biased latching member to lock the cot into place in the securing mechanism.

The '757 Patent also discloses a cot fastening system having a rail structure functionally

identical to that disclosed in the ‘464 Patent, and having a damper (*i.e.*, a rubber bumper) to dampen the impact load from a cot when it is docked on the fastening system and to provide a spring for biasing the cot in a direction opposed to the cot loading direction.

It would have been well within the technical grasp of the POSITA to combine the cot fastening system from the ‘787 Patent with either the ‘212 Patent and/or the ‘757 Patent and the knowledge of a POSITA. With respect to the ‘787 Patent and the ‘212 Patent, both of these are directed to a cot fastening system (and, indeed, both were invented by Ferno’s engineering team and owned by Ferno). Both systems also disclose the same general shape (narrow at the front, wide at the back with a taper in-between) for the same purpose (as explained by the ‘787 Patent, the open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle. It would have been obvious to a POSITA to combine these two commonly owned references for a similar technology with a similar structure. With respect to the ‘787 Patent and the ‘757 Patent, the ‘787 Patent itself discloses spring biased electrical connectors which, themselves, could provide the spring bias noted in certain claims of the ‘464 Patent. Likewise, the ‘757 Patent discloses a damper (*i.e.*, a rubber bumper) in a restraint assembly that acts as a spring that biases the cot in a direction opposed to the cot loading direction. It would have been obvious to a POSITA to combine the spring bias electrical connectors (within a restraint assembly) of the ‘787 Patent with the damper (*i.e.*, a rubber bumper) of the ‘757 Patent.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable

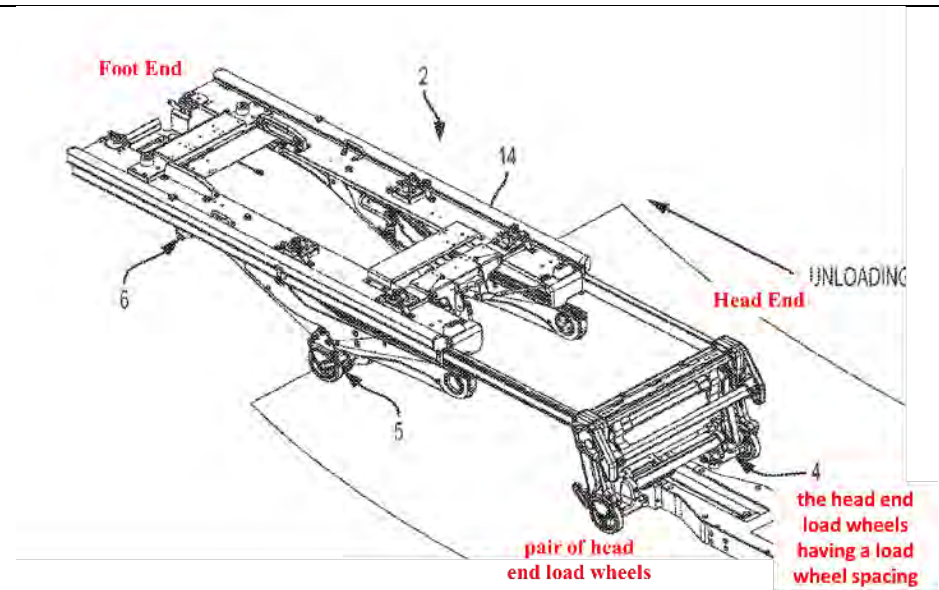
results.”). A POSITA would have been familiar with the ‘787 Patent, the ‘212 Patent and/or the ‘757 Patent as well as the general knowledge of where to place the restraint assemblies relative to a section of the fastener with a first width and a section of the fastener with a second width to ensure that the cot is fastened to the ambulance. It would have been obvious to the POSITA to combine the use of a cot fastening system according to the ‘787 Patent, the ‘212 Patent and/or the ‘757 Patent with such restraint assemblies. Moreover, doing so would have predictably yielded a fastening system for fastening an emergency cot as claimed in the ‘464 Patent.

- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that the ‘787 Patent, the ‘212 Patent and/or the ‘757 Patent covers the essence of the ‘464 Patent and that the use of the restraint assemblies / corresponding widths of the ‘787 Patent would result in a cot fastening system or fastening a cot as claimed in the ‘464 Patent.
- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** *See KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to fasten a cot to the cargo area of an ambulance, a POSITA would have found it obvious to provide a first and second restraint assembly and to position such restraint assemblies along sections of the fastener having different widths as disclosed in the ‘787 Patent, the ‘212 Patent and/or the ‘757 Patent.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a first and second restraint assembly for coupling a foot end and head end, respectively, of a cot to the cargo area of an ambulance is common knowledge and well-known to a POSITA in view of the ‘787 Patent, the ‘212 Patent and/or the ‘757 Patent. Thus, the technique of the use of such restrains is obvious and clearly not beyond the skill of the POSITA.

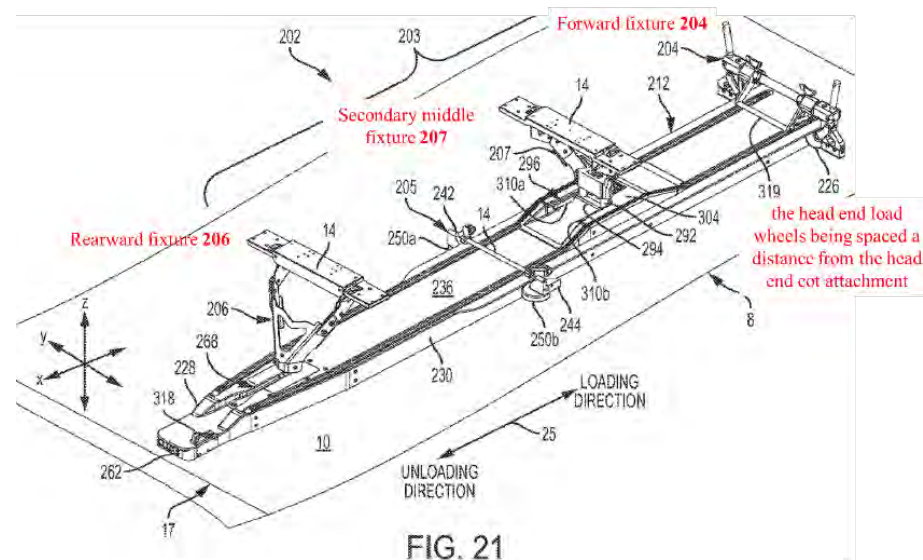
The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘787 Patent and the ‘212 Patent and/or the ‘757 is combined with the knowledge of a POSITA.

C. Claim Chart for Combining the ‘787 Patent with the ‘212 Patent and/or the ‘757 Patent and the Knowledge of a POSITA

‘464 Patent		
Claim 2 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
A	A cot fastening system for fastening a cot, the cot having a foot end, a head end, a pair of head end load wheels, a head end cot attachment, a foot end cot attachment, and a safety bar, the head end load wheels having a load wheel spacing, and the head end load wheels being spaced a distance from the head end cot attachment, said cot fastening system comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘787 Patent discloses a “cot fastening system” as shown in the image below from Figure 27: FIG. 27 Moreover, this “cot fastening system” is designed for use with a cot having a foot end, a head end, a pair of head end load wheels and where the “head end load wheels having a load wheel spacing” as shown in the annotated image below from FIG. 1B of the ‘787 Patent:

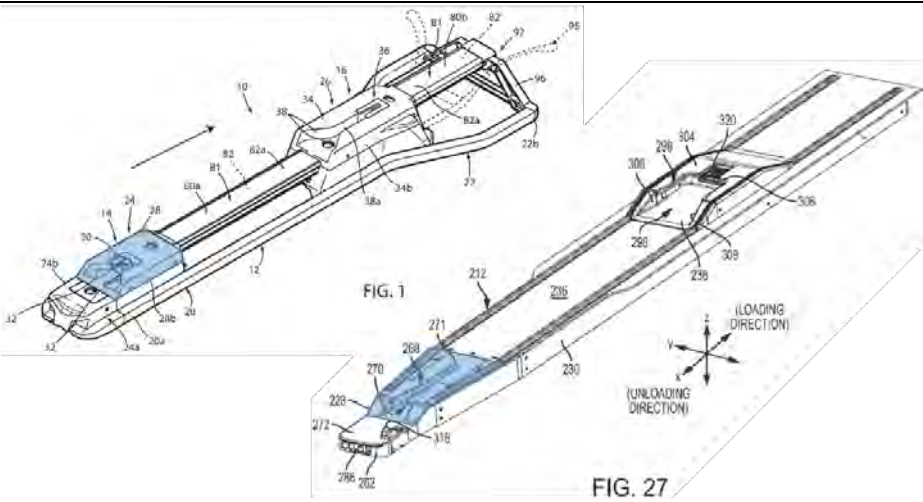
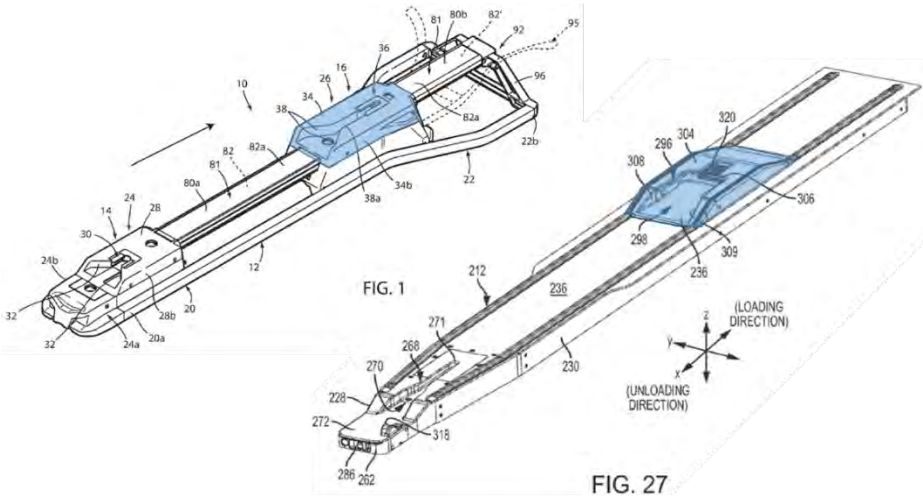


This cot further has a head end cot attachment (either the “secondary middle fixture 207” or the “forward fixture 204,” a foot end cot attachment (called a “rearward fixture 206”), with “the head end load wheels [] spaced a distance from the head end cot attachment” as shown in the annotated image from **FIG. 21** of the ‘787 Patent below:

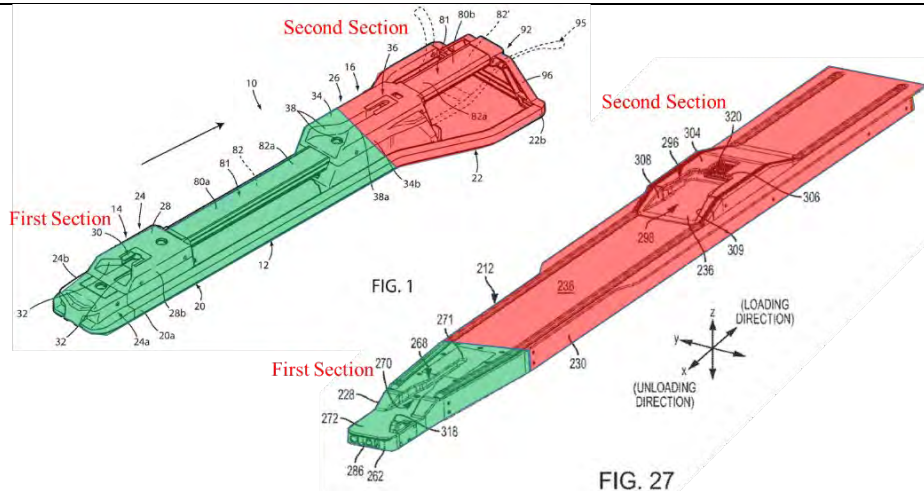


In certain embodiments, this cot can also have a safety bar (called a “bail” in the ‘787 Patent) (*see, e.g.*, ‘787 Patent, col. 20, lns. 10-15) as shown below in the annotated image from **FIGS. 21** (at bottom) and **22** (at top) of the ‘787 Patent:

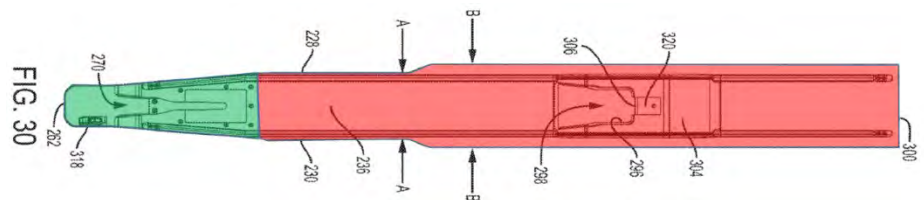
B	a frame configured for mounting to a floor of an emergency vehicle, the frame having a longitudinal axis and a cot loading direction along said longitudinal axis;	The '787 Patent discloses a frame for a "cot fastener track for mounting to the floor of the transport vehicle" (see Claim 1). This frame is shown below as depicted in FIG. 27 of the '787 Patent along with a longitudinal axis and a cot loading direction along such longitudinal axis: FIG. 27
C	a stationary first restraint assembly for coupling to the foot end cot attachment,	The side by side image below shows the "first restraint assembly" (14) as depicted in FIG. 1 of the '464 Patent (highlighted in blue at left), and the first restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the '787 Patent (highlighted in blue at right):

	said first restraint assembly mounted to said frame in a fixed position;	
D	a second restraint assembly for coupling to the head end cot attachment, said second restraint assembly mounted to said frame; and	The side by side image below shows the “second restraint assembly” (16) as depicted in FIG. 1 of the ‘464 Patent (highlighted in blue at left) and the second restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the ‘787 Patent:  As can be seen in the image above, the second restraint assembly portion of the cot fastening system disclosed in the ‘787 Patent is “mounted to said frame.”
E	wherein said frame includes a first section and a second section, said first section having a first width less	The ‘787 Patent discloses a frame having a “first section and a second section” as shown in the side by side image below depicting: (a) the “first section” (highlighted in blue) and the “second section” (highlighted in red) taken from FIG. 1 of the ‘464 Patent; and (b) the “first section” (highlighted in blue) and the “second section” (highlighted in red) taken from FIG. 27 of the ‘787 Patent:

than the load wheel spacing to allow the cot to straddle the frame, said first section comprising linear portions extending along said longitudinal axis from said first restraint assembly toward said second restraint assembly, and said second section extending from said linear portions of said first section along said longitudinal axis of said frame and diverging away from said longitudinal axis of said frame to a second width greater than said first width but less than the load wheel spacing between the head end load wheels to form a guide for guiding the



This is also shown in the top view below taken from **FIG. 30** of the ‘787 Patent:

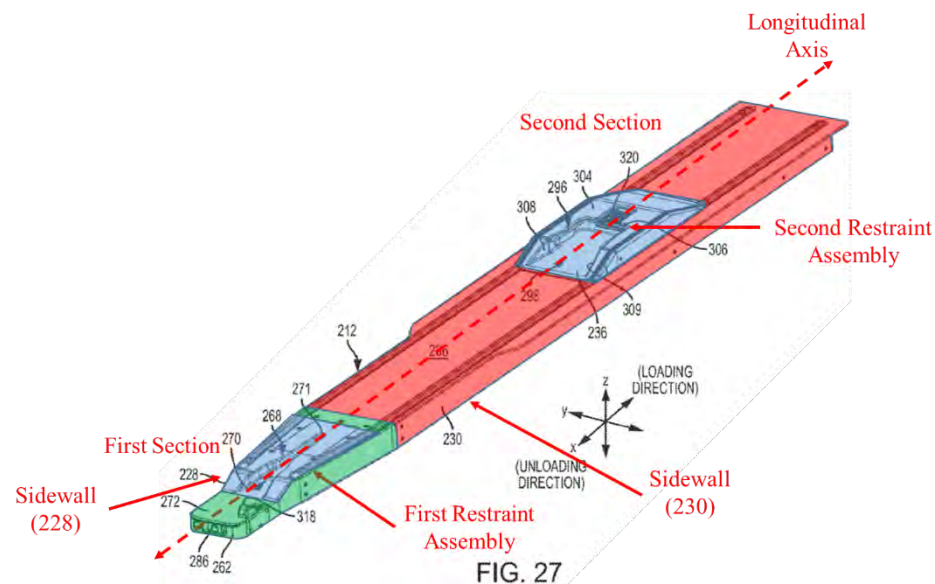


The ‘787 Patent also discloses a “first section having a first width less than the load wheel spacing to allow the cot to straddle the frame” as recited in Claim 1 of the ‘464 Patent. More specifically, the ‘787 Patent discloses that “[i]n some of the disclosed embodiments, the first end of the cot fastener track has a first width and the second end has a second width that is smaller than the first width.” ‘787 Patent, col. 2, lns. 15-17. The ‘787 Patent further discloses that “[t]he open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle and to retain the first fixture adjacent the first end at least vertically and laterally therein.” ‘787 Patent, col. 1, Line 60 – col. 2, Line 1. Put another way, the wheels of a cot are wider than the width of the first section (as highlighted above) of a cot fastener system, but less than the widest width of the second section. In this way, the ‘787 Patent discloses that the “orientation of the wheels 224, 226 ensure that the cot 14 upon moving in the loading direction (**FIG. 21**) smoothly engages the cot fastener track 212 between the mounting brackets 216, 218, and that the wheels 224, 226 smoothly travels thereon along respective sidewalls 228, 230 of the cot fastener track 212.” ‘787 Patent, col. 16, lns. 28-33.

The ‘787 Patent also discloses “said first section comprising linear portions extending along said longitudinal axis from said first restraint

head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly.

assembly toward said second restraint assembly.” More specifically, the ‘787 Patent discloses “sidewalls” (reference numerals 228 and 230) which “extend[] along” the “longitudinal axis from said first restraint assembly toward said second restraint assembly” as shown in the annotated image below taken from **FIG. 27** of the ‘787 Patent:



The ‘787 Patent also discloses “said second section extending from said linear portions of said first section along said longitudinal axis of said frame and diverging away from said longitudinal axis of said frame to a second width greater than said first width.” More specifically, the ‘787 Patent discloses that the sidewalls (228, 230) widen from the first section to the second section as shown in the annotated image below taken from **FIG. 30** of the ‘787 Patent:

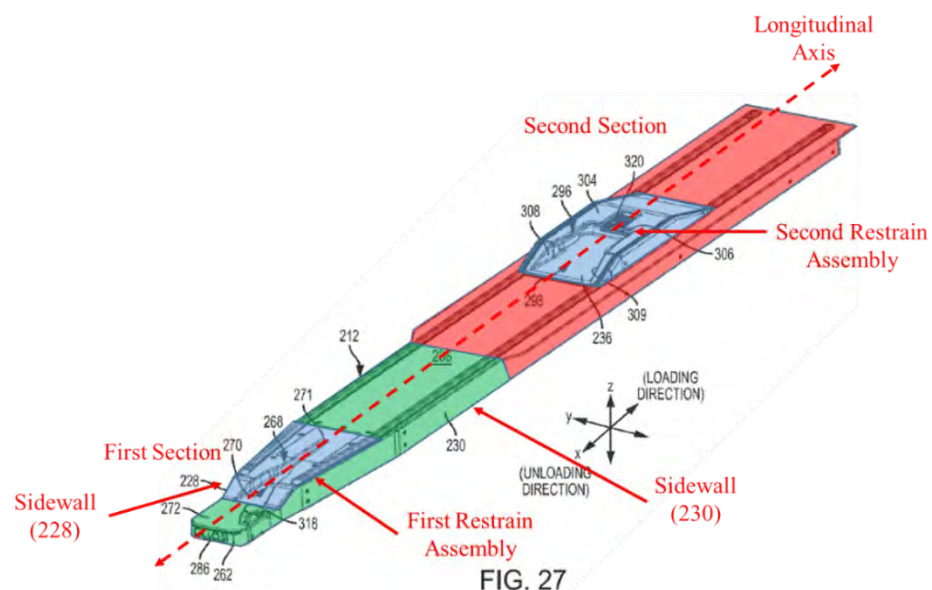


FIG. 30

“diverging away from said longitudinal axis of said frame to a second width greater than said first width”

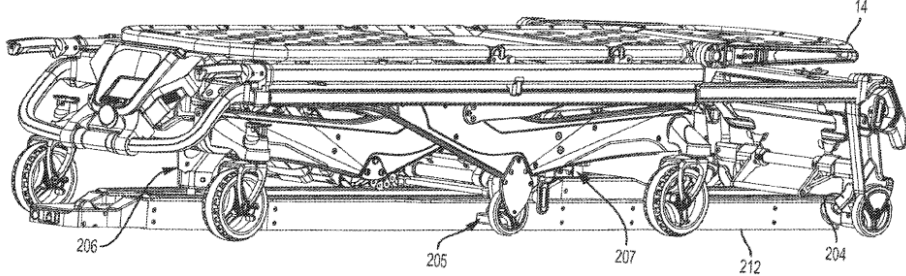
First Width

Second Width

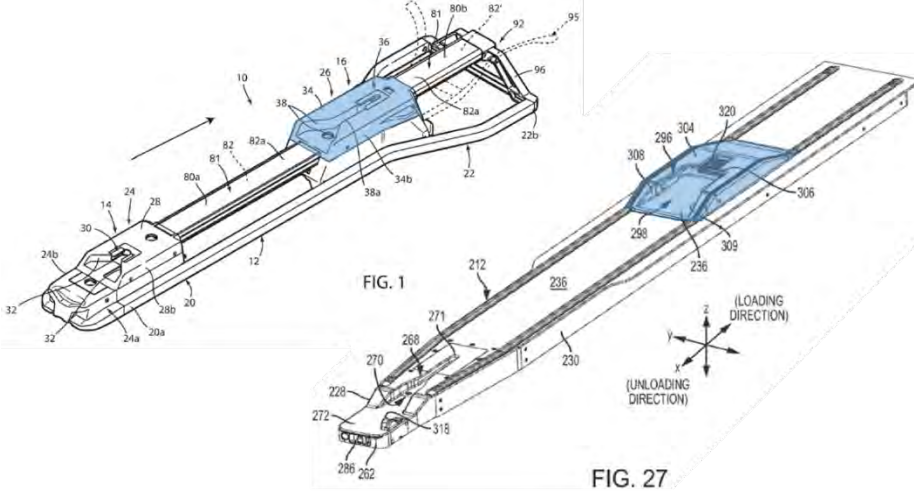
Longitudinal Axis

300, 302, 304, 306, 308, 318, 320

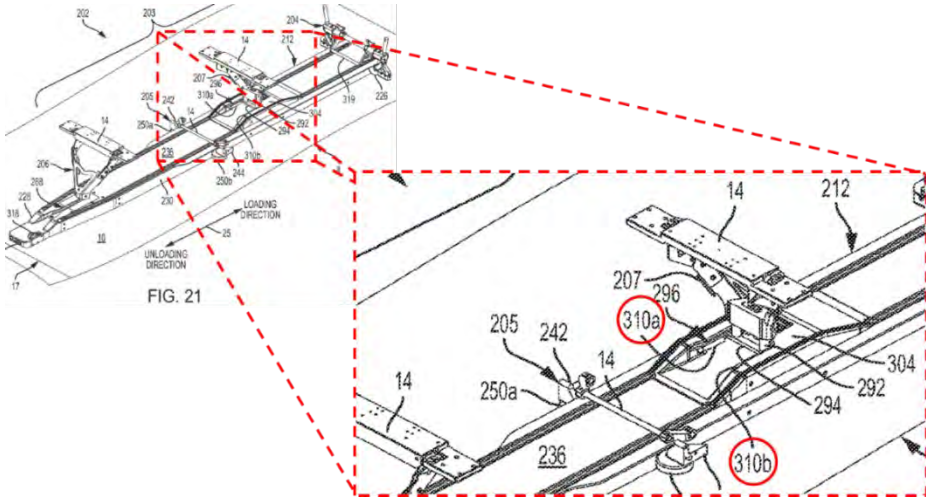
Moreover, it would have been obvious to a POSITA to combine the ‘787 Patent and the ‘212 Patent. Both of these are directed to a “cot fastening system” (and, indeed, both were invented by Ferno’s engineering team and owned by Ferno). Both systems also disclose the same general shape (narrow at the front, wide at the back with a taper in-between) for the same purpose (as explained by the ‘787 Patent, the “open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the

		vehicle....” ‘787 Patent, col. 1, lns. 60-64). It would have been obvious to a POSITA to combine these two commonly owned references for a similar technology with a similar structure. The ‘787 Patent also discloses a second width that is “less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly.” More specifically, FIG. 33B shows a cot which is engaged by the cot fastener system and depicts how the second width is “less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly: 
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‘464 Patent		
Claim 2 – Obvious over US 10,568,787 + POSITA		
	The cot fastening system according to claim 1,	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference.
F	further comprising a first mount mounting said first restraint assembly to said frame, and a second mount mounting said second restraint assembly to said frame, said frame extending	As noted above with respect to Claim 1, the ‘787 Patent (alone or in combination with the ‘212 Patent), discloses a first restraint assembly and a second restraint assembly in connection with a frame. The ‘787 Patent further discloses mounting the second restraint assembly to the frame as shown in the side by side image below of the “second restraint assembly” (16) as depicted in FIG. 1 of the ‘464 Patent (highlighted in blue at left) and the second restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the ‘787 Patent:

	between said first and second mounts.	 It would have been obvious to a POSITA to use a mount to mount the first restraint assembly to the frame (rather than forming the first restraint assembly from within the roof plate (236) as shown in FIG. 27 of the '787 Patent) in the same manner as the second restraint assembly was mounted to the frame. More than anything, this is merely a manufacturing preference since the important concept is that the second restraint assembly be at a higher elevation relative the floor than the first restraint assembly. It would have been obvious to a POSITA to take an element used in one part of the '787 Patent with respect to the second restraint assembly and apply this to the first restraint assembly.
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‘464 Patent		
Claim 3 – Obvious over US 10,568,787 + POSITA		
	The cot fastening system according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
G	wherein said second restraint assembly includes a catch, and said second mount comprises a second mount guide surface for guiding the head end cot attachment into alignment	The ‘787 Patent discloses that in certain embodiments, the second restraint assembly has a “forward channel opening 298” in which “a portion of the forward central channel 296 defined by a top plate 304 of the cot fastener track 212 is generally V- or U-shaped.” ‘787 Patent, col. 18, lns. 51-53. This is designed to engage with a “foot” (294). More specifically, the ‘787 Patent explains that “[w]hen loading the cot 14 in the loading direction, the secondary middle fixture 207 is shaped and sized such that the foot 294 ... enters into the forward central channel 296 through a defined forward channel opening 298.” ‘787 Patent, col. 18, lns. 26-31. This structure has the effect of a “mount guide surface” for “guiding the head end cot attachment into alignment with” the second restraint assembly.

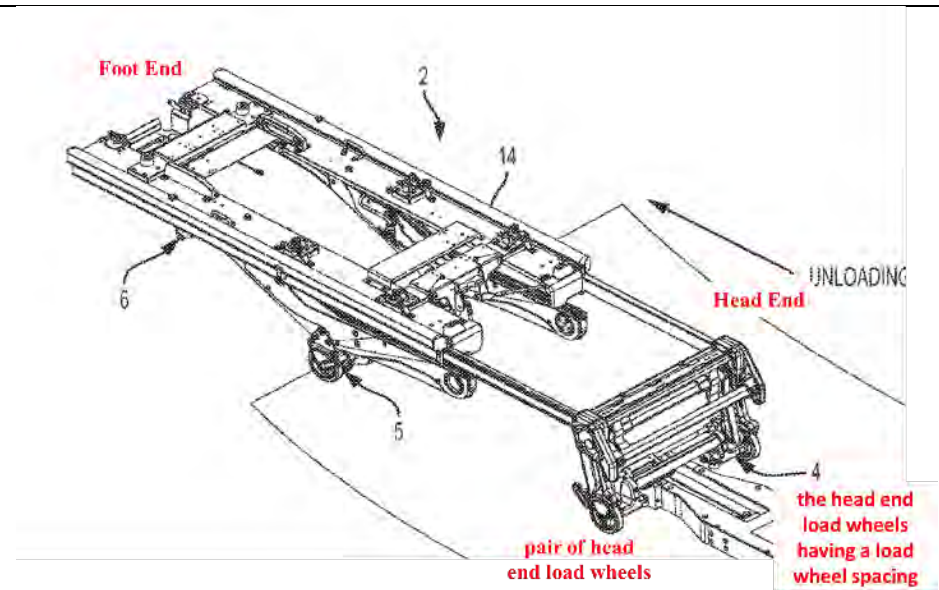
	with said catch of said second restraint assembly.	The ‘787 Patent also discloses a “catch” within this second restraint assembly. More specifically, the ‘787 Patent explains that “[t]o releasably retain the foot 294 in the forward central channel 296 and prevent movement in the unloading (rearward) direction, in one embodiment, one or more blocking or more catch members 310a, 310b (FIGS. 21 and 32) can be provided.” ‘787 Patent, col. 19, lns. 4-8; <i>see also</i> ‘787 Patent, col. 8, lns. 15-17. An enlarged detail taken from FIG. 21 of the ‘787 Patent showing the catch within the second restraint assembly is shown below (with the catch members (310a and 310b) circled in red): 
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‘464 Patent		
Claim 7 – Obvious over US 10,568,787 + POSITA		
	The cot fastening system according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
H	further comprising a guide member extending between said first and second mounts, said guide member for guiding the safety bar and for maintaining the safety bar	Certain embodiments of the ‘787 Patent include a safety bar (called a “bail” in the ‘787 Patent) (<i>see, e.g.</i>, ‘787 Patent, col. 20, lns. 10-15) as shown below in the annotated image from FIG. 21 (at bottom) and FIG. 22 (at top) of the ‘787 Patent:

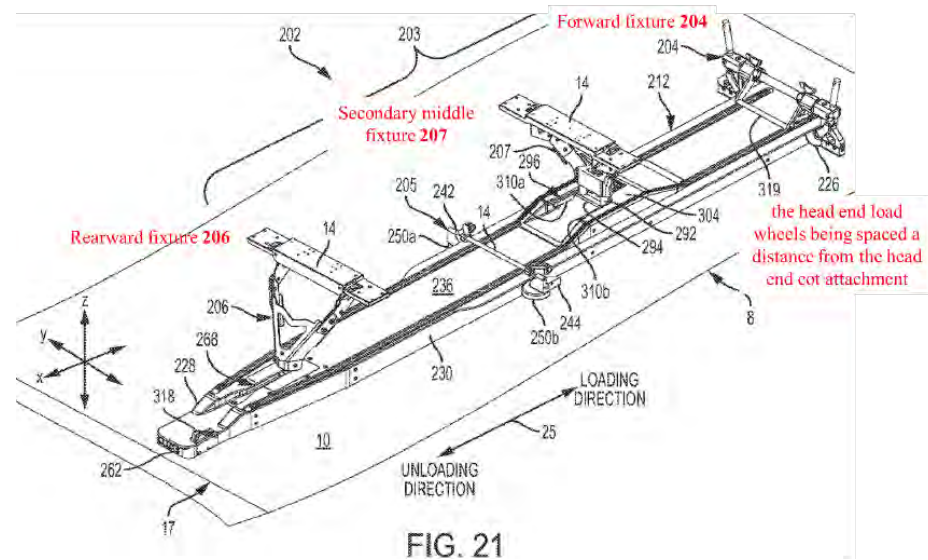
IPR2024-00042

		can be seen from the images above, the roof plate does the same thing: allowing the safety bar (called a As noted above, the '787 Patent also discloses a safety bar (called a “bail”) to travel along the frame in an un-deployed position until it reaches the position shown in FIG. 22 above. Lastly, as noted above with respect to Claim 2, it would have been obvious to a POSITA to use mounts in connection with both the first restraint assembly and the second restraint assembly.
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‘464 Patent		
Claim 8 – Obvious over US 10,568,787 + POSITA		
I	A cot fastening system for fastening a cot, the cot having a foot end, a head end, a pair of head end load wheels, a head end cot attachment, a foot end cot attachment, and a safety bar, the head end load wheels having a load wheel spacing, and the head end load wheels being spaced a distance from the head end cot attachment, said system comprising:	To the extent that the claim’s preamble is determined to be a limitation or otherwise limiting, the ‘787 Patent discloses a “cot fastening system” as shown in the image below from Figure 27: FIG. 27 Moreover, this “cot fastening system” is designed for use with a cot having a foot end, a head end, a pair of head end load wheels and where the “head end load wheels having a load wheel spacing” as shown in the annotated image below from FIG. 1B of the ‘787 Patent:



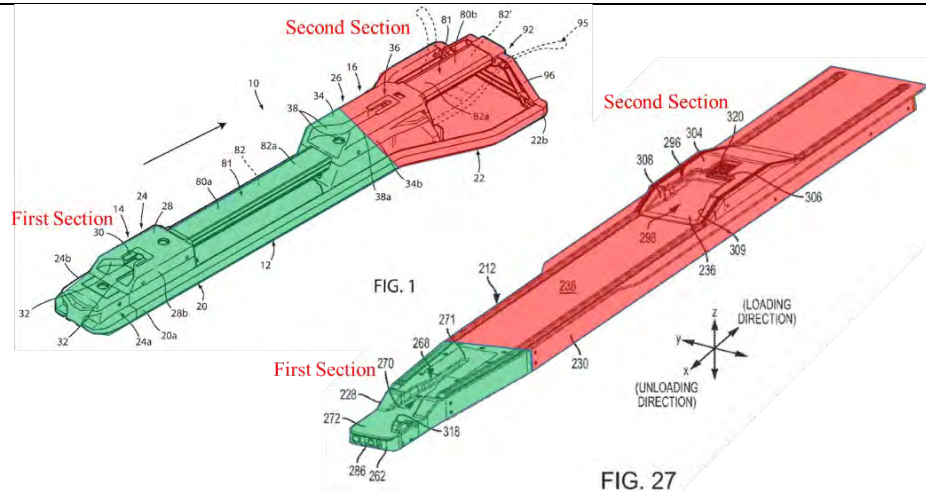
This cot further has a head end cot attachment (either the “secondary middle fixture 207” or the “forward fixture 204,” a foot end cot attachment (called a “rearward fixture 206”), with “the head end load wheels [] spaced a distance from the head end cot attachment” as shown in the annotated image from **FIG. 21** of the ‘787 Patent below:



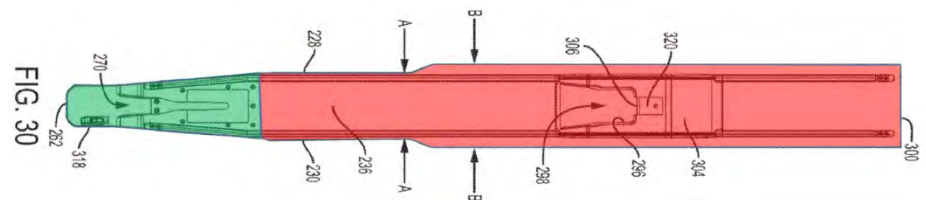
In certain embodiments, this cot can also have a safety bar (called a “bail” in the ‘787 Patent) (*see, e.g.*, ‘787 Patent, col. 20, lns. 10-15) as shown below in the annotated image from **FIGS. 21** (at bottom) and **22** (at top) of the ‘787 Patent:

	restraint assembly mounted to said frame;	
L	a second restraint assembly for coupling to the head end cot attachment, said second restraint assembly mounted to said frame; and	The side by side image below shows the “second restraint assembly” (16) as depicted in FIG. 1 of the ‘464 Patent (highlighted in blue at left) and the second restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the ‘787 Patent:
M	wherein said frame includes a first section and a second section, said first section having a first width less than the load wheel spacing to allow the cot to straddle	The ‘787 Patent discloses a frame having a “first section and a second section” as shown in the side by side image below depicting: (a) the “first section” (highlighted in blue) and the “second section” (highlighted in red) taken from FIG. 1 of the ‘464 Patent; and (b) the “first section” (highlighted in blue) and the “second section” (highlighted in red) taken from FIG. 27 of the ‘787 Patent:

the frame, and the second section extending from said first section along said longitudinal axis of said frame and diverging away from said longitudinal axis of said frame to a second width greater than said first width but less than the load wheel spacing to form a guide for guiding the head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly; and



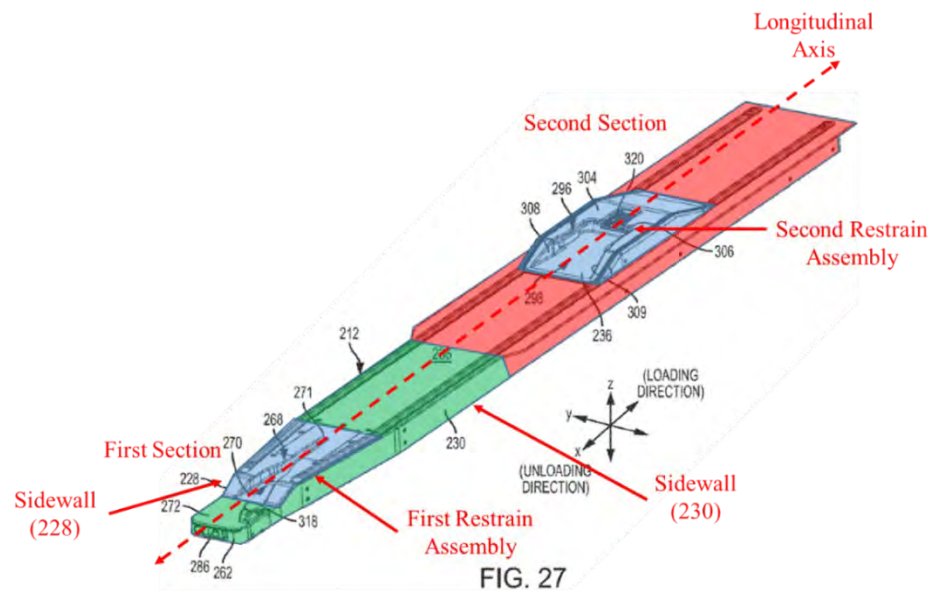
This is also shown in the top view below taken from **FIG. 30** of the ‘787 Patent:



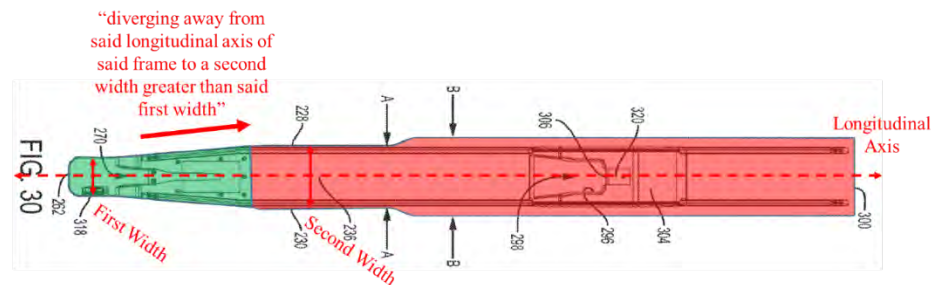
The ‘787 Patent also discloses a “first section having a first width less than the load wheel spacing to allow the cot to straddle the frame” as recited in Claim 1 of the ‘464 Patent. More specifically, the ‘787 Patent discloses that “[i]n some of the disclosed embodiments, the first end of the cot fastener track has a first width and the second end has a second width that is smaller than the first width.” ‘787 Patent, col. 2, lns. 15-17. The ‘787 Patent further discloses that “[t]he open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle and to retain the first fixture adjacent the first end at least vertically and laterally therein.” ‘787 Patent, col. 1, Line 60 – col. 2, Line 1. Put another way, the wheels of a cot are wider than the width of the first section (as highlighted above) of a cot fastener system, but less than the widest width of the second section. In this way, the ‘787 Patent discloses that the “orientation of the wheels 224, 226 ensure that the cot 14 upon moving in the loading direction (**FIG. 21**) smoothly engages the cot fastener track 212 between the mounting brackets 216, 218, and that the wheels 224, 226 smoothly travels thereon along respective sidewalls 228, 230 of the cot fastener track 212.” ‘787 Patent, col. 16, lns. 28-33.

The ‘787 Patent also discloses the “second section extending from said first section along said longitudinal axis of said frame and diverging away

from said longitudinal axis of said frame to a second width greater than said first width.” More specifically, the ‘787 Patent discloses that the sidewalls (228, 230) widen from the first section to the second section as shown in the annotated image below taken from **FIG. 30** of the ‘787 Patent:



This is also shown in the top view below taken from **FIG. 30** of the ‘787 Patent:



While this feature is fully disclosed in the ‘787 Patent alone, it is also disclosed in the ‘212 Patent. More specifically, the ‘212 Patent discloses a cot fastener system having a rail structure functionally identical to that disclosed in the ‘464 Patent as shown below in the image from **FIG. 11** of the ‘212 Patent:

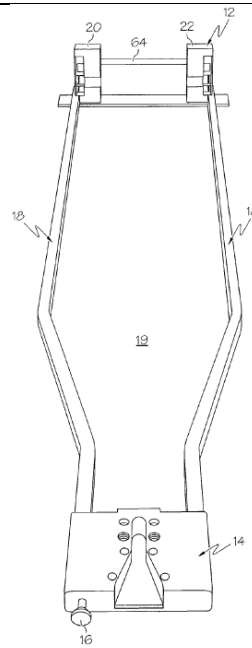
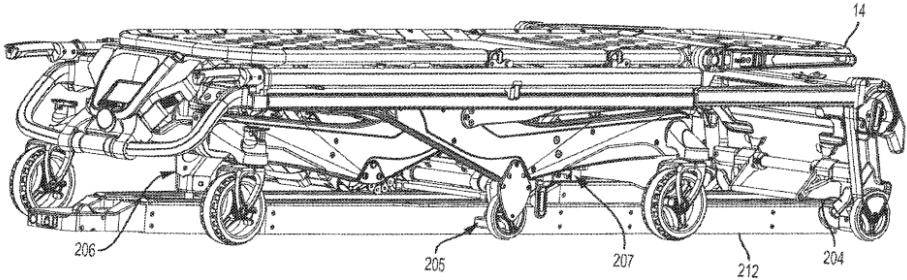
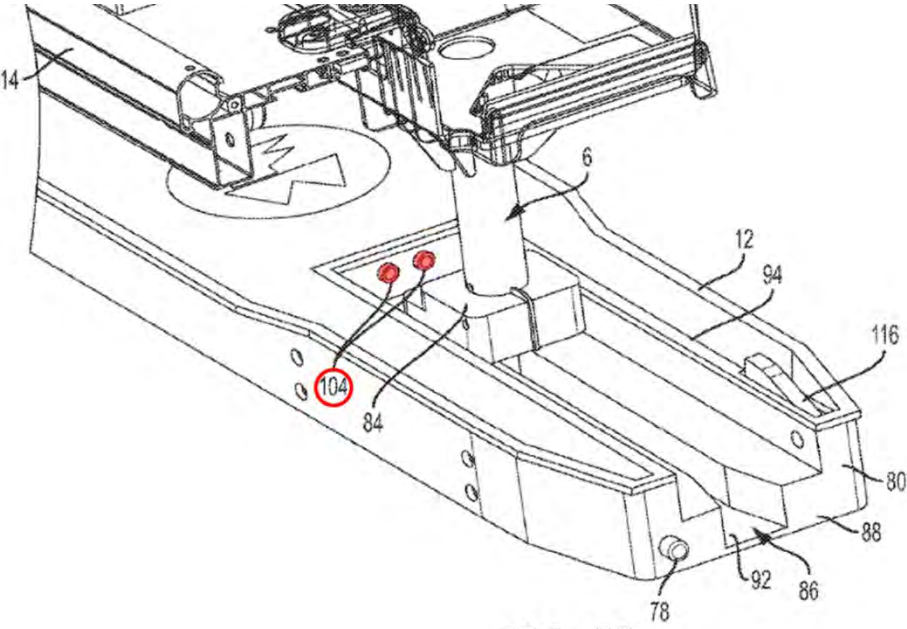
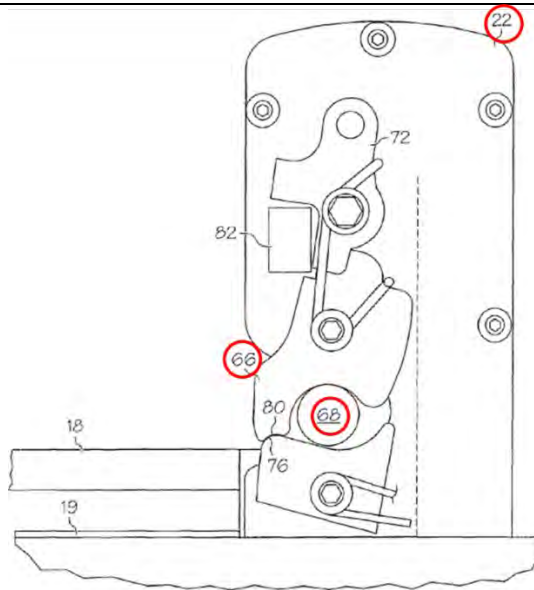


FIG. 11

Moreover, it would have been obvious to a POSITA to combine the ‘787 Patent and the ‘212 Patent. Both of these are directed to a “cot fastening system” (and, indeed, both were invented by Ferno’s engineering team and owned by Ferno). Both systems also disclose the same general shape (narrow at the front, wide at the back with a taper in-between) for the same purpose (as explained by the ‘787 Patent, the “open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle...” ‘787 Patent, col. 1, lns. 60-64). It would have been obvious to a POSITA to combine these two commonly owned references for a similar technology with a similar structure.

The ‘787 Patent also discloses a second width that is “less than the load wheel spacing to form a guide for guiding the head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly.” More specifically, **FIG. 33B** shows a cot which is engaged by the cot fastener system and depicts how the second width is “less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the head end cot attachment has passed the first restraint assembly:

		
N	a spring for biasing the cot in a direction opposed to said loading direction.	The '787 Patent discloses a highly similar spring-biasing member within one of the restraint assemblies. More specifically, the '787 Patent discloses that "one or more charging prong connectors 104 may be spring biased..." '787 Patent, col. 10, lns. 5-6 (emphasis added). These spring biased charging prong connectors (104) are highlighted in red in the image below taken from FIG. 5B of the '787 Patent:  FIG. 5B As another example, the '212 Patent uses a spring biased "latching member" (66) to lock a "cross-member" (68) portion of the cot into place in the securing mechanism (22) as shown below:



To the extent that the '787 Patent (alone or in combination with the '212 Patent) is held not to contain this element in and of itself, then it would have been obvious to a POSITA to combine this spring biased charging prong connector (104) with other prior art to bias the cot in a direction opposed to the cot loading direction. The '464 Patent clarifies that the "spring for biasing the cot" serves to "apply a preload on at least one of the restraint assemblies." '464 Patent, col. 3, lns. 1-4. The '464 Patent further explains that this "biasing urges one of the cot attachments into engagement with a respective restraint assembly to thereby apply a preload on the respective restraint assembly." '464 Patent, col. 4, lns. 19-22. Here, numerous prior art references disclose the use of a spring bias in connection with a cot fastening system. For example, the '757 Patent discloses a rubber bumper (57) in a second restraint assembly (47, 48) that acts as a spring that biases the cot in a direction opposed to the cot loading direction as shown in the image below (the rubber bumper (57) is highlighted in blue) taken from **FIG. 6** of the '757 Patent:

		FIG. 6 It would be obvious to one of ordinary skill in the art to combine the rubber bumper of the '757 Patent with the cot fastener systems of either the '787 Patent or the '212 Patent to secure the cot to the fastener. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias opposite the loading direction).
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'464 Patent		
Claim 9 – Obvious over US 10,568,787 + POSITA		
A-E	The cot fastening system according to claim 1	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference.
O	further comprising a spring configured to apply a pre-load on at least one of said restraint assemblies.	The '787 Patent discloses a highly similar spring-biasing member within one of the restraint assemblies. More specifically, the '787 Patent discloses that “one or more charging prong connectors 104 may be spring biased” '787 Patent, col. 10, lns. 5-6 (emphasis added). These spring biased charging prong connectors (104) are highlighted in red in the image below taken from FIG. 5B of the '787 Patent:

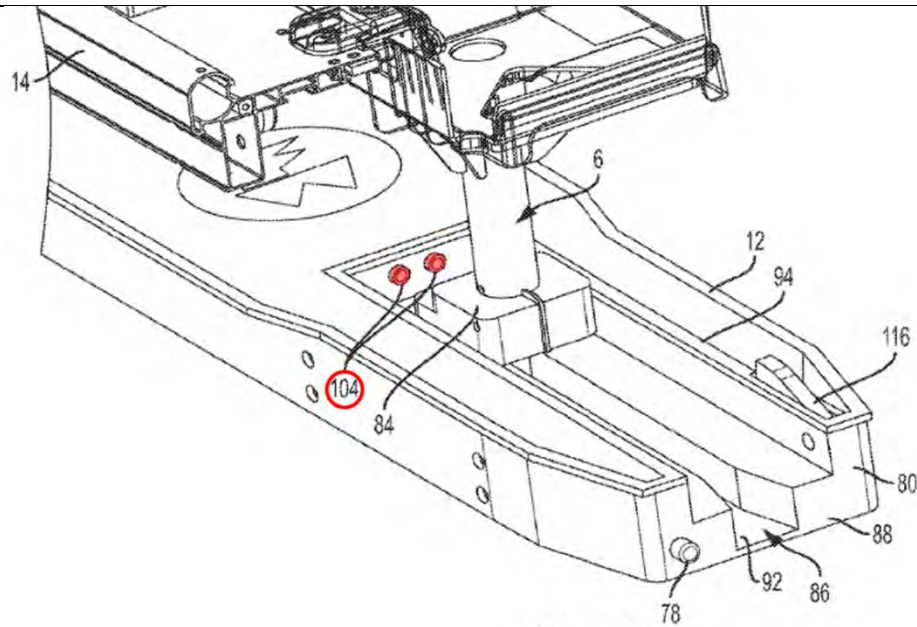
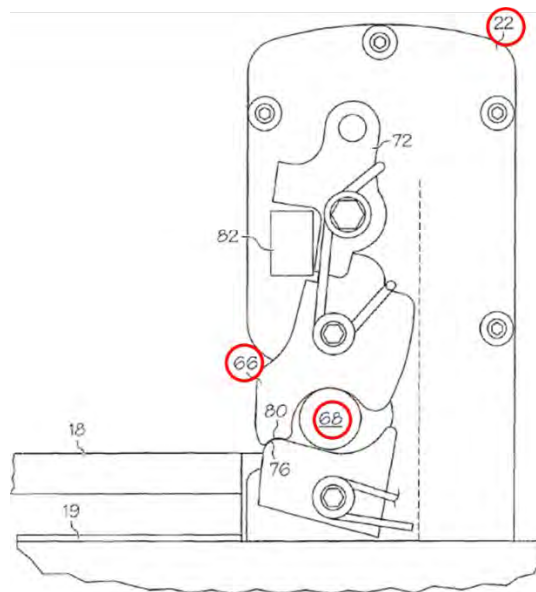
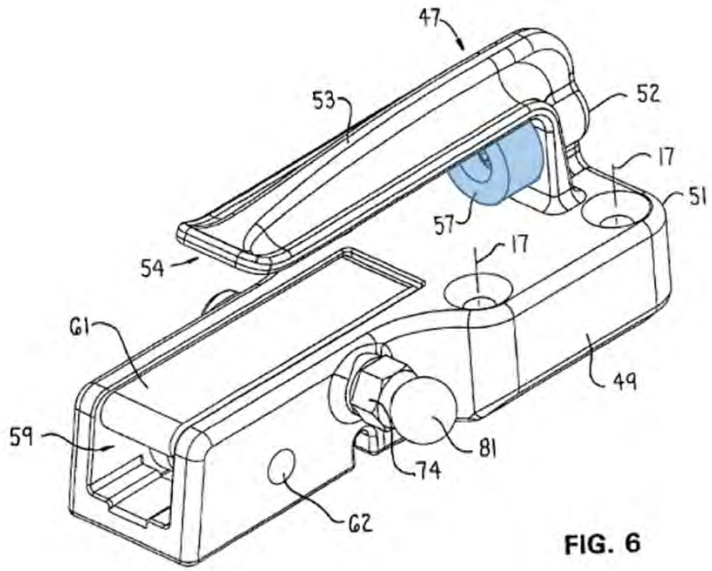


FIG. 5B

As another example, the '212 Patent uses a spring biased "latching member" (66) to lock a "cross-member" (68) portion of the cot into place in the securing mechanism (22) as shown below:

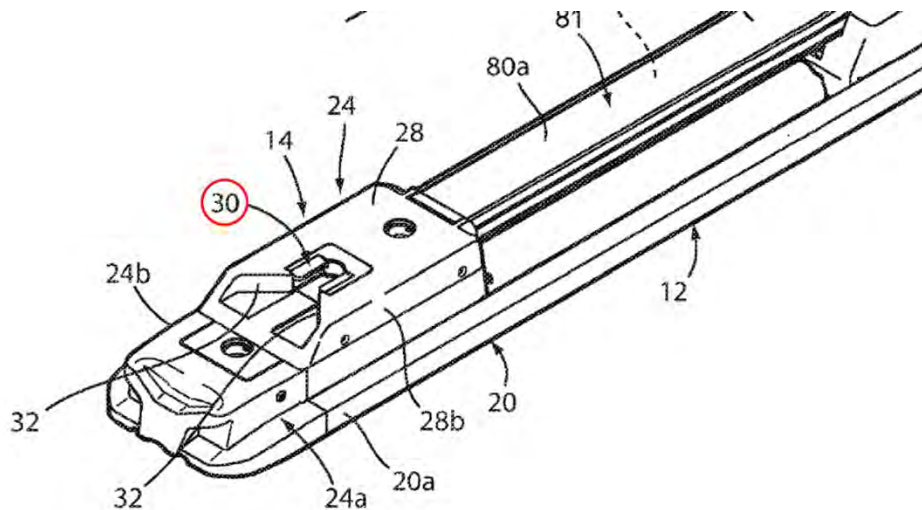


To the extent that the '787 Patent (alone or in combination with the '212 Patent) is held not to contain this element in and of itself, then it would have been obvious to a POSITA to combine this spring biased charging prong connector (104) with other prior art to bias the cot in a direction opposed to the cot loading direction. The '464 Patent clarifies that the "spring for biasing the cot" serves to "apply a preload on at least one of

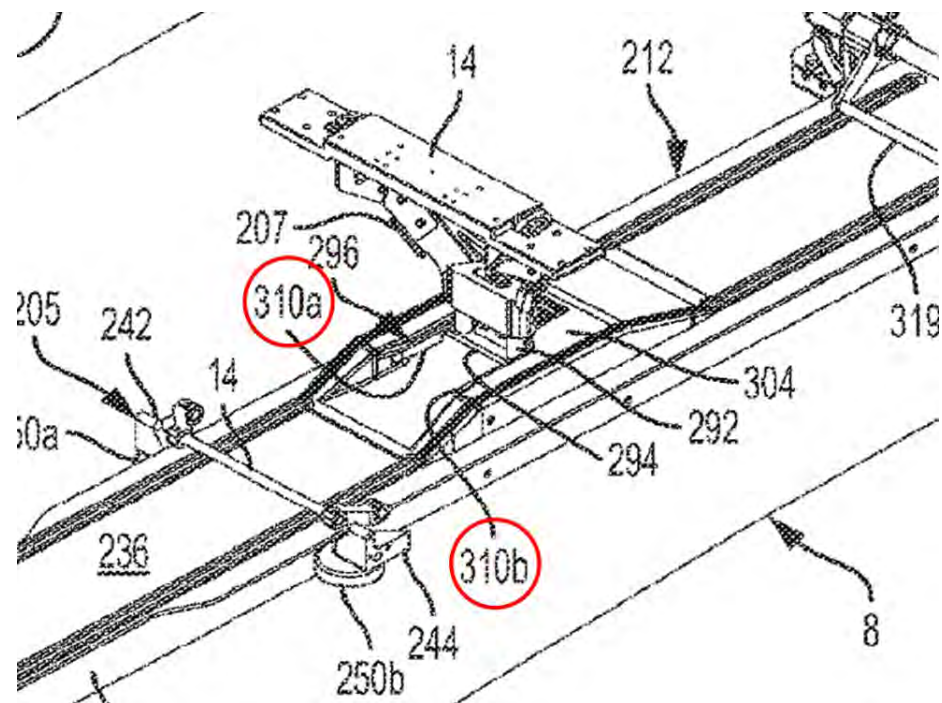
	the restraint assemblies.” ‘464 Patent, col. 3, lns. 1-4. The ‘464 Patent further explains that this “biasing urges one of the cot attachments into engagement with a respective restraint assembly to thereby apply a preload on the respective restraint assembly.” ‘464 Patent, col. 4, lns. 19-22. Here, numerous prior art references disclose the use of a spring bias in connection with a cot fastening system. For example, the ‘757 Patent discloses a rubber bumper (57) in a second restraint assembly (47, 48) that acts as a spring that biases the cot in a direction opposed to the cot loading direction as shown in the image below (the rubber bumper (57) is highlighted in blue) taken from FIG. 6 of the ‘757 Patent:  FIG. 6 It would be obvious to one of ordinary skill in the art to combine the rubber bumper of the '757 Patent with the cot fastener systems of either the ‘787 Patent or the ‘212 Patent to secure the cot to the fastener. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias opposite the loading direction).
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‘464 Patent		
Claim 10 – Obvious over US 10,568,787 + POSITA		
A-E, O	The cot fastening system according to claim 9,	This claim is dependent on Claim 9. As such, each claim element of the chart for Claim 9, above, is incorporated herein by reference.
P	wherein said at least one of said restraint	The enlarged detail below is taken from FIG. 1 of the ‘464 Patent and shows the latch (30) (circled in red) within the V-shaped arrangement of guide surfaces (32) of a restraint assembly:

assemblies comprises a latch, and said spring operable for biasing one of the cot attachments into engagement with said latch.



The '787 Patent discloses several similar latches within the restraint assembly, including "blocking or catch members 87, 310a, 310b." For example, the enlarged detail below is taken from **FIG. 21** of the '787 Patent and shows the blocking or catch members 310a and 310b (both circled in red) within the restraint assembly which "releasably retain the foot 294 in the forward central channel 296 and prevent movement in the unloading (rear-ward) direction" ('787 Patent, col. 19, lns. 4-6):



Similarly, the '212 Patent also discloses a "catch" (reference numeral 26) connected to a "release mechanism" (reference numeral 16) as shown in the image below taken from **FIG. 6** of the '212 Patent:

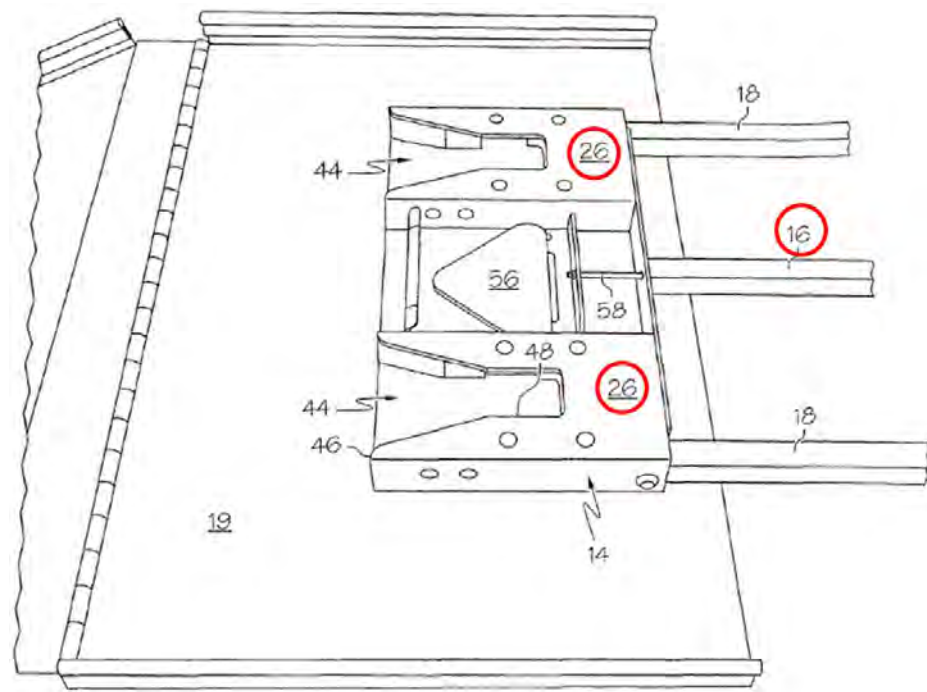
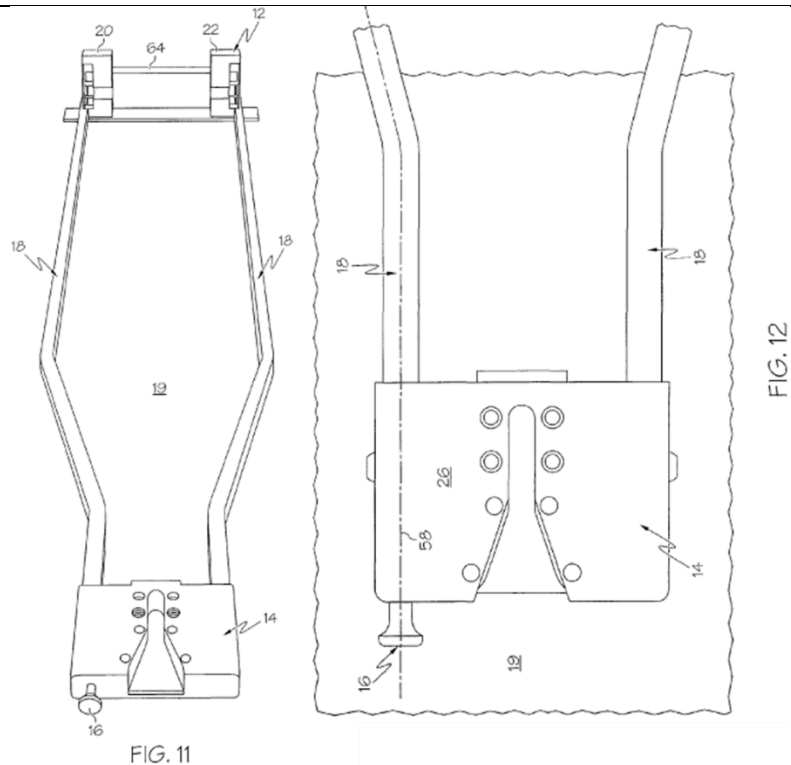
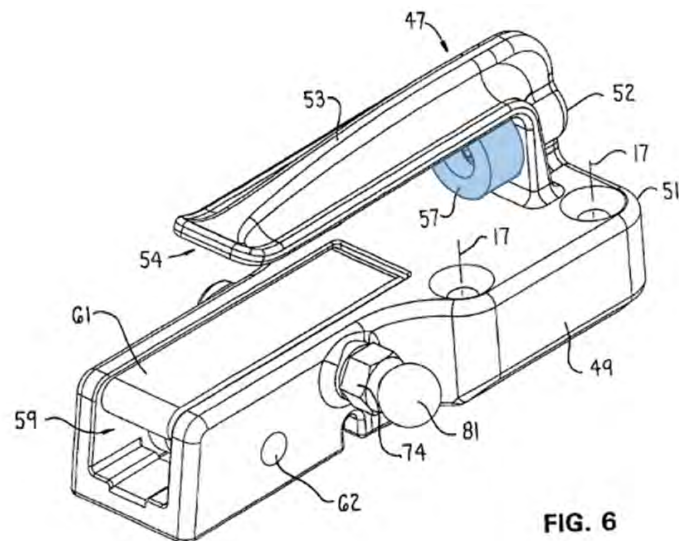


FIG. 6

The '212 Patent explains that in one embodiment, "the cot fastening system 10 is provided the forward mounting part 12, a rearward mounting part 14, a release mechanism 16, and a pair of rails 18 interconnecting the mounting parts 12 and 14. In this embodiment, the rear mounting part comprises a single catch 26, and one of the rails 18 accommodates the pull 58 of the release mechanism 16." '212 Patent, col. 4, lns. 59-65. This latch mechanism is further shown in the images below taken from **FIGS. 11-12** of the '212 Patent:

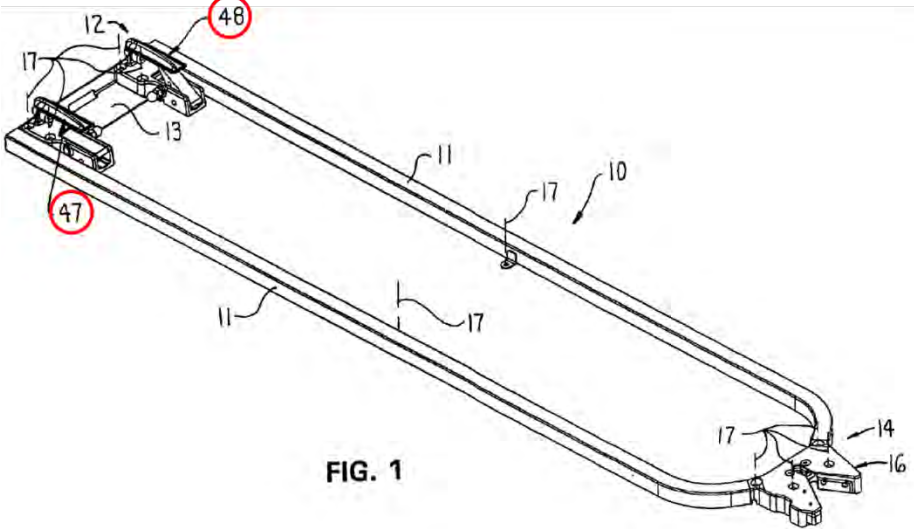


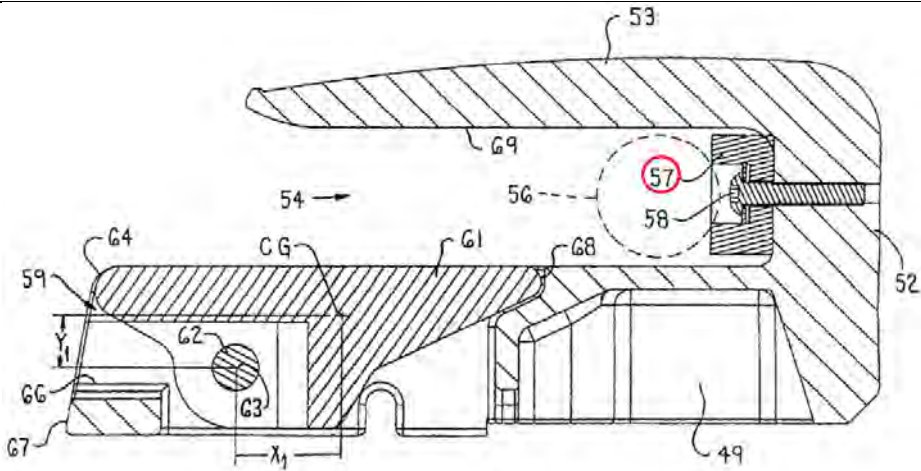
This Claim also recites that “said spring operable for biasing one of the cot attachments into engagement with said latch.” The ‘757 Patent discloses a rubber bumper (57) in a restraint assembly (47, 48) that acts as a spring that biases the cot as shown in the image below (the rubber bumper (57) is highlighted in blue) taken from **FIG. 6** of the ‘757 Patent:



It would be obvious to one of ordinary skill in the art to combine the rubber bumper of the ‘757 Patent with the restraint assembly / latch of either the ‘787 Patent or the ‘212 Patent. When the cot is loaded, the

		rubber bumpers 57 of the '757 Patent will urge the cot into engagement with the catch (87, 310a, 310b) of the '787 Patent, or the catch 26 of the latch mechanism 16 of the '212 Patent. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias within the latch member).
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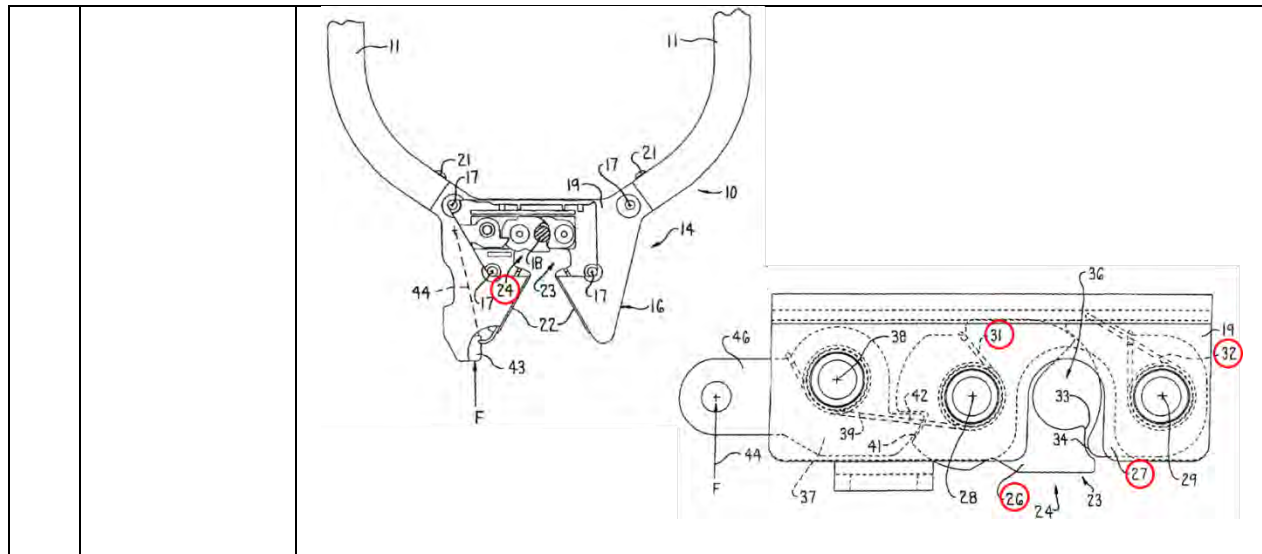
'464 Patent		
Claim 11 – Obvious over US 10,568,787 + POSITA		
I- N	The cot fastening system according to claim 8,	This claim is dependent on Claim 8. As such, each claim element of the chart for Claim 8, above, is incorporated herein by reference.
Q	wherein said second restraint assembly includes said spring.	First, the analysis above with respect to Claim 10 shows that including a spring within a restraint assembly would have been obvious to a POSITA. It would likewise have been obvious to include this spring within the second restraint assembly inasmuch as there are two restraint assemblies and there is nothing about the second restraint assembly which would be contrary to the purpose of including such spring. Second, other prior art nevertheless discloses the use of a spring member in connection with a second restraint assembly for a cot fastener. For example, the '757 Patent discloses two second restraint assemblies (called cot frame hold-down members) (reference numerals 47 and 48) as shown below in the image taken from FIG. 1 of the '757 Patent:  FIG. 1 FIG. 8 of the '757 Patent shows that the second restraint assembly (47, 48) includes a rubber bumper (57) which acts as a spring as shown below:

		 FIG. 8 It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 8 and the rubber bumper of the '757 Patent. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias within the latch member). It would have further been obvious to include the spring within the second restraint assembly. More specifically, there are only two restraint assemblies. It would have been obvious to try to include the spring within the second restraint assembly inasmuch as it could only be located there or in the first restraint assembly, i.e., there are only two options.
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'464 Patent		
Claim 12 – Obvious over US 10,568,787 + POSITA		
I-N, Q	The cot fastening system according to claim 11,	This claim is dependent on Claim 11. As such, each claim element of the chart for Claim 11, above, is incorporated herein by reference.
R	wherein one of said restraint assemblies comprises a pair of spring biased arms for engaging one of the cot attachments.	FIGS. 2-3 of the '757 Patent show a restraint assembly (called a “latch” (reference numeral 24)) which comprises a pair of spring biased arms (called “rotatably supported locking members” (reference numerals 26, 27)) for engagement of one of the cot attachments (called a “pin” (reference numeral 18)). More specifically, the locking members (26, 27) are biased by “torsion springs” (reference numerals 31, 32). An annotated side-by-side of this restraint assembly showing the spring biased arms of the latch is depicted below:

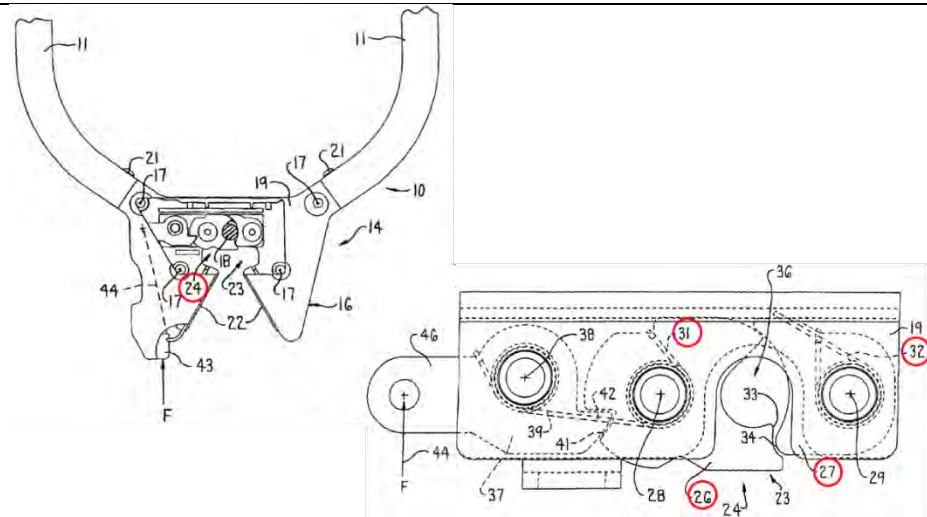
		It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 11 and the spring biased arms from the '757 Patent for engaging one of the cot attachments. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias restraint member). It would have further been obvious to include the spring within the second restraint assembly.
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'464 Patent		
Claim 13 – Obvious over US 10,568,787 + POSITA		
I-N, Q-R	The cot fastening system according to claim 12,	This claim is dependent on Claim 12. As such, each claim element of the chart for Claim 12, above, is incorporated herein by reference.
S	wherein each of said spring biased arms is pivotally mounted about a vertical axis.	The same FIGS. 2-3 of the '757 Patent noted above with respect to Claim 12 also show that each of the spring biased arms 26, 27 is pivotally mounted about a vertical axis (28, 29) as depicted in the annotated side-by-side of this restraint assembly below:

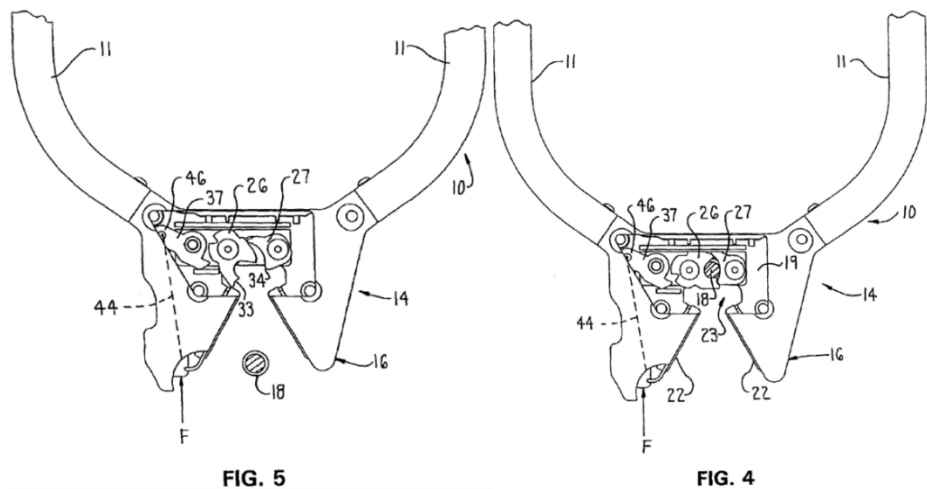


‘464 Patent		
Claim 14 – Obvious over US 10,568,787 + POSITA		
A-E	The cot fastening system according to claim 1,	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference.
T	wherein at least one restraint assembly of said first restraint assembly and said second restraint assembly includes a pair of opposed arms, each arm of said pair of opposed arms comprising a first end and a second end, each of said first ends being pivotally	FIGS. 2-3, 5 of the ‘757 Patent show a restraint assembly (called a “latch” (reference numeral 24)) which includes a pair of opposed arms (called “rotatably supported locking members” (reference numerals 26, 27)). Each of these opposed arms comprises a “first end and a second end, each of said first ends being pivotally mounted about a pivot axis, and each of said second ends having a bearing surface for being engaged by one cot attachment of the cot attachments.” These arms are further “configured to prohibit the one cot attachment from being released when the one cot attachment applies a compression force on said bearing surfaces of said arms.” More specifically, the locking members (26, 27) are biased by “torsion springs” (reference numerals 31, 32). An annotated side-by-side of this restraint assembly taken from FIGS. 2-3 of the ‘757 Patent showing the spring biased arms of the latch is depicted below:

mounted about a pivot axis, and each of said second ends having a bearing surface for being engaged by one cot attachment of the cot attachments, and said arms configured to prohibit the one cot attachment from being released when the one cot attachment applies a compression force on said bearing surfaces of said arms.

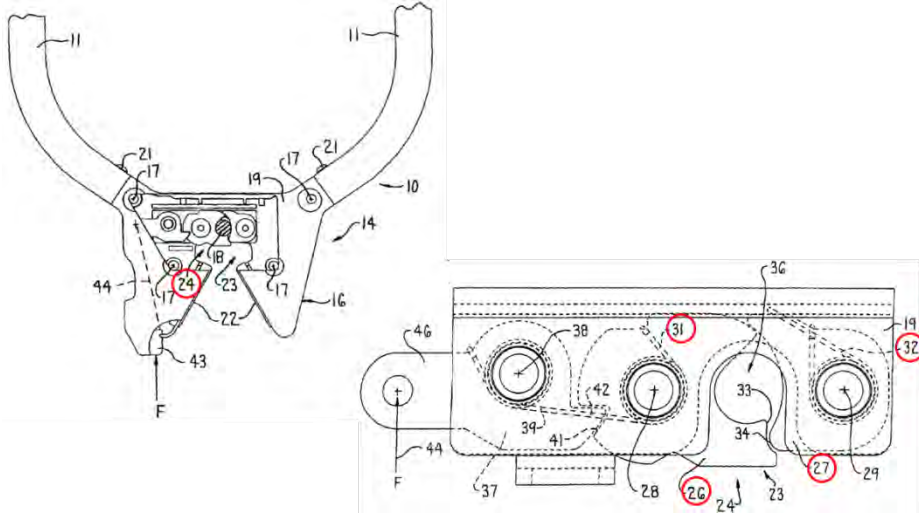


The '757 Patent explains that "the locking members 26 and 27 remain in the open position illustrated in **FIG. 5** due to the continual urging of the torsion springs 31 and 32. Only when a pin 18 enters the area between the two locking members 26 and 27 are they rotated to the closed position illustrated in **FIG. 3** so that the tongue 42 can enter the recess 41 to lock the locking members 26 and 27 in a cot pin holding position illustrated in **FIG. 2**." This is shown in the side-by-side images below taken from **FIGS. 5** and **4**. In **FIG. 5**, a pin (18) of a cot is shown in a non-engaged position, while in **FIG. 4**, the pin (18) is held in place by the pair of opposed arms (26, 27):



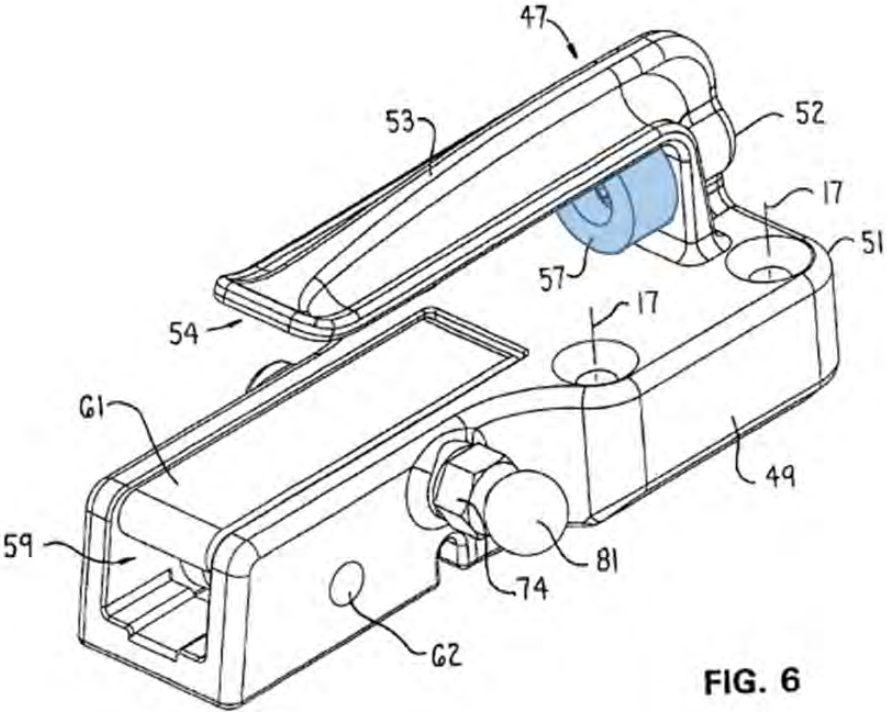
It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 1 and the opposed arms from the '757 Patent for engaging one of the cot attachments. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias restraint member). It would have further been obvious to include the opposed arms within one of the restraint

		assemblies.
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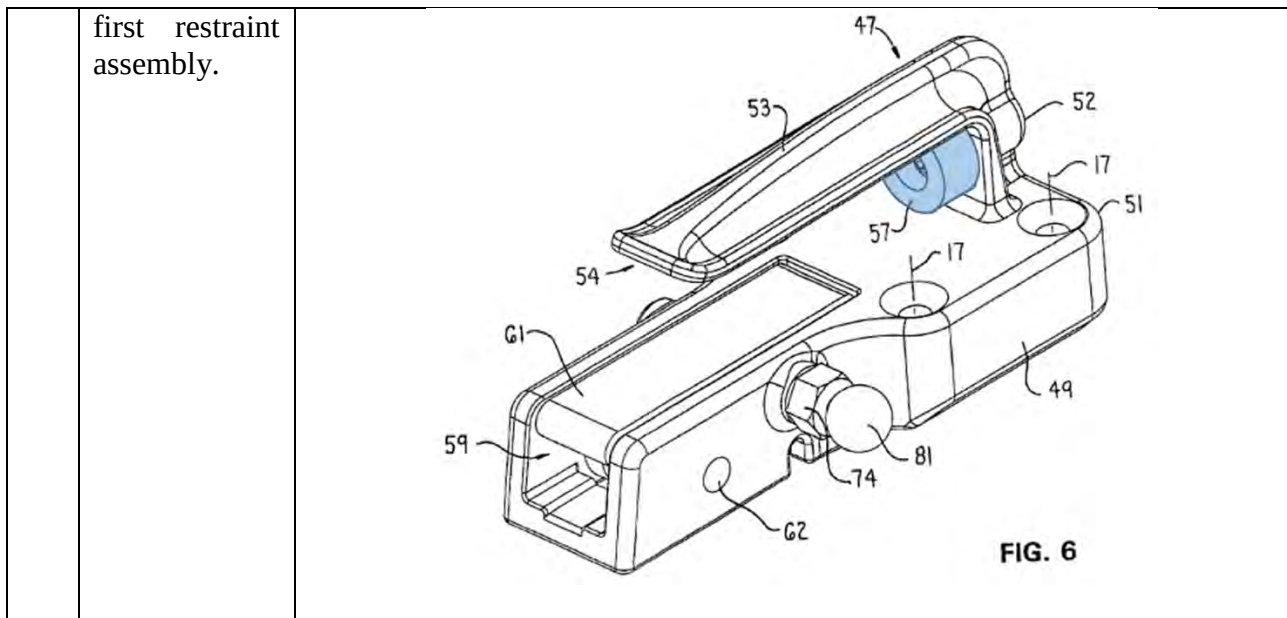
'464 Patent		
Claim 15 – Obvious over US 10,568,787 + POSITA		
A-E, T	The fastening system according to claim 14, cot	This claim is dependent on Claim 14. As such, each claim element of the chart for Claim 14, above, is incorporated herein by reference.
U	wherein said arms are biased toward each other by springs.	The opposed arms (26, 27) of the '757 Patent as discussed above with respect to Claim 14 are spring biased towards one another. As noted above, "torsion springs" (reference numerals 31, 32) accomplish this spring biasing. An annotated side-by-side taken from FIGS. 2-3 of the '757 Patent of this restraint assembly showing the opposed arms (26, 27) of the latch and the springs (31, 32) is depicted below:  It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 14 with the spring-biased opposed arms from the '757 Patent for engaging one of the cot attachments. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias restraint member). It would have further been obvious to include the opposed arms within one of the restraint assemblies.

'464 Patent		
Claim 16 – Obvious over US 10,568,787 + POSITA		
A-E, T	The fastening system cot	This claim is dependent on Claim 14. As such, each claim element of the chart for Claim 14, above, is incorporated herein by reference.

	according to claim 14,	
V	wherein said pivot axes are orthogonal to the cot loading direction.	More specifically, the cot fastening system disclosed in the '757 Patent has a cot loading direction as shown in the annotated image below taken from FIG. 1 of the '757 Patent: FIG. 1 The opposed arms (26, 27) of the '757 Patent are pivotally mounted about a pivot axis 28, 29 (which is orthogonal to the cot loading direction) as shown in the annotated side-by-side taken from FIGS. 2-3 of the '757 Patent below: FIG. 2 It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 14 with the opposed arms with pivot axes orthogonal to the cot loading direction from the '757 Patent. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias restraint member). It would have

	direction.	 FIG. 6 Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias opposed from the loading direction to apply a pre-load on at least one of the restraint assemblies). More specifically, this would have reduced vibration / back-and-forth movement of the cot, i.e., by having a spring bias opposed to the loading direction, it would have acted as a shock absorber and would have ensured that a certain minimum force would need to be applied in order to disengage the restraint assembly. This would have been obvious to a POSITA since the use of a damper such as a spring, rubber bumper, etc. is commonly employed for such shock absorber / spring bias applications.
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'464 Patent		
Claim 19 – Obvious over US 10,568,787 + POSITA		
A-E, T, W-X	The cot fastening system according to claim 18,	This claim is dependent on Claim 18. As such, each claim element of the chart for Claim 18, above, is incorporated herein by reference.
Y	wherein said spring is operable to bias the foot end cot attachment toward said	The rubber bumper (57) of the '757 Patent discussed above (highlighted in blue in the image below taken from FIG. 6 of the '757 Patent) will also bias the foot end cot attachment toward the first restraint assembly:



‘464 Patent		
Claim 21 – Obvious over US 10,568,787 + POSITA		
A-E, T	The cot fastening system according to claim 14,	This claim is dependent on Claim 14. As such, each claim element of the chart for Claim 14, above, is incorporated herein by reference.
Z	further comprising a release mechanism for selectively releasing said at least one restraint assembly, and said release mechanism including an overload spring to prevent said release mechanism from being overloaded when pressure is applied to the bearing	The ‘757 Patent also discloses a release mechanism for selectively releasing said at least one restraint assembly. More specifically, the ‘757 Patent discloses “a push button 43 ... operatively connected by a link 44 ... to an extension 46 on the cam member 37. Upon manually pushing the push button 43 in the direction of the arrow F, a force is transmitted through the link 44 to the extension 46 to urge the cam member 37 clockwise against the urging of the torsion spring 39 to release the locking member 26. As a result, locking members 26 and 27 will spring open ... so that the pin 18 on the cot can be urged toward the access opening into the cargo area of a patient transport vehicle....” This torsion spring (39) acts as an overload spring. More specifically, the ‘464 Patent explains that the overload spring “limits the load that can be applied to the release mechanism” so that the “latch won’t release.” ‘464 Patent, col. 9, lns. 28-31. Similarly, the ‘757 Patent explains that the torsion spring (39) prevents the locking members (26 and 27) from “moving in their respective opposite rotative directions” by urging them “in a counter-clockwise direction about the axle 38 by a torsion spring 39.” ‘757 Patent, col. 3, lns. 20-24 The image below (taken from FIG. 2 of the ‘757 Patent), shows this release mechanism (43) and the corresponding force (F) needed to operate same:

surfaces of
said arms of
said at least
one restraint
assembly.

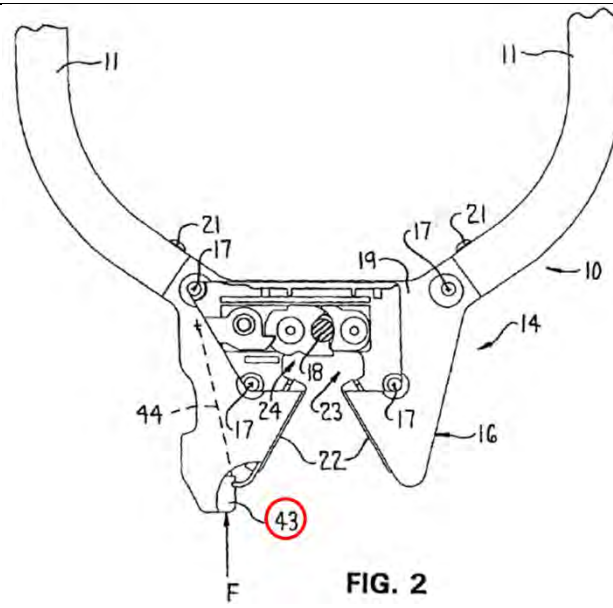


EXHIBIT E

I. US 11,090,207: Obviousness Under 35 U.S.C. § 103(a)

Under § 103(a), Claims 1 through 7 of the ‘207 Patent are obvious over: (a) the ‘787 Patent when combined with the knowledge of a person of ordinary skill in the art at the time of the alleged invention; and/or (b) the ‘787 Patent when combined with the ‘212 Patent and/or the ‘757 Patent and the knowledge of a person of ordinary skill in the art at the time of the alleged invention.

A. Reasons to Combine the ‘787 Patent With the Knowledge of a POSITA

Under § 103(a), Claims 1 through 7 of the ‘207 Patent are obvious over the ‘787 Patent when combined with the knowledge of a person of ordinary skill in the art.

Emergency cot fastening system have long been located within emergency vehicles (such as ambulances) to fasten emergency cots into the vehicle for secure transport.¹⁹ Such fastening systems generally have: (a) a component which guides the emergency cot into a certain location; and (b) a component which detachably fastens the emergency cot to the vehicle.

Guiding a cot to a certain location within an emergency vehicle is important inasmuch as the fastening component is often located in a certain area within the emergency vehicle. It is also important to secure the cot so that it that the cot does not disengage while the emergency vehicle is in transit (which could create a risk of severe harm or death for a patient who is being transported on the cot).

It is well-known to those of ordinary skill in that art that emergency cots are loaded into the back of an ambulance, then directed into the interior compartment of the ambulance. It is also well-known to those of ordinary skill in the art that emergency cots generally need to be guided into a specific location within the interior compartment of the ambulance where equipment can be mounted to fasten the emergency cot to the floor of the ambulance. It is also well-known to those

¹⁹ See, e.g., the ‘144 Patent, the ‘722 Patent and the ‘601 Patent.

of ordinary skill in that art that the shape of the fastening system itself can be used to so guide an emergency cot into such a fastener. Lastly, it is well-known to those of ordinary skill in that art that fasteners can use a spring-bias to apply a pre-load on a fastener.

Engineers and product designers have long used protective shock absorbers (*e.g.*, dampers such as rubber bumpers) and other springs to absorb the force between contacting components and to create a spring bias in an opposing direction as between two contacting components, namely, fastener components. This spring bias ensures both a tight fit and ensures that the latch is not inadvertently released (*e.g.*, if a force below the spring bias force is applied to the cot such as when the cot is bumped or jostled). Such springs are obviously placed at the location(s) where two components engage one another. In other words, the location of a spring is limited to a specific location on the product.

The '787 Patent discloses a cot fastening system designed to be mounted to the floor of an emergency vehicle. This cot fastening system has first and second restraint assemblies which engage with an emergency cot when the cot is loaded into the emergency vehicle, *i.e.*, when the cot is moved in a loading direction. The '787 Patent further discloses that the frame of the cot fastening system has a first section with a first width and a second section with a second width which is wider than the first width (both widths less than the wheel spacing of the cot) to guide the cot into alignment for fastening within the compartment of the ambulance, *i.e.*, to guide the cot when it is moved in a loading direction. It would have been well within the technical grasp of the POSITA (and quite frankly common sense) to place a spring for biasing the cot in a direction opposite the loading direction to apply a pre-load on one of the restraint assemblies. Thus, the location of the spring is purely dictated by the design of the emergency cot. The POSITA would immediately recognize to place a spring (*e.g.*, a rubber bumper) within the fastener system. It

would have been obvious to a POSITA to place a spring (*e.g.*, a rubber bumper) at the claimed locations on the cot fastening system because the claimed locations are the only locations on which they may be placed. The placement of a spring at the claimed location represents zero innovation whatsoever.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the ‘787 Patent as well as the general knowledge of where to place dampers (such as springs) to dampen the impact load from the cot when it is docked and to spring bias the cot to ensure that it will not be unintentionally released. It would have been obvious to the POSITA to combine the use of a cot fastening system according to the ‘787 Patent with the knowledge of where a damper (such as a spring) should be positioned to dampen the impact load and provide a spring-bias on the cot in a direction opposed to the loading direction. The requirement of placing the damper (such as a spring) at a location of contact between the cot fastening system and the cot would have predictably yielded an emergency cot with a dampened impact load and a pre-load on one of the restraint assemblies.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would immediately recognize that a damper (such as a spring) should be placed at one or more locations on the emergency cot fastener to prevent the problem of impact load vibration and potential premature cot detachment. The POSITA would have had only a finite number of possible design choices with respect to the placement of the damper (such as a spring). Particularly, there are only two locations on which to place the damper (*i.e.*, where the cot and the cot fastener make contact): the first restraint assembly and the second restraint assembly. The number “two” is clearly a finite number. It would have been obvious to try to place a damper on the first and/or second restraint assembly since it is the only element where the cot and the cot fastener engage one another.

- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** See *KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to dampen the force at the location of contact between the cot and the cot fastening system and the need to provide a spring bias to the cot fastener so that the cot does not prematurely release from the fastener, a POSITA would have found it obvious to provide a damper (such as a spring) on the cot fastening system at the claimed location. By placing a damper (such as a spring) at the only place the cot engaged with the cot fastening system, the POSITA would have arrived at the claimed invention.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a damper such as a spring or a rubber bumper at a location to dampen impact load and to create a spring-bias in the opposite direction is present in a wide-variety of products. Accordingly, use of such a damper is common knowledge and well-known to a POSITA. Thus, the technique of the use of mounts for dampening purposes is obvious and clearly not beyond the skill of the POSITA.

The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘787 Patent is combined with the knowledge of a POSITA.

B. Reasons to Combine the ‘787 Patent with the ‘212 Patent and/or the ‘757 Patent and the Knowledge of a POSITA

Under § 103(a), Claims 1 through 7 of the ‘207 Patent are obvious over the ‘787 Patent when combined with the ‘212 Patent and/or the ‘757 Patent and the knowledge of a person of ordinary skill in the art.

For similar reasons stated above with respect to the combination of the ‘787 Patent and the knowledge of a POSITA, it would have been obvious to combine the ‘787 Patent with the ‘212 Patent and/or the ‘757 Patent and the knowledge of a POSITA to arrive at these Claims.

The '787 Patent (which issued to Ferno-Washington, Inc.) discloses a cot fastening system designed to be mounted to the floor of an emergency vehicle. This cot fastening system has first and second restraint assemblies which engage with an emergency cot when the cot is loaded into the emergency vehicle, *i.e.*, when the cot is moved in a loading direction. The '787 Patent further discloses that the frame of the cot fastening system has a first section with a first width and a second section with a second width which is wider than the first width (both widths less than the wheel spacing of the cot) to guide the cot into alignment for fastening within the compartment of the ambulance, *i.e.*, to guide the cot when it is moved in a loading direction.

The '212 Patent (which also issued to Ferno-Washington, Inc.), discloses a cot fastening system having a rail structure functionally identical to that disclosed in the '464 Patent, and having a first and second restraint assembly. The '212 Patent further discloses a spring biased latching member to lock the cot into place in the securing mechanism.

The '757 Patent also discloses a cot fastening system having a rail structure functionally identical to that disclosed in the '464 Patent, and having a damper (*i.e.*, a rubber bumper) to dampen the impact load from a cot when it is docked on the fastening system and to provide a spring for biasing the cot in a direction opposed to the cot loading direction.

It would have been well within the technical grasp of the POSITA to combine the cot fastening system from the '787 Patent with either the '212 Patent and/or the '757 Patent and the knowledge of a POSITA. With respect to the '787 Patent and the '212 Patent, both of these are directed to a cot fastening system (and, indeed, both were invented by Ferno's engineering team and owned by Ferno). Both systems also disclose the same general shape (narrow at the front, wide at the back with a taper in-between) for the same purpose (as explained by the '787 Patent, the open side rails are configured to align therewith, accommodate therein and guide together the first

fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle. It would have been obvious to a POSITA to combine these two commonly owned references for a similar technology with a similar structure. With respect to the '787 Patent and the '757 Patent, the '787 Patent itself discloses spring biased electrical connectors which, themselves, could provide the spring bias noted in certain claims of the '464 Patent. Likewise, the '757 Patent discloses a damper (*i.e.*, a rubber bumper) in a restraint assembly that acts as a spring that biases the cot in a direction opposed to the cot loading direction. It would have been obvious to a POSITA to combine the spring bias electrical connectors (within a restraint assembly) of the '787 Patent with the damper (*i.e.*, a rubber bumper) of the '757 Patent.

Accordingly, each asserted claim is invalid under § 103(a) for at least the following reasons:

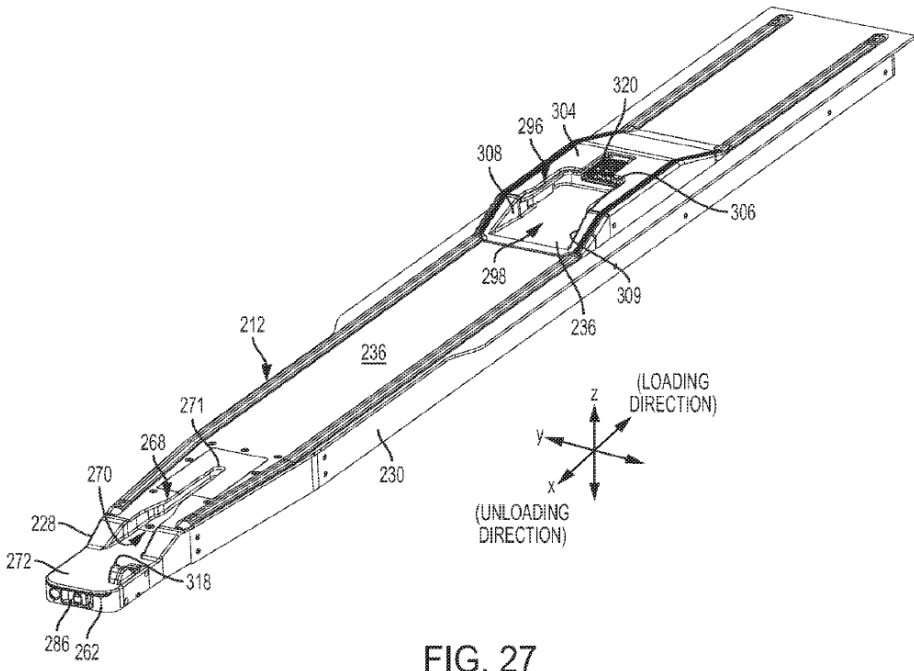
- **The claimed invention merely combines familiar elements according to known methods to yield predictable results.** *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). A POSITA would have been familiar with the '787 Patent, the '212 Patent and/or the '757 Patent as well as the general knowledge of where to place dampers (such as springs) to dampen the impact load from the cot when it is docked and to spring bias the cot to ensure that it will not be unintentionally released. It would have been obvious to the POSITA to combine the use of a cot fastening system according to the '787 Patent, the '212 Patent and/or the '757 Patent with the knowledge of where a damper (such as a spring) should be positioned to dampen the impact load and provide a spring-bias on the cot in a direction opposed to the loading direction. The requirement of placing the damper (such as a spring) at a location of contact between the cot fastening system and the cot would have predictably yielded an emergency cot with a dampened impact load and a pre-load on one of the restraint assemblies.
- **The claims would have been obvious to try.** *See KSR*, 550 U.S. 398 at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”). A POSITA would

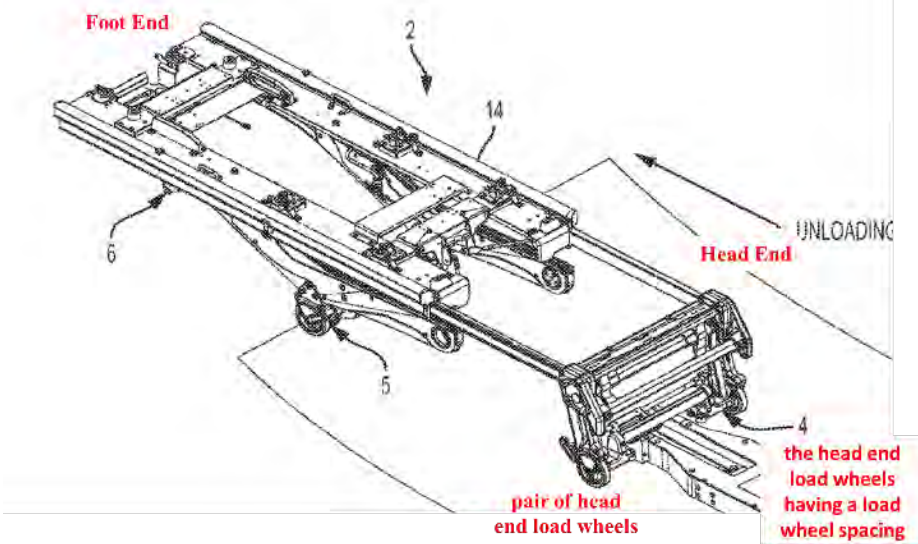
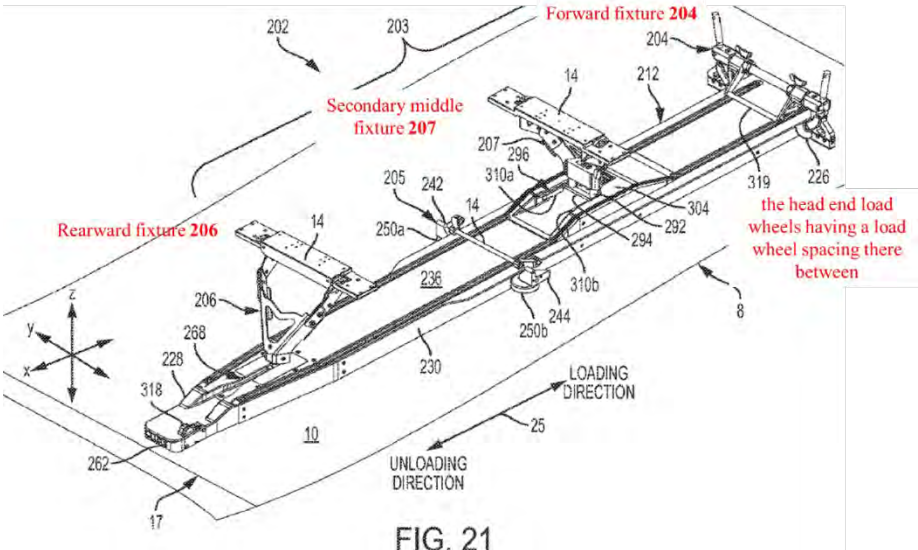
immediately recognize that a damper (such as a spring) should be placed at one or more locations on the emergency cot fastener to prevent the problem of impact load vibration and potential premature cot detachment. The POSITA would have had only a finite number of possible design choices with respect to the placement of the damper (such as a spring). Particularly, there are only two locations on which to place the damper (*i.e.*, where the cot and the cot fastener make contact): the first restraint assembly and the second restraint assembly. The number “two” is clearly a finite number. It would have been obvious to try to place a damper on the first and/or second restraint assembly since it is the only element where the cot and the cot fastener engage one another.

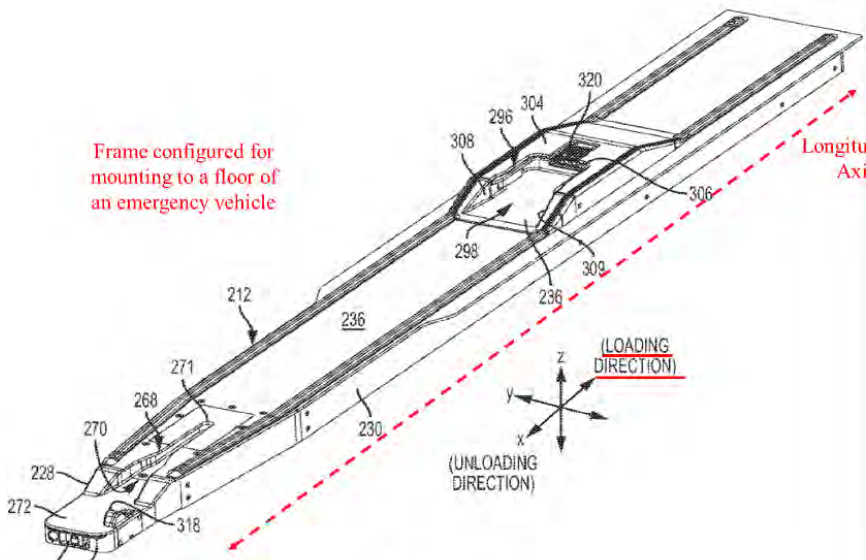
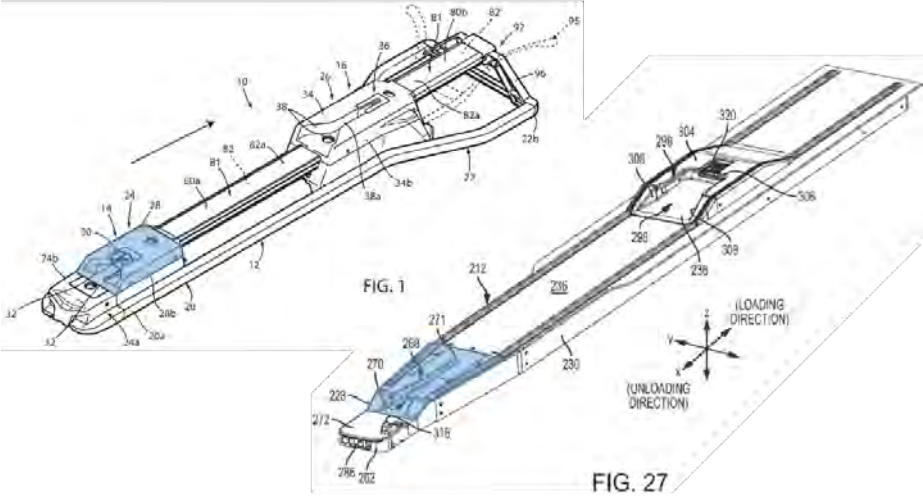
- **There was a teaching, suggestion, and/or motivation in the prior art that would have led those of ordinary skill to modify the prior art or to combine prior art teachings to arrive at the claimed invention.** *See KSR*, 550 U.S. at 418 (“Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). Motivated by the need to dampen the force at the location of contact between the cot and the cot fastening system and the need to provide a spring bias to the cot fastener so that the cot does not prematurely release from the fastener, a POSITA would have found it obvious to provide a damper (such as a spring) on the cot fastening system at the claimed location. By placing a damper (such as a spring) at the only place the cot engaged with the cot fastening system, the POSITA would have arrived at the claimed invention.
- **The claimed invention merely uses a known technique to improve similar products in the same way.** *KSR*, 550 U.S. at 417 (“If a person can implement a predictable variation, §103 bars its patentability. For the same reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). The use of a damper such as a spring or a rubber bumper at a location to dampen impact load and to create a spring-bias in the opposite direction is present in a wide-variety of products. Accordingly, use of such a damper is common knowledge and well-known to a POSITA. Thus, the technique of the use of mounts for dampening purposes is obvious and clearly not beyond the skill of the POSITA.

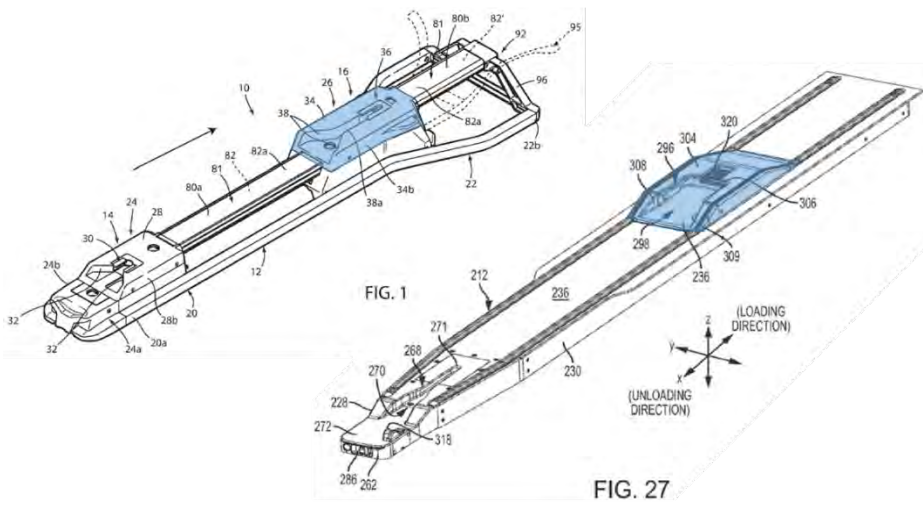
The above reasons to combine are hereby incorporated throughout the attached claim charts wherein the ‘787 Patent and the ‘212 Patent and/or the ‘757 is combined with the knowledge of a POSITA.

C. Claim Chart for Combining the ‘787 Patent with the ‘212 Patent and/or the ‘757 Patent and the Knowledge of a POSITA

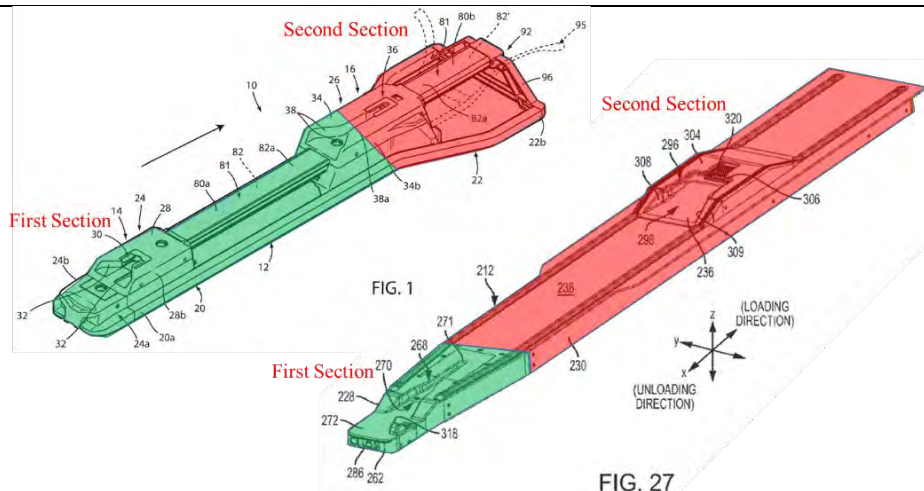
‘207 Patent		
Claim 1 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
A	A cot fastening system for fastening a cot, the cot having a foot end, a head end, a pair of head end load wheels, a first cot attachment, and a second cot attachment, and the head end load wheels having a load wheel spacing there between, said cot fastening system comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, the ‘787 Patent discloses a “cot fastening system” as shown in the image below from Figure 27:  FIG. 27
		Moreover, this “cot fastening system” is designed for use with a cot having a foot end, a head end, a pair of head end load wheels and where the “head end load wheels having a load wheel spacing” as shown in the annotated image below from FIG. 1B of the ‘787 Patent:

		 This cot further has a first cot attachment (either the “secondary middle fixture 207” or the “forward fixture 204,” a second cot attachment (called a “rearward fixture 206”), with “the head end load wheels having a load wheel spacing there between” as shown in the annotated image from FIG. 21 of the ‘787 Patent below:  FIG. 21
B	a frame configured for mounting to a floor of an emergency vehicle, the frame having	The ‘787 Patent discloses a frame for a “cot fastener track for mounting to the floor of the transport vehicle” (see Claim 1). This frame is shown below as depicted in FIG. 27 of the ‘787 Patent along with a longitudinal axis and a cot loading direction along such longitudinal axis:

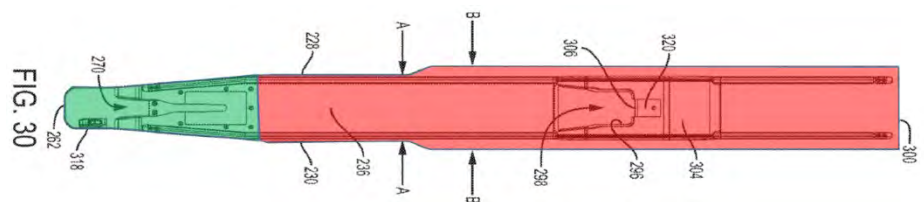
	a longitudinal axis and a cot loading direction along said longitudinal axis;	 FIG. 27
C	a first restraint assembly for receiving the second cot attachment, said first restraint assembly mounted to said frame in a fixed position;	The side by side image below shows the “first restraint assembly” (14) as depicted in FIG. 1 of the ‘207 Patent (highlighted in blue at left), and the first restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the ‘787 Patent (highlighted in blue at right):  FIG. 1 FIG. 27 This claim appears to be misworded, <i>i.e.</i>, the specification of the ‘207 Patent states that: “The first restraint assembly is for coupling to a first cot attachment of a cot and is mounted to the frame. The second restraint assembly is for coupling to a second cot attachment of the cot and is also mounted to the frame.” ‘207 Patent, col. 1, lns. 47-51. This ambiguity could give rise to an issue under 35 U.S.C. § 112.
D	a second restraint assembly for	The side by side image below shows the “second restraint assembly” (16) as depicted in FIG. 1 of the ‘207 Patent (highlighted in blue at left) and the second restraint assembly portion of the cot fastening system as

receiving the first cot attachment, said second restraint assembly mounted to said frame, wherein said frame includes a first section and a second section, said first section having a first width less than the load wheel spacing to allow the cot to straddle the frame, said first section comprising linear portions extending along said longitudinal axis from said first restraint assembly toward said second restraint assembly, and said second section extending from said linear portions of said first section along said longitudinal axis of said frame and	depicted in FIG. 27 of the ‘787 Patent:  This claim appears to be misworded, i.e., the specification of the ‘207 Patent states that: “The first restraint assembly is for coupling to a first cot attachment of a cot and is mounted to the frame. The second restraint assembly is for coupling to a second cot attachment of the cot and is also mounted to the frame.” ‘207 Patent, col. 1, lns. 47-51. This ambiguity could give rise to an issue under 35 U.S.C. § 112 As can be seen in the image above, the second restraint assembly portion of the cot fastening system disclosed in the ‘787 Patent is “mounted to said frame.” The ‘787 Patent discloses a frame having a “first section and a second section” as shown in the side by side image below depicting: (a) the “first section” (highlighted in green) and the “second section” (highlighted in red) taken from FIG. 1 of the ‘464 Patent; and (b) the “first section” (highlighted in green) and the “second section” (highlighted in red) taken from FIG. 27 of the ‘787 Patent:
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diverging away from said longitudinal axis of said frame to a second width greater than said first width but less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the first cot attachment has passed the first restraint assembly; and



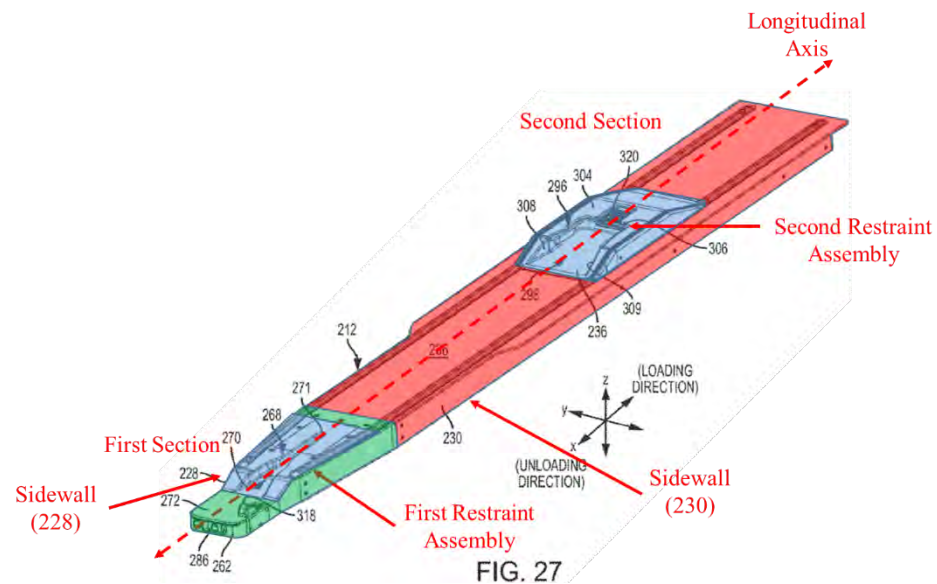
This is also shown in the top view below taken from FIG. 30 of the ‘787 Patent:



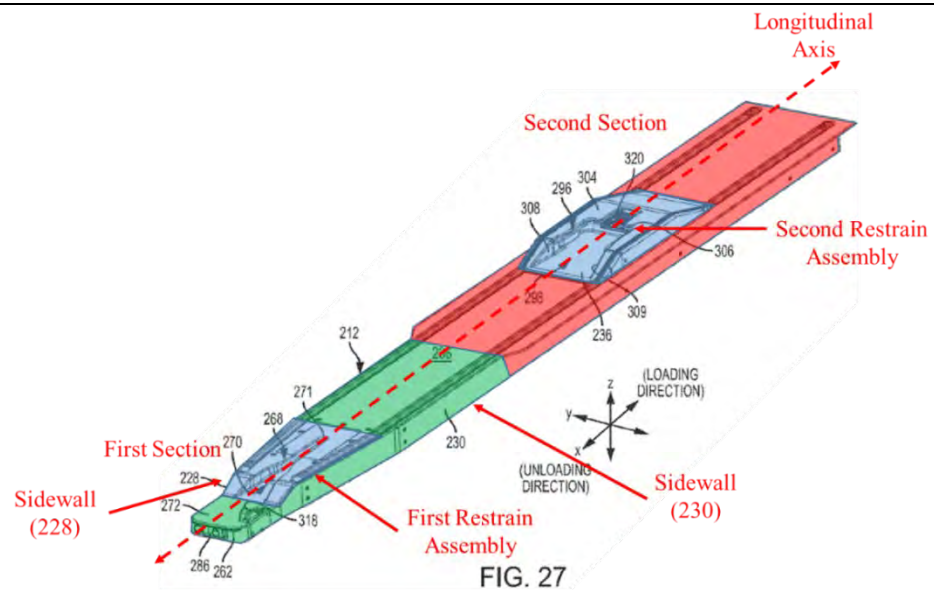
The ‘787 Patent also discloses a “first section having a first width less than the load wheel spacing to allow the cot to straddle the frame” as recited in Claim 1 of the ‘464 Patent. More specifically, the ‘787 Patent discloses that “[i]n some of the disclosed embodiments, the first end of the cot fastener track has a first width and the second end has a second width that is smaller than the first width.” ‘787 Patent, col. 2, lns. 15-17. The ‘787 Patent further discloses that “[t]he open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle and to retain the first fixture adjacent the first end at least vertically and laterally therein.” ‘787 Patent, col. 1, Line 60 – col. 2, Line 1. Put another way, the wheels of a cot are wider than the width of the first section (as highlighted above) of a cot fastener system, but less than the widest width of the second section. In this way, the ‘787 Patent discloses that the “orientation of the wheels **224, 226** ensure that the cot **14** upon moving in the loading direction (FIG. 21) smoothly engages the cot fastener track **212** between the mounting brackets **216, 218**, and that the wheels **224, 226** smoothly travels thereon along respective sidewalls **228, 230** of the cot fastener track **212**.” ‘787 Patent, col. 16, lns. 28-33.

The ‘787 Patent also discloses “said first section comprising linear

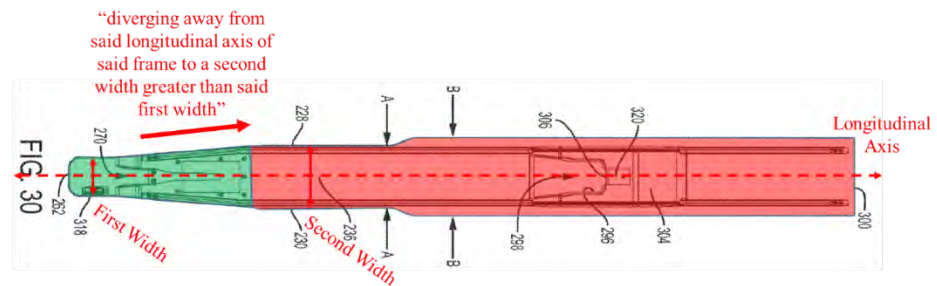
portions extending along said longitudinal axis from said first restraint assembly toward said second restraint assembly.” More specifically, the ‘787 Patent discloses “sidewalls” (reference numerals 228 and 230) which “extend[] along” the “longitudinal axis from said first restraint assembly toward said second restraint assembly” as shown in the annotated image below taken from FIG. 27 of the ‘787 Patent:



The ‘787 Patent also discloses “said second section extending from said linear portions of said first section along said longitudinal axis of said frame and diverging away from said longitudinal axis of said frame to a second width greater than said first width.” More specifically, the ‘787 Patent discloses that the sidewalls (228, 230) widen from the first section to the second section as shown in the annotated image below taken from FIG. 30 of the ‘787 Patent:



This is also shown in the top view below taken from FIG. 30 of the '787 Patent:



While this feature is fully disclosed in the '787 Patent alone, it is also disclosed in the '212 Patent. More specifically, the '212 Patent discloses a cot fastener system having a rail structure functionally identical to that disclosed in the '464 Patent as shown below in the image from FIG. 11 of the '212 Patent:

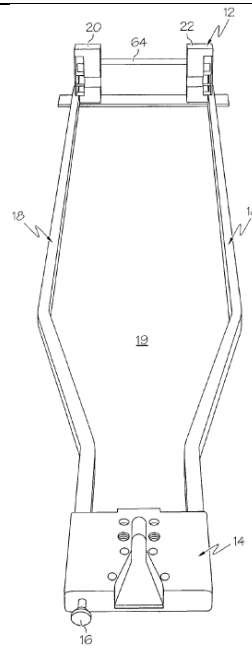
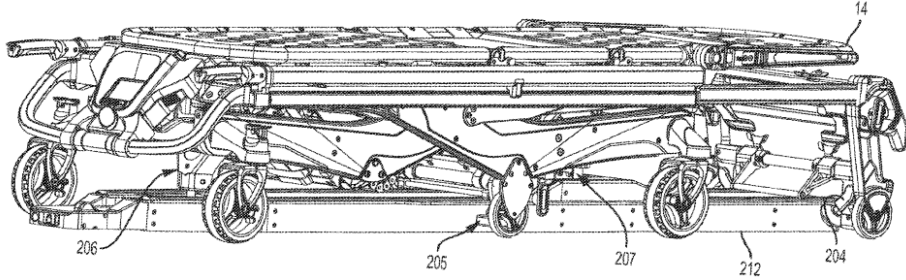
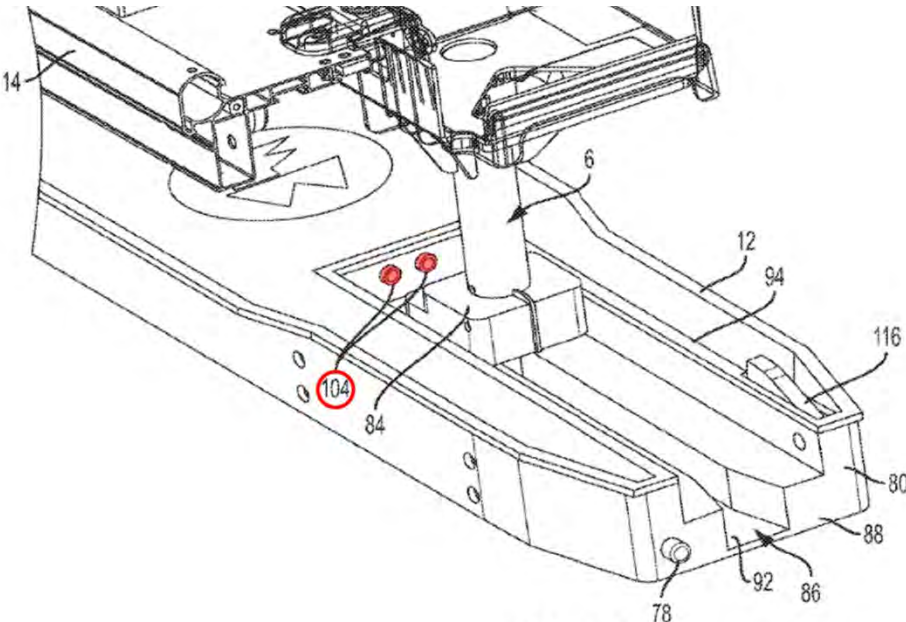
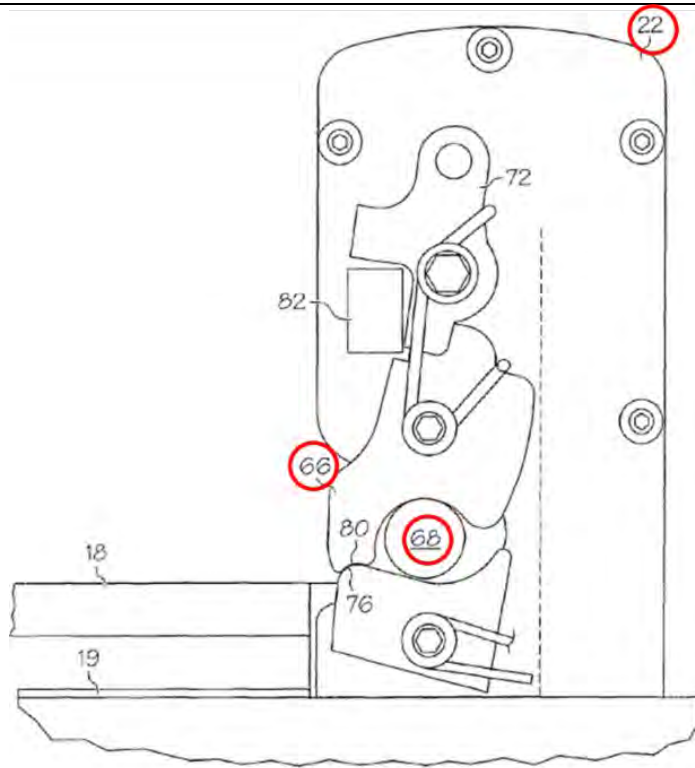


FIG. 11

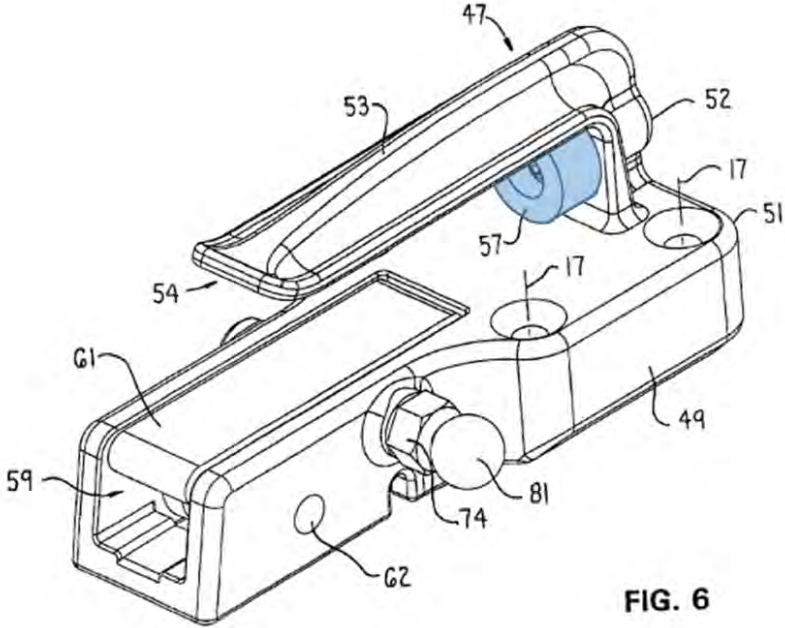
Moreover, it would have been obvious to a POSITA to combine the ‘787 Patent and the ‘212 Patent. Both of these are directed to a “cot fastening system” (and, indeed, both were invented by Ferno’s engineering team and owned by Ferno). Both systems also disclose the same general shape (narrow at the front, wide at the back with a taper in-between) for the same purpose (as explained by the ‘787 Patent, the “open side rails are configured to align therewith, accommodate therein and guide together the first fixture of the cot along the longitudinal length of the cot fastener track towards the first end as the cot is rolled by the wheels within the vehicle....” ‘787 Patent, col. 1, lns. 60-64). It would have been obvious to a POSITA to combine these two commonly owned references for a similar technology with a similar structure.

The ‘787 Patent also discloses a second width that is “less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the first cot attachment has passed the first restraint assembly.” More specifically, **FIG. 33B** shows a cot which is engaged by the cot fastener system and depicts how the second width is “less than the load wheel spacing between the head end load wheels to form a guide for guiding the head end load wheels of the cot when the first cot attachment has passed the first restraint assembly:

		
E	a spring for biasing the cot in a direction opposed from said loading direction of said frame to thereby apply a pre-load on at least one of said first and second restraint assemblies.	The '787 Patent discloses a highly similar spring-biasing member within one of the restraint assemblies. More specifically, the '787 Patent discloses that "one or more charging prong connectors 104 may be <u>spring biased</u>...." '787 Patent, col. 10, lns. 5-6 (emphasis added). These spring biased charging prong connectors (104) are highlighted in red in the image below taken from FIG. 5B of the '787 Patent:  FIG. 5B As another example, the '212 Patent uses a spring biased "latching member" (66) to lock a "cross-member" (68) portion of the cot into place in the securing mechanism (22) as shown below:

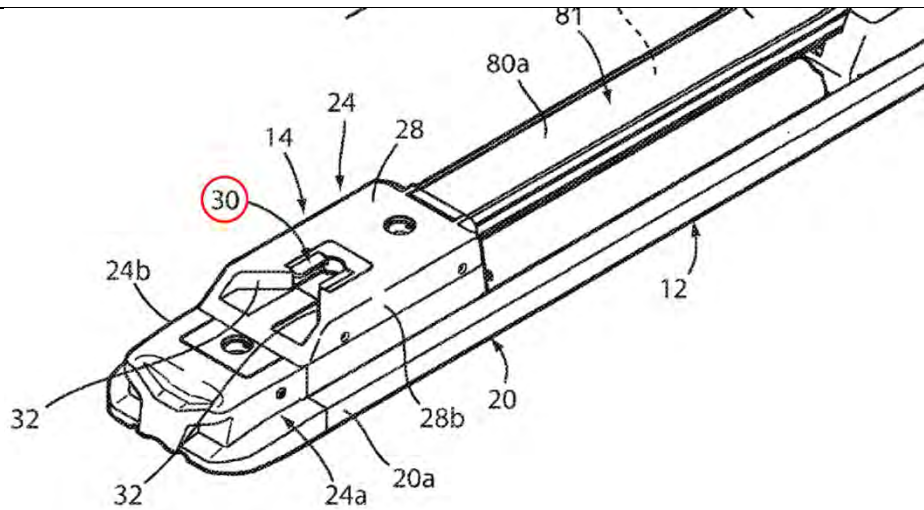


To the extent that the ‘787 Patent (alone or in combination with the ‘212 Patent) is held not to contain this element in and of itself, then it would have been obvious to a POSITA to combine this spring biased charging prong connector (104) with other prior art to bias the cot in a direction opposed to the cot loading direction. The ‘464 Patent clarifies that the “spring for biasing the cot” serves to “apply a preload on at least one of the restraint assemblies.” ‘464 Patent, col. 3, lns. 1-4. The ‘464 Patent further explains that this “biasing urges one of the cot attachments into engagement with a respective restraint assembly to thereby apply a preload on the respective restraint assembly.” ‘464 Patent, col. 4, lns. 19-22. Here, numerous prior art references disclose the use of a spring bias in connection with a cot fastening system. For example, the ‘757 Patent discloses a rubber bumper (57) in a second restraint assembly (47, 48) that acts as a spring that biases the cot in a direction opposed to the cot loading direction as shown in the image below (the rubber bumper (57) is highlighted in blue) taken from **FIG. 6** of the ‘757 Patent:

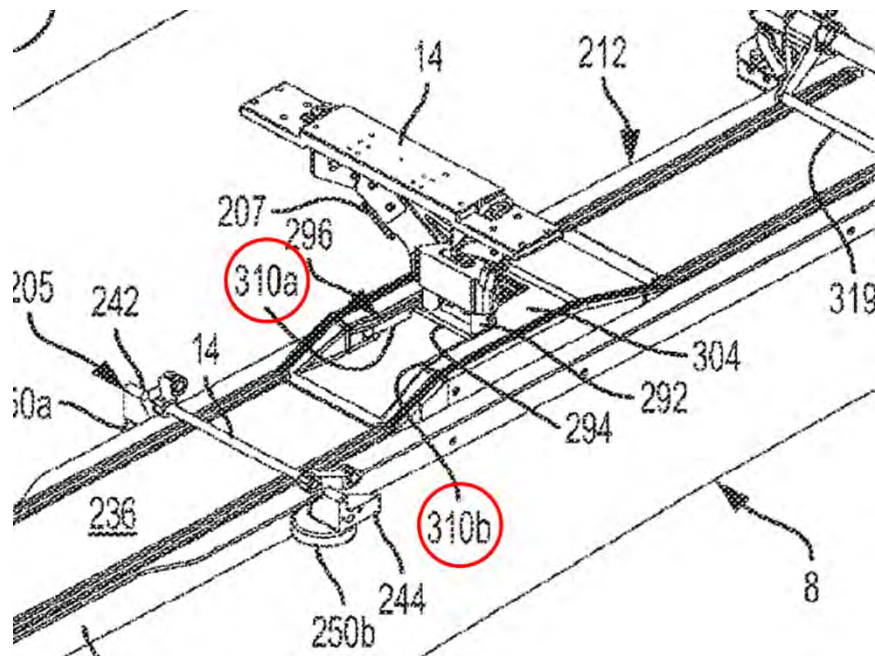
		 FIG. 6 It would be obvious to one of ordinary skill in the art to combine the rubber bumper of the '757 Patent with the cot fastener systems of either the '787 Patent or the '212 Patent to secure the cot to the fastener. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias opposed from the loading direction to apply a pre-load on at least one of the restraint assemblies). More specifically, this would have reduced vibration / back-and-forth movement of the cot, i.e., by having a spring bias opposed to the loading direction, it would have acted as a shock absorber and would have ensured that a certain minimum force would need to be applied in order to disengage the restraint assembly. This would have been obvious to a POSITA since the use of a damper such as a spring, rubber bumper, etc. is commonly employed for such shock absorber / spring bias applications.
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'207 Patent		
Claim 2 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 1,	This claim is dependent on Claim 1. As such, each claim element of the chart for Claim 1, above, is incorporated herein by reference.
F	wherein one of said restraint assemblies comprises a latch, and said spring for	The enlarged detail below is taken from FIG. 1 of the '464 Patent and shows the latch (30) (circled in red) within the V-shaped arrangement of guide surfaces (32) of a restraint assembly:

biasing one of the cot attachments into engagement with said latch.



The '787 Patent discloses several similar latches within the restraint assembly, including "blocking or catch members 87, 310a, 310b." For example, the enlarged detail below is taken from **FIG. 21** of the '787 Patent and shows the blocking or catch members 310a and 310b (both circled in red) within the restraint assembly which "releasably retain the foot 294 in the forward central channel 296 and prevent movement in the unloading (rear-ward) direction" ('787 Patent, col. 19, lns. 4-6):



Similarly, the '212 Patent also discloses a "catch" (reference numeral 26) connected to a "release mechanism" (reference numeral 16) as shown in the image below taken from **FIG. 6** of the '212 Patent:

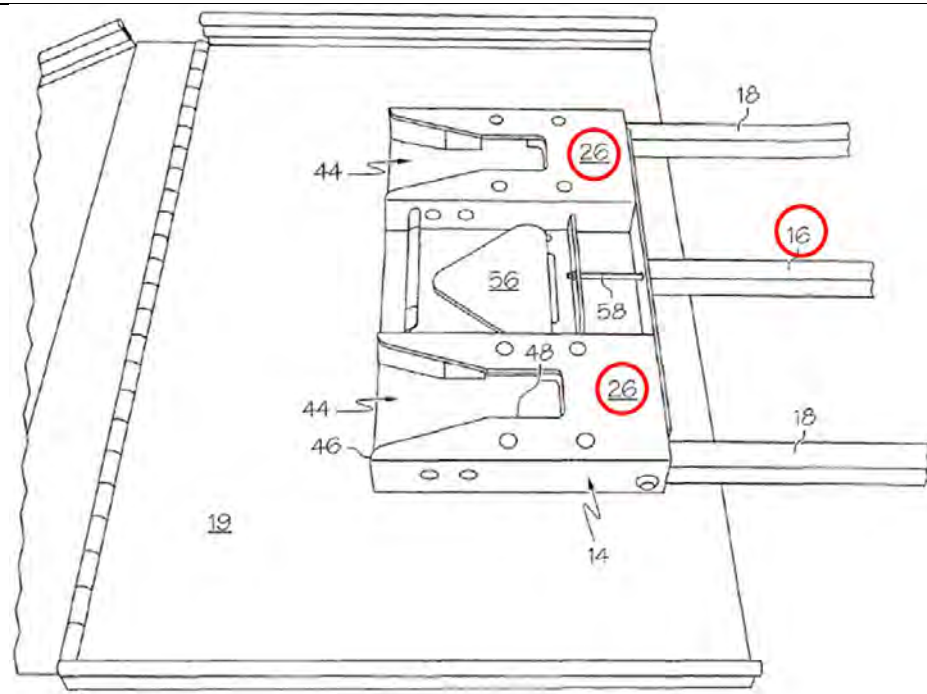
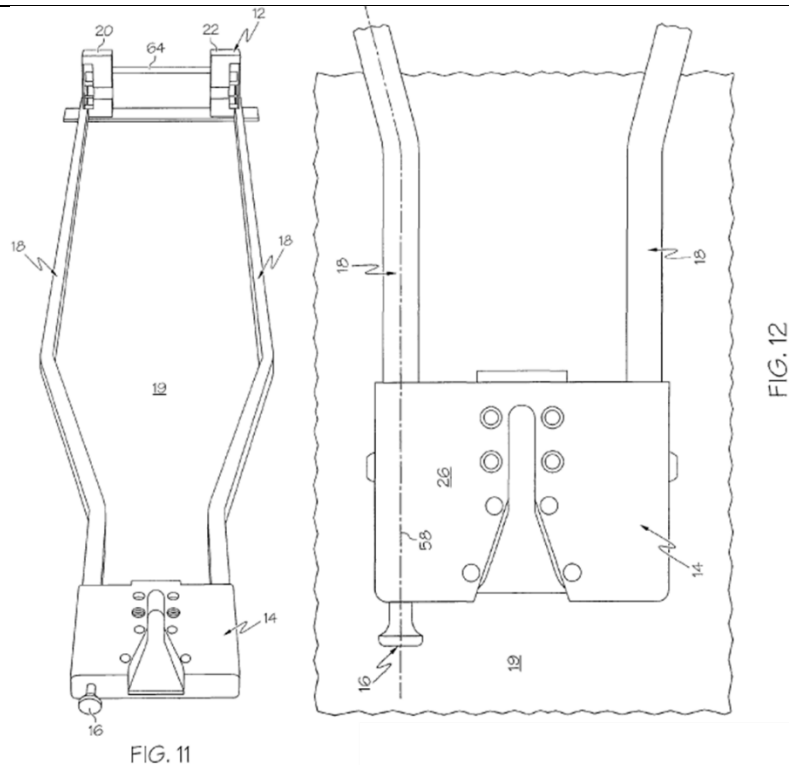
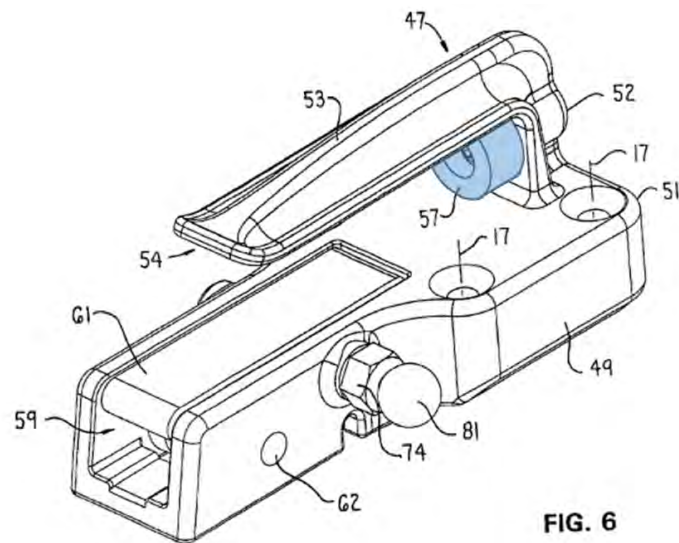


FIG. 6

The '212 Patent explains that in one embodiment, "the cot fastening system 10 is provided the forward mounting part 12, a rearward mounting part 14, a release mechanism 16, and a pair of rails 18 interconnecting the mounting parts 12 and 14. In this embodiment, the rear mounting part comprises a single catch 26, and one of the rails 18 accommodates the pull 58 of the release mechanism 16." '212 Patent, col. 4, lns. 59-65. This latch mechanism is further shown in the images below taken from **FIGS. 11-12** of the '212 Patent:

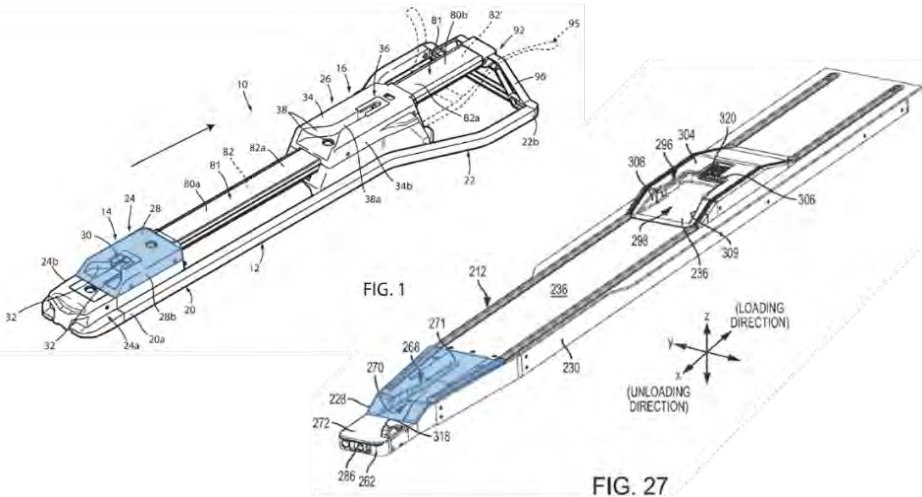


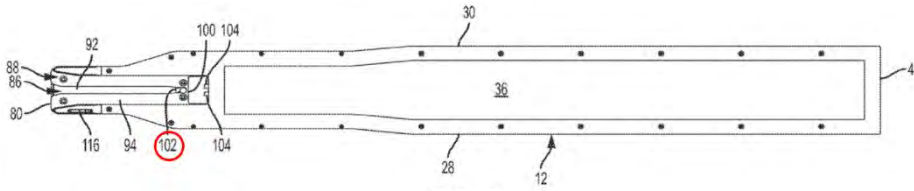
This Claim also recites that “said spring operable for biasing one of the cot attachments into engagement with said latch.” The ‘757 Patent discloses a rubber bumper (57) in a restraint assembly (47, 48) that acts as a spring that biases the cot as shown in the image below (the rubber bumper (57) is highlighted in blue) taken from **FIG. 6** of the ‘757 Patent:



It would be obvious to one of ordinary skill in the art to combine the rubber bumper of the ‘757 Patent with the restraint assembly / latch of either the ‘787 Patent or the ‘212 Patent. When the cot is loaded, the

		rubber bumpers 57 of the ‘757 Patent will urge the cot into engagement with the catch (87, 310a, 310b) of the ‘787 Patent, or the catch 26 of the latch mechanism 16 of the ‘212 Patent. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias within the latch member to reduce vibration and back-and-forth movement of the cot).
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‘207 Patent		
Claim 3 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
G	wherein said first restraint assembly comprises said latch, said latch comprising a foot end latch for latching onto the second cot attachment, and said spring for biasing the second cot attachment into engagement with said foot end latch.	The side by side image below shows the “first restraint assembly” (14) as depicted in FIG. 1 of the ‘207 Patent (highlighted in blue at left), and the first restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the ‘787 Patent (highlighted in blue at right):  This claim appears to be misworded, i.e., the specification of the ‘207 Patent states that: “The first restraint assembly is for coupling to a first cot attachment of a cot and is mounted to the frame. The second restraint assembly is for coupling to a second cot attachment of the cot and is also mounted to the frame.” ‘207 Patent, col. 1, lns. 47-51. This ambiguity could give rise to an issue under 35 U.S.C. § 112. The ‘787 Patent further discloses that in certain embodiments “a rearward blocking or catch member 102 (FIG. 7) can be provided by the cot fastener track 12, which can be selectively activated mechanically, electrically or combinations thereof, to block the rearward peg 82 [of the cot] from being removed in the unloading direction, and unblock

		the rearward peg 82 when removal of the cot 14 from the cot fastener track 12 is intended.” The image below (taken from FIG. 7 of the ‘787 Patent) shows this catch (102) in the same first restraint assembly position as that shown in FIG. 27 above from this same patent:  FIG. 7 As noted above with respect to Claim 1 of the ‘207 Patent, the spring would have reduced vibration / back-and-forth movement of the cot, i.e., by having a spring bias opposed to the loading direction, it would have acted as a shock absorber and would have ensured that a certain minimum force would need to be applied in order to disengage the restraint assembly. This would have been obvious to a POSITA since the use of a damper such as a spring, rubber bumper, etc. is commonly employed for such shock absorber / spring bias applications. It would have further been obvious to try to include this spring / latch within the first restraint assembly inasmuch as it could only be located there or in the first restraint assembly, i.e., there are only two options.
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‘207 Patent		
Claim 4 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 3,	This claim is dependent on Claim 3. As such, each claim element of the chart for Claim 3, above, is incorporated herein by reference.
H	wherein said second restraint assembly includes said spring.	First, the analysis above with respect to Claim 1 shows that including a spring within a restraint assembly would have been obvious to a POSITA. It would likewise have been obvious to include this spring within the second restraint assembly inasmuch as there are two restraint assemblies and there is nothing about the second restraint assembly which would be contrary to the purse of including such spring. Moreover, the spring in the second restraint assembly biases the cot so that the cot attachment in the foot end pushes against the latch of the foot end restraint assembly. The use of such a technique (i.e., providing a force against a locked member to prevent movement and vibration) is well known in the art and would have been obvious to a POSITA. Second, other prior art nevertheless discloses the use of a spring member in connection with a second restraint assembly for a cot fastener. For example, the ‘757 Patent discloses two second restraint assemblies (called

cot frame hold-down members) (reference numerals 47 and 48) as shown below in the image taken from **FIG. 1** of the '757 Patent:

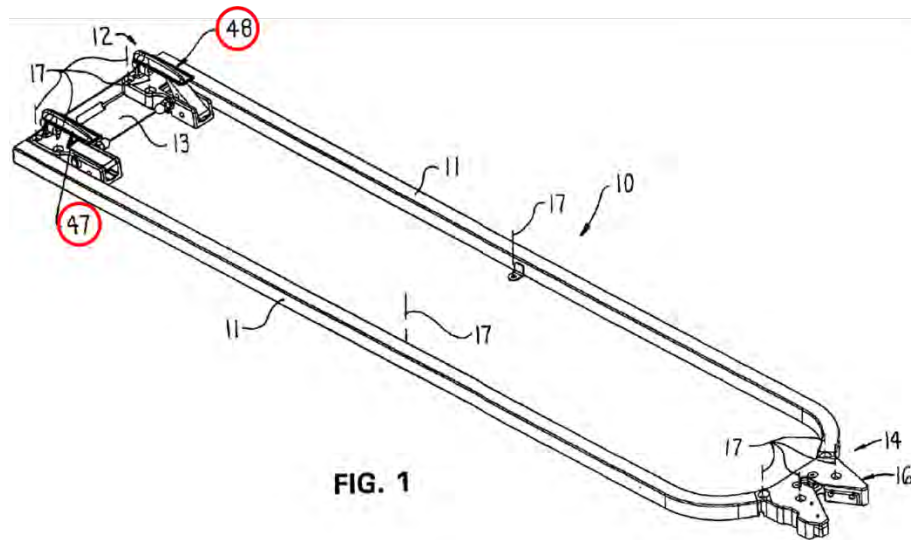
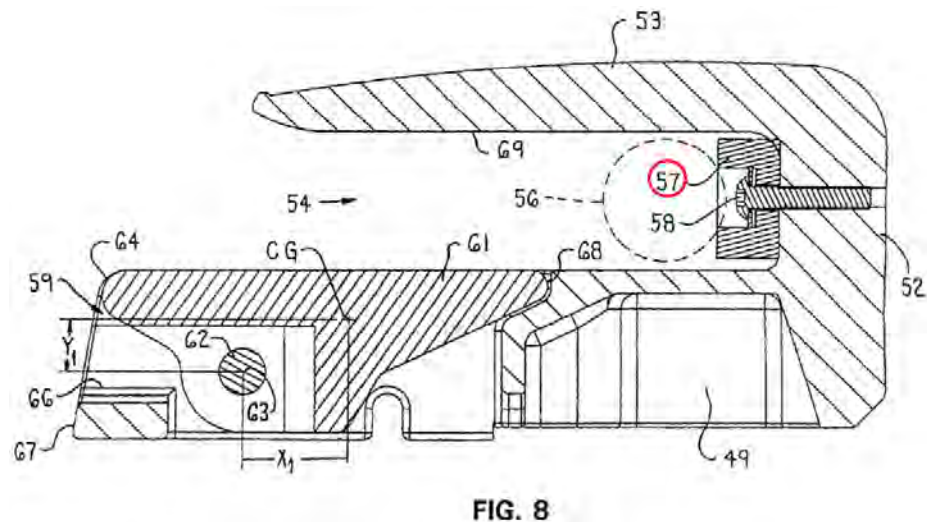
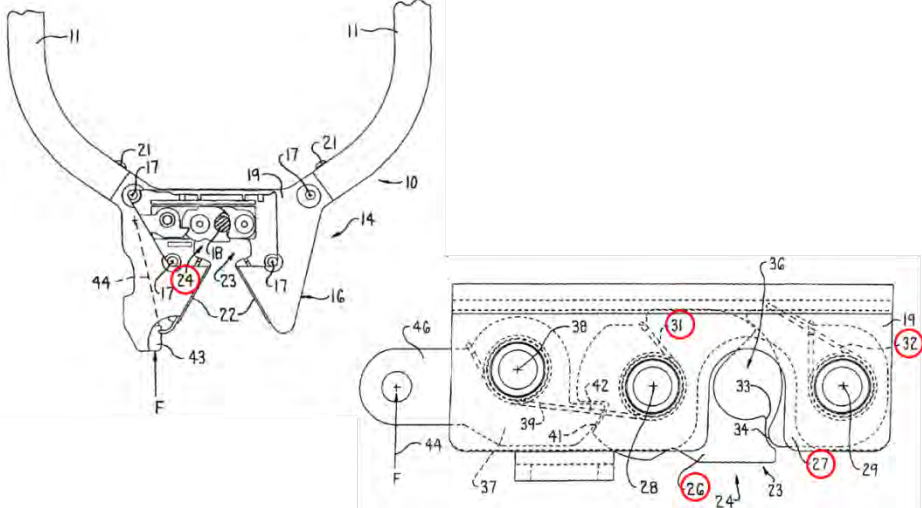


FIG. 8 of the '757 Patent shows that the second restraint assembly (47, 48) includes a rubber bumper (57) which acts as a spring as shown below:

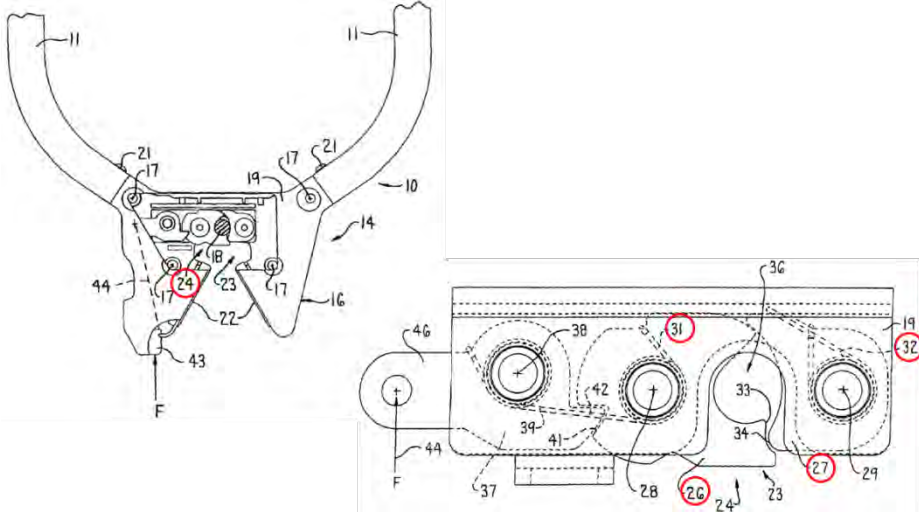


It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 8 and the rubber bumper of the '757 Patent. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias within the latch member). It would have further been obvious to include the spring within the second restraint assembly, since doing so would bias the cot so that the cot attachment in the foot end pushes against the latch of the foot end restraint assembly. The use of such a technique (*i.e.*, providing a force against a locked member to prevent movement and vibration) is well known in the art and would have been obvious to a POSITA. This

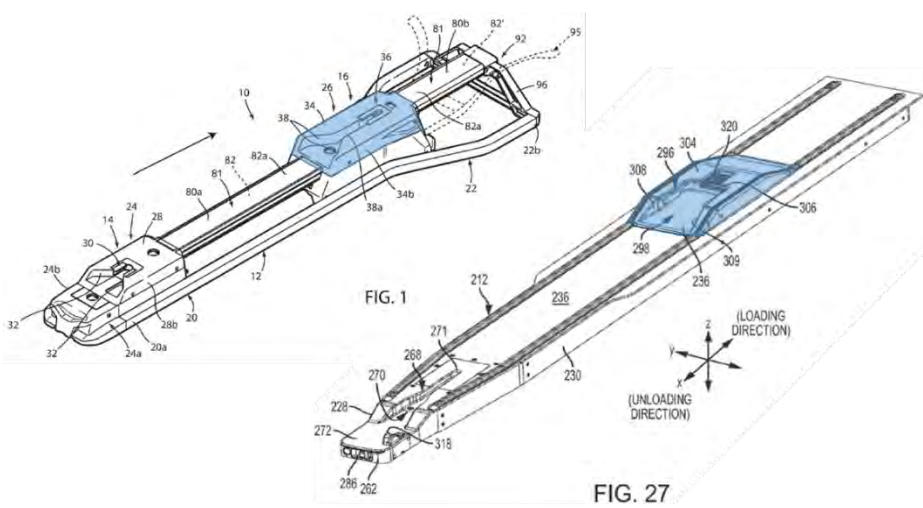
		would have also been obvious to try inasmuch as there are only two restraint assemblies (one of which is the second restraint assembly).
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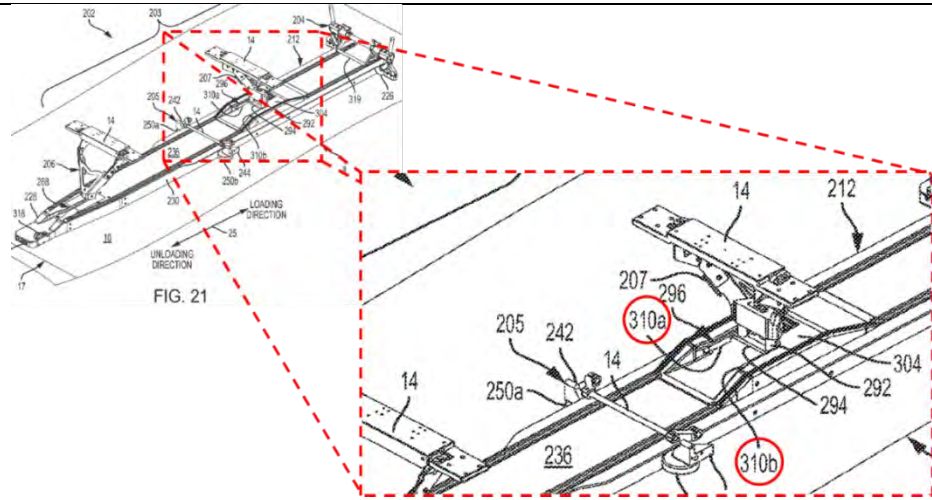
‘207 Patent		
Claim 5 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
I	wherein one of said restraint assemblies comprises a pair of spring biased arms for engaging one of the cot attachments.	FIGS. 2-3 of the ‘757 Patent show a restraint assembly (called a “latch” (reference numeral 24)) which comprises a pair of spring biased arms (called “rotatably supported locking members” (reference numerals 26, 27)) for engagement of one of the cot attachments (called a “pin” (reference numeral 18)). More specifically, the locking members (26, 27) are biased by “torsion springs” (reference numerals 31, 32). An annotated side-by-side of this restraint assembly showing the spring biased arms of the latch is depicted below:  It would be obvious to one of ordinary skill in the art to combine the references noted above with respect to Claim 11 and the spring biased arms from the ‘757 Patent for engaging one of the cot attachments. For example, this would have been obvious inasmuch as the use of such spring-biased arms would better hold the cot attachment in place and would reduce vibration / back-and-forth movement of the cot, i.e., it would ensure that a certain minimum force would need to be applied in order to disengage the restraint assembly. Such a combination of related prior art would have achieved a predictable result (namely, creating a spring bias restraint member). It would have further been obvious to include the spring within the second restraint

		assembly, since doing so would bias the cot so that the cot attachment in the foot end pushes against the latch of the foot end restraint assembly. The use of such a technique (<i>i.e.</i> , providing a force against a locked member to prevent movement and vibration) is well known in the art and would have been obvious to a POSITA. This would have also been obvious to try inasmuch as there are only two restraint assemblies (one of which is the second restraint assembly).
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'207 Patent		
Claim 6 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 5,	This claim is dependent on Claim 5. As such, each claim element of the chart for Claim 5, above, is incorporated herein by reference.
J	wherein each of said arms is pivotally mounted about a vertical axis.	The same FIGS. 2-3 of the '757 Patent noted above with respect to Claim 12 also show that each of the spring biased arms 26, 27 is pivotally mounted about a vertical axis (28, 29) as depicted in the annotated side-by-side of this restraint assembly below: 

'207 Patent		
Claim 7 – Obvious over US 10,568,787 + (US 8,308,212 and/or US 6,796,757) + POSITA		
	The cot fastening system according to claim 2,	This claim is dependent on Claim 2. As such, each claim element of the chart for Claim 2, above, is incorporated herein by reference.
K	further comprising a	As noted above with respect to Claim 1, the '787 Patent (alone or in combination with the '212 Patent), discloses a first restraint assembly and

mount for mounting said second restraint assembly to said frame, wherein said second restraint assembly includes a catch, and said mount comprises a guide surface for guiding the first cot attachment into alignment with said catch of said second restraint assembly.	a second restraint assembly in connection with a frame. The '787 Patent further discloses mounting the second restraint assembly to the frame as shown in the side by side image below of the "second restraint assembly" (16) as depicted in FIG. 1 of the '464 Patent (highlighted in blue at left) and the second restraint assembly portion of the cot fastening system as depicted in FIG. 27 of the '787 Patent:  It would have been obvious to a POSITA to use a mount to mount the first restraint assembly to the frame (rather than forming the first restraint assembly from within the roof plate (236) as shown in FIG. 27 of the '787 Patent) in the same manner as the second restraint assembly was mounted to the frame. More than anything, this is merely a manufacturing preference since the important concept is that the second restraint assembly be at a higher elevation relative the floor than the first restraint assembly. It would have been obvious to a POSITA to take an element used in one part of the '787 Patent with respect to the second restraint assembly and apply this to the first restraint assembly. The '787 Patent also discloses a "catch" within this second restraint assembly. More specifically, the '787 Patent explains that "[t]o releasably retain the foot 294 in the forward central channel 296 and prevent movement in the unloading (rearward) direction, in one embodiment, one or more blocking or more catch members 310a, 310b (FIGS. 21 and 32) can be provided." '787 Patent, col. 19, lns. 4-8; <i>see also</i> '787 Patent, col. 8, lns. 15-17. An enlarged detail taken from FIG. 21 of the '787 Patent showing the catch within the second restraint assembly is shown below (with the catch members (310a and 310b) circled in red):
--	--



The '787 Patent also discloses that in certain embodiments, the second restraint assembly has a "forward channel opening 298" in which "a portion of the forward central channel 296 defined by a top plate 304 of the cot fastener track 212 is generally V- or U-shaped." '787 Patent, col. 18, lns. 51-53. This is designed to engage with a "foot" (294). More specifically, the '787 Patent explains that "[w]hen loading the cot 14 in the loading direction, the secondary middle fixture 207 is shaped and sized such that the foot 294 ... enters into the forward central channel 296 through a defined forward channel opening 298." '787 Patent, col. 18, lns. 26-31. This structure has the effect of a "guide surface" for "guiding the first cot attachment into alignment with said catch of said second restraint assembly."

EXHIBIT F

I. The Prior Art Anticipates and/or Renders Obvious the Claims of the Stryker Design Patents

All of the Stryker Design Patents claim, to varying degrees, the purportedly ornamental design of the Stryker Cot Fastener. The ‘623 Design Patent (claiming a priority date, as a continuation of the ‘205 Design Patent application, of August 18, 2015) issued November 13, 2018. It claims only the outermost portion of the Stryker Cot Fastener, particularly the Frame or Linear Transfer System, which is made to “guide and center the cot during loading and unloading.” *See Infra*, Exhibit F, Section I., C., ‘623 Design Patent Invalidity Contention Chart; ECF No. 26-5, Stryker Cot Fastener Brochure. The ‘623 Design Patent claims the least of any the Stryker Design Patents, and even explicitly disclaims the design of the underside of the Frame with broken lines.

The ‘950 Design Patent (also claiming a priority date of August 18, 2015, as a continuation of the ‘623 Design Patent application, which is a continuation of the ‘205 Design Patent application) issued February 18, 2020. It claims largely the same Frame as is claimed the ‘623 Design Patent (while disclaiming the end supports with broken lines), plus the “V”-shaped portion of the head end dock that secures the front of a cot for transporting (the “**“V”-Shaped Head End Dock Surface**”), a small channel directly behind it, and the design of the underside of the Frame. *See Infra*, Exhibit F, Section I., C., ‘950 Design Patent Invalidity Contention Chart.

The ‘205 Design Patent was filed on August 18, 2015 and issued August 8, 2017. It claims the ornamental design for virtually the entire Stryker Cot Fastener as seen from every angle, with the exception of certain elements of the middle portion of the product’s underside, which are depicted with broken lines. *See Infra*, Exhibit F, Section I., C., ‘205 Design Patent Invalidity Contention Chart.

A. Applicable Law: Design Patent Anticipation & Obviousness.

Like utility patents, design patents must be novel under 35 U.S.C. §102 and non-obvious under 35 U.S.C. § 103. *See* 35 U.S.C. §171(b). As is relevant here, in the context of design patents, “the ultimate inquiry under section 103 is whether the claimed design would have been obvious to a designer of ordinary skill who designs articles of the type involved.” *MRC Innovations, Inc., v. Hunter Mfg., LLP*, 747 F.3d 1326, 1331 (Fed. Cir. 2014) (citing *Titan Tire*, 566 F.3d at 1380-1381). As to anticipation, it is axiomatic that “that which infringes, if later, would anticipate, if earlier.” *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889). Accordingly, novelty under 35 U.S.C. §102 in the case of design patents should be judged by the “ordinary observer.” *See Int’l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1239 (Fed. Cir. 2009).

B. The Prior Art Anticipates, Or At Least, Renders Obvious the Designs Claimed In The Stryker Design Patents

The prior art, specifically the patents identified in the following Invalidity Contention Charts, anticipates or at least renders obvious the designs claimed in the Stryker Design Patents. Specifically, it is helpful to think of these design elements in three groups: (1) the Frame (the primary feature claimed in the ‘623 Design Patent); (2) the “V”-shaped docking surfaces (the “V”-Shaped Head End Dock Surface is claimed along with the Frame in the ‘950 Design Patent and in the ‘205 Design Patent); and (3) the general shape and overall appearance of the Stryker Cot fastener (claimed in the ‘205 Design Patent). Pursuant to S.D. Ohio Pat. R. 103.4(a)(2), Ferno states below each item of prior art that anticipates the designs claimed in the Stryker Design Patents or renders them obvious, including the extent to which certain combinations of items of prior art render obvious the claimed designs. Furthermore, pursuant to S.D. Ohio Pat. R. 103.4(a)(3), the Invalidity Contention Chart attached hereto (*see infra*, Exhibit F, Section I., C.) identify where specifically in each alleged item of prior art each claimed design element is found.

The Frame

The claimed design of the Frame is anticipated or at least rendered obvious by a previous cot fastening system, consisting in part of an outer railing, for which Ferno owns a utility patent, the ‘212 Patent, in 2012. *See Infra*, Exhibit F, Section I., C., ‘623 Design Patent Invalidity Contention Chart. As is also shown in the images in the accompanying ‘205 Design Patent Invalidity Assertion Chart (Exhibit F, Section I., C.), the overall design for a frame for a cot fastener product being narrower near its foot end and widening near the head end is not novel (and, as explained below, is specifically dictated by functional considerations in the case of the Stryker Cot Fastener), and the specific appearance of the Frame is anticipated, or, at least, obvious in light of the prior art showcased in the ‘757 Patent, the ‘212 Patent, and the ‘416 Patent. So, to the extent the ‘205 Design Patent claims its shape, independent of the fact that the shape is formed by the Frame, it is still anticipated or, at least, obvious.

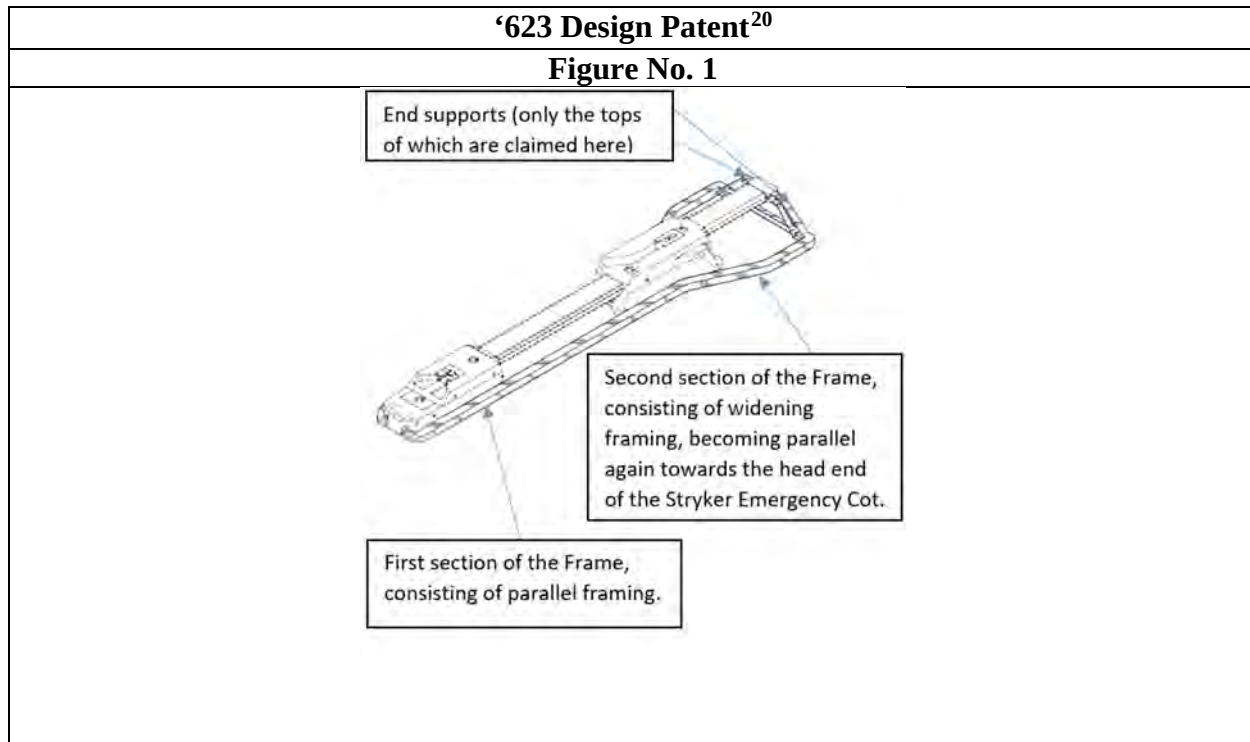
The “V”-Shaped Docking Surfaces

Likewise, the design of the “V”-Shaped docking surfaces (the design for the V-Shaped Head End Docking Surface is claimed in the ‘950 Design Patent, and the designs for both the head and foot end docking surfaces are claimed in the ‘205 Design Patent) are anticipated or, at least, rendered obvious by multiple instances of prior art, including the ‘722 Patent, the ‘559 Patent, the ‘757 Patent, the ‘212 Patent, and the ‘416 Patent. As is shown in more detail in the accompanying Design Patent Invalidity Assertion Chart (*see* Exhibit F, Section I., C., ‘905 Design Patent Invalidity Contention Chart)—and unsurprising given the highly functional nature of the “V” shape itself (which, *inter alia*, acts to guide a portion of the cot into the apex of the “V” where it is secured)—myriad cot fastener-related inventions prior to the Stryker Cot Fastener included “V”-shaped docks to facilitate the guiding and locking of cot elements to allow for securing those cots.

General Shape & Overall Appearance

More generally, as is shown in the images contained in the attached Design Patent Invalidity Contention Chart (Exhibit F, Section I., C.), the overall shape and appearance of the Stryker Cot Fastener is, at least, obvious in light of multiple other instances of prior art, including the 757 Patent, the '212 Patent and the '416 Patent (and in combination with the '722 Patent). Simply put, the Stryker Cot Fastener, like many previous cot fasteners designed to secure cots in emergency vehicles, is narrow and rectangular near the foot end, and becomes wider near the head end.

C. Design Patent Invalidity Contention Chart for the '205 Design Patent, '623 Design Patent and '950 Design Patent



²⁰ Paragraph 344 of the *First Amended Complaint* accuses Ferno of having infringed the '623 Design Patent because a Ferno product has an "overall visual appearance that is substantially the same as the overall visual appearance of the design claimed in the 623 Design Patent." Stryker asserted the same in its infringement contentions.

Invalidity Grounds

Functional

What is claimed in solid lines in the ‘623 Design Patent is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

The Frame, the primary design element claimed in solid lines in the ‘623 Design Patent, is comprised of two main sections. The first section of the Frame consists of parallel framing and the second section, closer to the head end of the Stryker Cot Fastener, widens and then becomes parallel again.

These two sections of the Frame cooperate to guide the cot into the compartment of an emergency vehicle. The shape of the Frame, specifically the widening nature of the second section, serves the specifically functional purpose of being slightly more narrow than the spacing between the cot load wheels to form a guide for the cot load wheels and being wider than the first section; allowing the cot to be placed unaligned on the cot fastener to be guided and secured into place by the very shape of the Frame.

The ‘623 Design Patent also claims the tops only of the two end support structures identified above. These structures serve to elevate the Guides to form an open frame or cage that is sized to straddle and extend over an antler anchoring assembly to be placed inside the Stryker Cot Fastener. These structures serve only this functional purpose, and, as seen in **FIGS. 1** and **6** of the ‘623 Design Patent, are merely a continuation of the claimed Frame that surrounds the entire product.

Furthermore, the specifications of the Concomitant Utility Patents tellingly describe the Frame in functional terms. The shape of the outer portion of the Stryker Cot Fastener is dictated by its function, namely, allowing a cot to be placed unaligned on the cot fastener to be guided and secured into place by the very shape of the Frame. The Concomitant Utility Patents, specifically, the language of their specifications and the figures included therein, demonstrate the functionality of the ‘623 Design Patent. Indeed, the specifications of the Concomitant Utility Patents explain:

Referring to FIGS. 7-9, frame **12** includes a first section **20** and a second section **22**, which cooperate to guide the cot into the compartment of the emergency vehicle so that the respective cot attachments align with the respective restraint assemblies after the cot is already at least partially inserted into the emergency vehicle compartment. However, when the cot is first inserted into the compartment of the emergency vehicle, the first section **20** of frame **12** is configured so that the cot can straddle frame **12** but not necessarily be precisely aligned with the frame or any of the restraint assemblies. This facilitates the loading of a cot onto the fastening system.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 9** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

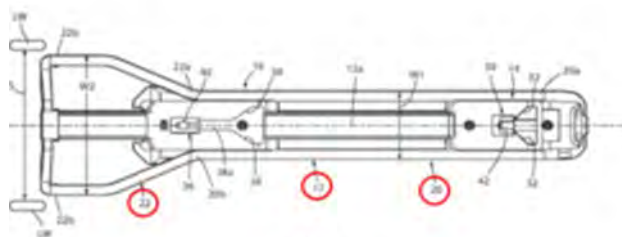


FIG. 9

In addition:

Referring again to FIGS. 7-9, first section **20** of frame **12** has a width **W1** which is less than the spacing **S** between the cot load wheels (**LW**) of the cot. Further, as will more fully described in reference to FIGS. 10-12, frame **12** has a height **H** that is less than the height of the underside of the cot deck so that when a cot is pushed into the emergency vehicle compartment in the loading direction, the cot can straddle frame **12**. Thus, as understood from above, when a cot is first inserted into the compartment of the emergency vehicle and straddles frame **12**, the cot need not be accurately aligned with the frame or restraint assemblies so that the location of the cot load wheels may be varied. This “course” alignment facilitates loading of the cot into the emergency vehicle and reduces the strain on emergency medical personnel who have to carry the weight of cot while it is being inserted into the emergency vehicle.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 9** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

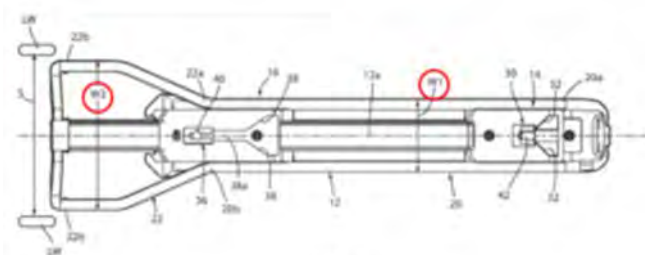


FIG. 9

The specifications of the Concomitant Utility Patents further explain:

Referring again to FIGS. 7-9, second section **22** of frame **12**, which extends from first section **20**, expands or diverges away from the longitudinal axis **12a** of frame **12** to a second width **W2**, which is greater than the first width **W1**. Second width **W2** is approximately equal to, but optionally slightly less than, the spacing between the cot load wheels to form a guide for the cot load wheels as the cot is pushed further into the compartment in the loading direction. In this manner, frame **12** is configured to receive

‘623 Design Patent²⁰

the cot and requires the cot only to straddle the frame initially, and then is configured to provide a general alignment of the cot with the restraint assemblies. As will be described below again in reference to FIGS. 7-9, the precise alignment of the cot attachments with the restraint assemblies is achieved by guide surfaces provided on the restraint assembly mounts.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 9** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

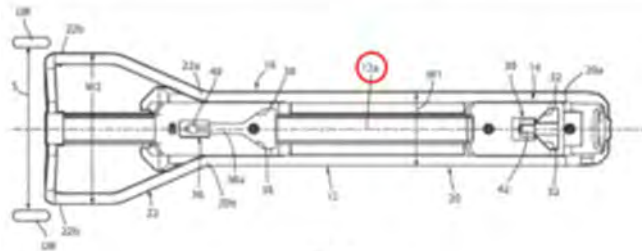


FIG. 9

In addition:

Referring again to FIGS. 7-9, when the cot load wheels are placed on the floor F of the emergency vehicle and are positioned so they straddle frame 12, the location of frame 12 may be anywhere between the two load wheels. As the cot and load wheels are pushed further into the compartment, one of the load wheels will encounter second section 22 to pull the cot over and generally align the cot with frame 12 and, moreover, with first and second restraint assemblies 14 and 16 as the load wheels are pushed beyond the diverging sides of second section 22 adjacent the parallel sides of second section 22.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 9** from the Concomitant Utility, reproduced below with relevant features highlighted.

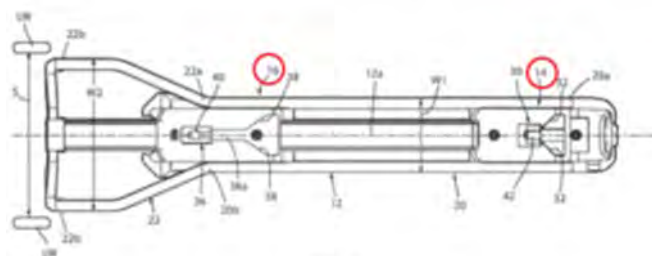


FIG. 9

Anticipated and/or Obvious

- The ‘212 Patent discloses a method and cot fastening system that anticipates or, at least, renders obvious the design claimed in the ‘623 Design Patent. Below is a representative

'623 Design Patent²⁰

drawing from the '212 Patent demonstrating the anticipation and/or obviousness of the design claimed in the '623 Design Patent. Specifically, this drawing discloses a two-sectioned frame that is highly similar in appearance to that which is claimed in the '623 Design Patent. See Fig. 11 below.



Figure Nos. 2 & 3



FIG. 2



FIG. 3

'623 Design Patent²⁰

Invalidity Grounds

Functional

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 2 and 3 are front and left side elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Figure Nos. 4 & 5



FIG. 4

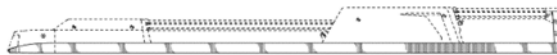


FIG. 5

Invalidity Grounds

Functional

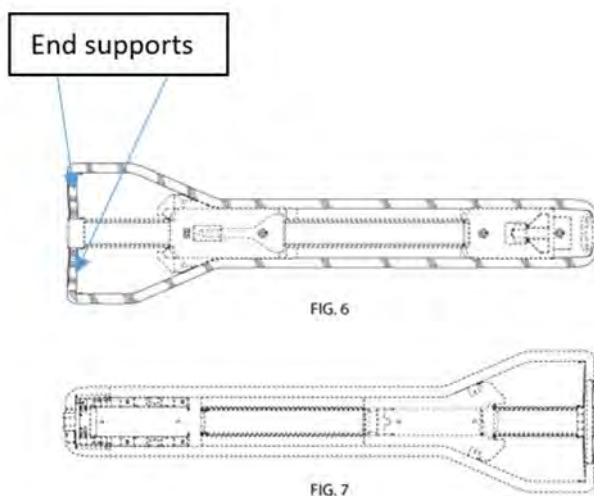
What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 4 and **5** are rear and right side elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Figure Nos. 6 & 7



Invalidity Grounds

Functional

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 6 and **7** are top plan and bottom plan elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Indeed, **FIG. 6** provides the best vantage of all figures contained in the '623 Design Patent to discern that it is primarily functional, as one can plainly see the shape of the Frame, and how the shape of the two distinct portions of the Frame serve to accomplish the function of the Stryker Cot Fastener.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Indeed, **FIG. 6** provides the best vantage of all figures contained in the '623 Design Patent to discern that it is anticipated or obvious in light of its high similarity to the cited prior art.

Indefinite

The '623 Design Patent is indefinite because of its confusing disclaimer of the underside of the design of the Frame. **FIGS. 1** and **6** claiming the shape of the Frame, are completely inconsistent with **FIG. 7**, which disclaims that same shape. This confusing inconsistency is best demonstrated with a side-by-side comparison of **FIGS. 6** and **7**. See also **FIG. 1**.

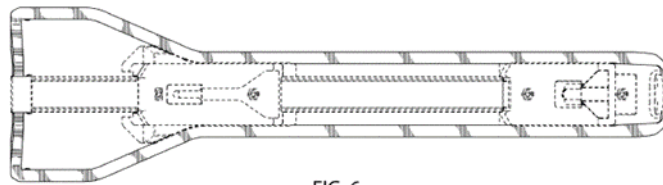


FIG. 6

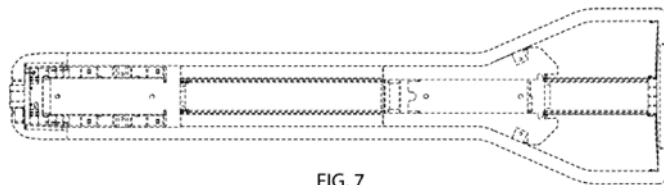
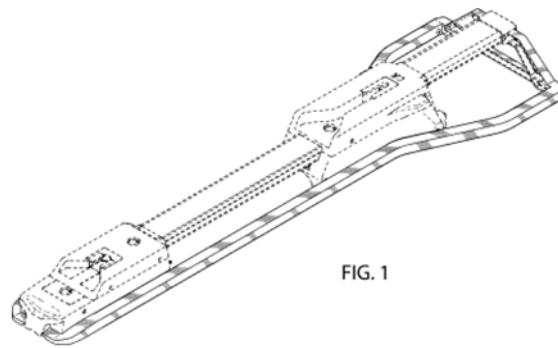
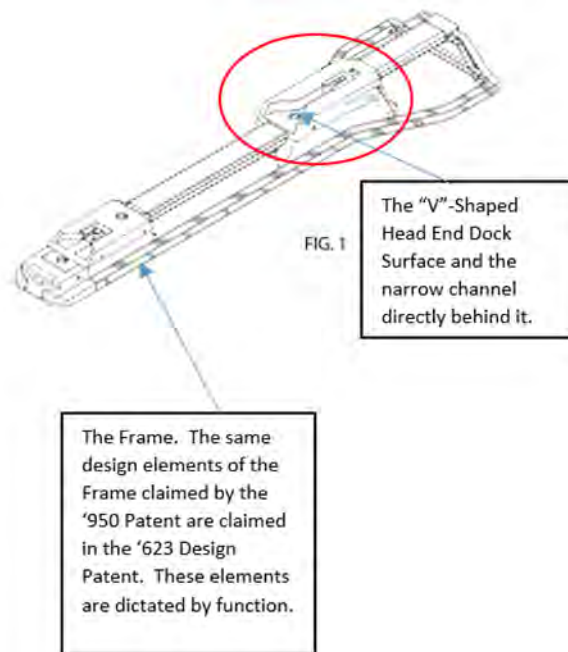


FIG. 7



'950 Design Patent²¹

Figure Nos. 1 & 6



²¹ Paragraph 362 of the *First Amended Complaint* accuses Ferno of having infringed the '950 Design Patent because a Ferno product has an "overall visual appearance that is substantially the same as the overall visual appearance of the design claimed in the 950 Design Patent." Stryker asserted the same in its infringement contentions.

'950 Design Patent²¹

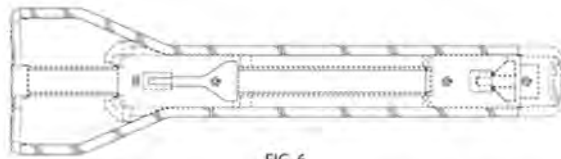
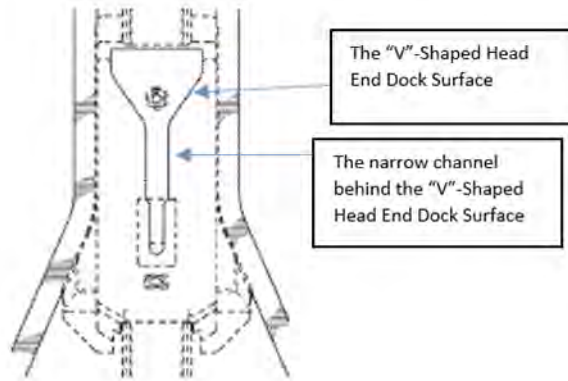


FIG. 6

(enlarged and cropped below to show detail)



Invalidity Grounds

Functionality

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

The '950 Design Patent claims, with solid lines the design of the Frame (discussed in more detail above, in the '623 Design Patent Invalidity Contention Chart, explaining why the Frame design is dictated by functional considerations) and the design of the "V"-Shaped Head End Dock Surface and a narrow channel behind it. As is relevant to the '950 Design Patent specifically, the "V"-Shaped Head End Dock Surface and the narrow channel behind it are also dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

The claimed "V"-Shaped Head End Dock Surface is designed as an angled "V"-shaped surface to guide the head end attachment of a cot into a catch to help secure the cot for transport. The narrow channel behind the "V"-Shaped Head End Dock Surface allows the head end cot attachment to continue moving in the loading direction, while being precisely aligned with the catch to facilitate securing the cot, the primary function of the Stryker Cot Fastener. Since the claimed design of the Frame is dictated by the Stryker Cot Fastener's function, as explained above in the '623 Design Patent Invalidity Contention Chart, each claimed element of the '950 Design Patent is dictated by functional considerations, making the '950 Design Patent primarily functional.

'950 Design Patent²¹

The Concomitant Utility Patents, specifically, the language of their specifications and the figures included therein, demonstrate the functionality of the '950 Design Patent. Indeed, the specifications of the Concomitant Utility Patents explain:

angled surfaces **38** on either side of catch **36** to form a generally V-shaped arrangement of guide surfaces, which guide the head end cot attachment into catch **36**. Further, guide surfaces **38** are spaced from catch **36** by a channel **38a** to allow head end cot attachment to continue to move in the loading direction after being precisely aligned with catch **36**, which facilitates alignment of foot end attachment with latch **30**.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 1** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

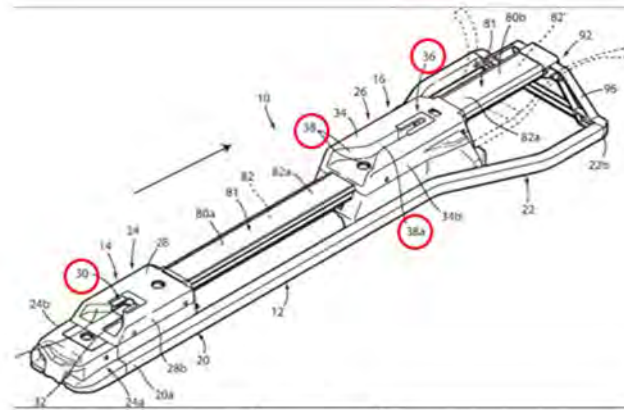


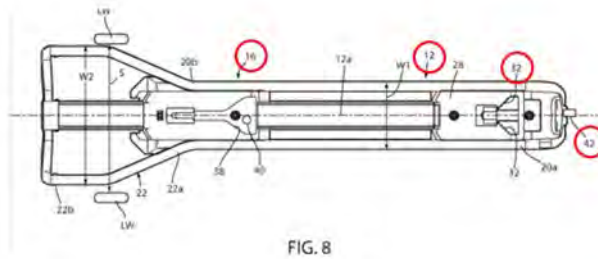
Fig. 1

The specifications of the Concomitant Utility Patents further explain:

In addition, the angle surfaces **38** of mount **26** together with frame **12** provide a general or “course” alignment for foot end cot attachment **42** with respect to restraint assembly **14**. As the load wheels move toward the head end of frame **12**, and head end attachment enters restraint assembly **16** between guide surfaces **38** under the guidance of frame **12**, foot end attachment **42** is aligned with restraint assembly **14**. As noted above, mount **24** of first restraint assembly **14** also includes angled surfaces **32**, which then provide a precise alignment for foot end cot attachment **42** with the latch **30** of first restraint assembly **14** as the cot moves further into the compartment along frame **12**.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 8** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

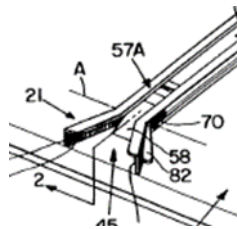
'950 Design Patent²¹



Anticipated and/or Obvious

Myriad prior art patents disclose “V”-shaped docks to facilitate the guiding and locking of cot elements to allow for securing those cots. As demonstrated below, these prior art patents, by themselves, and/or in combination with one another, anticipate or, at least, render obvious the claimed design of the ‘950 Design Patent.

- The ‘722 Patent claims a fastener system for emergency vehicle cots that anticipates or, at least, renders obvious the design of the “V”-Shaped Head End Dock Surface claimed in the ‘950 Design Patent. Below is a representative drawing from the ‘722 Patent (cropped to show the relevant detail) demonstrating the anticipation and/or obviousness of the design claimed in the ‘950 Design Patent. See Fig. 1 below.



- The ‘559 Patent claims a cot fastening track that anticipates or, at least, renders obvious the design of the “V”-Shaped Head End Dock Surface claimed in the ‘950 Design Patent. Below are two representative drawings from the ‘722 Patent demonstrating the anticipation and/or obviousness of the design claimed in the ‘950 Design Patent. See Figs. 2A and 1 below.

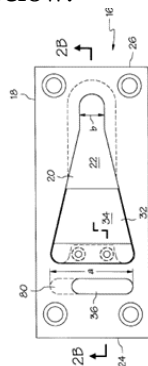


FIG. 2A

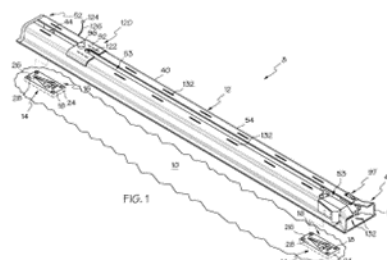
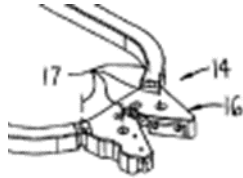


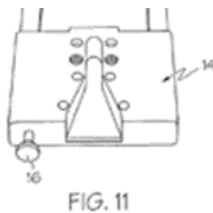
FIG. 1

'950 Design Patent²¹

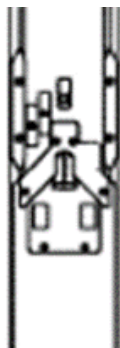
- The '757 Patent claims an ambulance cot frame securing system anticipates or, at least, renders obvious the design of the "V"-Shaped Head End Dock Surface claimed in the '950 Design Patent. Below is a representative drawing from the '757 Patent (cropped to show relevant detail) demonstrating the anticipation and/or obviousness of the design claimed in the '950 Design Patent. See Fig. 1 below.



- The '212 Patent discloses a method and cot fastening system that anticipates or, at least, renders obvious the design of the "V"-Shaped Head End Dock Surface claimed in the '950 Design Patent. Below is a representative drawing from the '212 Patent (cropped to show the relevant detail) demonstrating the anticipation and/or obviousness of the design claimed in the '950 Design Patent. See Fig. 11 below.



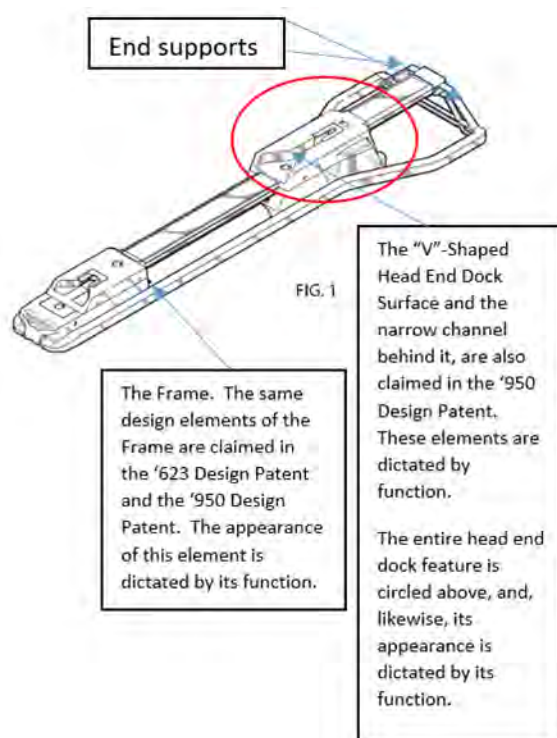
- The '416 Patent discloses an ambulance cot loading and unloading apparatus that anticipates or, at least, renders obvious the design of the "V"-Shaped Head End Dock Surface claimed in the '950 Design Patent. Below is a representative drawing from the '416 Patent (cropped to show the relevant detail) demonstrating the anticipation and/or obviousness of the design claimed in the '950 Design Patent. See Fig. 20 below.



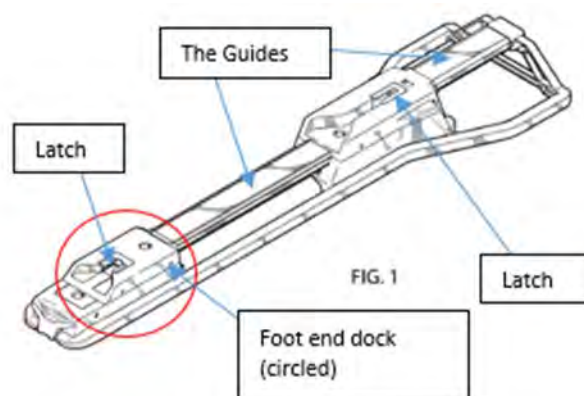
‘205 Design Patent²²

Figure No. 1

Previously Addressed Functional Features



Additional Functional Features Claimed in the ‘205 Design Patent



Invalidity Grounds

Functionality

²² Paragraph 326 of the *First Amended Complaint* accuses Ferno of having infringed the ‘205 Design Patent because a Ferno product has an “overall visual appearance that is substantially the same as the overall visual appearance of the design claimed in the 205 Design Patent.” Stryker asserted the same in its infringement contentions.

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

The ‘205 Design Patent claims, with solid lines, virtually the entire design of the Stryker Cot Fastener. This includes (1) the design of the Frame (discussed in more detail above, in the ‘623 Design Patent Invalidity Contention Chart, explaining why the Frame design and end support design are dictated by functional considerations) and (2) the design of the “V”-Shaped Head End Dock Surface and a narrow channel behind it (discussed in more detail above, in the in the ‘950 Design Patent Invalidity Contention Chart), explaining why the “V”-Shaped Head End Dock Surface and narrow channel behind it are dictated by functional considerations).

The remaining features claimed in the ‘205 Design Patent are, likewise, dictated by functional considerations. These include the Guides, the foot end dock, and the latches of both the foot end dock and the head end dock, as well as the general shape and overall appearance of the claimed design.

As is relevant to the ‘205 Design Patent specifically, the foot end dock, similar to the head end dock, is designed to provide a precise alignment of the foot end cot attachment with the latch contained in the foot end dock to allow it the cot to be secured for transport. Its “V” shape is integral to this function.

In addition, the Guides are completely rectangular—without any ornamentation at all—and designed to perform the function of guiding the cot safety bar straight along the frame and maintaining a cot safety bar in an un-deployed position so that it does not bind when the cot is being loaded onto or unloaded from the stationary frame. The Guides may be made of low friction materials to further promote their efficiency.

In addition, the latches—one each in the foot end and head end docks—perform the function of trapping the cot attachments for securing (i.e., the primary purpose of the Stryker Cot Fastener Product). The latches have no ornamental value, and simply perform their function of securing the cot attachments when engaged.

The Concomitant Utility Patents, specifically, the language of their specifications and the figures included therein demonstrate the functionality of the ‘205 Design Patent, and every individual element claimed therein. The specifications of the Concomitant Utility Patents explain of the “V”-shaped foot end dock surface:

mount **24** of first restraint assembly **14** also includes angled surfaces **32**, which then provide a precise alignment for foot end cot attachment **42** with the latch **30** of first restraint assembly **14** as the cot moves further into the compartment along frame **12**.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIGS. 8** and **1** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

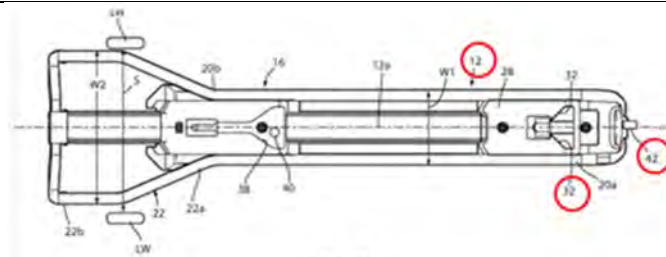
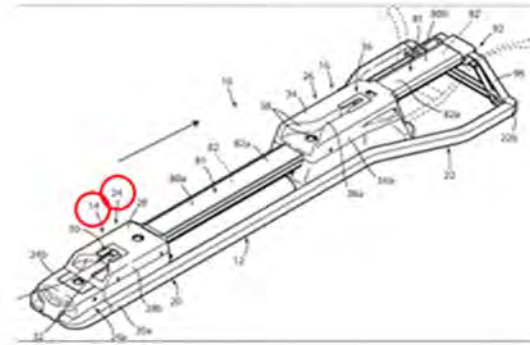


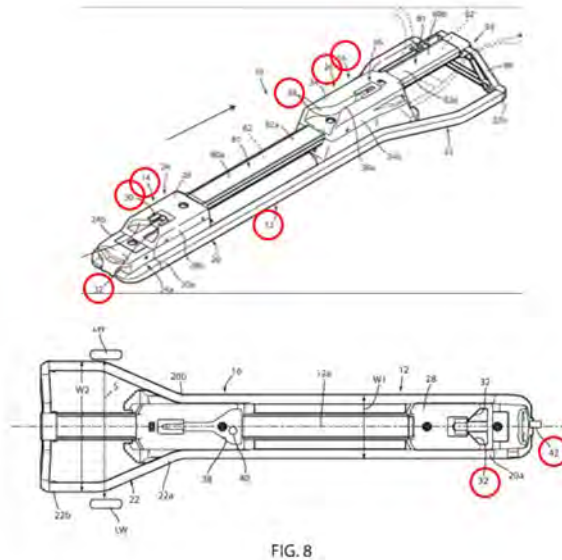
FIG. 8



The specifications of the Concomitant Utility Patents explain of the latch feature:

In addition, the angle surfaces **38** of mount **26** together with frame **12** provide a general or “course” alignment for the foot end cot attachment **42** with respect to restraint assembly **14**. As the load wheels move toward the head end of frame **12**, and head end attachment enters restraint assembly **16** between guide surfaces **38** under the guidance of frame **12**, foot end attachment **42** is aligned with restraint assembly **14**. As noted above, mount **24** of first restraint assembly **14** also includes angled surfaces **32**, which then provide a precise alignment for foot end cot attachment **42** with the latch **30** of first restraint assembly **14** as the cot moves further into the compartment along frame **12**.

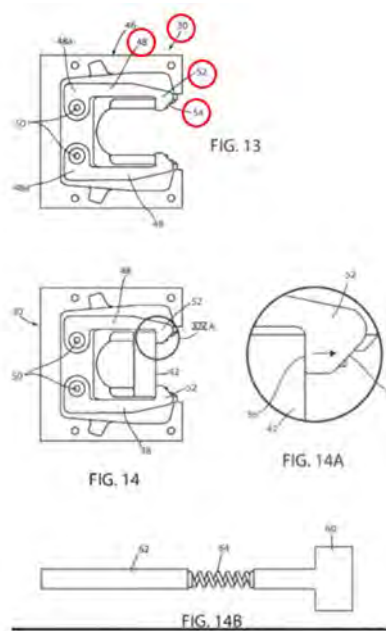
ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIGS. 1** and **8** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.



In addition:

In this manner, when foot end cot attachment **42** is pushed into latch **30**, foot end cot attachment **42** will apply a force on cam surfaces **54**, which will separate arms **48** against the bias force of the springs and allow foot end cot attachment **42** to pass between arms **48** and pass by the hooked ends of arms **48**. Once attachment **42** has passed between arms **48** and passed by the hooked ends **52** of arms **48**, arms **48** will return to their latched position, to thereby trap foot end cot attachment **42** in latch **30**.

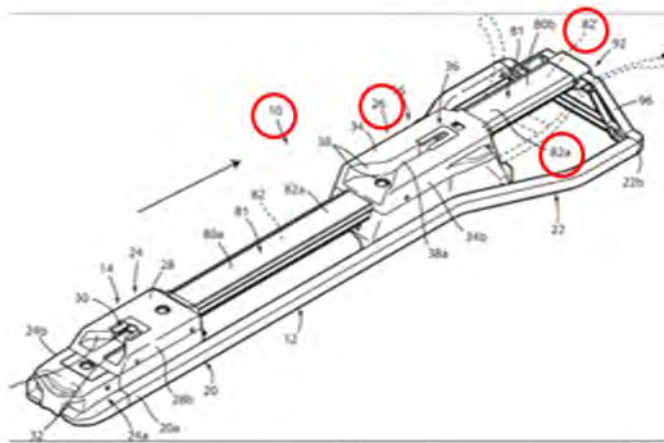
ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIGS. 13** and **14** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.



The specifications of the Concomitant Utility Patents explain of the Guides:

In the illustrated embodiment, guide **81** includes a first guide member **80a** that is provided between first restraint assembly **14** and second restraint assembly **16**. For example, guide member **80a** may comprise an inverted channel **82** that extends between and is coupled at its respective ends to mounts **24** and **26**. Further, guide member **80a** may include a low friction surface, such as a plastic cover **82a** or the like, to reduce the friction between the safety bar **90** and guide member **80a**. Optionally, guide member **80a** may extend beyond head end restraint assembly, for example, through mount **26** to the head end of frame **12** to form a guide beyond restraint assembly **16**. Alternately, as shown, system **10** may include a second guide member **80b** that extends from second restraint assembly mount **26** to the head end of frame. The second guide member may also be formed from an inverted channel **82'** with a plastic cover **82a'** (e.g. FIGS. 1 and 5).

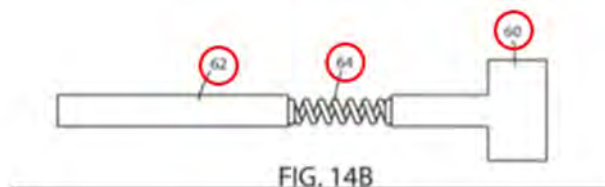
ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 1** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.



The specifications of the Concomitant Utility Patents explain of the Release Button:

To prevent damage to the release mechanism, the release button may be configured to limit the amount of release force that can be applied to the latch. In the illustrated embodiment, the release mechanism is configured to prevent a release force from being applied to the latch arms that exceeds a selected threshold to prevent damage to the release mechanism. For example, the threshold may be a very low threshold of force applied to the latch arms, such as any force above zero, or may be a high threshold that is commensurate with the full weight of the cot bearing on the two latch arms, or somewhere in between.

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIG. 14B** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

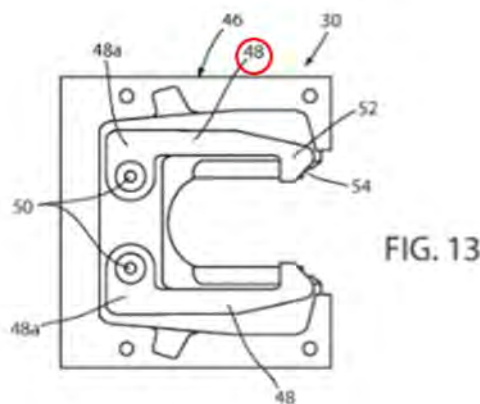


In addition:

Referring to FIG. 14B, as described above, to release restraint assembly 14, cot fastening system 10 includes a release mechanism, such as a release button 60. Release button 60 is mounted at or near the first end of frame 12 (see FIG. 4), and optionally slidably mounted adjacent mount 24 in a foot end housing 24a, which abuts mount 24 and ends 20a of first section 20 of frame 12.

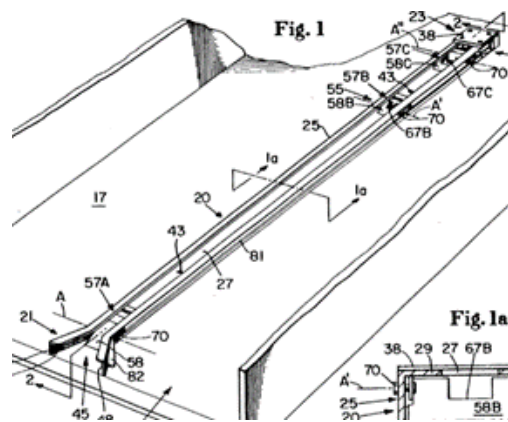
Release button 60 is coupled to arms 48 of latch 30 by a linkage 62, which is configured to pivot arms 48 about their respective pivot axes away from their latched positions when button 60 is pushed. In order to limit the load that can be applied to the release

ECF No. 18-5, U.S. 10,058,464; ECF No. 18-17, U.S. 11,090,207; *see also* **FIGS. 4** and **13** from the Concomitant Utility Patents, reproduced below with relevant features highlighted.

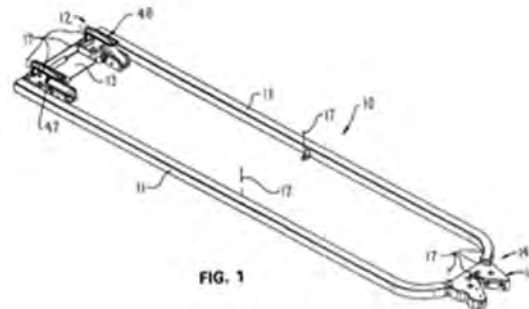


Since the '205 Design Patent claims the same design elements claimed in the '623 and Design Patent and the '950 Design Patent, these elements are anticipated and/or rendered obvious by the same prior art and for the same reasons explained in more detail above in the '623 Design Patent Invalidity Contention Chart and the '950 Design Patent Invalidity Contention Chart.

- The ‘722 Patent claims a fastener system for emergency vehicle cots that anticipates or, at least, renders obvious the general shape and overall appearance of the Stryker Cot Fastener claimed in the ‘205 Design Patent. Below is a representative drawing from the ‘722 Patent (cropped to show relevant detail) demonstrating the anticipation and/or obviousness of the design claimed in the ‘205 Design Patent, at least when considered in combination with the ‘212 Patent and the ‘416 Patent. *See Fig. 1 below.*



- The '757 Patent claims an ambulance cot frame securing system anticipates or, at least, renders obvious the general shape and overall appearance of the Stryker Cot Fastener claimed in the '205 Design Patent. Below is a representative drawing from the '757 Patent demonstrating the anticipation and/or obviousness of the design claimed in the '205 Design Patent. See Fig. 1 below.



- The '212 Patent discloses a method and cot fastening system that anticipates or, at least, renders obvious the general shape and overall appearance of the design claimed in the '205 Design Patent. Below are representative drawings from the '212 Patent demonstrating the anticipation and/or obviousness of the design claimed in the '205 Design Patent. See Figs. 1 & 11 below.

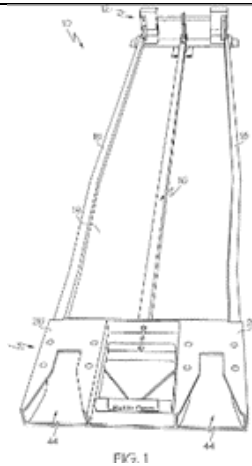


FIG. 1

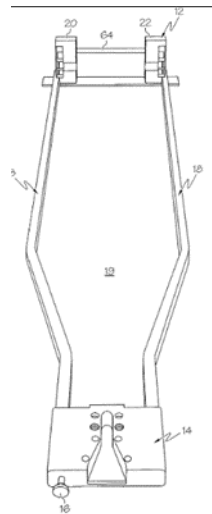


FIG. 11

- The '416 Patent discloses an ambulance cot loading and unloading apparatus that anticipates or, at least, renders obvious the general shape and overall appearance of the design claimed in the '205 Design Patent. Below is a representative drawing from the '416 Patent demonstrating the anticipation and/or obviousness of the design claimed in the '205 Design Patent. See Figs. 19 & 20 below.

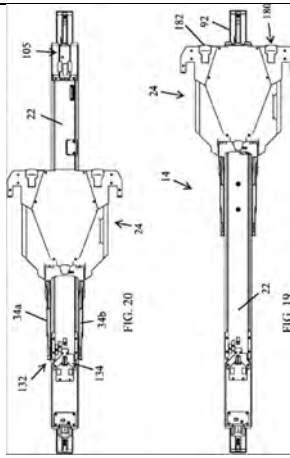


Figure Nos. 2 & 3



FIG. 2



FIG. 3

Invalidity Grounds

Functional

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 2 and **3** are front and left side elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Figure Nos. 4 & 5



FIG. 4



FIG. 5

Invalidity Grounds

Functional

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 4 and 5 are rear and right side elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Figure Nos. 6 & 7

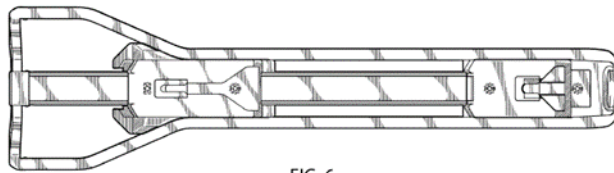


FIG. 6

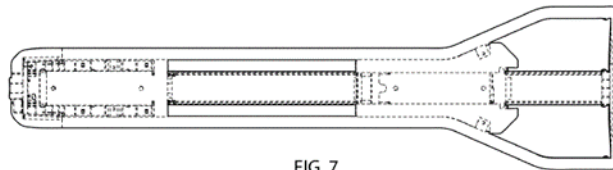


FIG. 7

Invalidity Grounds

Functional

What is claimed in solid lines is primarily functional, dictated by the function of the Stryker Cot Fastener, namely, guiding a cot into or out of an emergency vehicle for loading or unloading and securing that cot to the floor of the emergency vehicle.

FIGS. 6 and **7** are top plan and bottom plan elevations, respectively, depicting the Stryker Cot Fastener. The claimed design elements of these drawings are functional for the same reasons stated in the discussion of **FIG. 1** above.

Indeed, **FIG. 6** provides the best vantage of all figures contained in the '205 Design Patent to discern that it is primarily functional, as one can plainly see the shape of the Frame, and how the shape of the two distinct portions of the Frame serve to accomplish the function of the Stryker Cot Fastener.

Anticipated and/or Obvious

The claimed design elements are anticipated and/or obvious for the same reasons stated in the discussion of **FIG. 1** above.

Indeed, **FIG. 6** provides the best vantage of all figures contained in the '205 Design Patent to discern that it is anticipated or obvious in light of its high similarity to the cited prior art.

Respectfully submitted,

/s/ Jaci Overmann

CERTIFICATE OF SERVICE

I hereby certify that on June 13, 2023, a copy of the foregoing was served via e-mail to all counsel of record.

/s/ Jaci Overmann

Counsel for Defendants