



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
60/613,151	09/24/2004		210	3007.P0297US		

CONFIRMATION NO. 4731

UPDATED FILING RECEIPT

30497
 FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI 49008-1631



OC000000026862304

Date Mailed: 11/23/2007

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Cliff Lambarth, Portage, MI;
 Chad Souke, Kalamazoo, MI;
 Todd Gatto, Portage, MI;
 Josh Colvin, Paw Paw, MI;
 Jason Kneen, Mattawan, MI;
 Mike Steffler, Kalamazoo, MI;
 Chris Way, Kalamazoo, MI;
 Gary Morton, Kalamazoo, MI;
 Michael McKee, Aurora, IL;
 Tom Puvogel, Naperville, IL;
 Brian Bartley, Westmont, IL;
 Kurt Dykema, Holland, MI;
 Brent Bouws, Holland, MI;
 Dennis A. Reed, Portage, MI;

Power of Attorney:

Ronald Tanis--22724

Dale Thiel--24323

Sidney Williams Jr--24949

David Boutell--25072

Terryence Chapman--32549

Brian Tumm--36328Mark

Maki--36589Liane

Churney--40694Donald

Wallace--43977Steven Thiel--53685

If Required, Foreign Filing License Granted: 10/23/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 60/613,151**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

Title

Ambulance cot and hydraulic elevating mechanism therefor

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

JFW



IN THE U.S. PATENT AND TRADEMARK OFFICE

November 7, 2007

Applicant(s) : Cliff LAMBARTH et al
Title : AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No. : 60/613 151 Group: Unknown

Confirmation No.: 4731

Filed : September 24, 2004 Examiner: Unknown

Atty. Docket No.: 3007.P0297US

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO FILE MISSING PARTS

Sir:

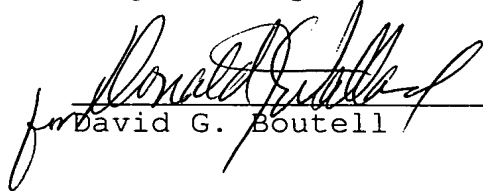
This is a response to the Patent Office communication mailed
September 7, 2007, a copy of which is enclosed.

(Please see following pages.)

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited
with the United States Postal Service as first class mail in an
envelope addressed to: Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313-1450, on November 7, 2007.

Respectfully submitted,



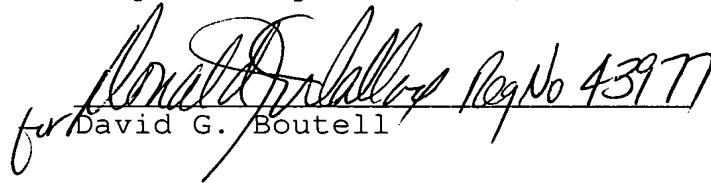
David G. Boutell

This is a response to a Notice to File Missing Parts of Provisional Application paper mailed on September 7, 2007.

The Office Action indicates that the following was missing from the application: A provisional application cover sheet which lists thereon the city and state of the residence of each inventor.

Please find enclosed a new Provisional Patent Application cover sheet including the required inventor information.

Respectfully submitted,


for David G. Boutell Reg No 43977

DGB/DJW/jas

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

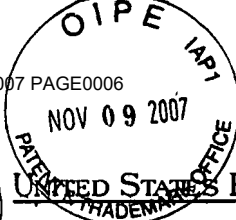
Dale H. Thiel
David G. Boutell
Terryence F. Chapman
Mark L. Maki
Liane L. Churney
Brian R. Tumm
Donald J. Wallace
Sidney B. Williams, Jr.
Heon Jekal
*limited recognition number

Reg. No. 24 323
Reg. No. 25 072
Reg. No. 32 549
Reg. No. 36 589
Reg. No. 40 694
Reg. No. 36 328
Reg. No. 43 977
Reg. No. 24 949
Reg. No. L0379*

Encl: Copy of Notice to File Missing Parts
Provision Application Cover Sheet
Postal Card

115.09/07

EXHIBIT 1007 PAGE0006



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

CONFIRMATION NO. 4731
FORMALITIES
LETTER

30497
 FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI 49008-1631

Date Mailed: 09/07/2007

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The provisional application cover sheet under 37 CFR 1.51(c)(1), which may be an application data sheet (37 CFR 1.76), is required identifying:
 - either city and state, or city and foreign country, of the residence of each inventor.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

lu
 Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199

PART 2 - COPY TO BE RETURNED WITH RESPONSE



IN THE U.S. PATENT AND TRADEMARK OFFICE

Express Mail Label No.: N/A

Attorney Docket No.: 3007.P0297US

November 7, 2007

Applicant(s) : Cliff LAMBARTH et al
Title : AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No. : 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed : September 24, 2004 Examiner: Unknown
Atty. Docket No.: 3007.P0297US

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PROVISIONAL PATENT APPLICATION COVER SHEET

Sir:

Transmitted herewith for filing is the provisional patent
application of:

Inventor(s):

(1) Cliff Lambarth, (2) Chad Souke, (3) Todd Gatto,
(4) Josh Colvin, (5) Jason Kneen, (6) Mike Steffler,
(7) Chris Way, (8) Gary Morton, (9) Michael McKee,
(10) Tom Puvogel, (11) Brian Bartley, (12) Kurt Dykema,
(13) Brent Bouws, (14) Dennis A. Reed;

residing at:

(1) Portage, MI; (2) Kalamazoo, MI, (3) Portage, MI,
(4) Paw Paw, MI, (5) Mattawan, MI, (6) Kalamazoo, MI,
(7) Kalamazoo, MI (8) Kalamazoo, MI, (9) Aurora, IL,
(10) Naperville, IL, (11) Westmont, IL, (12) Holland, MI,
(13) Holland, MI, (14) Portage, MI;

having the following post office address(es):

(1) 10613 S. Westnedge Avenue, Portage, MI 49002;

- (2) 8112 Land O Lakes Drive, Kalamazoo, MI 49048;
- (3) 5160 Chasemoor Court, Portage, MI 49024;
- (4) 54101 Ridgeview Circle, Paw Paw, MI 49079;
- (5) 24552 Wren Avenue, Mattawan, MI 49071;
- (6) 2508 Glenwood Drive, Kalamazoo, MI 49008;
- (7) 184 W. Crooked Lake Drive, Kalamazoo, MI 49009;
- (8) 5933 Rolling Pines Court, Kalamazoo, MI 49009;
- (9) 1195 Radford Drive, Aurora, IL 60504;
- (10) 111 Rieser Circle, Naperville, IL 60565;
- (11) 115 S. Wilmette Avenue, Westmont, IL 60559;
- (12) 1230 Heather Drive, Holland, MI 49423;
- (13) 11326 Stonehedge Drive, Holland, MI 49424;
- (14) 9631 South Westnedge, Portage, MI 49002;

and ALL having the following citizenship: UNITED STATES.

Title: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Please direct correspondence to the address associated with the
following customer number:

23474

FLYNN, THIEL, BOUTELL & TANIS, P.C.
(FIRM)

Enclosed are:

- ☐ Specification
- ☐ Drawing Sheets
- ☐ Declaration or Oath
- ☐ Small entity status is claimed. See 37 CFR 1.27.
- ☐ Statement(s) re small entity is/are enclosed.
- ☐ Assignment, with Recordation Form Cover Sheet
- ☒ Acknowledgment Postal Card

The filing fee is calculated as shown below:

☐ Basic fee for Large Entity:	\$210.00
☐ Basic fee for Small Entity:	105.00
☐ Application Size Fee	
*** TOTAL FILING FEES ***	\$

[] A Check for \$ is enclosed to cover fees.

[X] The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or to credit any overpayment to Deposit Account No. 06-1382. A duplicate copy of this sheet is enclosed.

[X] Any additional filing fees required under 37 CFR 1.16

[] Any application processing fees under 37 CFR 1.17

[] Pursuant to 37 CFR 1.52, the enclosed application is in the form of a foreign language text.

Please direct all telephone calls to the undersigned at telephone number (269) 381-1156.

Respectfully submitted,

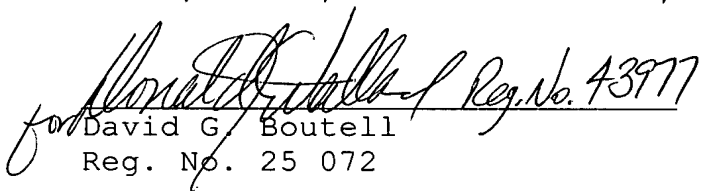
FLYNN, THIEL, BOUTELL & TANIS, P.C.

IN DUPLICATE

DGB/DJW/jas

Encl: Listed above

105.09/07


David G. Boutell
Reg. No. 25 072



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
60/613,151	09/24/2004		210	S*S 297		

CONFIRMATION NO. 4731

FILING RECEIPT

30497

FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI49008-1631

Date Mailed: 09/07/2007

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Cliff Lambarth, Portage, MI;
 Chad Souke, Kalamazoo, MI;
 Todd Gatto, Portage, MI;
 Josh Colvin, Paw Paw, MI;
 Jason Kneen, Mattawan, MI;
 Mike Steffler, Kalamazoo, MI;
 Chris Way, Kalamazoo, MI;
 Gary Morton, Kalamazoo, MI;
 Michael McKee, Aurora, IL;
 Tom Puvogel, Naperville, IL;
 Brian Bartley, Westmont, IL;
 Cas Cate, Batavia, IL;
 Greg Mack, Residence Not Provided;
 Kurt Dykema, Holland, MI;
 Brent Bouws, Holland, MI;
 Dennis A. Reed, Residence Not Provided;

Power of Attorney:

Ronald Tanis--22724	Brian Tumm--36328
Dale Thiel--24323	Mark Maki--36589
Sidney Williams Jr--24949	Liane Churney--40694
David Boutell--25072	Donald Wallace--43977
Terryence Chapman--32549	Steven Thiel--53685

If Required, Foreign Filing License Granted: 10/23/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is

US60/613,151**Projected Publication Date:** None, application is not eligible for pre-grant publication**Non-Publication Request:** No**Early Publication Request:** No**Title**

Ambulance cot and hydraulic elevating mechanism therefor

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier

license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

CONFIRMATION NO. 4731

FORMALITIES
 LETTER

30497
 FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI 49008-1631

Date Mailed: 09/07/2007

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The provisional application cover sheet under 37 CFR 1.51(c)(1), which may be an application data sheet (37 CFR 1.76), is required identifying:
 - either city and state, or city and foreign country, of the residence of each inventor.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.


 Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199

PART 3 - OFFICE COPY.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

CONFIRMATION NO. 4731

WITHDRAWAL
NOTICE

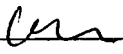
30497
FLYNN, THIEL, BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

Date Mailed: 09/07/2007

WITHDRAWAL OF PREVIOUSLY SENT NOTICE

The Notice mailed on 01/21/2005 was sent in error and is hereby withdrawn. A corrected Notice is enclosed. The time period for reply runs from the mail date of the corrected Notice. The Office regrets any inconvenience the error may have caused.

A copy of this notice MUST be returned with the reply.


Customer Service Center
Initial Patent Examination Division (571) 272-4000, or 1-800-PTO-9199
PART 3 - OFFICE COPY



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

30497
FLYNN, THIEL, BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

CONFIRMATION NO. 4731
WITHDRAWAL
NOTICE

Date Mailed: 09/07/2007

WITHDRAWAL OF PREVIOUSLY SENT NOTICE

The Notice mailed on 10/25/2004 was sent in error and is hereby withdrawn. A corrected Notice is enclosed. The time period for reply runs from the mail date of the corrected Notice. The Office regrets any inconvenience the error may have caused.

A copy of this notice MUST be returned with the reply.


Customer Service Center
Initial Patent Examination Division (571) 272-4000, or 1-800-PTO-9199
PART 3 - OFFICE COPY



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
60/613,151	09/24/2004		210	S*S 297		

CONFIRMATION NO. 4731

FILING RECEIPT

30497

FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI49008-1631

Date Mailed: 08/10/2007

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Cliff Lambarth, Portage, MI;
 Chad Souke, Kalamazoo, MI;
 Todd Gatto, Portage, MI;
 Josh Colvin, Paw Paw, MI;
 Jason Kneen, Mattawan, MI;
 Mike Steffler, Kalamazoo, MI;
 Chris Way, Kalamazoo, MI;
 Gary Morton, Kalamazoo, MI;
 Michael McKee, Aurora, IL;
 Tom Puvogel, Naperville, IL;
 Brian Bartley, Westmont, IL;
 Cas Cate, Batavia, IL;
 Kurt Dykema, Holland, MI;
 Brent Bouws, Holland, MI;
 Dennis A. Reed, Residence Not Provided;

Power of Attorney:

Ronald Tanis--22724	Brian Tumm--36328
Dale Thiel--24323	Mark Maki--36589
Sidney Williams Jr--24949	Liane Churney--40694
David Boutell--25072	Donald Wallace--43977
Terryence Chapman--32549	Steven Thiel--53685

If Required, Foreign Filing License Granted: 10/23/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is
US60/613,151

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

Title

Ambulance cot and hydraulic elevating mechanism therefor

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



JFW

PATENT APPLICATION
IN THE U.S. PATENT AND TRADEMARK OFFICE

May 25, 2007

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151

Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004

Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

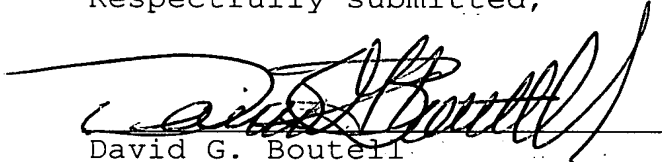
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATUS INQUIRY

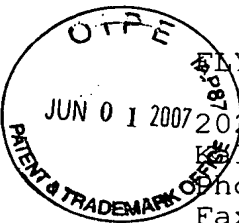
Sir:

Please advise the undersigned attorney of record of the status of the Request to Add Omitted Inventor Under 37 CFR §1.48; Request to Delete Erroneously Named Inventor Under 37 CFR §1.48; and Petition to Delete an Inventor in Provisional Application Under 37 CFR §1.183, sent to the USPTO on February 8, 2006. As of this date, we have not received any communication in this application. The undersigned notes that the afore-mentioned documents do appear in USPAIR. Please advise the undersigned as to the status of this application.

Respectfully submitted,


David G. Boutell

DGB/DJW/jas



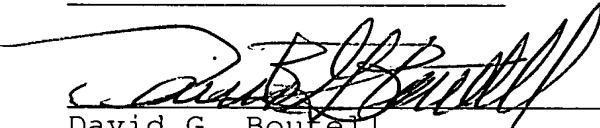
FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel	Reg. No. 24 323
David G. Boutell	Reg. No. 25 072
Terryence F. Chapman	Reg. No. 32 549
Mark L. Maki	Reg. No. 36 589
Liane L. Churney	Reg. No. 40 694
Brian R. Tumm	Reg. No. 36 328
Steven R. Thiel	Reg. No. 53 685
Donald J. Wallace	Reg. No. 43 977
Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: Copy of Returned Postal Cards
Postal Card

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 29, 2007.


David G. Boutell

Received the following: First Class Mail
Certificate; Request to Add Omitted Inventor
Under 37 CFR \$1.48; copy of Assignment and
recordal document; written consent of assignee
check (\$50.00)
Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR
Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



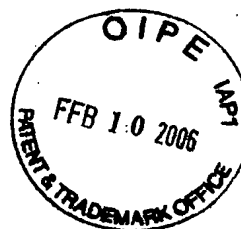
(00030080.DOC)

Received the following: First Class Mail
Certificate; Request to Delete Erroneously Named
Inventor Under 37 CFR \$1.48; statement of Warren
Guthrie; copy of assignment and recordal
document; written consent of assignee; check
(\$50.00)
Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR
Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



(00030083.DOC)

Received the following: First Class Mail Certificate;
Petition to Delete an Inventor in Provisional
Application Under 37 CFR \$1.183; copy of recorded
Assignments; consent of Stryker Corporation; Affidavit
of inventors Michael McKee, Thomas Puvogel and Brian
Bartley; letter dated June 16, 2005 to Casparus Cate
with receipt of delivery; letter dated July 27, 2005
to Casparus Cate; letter dated September 5, 2005 from
Casparus Cate; Check (\$400.00)
Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR
Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



ITZ



PATENT APPLICATION
IN THE U.S. PATENT AND TRADEMARK OFFICE

January 12, 2007

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151

Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004

Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATUS INQUIRY

Sir:

Please advise the undersigned attorney of record of the status of the Request to Add Omitted Inventor Under 37 CFR §1.48; Request to Delete Erroneously Named Inventor Under 37 CFR §1.48; and Petition to Delete an Inventor in Provisional Application Under 37 CFR §1.183, sent to the USPTO on February 8, 2006. As of this date, we have not received any communication in this application. The undersigned notes that the afore-mentioned documents do appear in USPAIR. Please advise the undersigned as to the status of this application.

Respectfully submitted,

David G. Boutell

DGB/DJW/jas

Serial No. 60/613 151 -- Page 2

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Terryence F. Chapman	Reg. No. 32 549
Kalamazoo, MI 49008-1631	Mark L. Maki	Reg. No. 36 589
Phone: (269) 381-1156	Liane L. Churney	Reg. No. 40 694
Fax: (269) 381-5465	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Donald J. Wallace	Reg. No. 43 977
	Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: Copy of Returned Postal Cards
Postal Card

CERTIFICATE OF MAILING

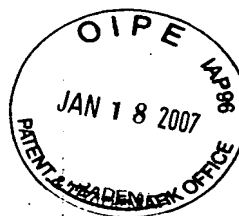
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on January 12, 2007.


David G. Boutell

EXHIBIT 1007 PAGE 0026
Received the following: First Class Mail
Certificate; Request to Add Omitted Inventor
Under 37 CFR \$1.48; copy of Assignment and
recordal document; written consent of assignee;
check (\$50.00)

Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR

Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



{00030080.DOC}

Received the following: First Class Mail
Certificate; Request to Delete Erroneously Named
Inventor Under 37 CFR \$1.48; statement of Warren
Guthrie; copy of assignment and recordal
document; written consent of assignee; check
(\$50.00)

Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR

Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



{00030083.DOC}

Received the following: First Class Mail Certificate;
Petition to Delete an Inventor in Provisional
Application Under 37 CFR \$1.183; copy of recorded
Assignments; consent of Stryker Corporation; Affidavit
of inventors Michael McKee, Thomas Puvogel and Brian
Bartley; letter dated June 16, 2005 to Casparus Cate
with receipt of delivery; letter dated July 27, 2005
to Casparus Cate; letter dated September 5, 2005 from
Casparus Cate; Check (\$400.00)

Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING
MECHANISM THEREFOR

Serial No.: 60/613 151
Confirmation No.: 4731
Filing Date: September 24, 2004
Examiner: Unknown
Group: Unknown
Our Ref: S*S 297
Due: N/A



{00030078.DOC}

DAC
JFW

PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

February 6, 2006

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed: September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date: N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION TO DELETE AN INVENTOR IN PROVISIONAL
APPLICATION UNDER 37 CFR §1.183**

Sir:

This is a petition under 37 CFR §1.183 to suspend the rules under 37 CFR §1.48(e) for deleting an inventor in a provisional application.

Background

The provisional application was filed with a listing of inventors representing the cooperation of employees of the Assignee, Stryker Corporation of Kalamazoo, Michigan (Stryker) and the employees of two vendor companies, Control Solutions, Inc. of Naperville, Illinois (CSI) and Twisthink, LLC of Holland, Michigan (Twisthink). Stryker enlisted the assistance of CSI and Twisthink for the development of the

system disclosed in the provisional application. For the purpose of filing the provisional application, each of the two vendors, CSI and Twistthink, provided a list of their personnel that were involved in the project. The application was filed listing those personnel, as well as Stryker personnel, as the inventors.

The above-captioned provisional application was filed without claims on September 24, 2004, and listed 16 inventors. Eight of the listed inventors were employees of Stryker, five of the listed inventors were employees of CSI and three of the listed inventors were employees of Twistthink. Subsequent to filing, named inventor Greg Mack, an employee of CSI, was deleted under the provisions of 37 CFR 1.48(e).

A non-provisional patent application was filed on June 30, 2005, claiming the benefit of the above-captioned non-provisional application. The non-provisional patent application names 15 inventors, ten of whom are employees of Stryker, three of whom are employees of CSI, and two of whom are employees of Twistthink.

During preparation of the non-provisional patent application, a further review of the listed inventors in the provisional application revealed that an additional CSI employee, Mr. Cas (Casparus) Cate, was erroneously listed as an inventor, as was Mr. Warren Guthrie, an employee of Twistthink. Messrs. Cate and Guthrie were therefore not listed as inventors in the non-provisional application. In addition, a Stryker employee, Mr. Dennis A. Reed, was discovered to have been omitted from the list of inventors in the provisional application. Mr. Reed was named as an inventor in the non-provisional patent application.

Erroneously named inventor Warren Guthrie of Twistthink, LLC, is the subject of a separate Request to Delete Erroneously Named Inventor under 37 CFR 1.48, which is being filed concurrently herewith under separate cover letter.

Likewise, a Request to Add Omitted inventor, namely Dennis A. Reed, an employee of Stryker Corporation, is also being filed concurrently herewith under separate cover letter.

Erroneously named inventor Cas Cate has not executed the statement required for submission in removing an erroneously named inventor under 37 CFR §1.48(e). For this reason, this petition under 37 CFR 1.183 is presented.

Purpose

The purpose of this petition is to aid in reconciling the list of named inventors in the provisional application with the subsequently filed non-provisional patent application and foreign national patent applications. More particularly, this petition requests the deletion of an erroneously named inventor, namely, Cas Cate, without the submission of all of the requirements of 37 CFR §1.48(e).

Discussion

Under the provisions of 37 CFR 1.48(e):

If a person or persons were named as an inventor or inventors in a provisional application through error without any deceptive intention on the part of such person or persons, an amendment may be filed in the provisional application deleting the name or names of the person or persons who were erroneously named. Amendment of the inventorship requires:

(1) A request to correct the inventorship that sets forth the desired inventorship change;

(2) A statement by the person or persons whose name or names are being deleted that the inventorship error occurred without deceptive intention on the part of such person or persons;

(3) The processing fee set forth in § 1.17(q); and

(4) If an assignment has been executed by any of the original named inventors, the written consent of the assignee.

In the instant case, the erroneously named inventor, Cas Cate, has declined to sign the statement under subparagraph (2) above that the inventorship error occurred without

deceptive intention on his part. Therefore, petitioners are hereby requesting a suspension of 37 CFR 1.48(e)(2), the requirement for a statement by the person or persons whose name or names are being deleted. In support of this petition, enclosed are the following:

Copy of the recorded assignments, resulting in assignment of the application to the Stryker Corporation;
Consent of the assignee Stryker Corporation;
Affidavit of the inventors Michael McKee, Thomas Puvogel and Brian Bartley;
Letter dated June 16, 2005 to the erroneously named inventor Casparus Cate with 37 CFR 1.48 statement, and receipt of delivery;
Letter dated July 27, 2005 to Casparus Cate soliciting evidence of inventorship;
Letter dated September 5, 2005 from Casparus Cate to David Boutell;
The fee of \$400.00 required under 37 CFR \$1.17(f)

In support of the assertion that Mr. Cate was erroneously named as an inventor in the subject provisional patent application, an affidavit has been executed by the properly named inventors associated with CSI, Michael McKee, President of CSI, and Thomas Puvogel and Brian Bartley, employees of CSI. In the attached affidavit, they assert that they have reviewed the specification, claims and drawings of the subject application, that the novel subject matter disclosed and claimed in the application that is attributable to employees or affiliates of CSI is attributable to them, and that no portion thereof is attributable to Casparus Cate, a former employee of CSI, and that any work performed by Casparus Cate related thereto was solely under the direction of Messrs. McKee, Puvogel and Bartley.

During the cooperative development program prior to the filing of the provisional application, no inventors from Stryker Corporation or Twistthink, LLC had contact directly with Mr. Cate. Only the other inventors affiliated with CSI

had contact with Mr. Cate and can attest to his involvement in the project or any potential contribution to the inventive concepts contained in the patent application. As stated above, the inventors affiliated with CSI have attested that Mr. Cate worked solely under their direction, and that no portion of the novel subject matter is attributable to him.

In light of the affidavit of the CSI inventors, Mr. Cate was provided the opportunity to properly execute a statement that he was erroneously named as an inventor, and that the error was without deceptive intent on his part. This statement was provided to him by a letter dated June 16, 2005. A copy of the letter and the return receipt are attached.

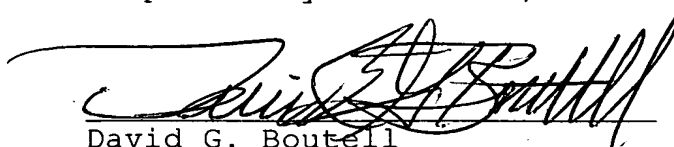
During an interim telephone conversation with the undersigned, Mr. Cate asserted a desire to provide a listing of concepts to which he contributed during the project. He was further invited to provide said list by a letter dated July 27, 2005, attached. Instead, Mr. Cate responded with his letter dated September 5, 2005, attached, wherein he has asserted that he requires that all "non-Stryker inventors provide...a statement of contributions" and have the statements evaluated by a third party.

Any such "third party review" of each inventor's statement of inventive contribution would be problematic at the least, and certainly an inappropriate disclosure of Stryker's confidential information. Mr. Cate's former employer and former coworkers have asserted that Mr. Cate performed work under their direction. His inclusion as a named inventor was inadvertent and an unfortunate error in both procedure and fact. Now that Mr. Cate has been discharged by his former employer, he has made demands that and set conditions that are unreasonable and inappropriate in light of the affidavit of his former employer and coworkers.

Conclusion

In light of the facts and discussion presented above, a suspension of the rules, specifically 37 CFR §1.48(e)(2), and amendment of the provisional application to remove the erroneously named inventor, Cas Cate, is respectfully solicited.

Respectfully submitted,



David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1631	Terryence F. Chapman	Reg. No. 32 549
Phone: (269) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (269) 381-5465	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Donald J. Wallace	Reg. No. 43 977
	Kevin L. Pontius	Reg. No. 37 512
	Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: Copy of recorded assignments
 Consent of assignee Stryker Corporation
 Affidavit of inventors Michael McKee, Thomas Puvogel and Brian Bartley
 Letter dated June 16, 2005 to the erroneously named inventor Casparus Cate with 37 CFR 1.48 statement, and receipt of delivery
 Letter dated July 27, 2005 to Casparus Cate soliciting evidence of inventorship
 Letter dated September 5, 2005 from Casparus Cate to David Boutell
 Fee of \$400.00 required under 37 CFR §1.17(f)
 Postcard

110.0703



IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

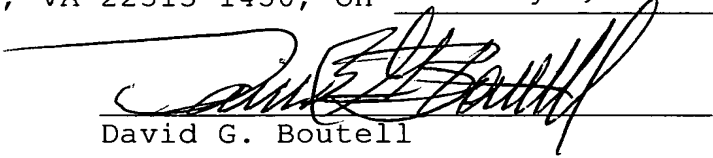
Serial No. : 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed : September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date : N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

FIRST CLASS MAILING CERTIFICATE

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service under 37 CFR 1.8 as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 8, 2006.


David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1631	Terryence F. Chapman	Reg. No. 32 549
Phone: (269) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (269) 381-5465	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Donald J. Wallace	Reg. No. 43 977
	Kevin L. Pontius	Reg. No. 37 512
	Sidney B. Williams, Jr.	Reg. No. 24 949

Correspondence: Petition to Delete an Inventor in Provisional Application Under 37 CFR §1.183 including enclosures thereon

190.05/05

**UNITED STATES PATENT AND TRADEMARK OFFICE**UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JANUARY 31, 2006

PTAS

500074743A***500074743A***DONALD J. WALLACE
2026 RAMBLING ROAD
KALAMAZOO, MI 49008UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 01/31/2006

REEL/FRAME: 017096/0122
NUMBER OF PAGES: 12BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 3007.P0297USASSIGNOR:
CONTROL SOLUTIONS, INCORPORATED

DOC DATE: 06/24/2005

ASSIGNOR:
TWISTHINK, L.L.C.

DOC DATE: 07/26/2005

ASSIGNOR:
LAMBARTH, CLIFFORD E.

DOC DATE: 06/24/2005

ASSIGNOR:
SOUKE, CHAD

DOC DATE: 06/24/2005

ASSIGNOR:
GATTO, TODD

DOC DATE: 06/28/2005

017096/0122 PAGE 2

ASSIGNOR:
COLVIN, JOSHUA C.

DOC DATE: 06/24/2005

ASSIGNOR:
KNEEN, JASON

DOC DATE: 06/24/2005

ASSIGNOR:
STEFFLER, MICHAEL W.

DOC DATE: 06/24/2005

ASSIGNOR:
WAY, CHRISTOPHER B.

DOC DATE: 06/24/2005

ASSIGNOR:
MORTON, GARY

DOC DATE: 06/24/2005

ASSIGNOR:
REED, DENNIS A.

DOC DATE: 06/24/2005

ASSIGNEE:
STRYKER CORPORATION
2725 FAIRFIELD ROAD, P.O. BOX 4085
KALAMAZOO, MICHIGAN 49003-4085

SERIAL NUMBER: 60613151

FILING DATE: 09/24/2004

PATENT NUMBER:

ISSUE DATE:

TITLE: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

THERESA FREDERICK, EXAMINER
ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017062, Frame 0552, on 1/25/2006, TWISTHINK, L.L.C. having a place of business at 130 Central Ave., Suite 400, Holland, MI 49423 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and CONTROL SOLUTIONS, INCORPORATED of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said

Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this

26 day of JULY, 2005, at _____.

TWISTHINK, L.L.C.

By

R. J. N.
R. J. NIEWMIEC / W. PARTNER
 Type/Print Name and Title

STATE OF Michigan) ss.
 COUNTY OF Ottawa)

On this 26 day of July, 2005, personally appeared before me the above-named R. J. Niewmiec, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

GORDON STANNIS
 Notary Public

SEAL

June 17, 2011.
 My Commission expires

ASSIGNMENT.

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017085, Frame 0482, on 1/25/2006, CONTROL SOLUTIONS, INCORPORATED having a place of business at 508 W. 5th Ave., Naperville, IL 60563 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and TWISTHINK, L.L.C. of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole

(00000674.DOC)

use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this 24th day of June, 2005, at _____.

CONTROL SOLUTIONS, INCORPORATED

By _____

MICHAEL MCKEE / PRESIDENT
Type/Print Name and Title

STATE OF IL)
) ss.
COUNTY OF Cook)

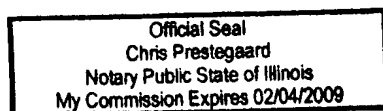
On this 24th day of June, 2005, personally appeared before me the above-named _____, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Chris Prestegaard
Notary Public

2-4-09

My Commission expires _____

SEAL



{00000674.DOC}

ASSIGNMENT

WHEREAS, we, (1) Clifford E. LAMBARTH, (2) Chad SOUKE, (3) Todd GATTO, (4) Joshua C. COLVIN, (5) Jason KNEEN, (6) Michael W. STEFFLER, (7) Christopher B. WAY, (8) Gary MORTON, and (9) Dennis A. Reed

hereinafter called "ASSIGNORS", residing at

- (1) 10613 S. Westnedge Ave., Portage, MI 49002;
- (2) 8112 Land O Lakes Drive, Kalamazoo, MI 49048;
- (3) 5160 Chasemoor Court, Portage, MI 49024;
- (4) 54101 Ridgeview Circle, Paw Paw, MI 49079;
- (5) 24552 Wren Avenue, Mattawan, MI 49071
- (6) 2508 Glenwood Drive, Kalamazoo, MI 49008
- (7) 184 W. Crooked Lake Drive, Kalamazoo, MI 49009;
- (8) 5933 Rolling Pines Court, Kalamazoo, MI 49009;
- (9) 9631 South Westnedge, Portage, MI 49002

are joint inventors with, Michael MCKEE, Thomas A. PUVOGEL, Brian BARTLEY, Kurt DYKEMA, and Brent BOUWS,

and have invented certain new and useful improvements in

AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

for which a Provisional Application was filed in the United States Patent and Trademark Office on September 24, 2004, receiving Serial No. 60/613 151.

WHEREAS, Stryker Corporation hereinafter called "ASSIGNEE", a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085,

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to us in hand paid, the receipt whereof is hereby acknowledged, and other valuable consideration, we the ASSIGNORS have sold, assigned and transferred, and by these presents do sell, assign and transfer unto said ASSIGNEE the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

We hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and assigns.

FURTHER, we agree that we will communicate to said ASSIGNEE or its representatives any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and

reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths or declarations, and generally cooperate with said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day of JUNE, 2005.

Signed: Clifford E. Lambarth
Clifford E. LAMBARTH

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Clifford E. LAMBARTH, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public

SEAL

7-28-07
My Commission expires

* * * * *

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day of June, 2005.

Signed: Chad Souke
Chad SOUKE

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Chad SOUKE, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public

SEAL

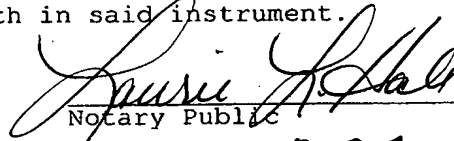
7-28-07
My Commission expires

28 IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: 
Todd GATTO

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

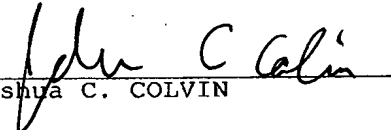
On this 28 day of June, 2005, personally
appeared before me the above-named Todd GATTO, to me known and known
to me to be the person described in and who executed the foregoing
instrument and acknowledged the same to be his free act and deed in
and for the purposes set forth in said instrument.


Notary Public
7-28-07
My Commission expires

SEAL

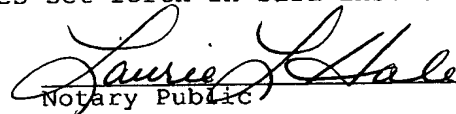
* * * * *

24th IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: 
Joshua C. COLVIN

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Joshua C. COLVIN, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public
7-28-07
My Commission expires

SEAL

* * * * *

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of JUNE, 2005.

Signed: Jason Kneen
 Jason KNEEN

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
 appeared before me the above-named Jason KNEEN, to me known and
 known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
 Notary Public
7-28-07
 My Commission expires

SEAL

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of June, 2005.

Signed: Michael W. Steffler
 Michael W. STEFFLER

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

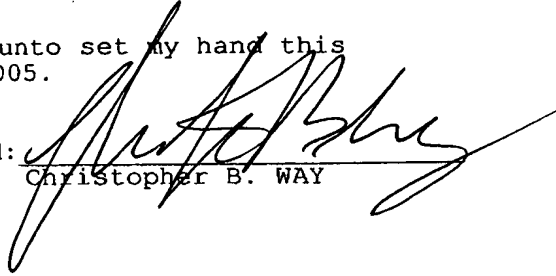
On this 24 day of June, 2005, personally
 appeared before me the above-named Michael W. STEFFLER, to me known
 and known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
 Notary Public
7-28-07
 My Commission expires

SEAL

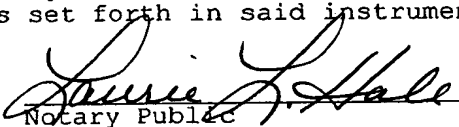
* * * * *

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of JUNE, 2005.

Signed: 
 Christopher B. WAY

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

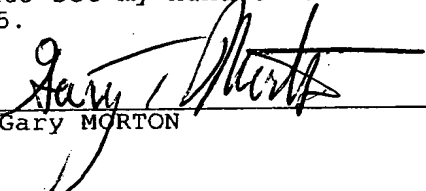
On this 24 day of June, 2005, personally
 appeared before me the above-named Christopher B. WAY, to me known
 and known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.


 Notary Public

SEAL

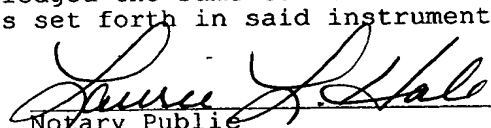
7-28-07
 My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24th day of June, 2005.

Signed: 
 Gary MORTON

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

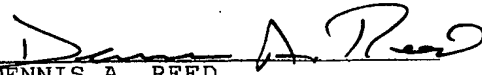
On this 24 day of June, 2005, personally
 appeared before me the above-named Gary MORTON, to me known and
 known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.


 Notary Public

SEAL

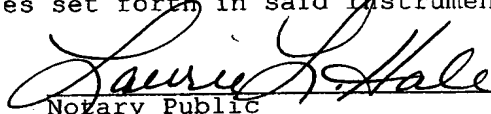
7-28-07
 My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day
of JUNE, 2005.

Signed: 
DENNIS A. REED

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Dennis A. REED, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

7-28-07
My Commission expires

ASSIGNEE CONSENT TO REMOVE INVENTOR AND
STATEMENT UNDER 37 CFR §3.73(b)

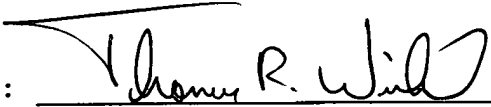
Stryker Corporation, a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, Michigan 49003-4085, hereby states that it is the Assignee of the entire right, title, and interest in and to U.S. Provisional Application Serial No. 60/613 151, entitled Ambulance Cot and Hydraulic Elevating Mechanism Therefor, by virtue of Assignments recorded in the United States Patent and Trademark Office at Reel 017096, Frame 0122, for which a copy thereof is attached.

The Assignee hereby consents to and requests that the inventorship for U.S. Provisional Application Serial No. 60/613 151 be amended to remove Casparus Cate, a citizen of the United States.

The undersigned is authorized to act on behalf of the Assignee.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

By:


Thomas R. Winkel, Vice President
of Administration and Secretary

Date:

2/3/2006

Encl.: Copy of Assignment recorded at
Reel 017096, Frame 0122

AFFIDAVIT

We the undersigned, Michael McKEE, Thomas A. PUVOGEL, and Brian BARTLEY, affiliated with Control Solutions, Inc. of Naperville, Illinois, attest that we have reviewed the specification, claims and drawings of the U.S. Patent Application entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR, which patent application we have executed on even date herewith, and as a result of our review, and by our own knowledge, we affirm that the novel subject matter disclosed and claimed in the aforesaid patent application that is attributable to employees or affiliates of Control Solutions, Inc. is attributable to the undersigned as inventors of said novel subject matter or in conjunction with inventor/employees of Stryker Corporation, that no portion thereof is attributable to former Control Solutions, Inc. employee Casparus Cate, and that any work performed by Casparus Cate related thereto was solely under the direction of the undersigned.

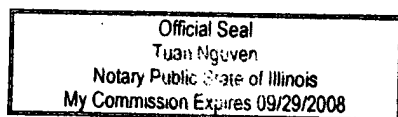

Michael McKEE

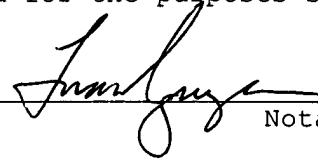

Thomas A. PUVOGEL


Brian BARTLEY

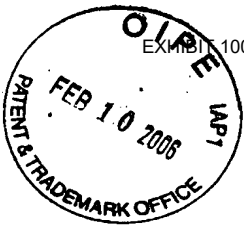
STATE OF Illinois)
) ss.:
COUNTY OF Will)

On this 16 day of June, 2005, personally appeared before me the above-named Michael McKEE, Thomas A. PUVOGEL and Brian BARTLEY, each to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.




Notary Public
9/29/08
My Commission Expires

SEAL



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Casparus Cate
22 South Barton Trail
Batavia, Illinois 60510

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) B. Date of Delivery

Nicole Leigh

6/21/05

C. Signature

☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Certified Mail ☒ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number (Copy from service label)

EV 361240060 US

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952

UNITED STATES POSTAL SERVICE

First Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

JUN 21 2005

• Sender: Please print your name, address, and ZIP+4 in this box •

FLYNN, THIEL, BOUTELL & TANIS, P.C.

2026 Rambling Road

Kalamazoo, MI 49008-0681

TFC _____ MLM _____ LLC _____

BRT _____ SRT _____ SBW _____

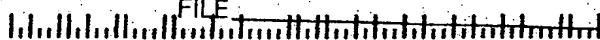
JUN 23 2005

S*S 315

DJW _____ PMG _____ GMS _____

KC _____ CMC _____ TLH _____

FILE





FLYNN, THIEL, BOUTELL & TANIS, P.C.

Dale H. Thiel
David G. Boutell
Ronald J. Tanis
Terryence F. Chapman
Mark L. Maki
Liane L. Churney

Patent and Trademark Law
2026 Rambling Road
Kalamazoo, MI 49008-1631

Telephone: 269-381-1156
Facsimile: 269-381-5465

E-Mail: mail@flynnthiel.com

Brian R. Tumm
Steven R. Thiel
Donald J. Wallace

Sidney B. Williams, Jr.
Of Counsel

June 16, 2005

EXPRESS MAIL
RETURN RECEIPT REQUESTED

Casparus Cate
22 South Barton Trail
Batavia, Illinois 60510

RE: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR
U.S. Provisional Appln. Serial No. 60/613 151
Our Ref: S*S Case 315

Dear Mr. Cate:

It is our understanding that you were named as an inventor in the above-referenced provisional application in error. In order to correct the records of the U.S. Patent and Trademark Office, you are required to complete a statement, enclosed, that indicates that your inclusion occurred without deceptive intention on your part.

More specifically, it is our understanding that our client, Stryker Corporation, requested of your former employer the names of all personnel who "worked on the project", rather than specifying those that "contributed novel (patentable) subject matter". We do not wish to downplay your work on the project, but do need to ensure that we have listed the correct inventors for the "claimed" (or inventive) subject matter in the ongoing patent application. At the time that this issue arose, the claims (or inventions) had not yet been identified. Now that they have been identified, you are now to be excluded as an inventor.

Please sign the enclosed statement and return it to us in the postpaid envelope provided. If you have any questions, please direct them to myself or Mr. McKee of Control Solutions.

FLYNN, THIEL, BOUTELL & TANIS, P.C.

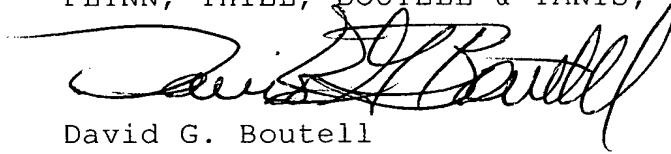
Mr. Casparus Cate
Our Ref: S*S Case 315

June 16, 2005
Page 2

Your cooperation is expected. If you wish to discuss the details of the issue of inventorship, please let me know and I will make myself available.

Yours very truly,

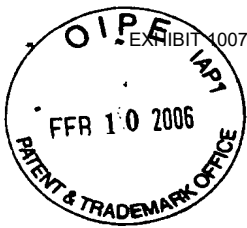
FLYNN, THIEL, BOUTELL & TANIS, P.C.

A handwritten signature in black ink, appearing to read "David G. Boutell", is written over the typed name.

David G. Boutell

DGB/DJW/jas

Encl: Statement by Erroneously-Named Inventor



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

June 14, 2005

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed: September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date: N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT BY ERRONEOUSLY-NAMED INVENTOR

I, Casparus (Cas) Cate, hereby state that I was erroneously named as an inventor on U.S. Provisional Application No. 60/613 151 filed September 24, 2004, and that this error in inventorship occurred without deceptive intention on my part.

Casparus Cate

Date



FLYNN, THIEL, BOUTELL & TANIS, P.C.

Dale H. Thiel
David G. Boutell
Ronald J. Tanis
Terryence F. Chapman
Mark L. Maki
Liane L. Churney

Patent and Trademark Law
2026 Rambling Road
Kalamazoo, MI 49008-1631

Telephone: 269-381-1156
Facsimile: 269-381-5465

E-Mail: mail@flynnthiel.com

Brian R. Tumm
Steven R. Thiel
Donald J. Wallace
Kevin L. Pontius*

*Maryland & Virginia only

Sidney B. Williams, Jr.
Of Counsel

July 27, 2005

Mr. Casparus Cate
22 South Barton Trail
Batavia, Illinois 60510

Re: AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR
New U.S.A. Patent Application
(Corres. to U.S. Provisional Appln. No.
60/613 151, filed September 24, 2004)
Our Ref: 3007.P0315US

Dear Mr. Cate:

This letter is admittedly a belated response to your telephone call to me on June 24, 2005 and in response to my letter to you dated June 16, 2005, and for which I apologize.

In order for me to further evaluate the issue of your involvement as an inventor in the above referenced Stryker patent application, I need to have from you a written statement concerning your specific contribution(s) to the ambulance cot project while you were employed at Control Solutions, Inc. As you know from my previous letter, Mr. McKee has asserted to me that all of your involvement in the project was at his direction. If you are of the opinion that his assertions to me were incorrect, please identify for me in writing what it is that you contributed to the project so that I can review the matter with Mr. McKee.

If you are deemed to be an inventor, I want you listed as an inventor. If you are not deemed to be an inventor, then it is appropriate for you to sign the Statement enclosed with my previous letter to you.

I look forward to receiving your reply.

Yours very truly,
FLYNN, THIEL, BOUTELL & TANIS, P.C.

DGB/kc

David G. Boutell

Encl: None

cc: Mr. Mike McKee }
Control Solutions, Inc. } via e-mail
Encl: None }

{00008084.DOC}

Casparus Cate
 22 S. Barton Trail
 Batavia, IL 60510
 Tel: 630.234.4570
 Fax: 630.406.6993
casparus@comcast.net

DHT _____ DGB _____ RJT _____
 TFC _____ MLM _____ LLC _____
 BRT _____ SRT _____ SBW _____

SEP 06 2005

DJW _____ KLP _____ PMG _____
 GMS _____ CMC _____ TLH _____
 FILE _____

David G. Boutell
 Flynn, Thiel, Boutell & Tanis, P.C.
 2026 Rambling Road
 Kalamazoo, MI 49008-1631
 Tel: 269.381.1156
 Fax: 269.381.5465

Re: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM

September 5, 2005

David,

I've received your response to our telephone conversation, and obvious subsequent review of the inventorship dilemma between Stryker Medical, Control Solutions, Inc. and myself.

One interesting part of our conversation was the mention of other individuals, namely Thomas Puvogel in the patent application listed as an inventor. Mr. Puvogel was not employed by Control Solutions, Inc. until well after the initial conception and development of the Ambulance Cot Lift and Loading Mechanism for the Ambulance were detailed. When he was involved, it was as a Project Manager role for Control Solutions, and not as an Engineer. Therefore, Mr. McKee's assertion that I acted only at his direction is confusing in contrast with the remainder of the parties' inclusion in the said patent.

Because any listing of my contributions would reference intellectual contributions that may not hitherto have been disclosed or implemented by Stryker Medical in the said patent application, I cannot formulate such a written statement without a few provisions. I like your proposed statement-review method, but may I suggest the following additions or similar course of action?

Having a statement is empirical, but it would be nice to also have a more equally weighted method for determining inventorship. It would be convenient if the other non-Stryker inventors had not been granted access to the patent claims.

1) Have the non-Stryker inventors provide you with a statement of contributions, as you request from me. If you can obtain and review such unaided statements from these parties, I will supply an escrowed statement of all my contributions.

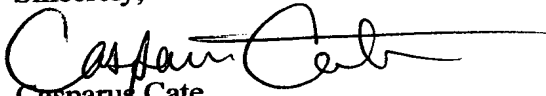
2.) We should make provisions, objectively, to have these saved statements evaluated by a third party, as to not disclose any intellectual contributions made that are not contained in the original submission. This objective third party will decide if each individual made a tangible and knowledgeable contribution to the patent application, using their statements and a copy of all the claims. We can talk about what to do with unimplemented claims should they manifest in the statements.

Because your firm has obviously reviewed the claims and is retained by Stryker, I prefer a third party. Like you proposed, if the comparison shows that I am not an inventor, then I will sign the Statement enclosed with your original letter to me.

Being listed as an inventor is a serious matter, and as I understand, listing individuals who did not make a contribution, as well as not listing inventors, especially because of deceptive intent, will invalidate the patent and remove the barrier to Stryker's competition, allowing them to appropriate the elements of Stryker's claim.

Please let me know what you think about a fair and indiscriminate determination technique of invention contribution. I am also open to other approaches to help Stryker secure their patent. I hope you appreciate my serious respect for our United States Patent Office, and understand why this letter does not contain the list of contributions that you requested.

Sincerely,


Casparus Cate



IFW

PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

February 6, 2006

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151

Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004

Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**REQUEST TO ADD OMITTED INVENTOR UNDER 37 CFR §1.48**

Sir:

This is a request to add an omitted inventor in the above-captioned provisional application, in accordance with 37 CFR §1.48(d). Please add the following omitted inventor:

Dennis A. Reed

The inventorship error occurred without deceptive intention on the part of the omitted inventor. In further support of this request, the following documents are appended hereto:

02/13/2006 WASFAW1 00000011 60613151

01 FC:1807

50.00 OP

- The processing fee of \$50 as forth in 37 CFR \$1.17(q);
and
- An assignment having been executed, a copy of the
recorded assignment and the written consent of the
assignee to add the omitted inventor.

Favorable consideration of this request and issuance of a
corrected filing receipt is courteously solicited.

Respectfully submitted,


David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel	Reg. No. 24 323
David G. Boutell	Reg. No. 25 072
Ronald J. Tanis	Reg. No. 22 724
Terryence F. Chapman	Reg. No. 32 549
Mark L. Maki	Reg. No. 36 589
Liane L. Churney	Reg. No. 40 694
Brian R. Tumm	Reg. No. 36 328
Steven R. Thiel	Reg. No. 53 685
Donald J. Wallace	Reg. No. 43 977
Kevin L. Pontius	Reg. No. 37 512
Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: A copy of the Assignment, recordal document and
written consent of assignee
Check for \$50 for the processing fee
Postcard

110.0703



IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): Cliff LAMBARTH et al
Title : AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

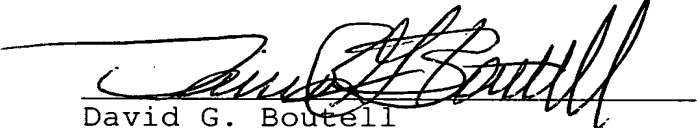
Serial No. : 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed : September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date : N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

FIRST CLASS MAILING CERTIFICATE

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service under 37 CFR 1.8 as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 8, 2006.


David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1631	Terryence F. Chapman	Reg. No. 32 549
Phone: (269) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (269) 381-5465	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Donald J. Wallace	Reg. No. 43 977
	Kevin L. Pontius	Reg. No. 37 512
	Sidney B. Williams, Jr.	Reg. No. 24 949

Correspondence: Request to Add Omitted Inventor Under 37 CFR §1.48
including enclosures listed thereon

190.05/05



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

February 6, 2006

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151

Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004

Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**REQUEST TO ADD OMITTED INVENTOR UNDER 37 CFR §1.48**

Sir:

This is a request to add an omitted inventor in the above-captioned provisional application, in accordance with 37 CFR §1.48(d). Please add the following omitted inventor:

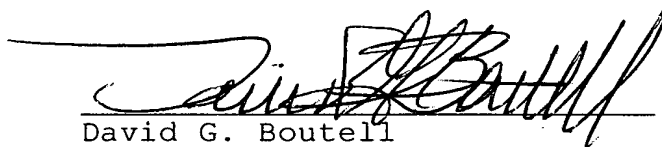
Dennis A. Reed

The inventorship error occurred without deceptive intention on the part of the omitted inventor. In further support of this request, the following documents are appended hereto:

- The processing fee of \$50 as forth in 37 CFR \$1.17(q);
and
- An assignment having been executed, a copy of the
recorded assignment and the written consent of the
assignee to add the omitted inventor.

Favorable consideration of this request and issuance of a
corrected filing receipt is courteously solicited.

Respectfully submitted,



David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel	Reg. No. 24 323
David G. Boutell	Reg. No. 25 072
Ronald J. Tanis	Reg. No. 22 724
Terryence F. Chapman	Reg. No. 32 549
Mark L. Maki	Reg. No. 36 589
Liane L. Churney	Reg. No. 40 694
Brian R. Tumm	Reg. No. 36 328
Steven R. Thiel	Reg. No. 53 685
Donald J. Wallace	Reg. No. 43 977
Kevin L. Pontius	Reg. No. 37 512
Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: A copy of the Assignment, recordal document and
written consent of assignee
Check for \$50 for the processing fee
Postcard

110.0703



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JANUARY 31, 2006

PTAS

500074743A

500074743A

DONALD J. WALLACE
2026 RAMBLING ROAD
KALAMAZOO, MI 49008

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 01/31/2006

REEL/FRAME: 017096/0122
NUMBER OF PAGES: 12

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 3007.P0297US

ASSIGNOR:
CONTROL SOLUTIONS, INCORPORATED

DOC DATE: 06/24/2005

ASSIGNOR:
TWISTHINK, L.L.C.

DOC DATE: 07/26/2005

ASSIGNOR:
LAMBARTH, CLIFFORD E.

DOC DATE: 06/24/2005

ASSIGNOR:
SOUKE, CHAD

DOC DATE: 06/24/2005

ASSIGNOR:
GATTO, TODD

DOC DATE: 06/28/2005

RightFax

1/31/06 7:52

PAGE 003/005

Fax Server

017096/0122 PAGE 2

ASSIGNOR:
COLVIN, JOSHUA C.

DOC DATE: 06/24/2005

ASSIGNOR:
KNEEN, JASON

DOC DATE: 06/24/2005

ASSIGNOR:
STEFFLER, MICHAEL W.

DOC DATE: 06/24/2005

ASSIGNOR:
WAY, CHRISTOPHER B.

DOC DATE: 06/24/2005

ASSIGNOR:
MORTON, GARY

DOC DATE: 06/24/2005

ASSIGNOR:
REED, DENNIS A.

DOC DATE: 06/24/2005

ASSIGNEE:
STRYKER CORPORATION
2725 FAIRFIELD ROAD, P.O. BOX 4085
KALAMAZOO, MICHIGAN 49003-4085

SERIAL NUMBER: 60613151

FILING DATE: 09/24/2004

PATENT NUMBER:

ISSUE DATE:

TITLE: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

THERESA FREDERICK, EXAMINER
ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017062, Frame 0552, on 1/25/2006, TWISTHINK, L.L.C. having a place of business at 130 Central Ave., Suite 400, Holland, MI 49423 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and CONTROL SOLUTIONS, INCORPORATED of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said

Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this

26 day of JULY, 2005, at _____.

TWISTHINK, L.L.C.

By

R. J. NIEBIEC / M. PARTNER
Type Print Name and Title

STATE OF Michigan) ss.
COUNTY OF Ottawa)

On this 26 day of JULY, 2005, personally appeared before me the above-named R. J. Niebiec, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

GORDON STANNIS
Notary Public

SEAL

June 17, 2011
My Commission expires

ASSIGNMENT.

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017085, Frame 0482, on 1/25/2006, CONTROL SOLUTIONS, INCORPORATED having a place of business at 508 W. 5th Ave., Naperville, IL 60563 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and TWISTHINK, L.L.C. of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole

use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this 24th day of June, 2005, at _____.

CONTROL SOLUTIONS, INCORPORATED

By _____

MICHAEL MCKEE / PRESIDENT
Type/Print Name and Title

STATE OF IL

COUNTY OF Cook

)
) ss.
)

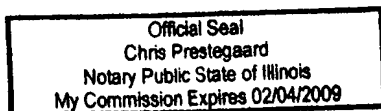
On this 24th day of June, 2005, personally appeared before me the above-named _____, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Chris Prestegaard
Notary Public

2-4-09

My Commission expires _____

SEAL



{00000674.DOC}

ASSIGNMENT

WHEREAS, we, (1) Clifford E. LAMBARTH, (2) Chad SOUKE, (3) Todd GATTO, (4) Joshua C. COLVIN, (5) Jason KNEEN, (6) Michael W. STEFFLER, (7) Christopher B. WAY, (8) Gary MORTON, and (9) Dennis A. Reed

hereinafter called "ASSIGNORS", residing at

- (1) 10613 S. Westnedge Ave., Portage, MI 49002;
- (2) 8112 Land O Lakes Drive, Kalamazoo, MI 49048;
- (3) 5160 Chasemoor Court, Portage, MI 49024;
- (4) 54101 Ridgeview Circle, Paw Paw, MI 49079;
- (5) 24552 Wren Avenue, Mattawan, MI 49071
- (6) 2508 Glenwood Drive, Kalamazoo, MI 49008
- (7) 184 W. Crooked Lake Drive, Kalamazoo, MI 49009;
- (8) 5933 Rolling Pines Court, Kalamazoo, MI 49009;
- (9) 9631 South Westnedge, Portage, MI 49002

are joint inventors with, Michael MCKEE, Thomas A. PUVOGEL, Brian BARTLEY, Kurt DYKEMA, and Brent BOUWS,

and have invented certain new and useful improvements in

AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

for which a Provisional Application was filed in the United States Patent and Trademark Office on September 24, 2004, receiving Serial No. 60/613 151.

WHEREAS, Stryker Corporation hereinafter called "ASSIGNEE", a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085,

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to us in hand paid, the receipt whereof is hereby acknowledged, and other valuable consideration, we the ASSIGNORS have sold, assigned and transferred, and by these presents do sell, assign and transfer unto said ASSIGNEE the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

We hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and assigns.

FURTHER, we agree that we will communicate to said ASSIGNEE or its representatives any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and

reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths or declarations, and generally cooperate with said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of JUNE, 2005.

Signed: Clifford E. Lambarth
 Clifford E. LAMBARTH

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Clifford E. LAMBARTH, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

* * * * *

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of June, 2005.

Signed: Chad Souke
 Chad SOUKE

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Chad SOUKE, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

28 IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: Todd Gatto

Todd GATTO

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

On this 28 day of June, 2005, personally
appeared before me the above-named Todd GATTO, to me known and known
to me to be the person described in and who executed the foregoing
instrument and acknowledged the same to be his free act and deed in
and for the purposes set forth in said instrument.

Laurie A. Hale
Notary Public

SEAL

7-28-07

My Commission expires

* * * * *

24th IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: Joshua C. Colvin

Joshua C. COLVIN

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Joshua C. COLVIN, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.

Laurie A. Hale
Notary Public

SEAL

7-28-07

My Commission expires

* * * * *

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of JUNE, 2005.

Signed: Jason Kneen
 Jason KNEEN

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
 appeared before me the above-named Jason KNEEN, to me known and
 known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

Laurie S. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of June, 2005.

Signed: Michael W. Steffler
 Michael W. STEFFLER

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
 appeared before me the above-named Michael W. STEFFLER, to me known
 and known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

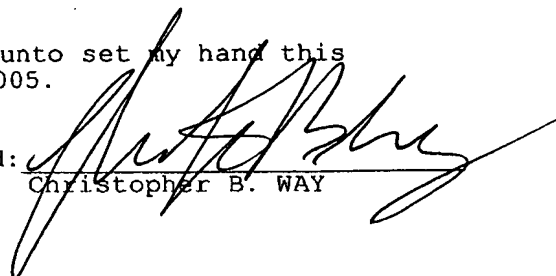
Laurie S. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

* * * * *

24 IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of JUNE, 2005.

Signed: 

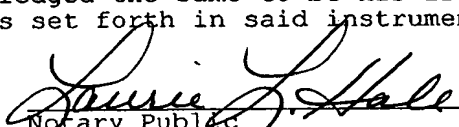
Christopher B. WAY

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

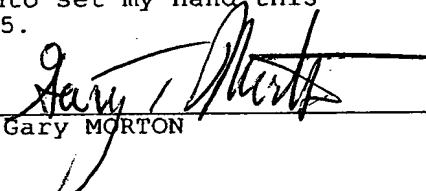
On this 24 day of June, 2005, personally
appeared before me the above-named Christopher B. WAY, to me known
and known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

7-28-07
My Commission expires

24th IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: 

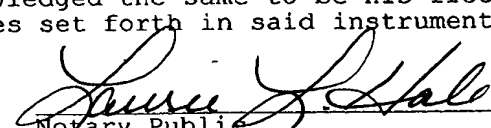
Gary MORTON

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

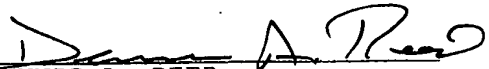
On this 24 day of June, 2005, personally
appeared before me the above-named Gary MORTON, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

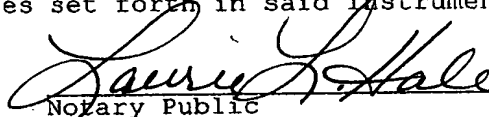
7-28-07
My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day
of JUNE, 2005.

Signed: 
DENNIS A. REED

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Dennis A. REED, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

7-28-07
My Commission expires

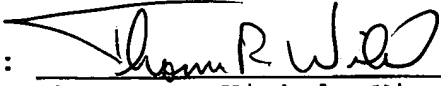
ASSIGNEE CONSENT TO INCLUDE INVENTOR AND
STATEMENT UNDER 37 CFR §3.73(b)

Stryker Corporation, a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, Michigan 49003-4085, hereby states that it is the Assignee of the entire right, title, and interest in and to U.S. Provisional Application Serial No. 60/613 151, entitled Ambulance Cot and Hydraulic Elevating Mechanism Therefor, by virtue of Assignments recorded in the United States Patent and Trademark Office at Reel 017096, Frame 0122, for which a copy thereof is attached.

The Assignee hereby consents to and requests that the inventorship for U.S. Provisional Application Serial No. 60/613 151 be amended to include Dennis A. Reed, a citizen of the United States.

The undersigned is authorized to act on behalf of the Assignee.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

By: 

Thomas R. Winkel, Vice President
of Administration and Secretary

Date: 2/3/2006

Encl.: Copy of Assignment recorded at
Reel 017096, Frame 0122



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

February 3, 2006

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed: September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date: N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**REQUEST TO DELETE ERRONEOUSLY NAMED INVENTOR
UNDER 37 CFR §1.48**

Sir:

This is a request to delete an erroneously named inventor in the above-captioned provisional application, in accordance with 37 CFR §1.48(e). Please delete the following erroneously named inventor:

Warren Guthrie

In support of this request, the following documents are appended hereto:

-A statement by the person whose name is being deleted (Warren Guthrie) that the inventorship error occurred without deceptive intention on his part;

02/13/2006 WASFAW1 00000010 60613151

01 FC:1807

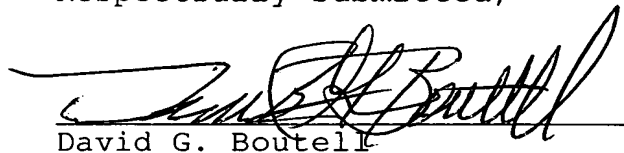
50.00 OP

-The processing fee of \$50 as forth in 37 CFR \$1.17(q);
and

-An assignment having been executed, a copy of the
recorded assignment and the written consent of the
assignee to delete the erroneously named inventor.

Favorable consideration of this request and issuance of a
corrected filing receipt is courteously solicited.

Respectfully submitted,



David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel
David G. Boutell
Ronald J. Tanis
Terryence F. Chapman
Mark L. Maki
Liane L. Churney
Brian R. Tumm
Steven R. Thiel
Donald J. Wallace
Kevin L. Pontius
Sidney B. Williams, Jr.

Reg. No. 24 323
Reg. No. 25 072
Reg. No. 22 724
Reg. No. 32 549
Reg. No. 36 589
Reg. No. 40 694
Reg. No. 36 328
Reg. No. 53 685
Reg. No. 43 977
Reg. No. 37 512
Reg. No. 24 949

Encl: Statement of Warren Guthrie
A copy of the Assignment, recordal document and
written consent of assignee
Check for the \$50 processing fee
Postcard

110.0703



IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): Cliff LAMBARTH et al
Title: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

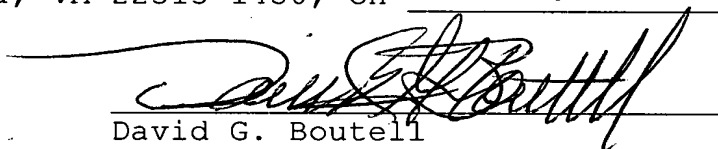
Serial No.: 60/613 151 Group: Unknown
Confirmation No.: 4731
Filed: September 24, 2004 Examiner: Unknown
International Application No.: N/A
International Filing Date: N/A
Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

FIRST CLASS MAILING CERTIFICATE

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service under 37 CFR 1.8 as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 8, 2006.

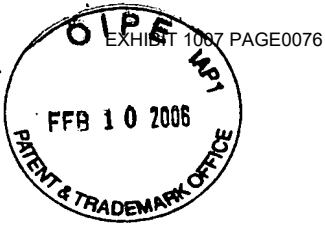

David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1631	Terryence F. Chapman	Reg. No. 32 549
Phone: (269) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (269) 381-5465	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Donald J. Wallace	Reg. No. 43 977
	Kevin L. Pontius	Reg. No. 37 512
	Sidney B. Williams, Jr.	Reg. No. 24 949

Correspondence: Request to Delete Erroneously Named Inventor Under
37 CFR §1.48 including enclosures listed thereon

190.05/05



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

February 3, 2006

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151 Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004 Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**REQUEST TO DELETE ERRONEOUSLY NAMED INVENTOR
UNDER 37 CFR §1.48**

Sir:

This is a request to delete an erroneously named inventor in the above-captioned provisional application, in accordance with 37 CFR §1.48(e). Please delete the following erroneously named inventor:

Warren Guthrie

In support of this request, the following documents are appended hereto:

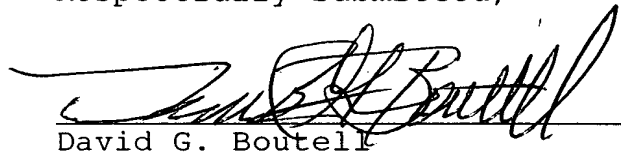
-A statement by the person whose name is being deleted (Warren Guthrie) that the inventorship error occurred without deceptive intention on his part;

-The processing fee of \$50 as forth in 37 CFR \$1.17(q);
and

-An assignment having been executed, a copy of the
recorded assignment and the written consent of the
assignee to delete the erroneously named inventor.

Favorable consideration of this request and issuance of a
corrected filing receipt is courteously solicited.

Respectfully submitted,



David G. Boutell

DGB/DJW/jas

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel
David G. Boutell
Ronald J. Tanis
Terryence F. Chapman
Mark L. Maki
Liane L. Churney
Brian R. Tumm
Steven R. Thiel
Donald J. Wallace
Kevin L. Pontius
Sidney B. Williams, Jr.

Reg. No. 24 323
Reg. No. 25 072
Reg. No. 22 724
Reg. No. 32 549
Reg. No. 36 589
Reg. No. 40 694
Reg. No. 36 328
Reg. No. 53 685
Reg. No. 43 977
Reg. No. 37 512
Reg. No. 24 949

Encl: Statement of Warren Guthrie
A copy of the Assignment, recordal document and
written consent of assignee
Check for the \$50 processing fee
Postcard

110.0703



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

June 14, 2005

Applicant(s): Cliff LAMBARTH et al

For: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM
THEREFOR

Serial No.: 60/613 151 Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004 Examiner: Unknown

International Application No.: N/A

International Filing Date: N/A

Atty. Docket No.: S*S 297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT BY ERRONEOUSLY-NAMED INVENTOR

I, Warren Guthrie, hereby state that I was erroneously named as an inventor on U.S. Provisional Application No. 60/613 151 filed September 24, 2004, and that this error in inventorship occurred without deceptive intention on my part.

Warren Guthrie 6/21/2005
Warren Guthrie Date



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JANUARY 31, 2006

PTAS

500074743A

500074743A

DONALD J. WALLACE
2026 RAMBLING ROAD
KALAMAZOO, MI 49008

**UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 01/31/2006

REEL/FRAME: 017096/0122
NUMBER OF PAGES: 12

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 3007.P0297US

ASSIGNOR:
CONTROL SOLUTIONS, INCORPORATED

DOC DATE: 06/24/2005

ASSIGNOR:
TWISTHINK, L.L.C.

DOC DATE: 07/26/2005

ASSIGNOR:
LAMBARTH, CLIFFORD E.

DOC DATE: 06/24/2005

ASSIGNOR:
SOUKE, CHAD

DOC DATE: 06/24/2005

ASSIGNOR:
GATTO, TODD

DOC DATE: 06/28/2005

017096/0122 PAGE 2

ASSIGNOR:
COLVIN, JOSHUA C.

DOC DATE: 06/24/2005

ASSIGNOR:
KNEEN, JASON

DOC DATE: 06/24/2005

ASSIGNOR:
STEFFLER, MICHAEL W.

DOC DATE: 06/24/2005

ASSIGNOR:
WAY, CHRISTOPHER B.

DOC DATE: 06/24/2005

ASSIGNOR:
MORTON, GARY

DOC DATE: 06/24/2005

ASSIGNOR:
REED, DENNIS A.

DOC DATE: 06/24/2005

ASSIGNEE:
STRYKER CORPORATION
2725 FAIRFIELD ROAD, P.O. BOX 4085
KALAMAZOO, MICHIGAN 49003-4085

SERIAL NUMBER: 60613151

FILING DATE: 09/24/2004

PATENT NUMBER:

ISSUE DATE:

TITLE: AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

THERESA FREDERICK, EXAMINER
ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017062, Frame 0552, on 1/25/2006, TWISTHINK, L.L.C. having a place of business at 130 Central Ave., Suite 400, Holland, MI 49423 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and CONTROL SOLUTIONS, INCORPORATED of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said

Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this

26 day of JULY, 2005, at _____.

TWISTHINK, L.L.C.

By

R. J. NIEMIEC / M. PARTNER
Type Print Name and Title

STATE OF Michigan) ss.
COUNTY OF Ottawa)

On this 26 day of JULY, 2005, personally appeared before me the above-named R. J. Niemiec, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

GORDON STANNIS
Notary Public

SEAL

June 17, 2011
My Commission expires

ASSIGNMENT.

WHEREAS by virtue of an Assignment recorded in the United States Patent and Trademark Office on Reel 017085, Frame 0482, on 1/25/2006, CONTROL SOLUTIONS, INCORPORATED having a place of business at 508 W. 5th Ave., Naperville, IL 60563 (hereinafter referred to as Assignor) is the co-owner with Stryker Corporation and TWISTHINK, L.L.C. of United States Provisional Application Serial No. 60/613 151, filed on September 24, 2004, and entitled AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR.

WHEREAS Stryker Corporation, a corporation of the State of Michigan, having a business address of 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085 (hereinafter referred to as Assignee) is desirous of acquiring from the said Assignor the entire right, title and interest in, to and under the aforesaid patent application and the invention therein described and claimed.

NOW, THEREFORE, in consideration of and in exchange for the sum of Ten Dollars (\$10.00) paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred and by these presents does sell, assign, transfer, and set over to the said Assignee the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

Assignor hereby authorizes and requests the Patent and Trademark Office officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said Assignee as the Assignee of the entire right, title and interest in and to the same, for the sole

use and behoof of said Assignee, its successors and assigns.

Further, Assignor agrees that it will communicate to said Assignee or its representatives any facts known to it respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, execute all necessary Assignment papers to cause any and all of said Letters Patent to be issued to said Assignee, make all rightful oaths or declarations, and generally cooperate with said Assignee, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed by its duly authorized corporate officer this 24th day of JUNE, 2005, at _____.

CONTROL SOLUTIONS, INCORPORATED

By _____

MICHAEL MCKEE / PRESIDENT
Type/Print Name and Title

STATE OF IL)
) ss.
COUNTY OF Cook)

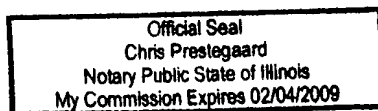
On this 24th day of June, 2005, personally appeared before me the above-named _____, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Chris Prestegaard
Notary Public

2-4-09

My Commission expires _____

SEAL



{00000674.DOC}

ASSIGNMENT

WHEREAS, we, (1) Clifford E. LAMBARTH, (2) Chad SOUKE, (3) Todd GATTO, (4) Joshua C. COLVIN, (5) Jason KNEEN, (6) Michael W. STEFFLER, (7) Christopher B. WAY, (8) Gary MORTON, and (9) Dennis A. Reed

hereinafter called "ASSIGNORS", residing at

- (1) 10613 S. Westnedge Ave., Portage, MI 49002;
- (2) 8112 Land O Lakes Drive, Kalamazoo, MI 49048;
- (3) 5160 Chasemoor Court, Portage, MI 49024;
- (4) 54101 Ridgeview Circle, Paw Paw, MI 49079;
- (5) 24552 Wren Avenue, Mattawan, MI 49071
- (6) 2508 Glenwood Drive, Kalamazoo, MI 49008
- (7) 184 W. Crooked Lake Drive, Kalamazoo, MI 49009;
- (8) 5933 Rolling Pines Court, Kalamazoo, MI 49009;
- (9) 9631 South Westnedge, Portage, MI 49002

are joint inventors with, Michael MCKEE, Thomas A. PUVOGEL, Brian BARTLEY, Kurt DYKEMA, and Brent BOUWS,

and have invented certain new and useful improvements in

AMBULANCE COT AND HYDRAULIC ELEVATING MECHANISM THEREFOR

for which a Provisional Application was filed in the United States Patent and Trademark Office on September 24, 2004, receiving Serial No. 60/613 151.

WHEREAS, Stryker Corporation hereinafter called "ASSIGNEE", a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, MI 49003-4085,

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to us in hand paid, the receipt whereof is hereby acknowledged, and other valuable consideration, we the ASSIGNORS have sold, assigned and transferred, and by these presents do sell, assign and transfer unto said ASSIGNEE the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations and extensions thereof.

We hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of the entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and assigns.

FURTHER, we agree that we will communicate to said ASSIGNEE or its representatives any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and

reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths or declarations, and generally cooperate with said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day of JUNE, 2005.

Signed: Clifford E. Lambarth
Clifford E. LAMBARTH

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Clifford E. LAMBARTH, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public
7-28-07
My Commission expires

SEAL

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day of June, 2005.

Signed: Chad Souke
Chad SOUKE

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally appeared before me the above-named Chad SOUKE, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged the same to be his free act and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public
7-28-07
My Commission expires

SEAL

28 IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: Todd Gatto

Todd GATTO

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

On this 28 day of June, 2005, personally
appeared before me the above-named Todd GATTO, to me known and known
to me to be the person described in and who executed the foregoing
instrument and acknowledged the same to be his free act and deed in
and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public

SEAL

7-28-07
My Commission expires

* * * * *

24th IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: Joshua C. Colvin

Joshua C. COLVIN

STATE OF MICHIGAN)

) ss.

COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Joshua C. COLVIN, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public

SEAL

7-28-07
My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of JUNE, 2005.

Signed: Jason Kneen
 Jason KNEEN

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
 appeared before me the above-named Jason KNEEN, to me known and
 known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

Laurie S. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this
24 day of June, 2005.

Signed: Michael W. Steffler
 Michael W. STEFFLER

STATE OF MICHIGAN)
) ss.
 COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
 appeared before me the above-named Michael W. STEFFLER, to me known
 and known to me to be the person described in and who executed the
 foregoing instrument and acknowledged the same to be his free act
 and deed in and for the purposes set forth in said instrument.

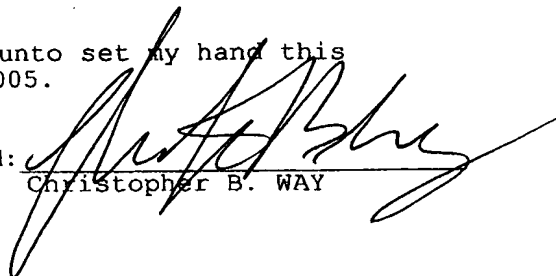
Laurie S. Hale
 Notary Public

SEAL

7-28-07
 My Commission expires

* * * * *

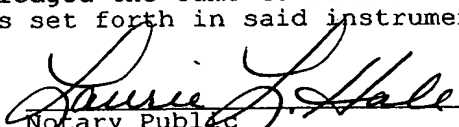
24 IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: 
Christopher B. WAY

STATE OF MICHIGAN)
COUNTY OF KALAMAZOO)

) ss.

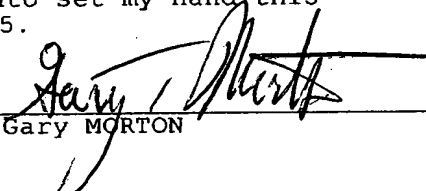
On this 24 day of June, 2005, personally
appeared before me the above-named Christopher B. WAY, to me known
and known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

7-28-07
My Commission expires

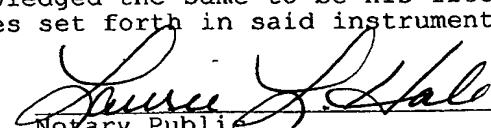
24th IN TESTIMONY WHEREOF, I have hereunto set my hand this
day of June, 2005.

Signed: 
Gary MORTON

STATE OF MICHIGAN)
COUNTY OF KALAMAZOO)

) ss.

On this 24 day of June, 2005, personally
appeared before me the above-named Gary MORTON, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.


Notary Public

SEAL

7-28-07
My Commission expires

IN TESTIMONY WHEREOF, I have hereunto set my hand this 24 day
of JUNE, 2005.

Signed: Dennis A. Reed
DENNIS A. REED

STATE OF MICHIGAN)
) ss.
COUNTY OF KALAMAZOO)

On this 24 day of June, 2005, personally
appeared before me the above-named Dennis A. REED, to me known and
known to me to be the person described in and who executed the
foregoing instrument and acknowledged the same to be his free act
and deed in and for the purposes set forth in said instrument.

Laurie L. Hale
Notary Public

SEAL

7-28-07
My Commission expires

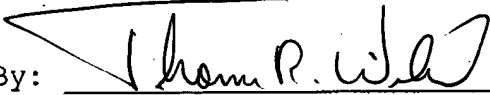
ASSIGNEE CONSENT TO REMOVE INVENTOR AND
STATEMENT UNDER 37 CFR §3.73(b)

Stryker Corporation, a corporation of the State of Michigan, having a place of business at 2725 Fairfield Road, P.O. Box 4085, Kalamazoo, Michigan 49003-4085, hereby states that it is the Assignee of the entire right, title, and interest in and to U.S. Provisional Application Serial No. 60/613 151, entitled Ambulance Cot and Hydraulic Elevating Mechanism Therefor, by virtue of Assignments recorded in the United States Patent and Trademark Office at Reel 017096, Frame 0122, for which a copy thereof is attached.

The Assignee hereby consents to and requests that the inventorship for U.S. Provisional Application Serial No. 60/613 151 be amended to remove Warren Guthrie, a citizen of the United States.

The undersigned is authorized to act on behalf of the Assignee.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

By: 

Thomas R. Winkel, Vice President
of Administration and Secretary

Date: 2/3/2006

Encl.: Copy of Assignment recorded at
Reel 017096, Frame 0122



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

December 21, 2004

Applicant(s) : Cliff LAMBARTH et al.

For : AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR

Serial No. : 60/613 151 Group: Unknown

Confirmation No.: 4731

Filed : September 24, 2004 Examiner: Unknown

Atty. Docket No.: S*S 297

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO FILE MISSING PARTS
OF PROVISIONAL APPLICATION

Sir:

This is a response to the Patent Office communication mailed
October 25, 2004, a copy of which is enclosed.

(Please see following pages.)

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited
with the United States Postal Service as first class mail in an
envelope addressed to: Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313-1450, on December 21, 2004.

Respectfully submitted,


David G. Boutell

REMARKS

This is a response to a Notice to File Missing Parts of Provisional Application paper mailed on October 25, 2004.

The Office Action specifies one item that was missing in the originally filed provisional application. That one item was:

1. A provisional application cover sheet which lists thereon the residence of each inventor.

A mistake made in good faith occurred in listing the inventors for this provisional application. Mr. Greg Mack has indicated to the undersigned that he is not an inventor for this application and has demanded that his name be removed as an inventor. Accordingly, herewith enclosed is a declaration of Mr. Greg Mack requesting that his name be removed as an inventor for this application.

In view of Mr. Greg Mack's request, the undersigned submits herewith a revised provisional application cover sheet that lists thereon all of the inventors (minus Mr. Greg Mack) and their respective residence information.

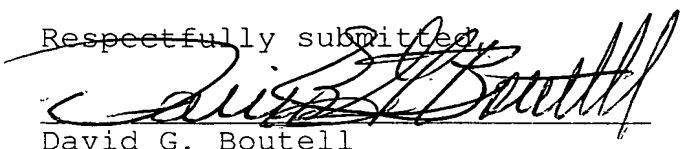
A check for \$50.00 is enclosed. The Commissioner is hereby authorized to charge payment of any additional filing fee associated with this communication or to credit any overpayment to Deposit Account No. 06-1382. A duplicate copy of this document is enclosed.

Further and favorable consideration of this application is respectfully solicited.

IN DUPLICATE

DGB/kc

Respectfully submitted


David G. Boutell

FLYNN, THIEL, BOUTELL
& TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel
David G. Boutell
Ronald J. Tanis
Terryence F. Chapman
Mark L. Maki
Liane L. Churney
Brian R. Tumm
Steven R. Thiel
Donald J. Wallace
Sidney B. Williams, Jr.

Reg. No. 24 323
Reg. No. 25 072
Reg. No. 22 724
Reg. No. 32 549
Reg. No. 36 589
Reg. No. 40 694
Reg. No. 36 328
Reg. No. 53 685
Reg. No. 43 977
Reg. No. 24 949

Encl: Copy of Notice to File Missing Parts of Provisional
Application mailed October 25, 2004 (2 pages)
Declaration of Mr. Greg Mack dated November 10, 2004
Revised (Replacement) Provisional Application Cover Sheet
dated December 21, 2004 (in duplicate)
Check (\$50.00)
Postal Card

115.12/04



**REVISED (REPLACEMENT)
PROVISIONAL APPLICATION COVER SHEET**

IN THE U.S. PATENT AND TRADEMARK OFFICE

Express Mail Label No.: None

Attorney Docket No.: S*S 297

December 21, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PROVISIONAL PATENT APPLICATION TRANSMITTAL

Sir:

Transmitted herewith for filing is the provisional patent
application of:

Inventors:

- (1) Cliff LAMBARTH, (2) Chad SOUKE, (3) Todd GATTO,
- (4) Josh COLVIN, (5) Jason KNEEN, (6) Mike STEFFLER,
- (7) Chris WAY, (8) Gary MORTON, (9) Michael McKEE,
- (10) Tom PUVOGEL, (11) Brian BARTLEY, (12) Cas CATE,
- (13) Kurt DYKEMA, (14) Brent BOUWS and (15) Warren GUTHRIE

residing at:

- (1) Portage, Michigan, (2) Kalamazoo, Michigan,
- (3) Portage, Michigan, (4) Paw Paw, Michigan,
- (5) Mattawan, Michigan, (6) Kalamazoo, Michigan,
- (7) Kalamazoo, Michigan, (8) Kalamazoo, Michigan,
- (9) Aurora, Illinois, (10) Naperville, Illinois,
- (11) Westmont, Illinois, (12) Batavia, Illinois,
- (13) Holland, Michigan, (14) Holland, Michigan, and
- (15) West Olive, Michigan

having the following post office addresses:

- (1) 10613 S. Westnedge Ave., Portage, Michigan,
- (2) 4020 Lake Crest Circle, Apt. #1A, Kalamazoo, Michigan,
- (3) 5160 Chasemoor Court, Portage, Michigan,
- (4) 54101 Ridgeview Circle, Paw Paw, Michigan,
- (5) 24552 Wren Avenue, Mattawan, Michigan,

- (6) 2508 Glenwood Drive, Kalamazoo, Michigan,
- (7) 184 W. Crooked Lake Drive, Kalamazoo, Michigan,
- (8) 5933 Rolling Pines Court, Kalamazoo, Michigan,
- (9) 1195 Radford Dr., Aurora, Illinois,
- (10) 111 Rieser Circle, Naperville, Illinois,
- (11) 115 S. Wilmette Avenue, Westmont, Illinois,
- (12) 22 South Barton Trail, Batavia, Illinois 60510
- (13) 1230 Heather Drive, Holland, Michigan 49423,
- (14) 11326 Stonehedge Dr., Holland, Michigan, and
- (15) 17150 Majestic Court, West Olive, Michigan,

and ALL having the following citizenship: UNITED STATES.

Title: AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR

Please direct correspondence to the address associated with the following customer number:

30497

FLYNN, THIEL, BOUTELL & TANIS, P.C.
(STRYKER)

Enclosed are:

- ☒ Specification
- ☒ 52 Drawing Sheets
- ☐ Declaration or Oath
- ☐ Small entity status is claimed. See 37 CFR 1.27.
- ☐ Statement(s) re small entity is/are enclosed.
- ☐ Assignment, with Recordation Form Cover Sheet
- ☒ Acknowledgment Postal Card

The filing fee is calculated as shown below:

☒ Basic fee for Large Entity:	\$160.00
☐ Basic fee for Small Entity:	\$ 80.00
☐ Assignment	<u>\$ 40.00</u>
*** TOTAL FILING FEE ***	\$160.00

- ☒ A Check for \$160.00 is enclosed to cover fees.

Provisional Patent Application Transmittal - Page 3

- [X] The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or to credit any overpayment to Deposit Account No. 06-1382. A duplicate copy of this sheet is enclosed.
- [X] Any additional filing fees required under 37 CFR 1.16
- [] Any application processing fees under 37 CFR 1.17
- [] Pursuant to 37 CFR 1.52, the enclosed application is in the form of a foreign language text:
- [] An English translation and a statement that the English translation is accurate are enclosed.
- [] Please notify the undersigned of the due date for submitting an English translation and a statement that the English translation is accurate.

Please direct all telephone calls to the undersigned at telephone number (269) 381-1156.

Respectfully submitted,

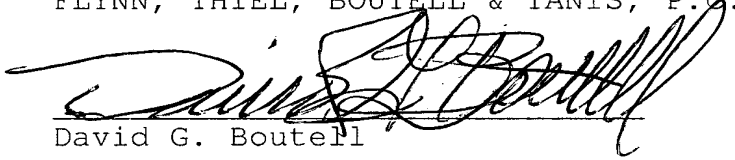
FLYNN, THIEL, BOUTELL & TANIS, P.C.

IN DUPLICATE

DGB/kc

Encl: Listed above

105.09/04



David G. Boutell
Reg. No. 25 072



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

30497
FLYNN, THIEL, BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

CONFIRMATION NO. 4731

FORMALITIES LETTER



OC000000014180384

Date Mailed: 10/25/2004

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(l) of \$50 for a non-small entity, must be submitted with the missing items identified in this letter.
- The provisional application cover sheet under 37 CFR 1.51(c)(1), which may be an application data sheet (37 CFR 1.76), is required identifying:
 - either city and state or city and foreign country of the residence of each inventor.

SUMMARY OF FEES DUE:Total additional fee(s) required for this application is **\$50** for a Large Entity

- **\$50** Late oath or declaration Surcharge..

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents

12/28/2004 SDENBOB1 00000023 60613151

P.O. Box 1450

01 FC:1052

50.00 OP

Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*

T. Nguyen

Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): Cliff LAMBARTH et al.

For: AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR

Serial No.: 60/613 151 Group: Unknown

Confirmation No.: 4731

Filed: September 24, 2004 Examiner: Unknown

Atty. Docket No.: S*S 297

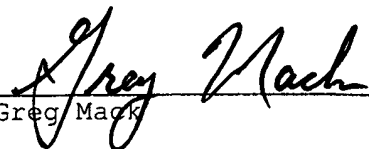
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF GREG MACK

I, Greg Mack, hereby declare that I have reviewed the disclosure in the above referenced provisional patent application and on which I have been listed as an inventor. I hereby declare for the record that I am not an inventor of any of the subject matter disclosed in the aforesaid provisional patent application and I hereby request that my name be removed from the listing of inventors. My name was included as an inventor without my knowledge and it was only after I reviewed the disclosure in the aforesaid provisional patent application that I was able to determine that I was not an inventor. Upon learning that I was not an inventor, I promptly informed the attorney of record about the error in naming me as an inventor. My signature appears below and is being submitted under my free act and deed.

I additionally request that my residence not be identified in the record for this provisional application.

Granting of my requests (1) to have my name removed from the listing of inventors and (2) to have my residence not be a part of the record for this provisional patent application is respectfully requested.


Greg Mack

Date: 10 NOVEMBER 2004



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
60/613,151	09/24/2004	Cliff Lambarth	S*S 297

30497
 FLYNN, THIEL, BOUTELL & TANIS, P.C.
 2026 RAMBLING ROAD
 KALAMAZOO, MI 49008-1631

CONFIRMATION NO. 4731

FORMALITIES LETTER



OC000000014180384

Date Mailed: 10/25/2004

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(l) of \$50 for a non-small entity, must be submitted with the missing items identified in this letter.
- The provisional application cover sheet under 37 CFR 1.51(c)(1), which may be an application data sheet (37 CFR 1.76), is required identifying:
 - either city and state or city and foreign country of the residence of each inventor.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$50** for a Large Entity

- **\$50** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*

T. Inguiera

EXHIBIT 1007 PAGE0102

Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 3 - OFFICE COPY

IN THE U.S. PATENT AND TRADEMARK OFFICE
Express Mail Label No.: EV 464 236 583 US
Attorney Docket No.: S*S 297
September 24, 2004

19249 U.S. PTO
60/613151
092404

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PROVISIONAL PATENT APPLICATION TRANSMITTAL

Sir:

Transmitted herewith for filing is the provisional patent application of:

Inventors:

- (1) Cliff LAMBARTH, (2) Chad SOUKE, (3) Todd GATTO,
- (4) Josh COLVIN, (5) Jason KNEEN, (6) Mike STEFFLER,
- (7) Chris WAY, (8) Gary MORTON, (9) Michael McKEE,
- (10) Tom PUVOGEL, (11) Brian BARTLEY, (12) Cas CATE,
- (13) Greg MACK, (14) Kurt DYKEMA, (15) Brent BOUWS, and
- (16) Warren GUTHRIE

residing at:

- (1) Portage, Michigan, (2) Kalamazoo, Michigan,
- (3) Portage, Michigan, (4) Paw Paw, Michigan,
- (5) Mattawan, Michigan, (6) Kalamazoo, Michigan,
- (7) Kalamazoo, Michigan, (8) Kalamazoo, Michigan,
- (9) Aurora, Illinois, (10) Naperville, Illinois,
- (11) Westmont, Illinois, (12) Unknown, (13) Unknown,
- (14) Holland, Michigan, (15) Holland, Michigan, and
- (16) West Olive, Michigan

having the following post office addresses:

- (1) 10613 S. Westnedge Ave., Portage, Michigan,
- (2) 4020 Lake Crest Circle, Apt. #1A, Kalamazoo, Michigan,
- (3) 5160 Chasemoor Court, Portage, Michigan,
- (4) 54101 Ridgeview Circle, Paw Paw, Michigan,
- (5) 24552 Wren Avenue, Mattawan, Michigan,
- (6) 2508 Glenwood Drive, Kalamazoo, Michigan,

Provisional Patent Application Transmittal - Page 2

- (7) 184 W. Crooked Lake Drive, Kalamazoo, Michigan,
- (8) 5933 Rolling Pines Court, Kalamazoo, Michigan,
- (9) 1195 Radford Dr., Aurora, Illinois,
- (10) 111 Rieser Circle, Naperville, Illinois,
- (11) 115 S. Wilmette Avenue, Westmont, Illinois,
- (12) Unknown,
- (13) Unknown,
- (14) 1230 Heather Drive, Holland, Michigan 49423,
- (15) 11326 Stonehedge Dr., Holland, Michigan, and
- (16) 17150 Majestic Court, West Olive, Michigan,

and ALL having the following citizenship: UNITED STATES.

Title: AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR

Please direct correspondence to the address associated with the following customer number:

30497

FLYNN, THIEL, BOUTELL & TANIS, P.C.
(STRYKER)

Enclosed are:

- ☒ Specification
- ☒ 52 Drawing Sheets
- ☐ Declaration or Oath
- ☐ Small entity status is claimed. See 37 CFR 1.27.
- ☐ Statement(s) re small entity is/are enclosed.
- ☐ Assignment, with Recordation Form Cover Sheet
- ☒ Acknowledgment Postal Card

The filing fee is calculated as shown below:

☒ Basic fee for Large Entity:	\$160.00
☐ Basic fee for Small Entity:	\$ 80.00
☐ Assignment	\$ 40.00
*** TOTAL FILING FEE ***	\$160.00

- ☒ A Check for \$160.00 is enclosed to cover fees.

Provisional Patent Application Transmittal - Page 3

[X] The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or to credit any overpayment to Deposit Account No. 06-1382. A duplicate copy of this sheet is enclosed.

[X] Any additional filing fees required under 37 CFR 1.16

[] Any application processing fees under 37 CFR 1.17

[] Pursuant to 37 CFR 1.52, the enclosed application is in the form of a foreign language text:

[] An English translation and a statement that the English translation is accurate are enclosed.

[] Please notify the undersigned of the due date for submitting an English translation and a statement that the English translation is accurate.

Please direct all telephone calls to the undersigned at telephone number (269) 381-1156.

Respectfully submitted,

FLYNN, THIEL, BOUTELL & TANIS, P.C.

IN DUPLICATE

DGB/kc

Encl: Listed above

105.09/04



David G. Boutell
Reg. No. 25 072

PROVISIONAL PATENT APPLICATION

"Express Mail" Mailing Label No.: EV 464 236 583 US

Date of Mailing: September 24, 2004

Applicant(s): Cliff LAMBARTH et al.

Title: AMBULANCE COT AND HYDRAULIC
ELEVATING MECHANISM THEREFOR

Serial No.: Unknown

Confirmation No.: Unknown

Filed: Unknown

Atty Docket No.: S*S 297

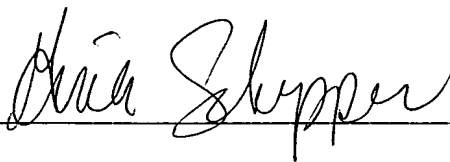
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

EXPRESS MAILING CERTIFICATE

Sir:

I hereby certify that the attached paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

FLYNN, THIEL, BOUTELL & TANIS, P.C.

By: 

Date: September 24, 2004

Documents attached: Provisional Patent Application Transmittal
dated September 24, 2004 (in duplicate)
including enclosures listed thereon

Telephone: (269) 381-1156
191.05/04

AMBULANCE COT AND
HYDRAULIC ELEVATING MECHANISM THEREFOR

FIELD OF THE INVENTION

[0001] This invention relates to an ambulance cot and accessories. This invention also relates to an ambulance cot having a wheel supported base and a litter raisable and lowerable by a powered elevating mechanism oriented between the base and the litter. This invention also relates to an ambulance cot having a wireless communication capability to facilitate communication between the ambulance cot and a loading system on an ambulance as well as facilitating wireless troubleshooting via a handheld wireless unit. This invention also relates to an ambulance cot having a longitudinally extendable head section with a latching mechanism to fix it in selected locations.

BACKGROUND OF THE INVENTION

[0002] Emergency Medical Service (EMS) personnel are required to handle the combined weight of a patient and the ambulance cot during various stages of maneuvering of the ambulance cot while separated from the ambulance. This cot manipulation often requires that the patient supported on the litter be lifted to various elevated heights above the floor. In some instances, the weight factor can cause EMS personnel injury that requires medical treatment.

[0003] As the inclusion of more and more sophisticated technology onto ambulance cots continues to occur, there is an increasing need to be able to quickly and accurately diagnose the complex equipment without requiring the ambulance cot to be removed from service.

[0004] Accordingly, it is advantageous to provide an ambulance cot equipped with an elevating mechanism to facilitate a lifting and lowering of the litter as well

as an ability of the ambulance cot to communicate diagnostic issues in a convenient way without requiring removal of the ambulance cot from a field of use for a prolonged period of time.

SUMMARY OF THE INVENTION

[0005] This invention relates to an ambulance cot and accessories. This invention also relates to an ambulance cot having a wheel supported base and a litter raisable and lowerable by a powered elevating mechanism oriented between the base and the litter. This invention also relates to an ambulance cot having a wireless communication capability to facilitate communication between the ambulance cot and a loading system on an ambulance as well as facilitating wireless troubleshooting via a handheld wireless unit. This invention also relates to an ambulance cot having a longitudinally extendable head section with a latching mechanism to fix it in selected locations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Various objects and purposes of the invention will become apparent based upon a review of the following specification and upon a review of the several drawings, in which:

[0007] Figure 1 is an isometric view of an ambulance cot embodying the invention, which ambulance cot is in the fully raised position;

[0008] Figure 2 is an isometric view of an ambulance cot similar to Figure 1, except that the ambulance cot is in a mid-height position;

[0009] Figure 3 is an isometric view of an ambulance cot similar to Figure 1, except that the ambulance cot is in the fully collapsed and lowered position;

[0010] Figure 4 is an isometric view of a fragment of the hydraulic elevating mechanism on the ambulance cot;

[0011] Figure 5 is a fragmentary isometric view of the base, elevating mechanism and a fragment of the litter on the ambulance cot;

[0012] Figure 6 is an isometric view of a fragment of the litter frame;

[0013] Figure 7 is a side view of a collapsed base and elevating mechanism on the ambulance cot;

[0014] Figure 8 is an isometric view of a foot end lift handle assembly on the ambulance cot;

[0015] Figure 9 is a side elevational sectional view of the foot end lift handle assembly sectioned through the switches;

[0016] Figure 10 is an isometric view of a switch housing that is mounted on the foot end lift handle assembly;

[0017] Figure 11 is an electrical schematic of a switch mounted on the switch housing illustrated in Figure 10;

[0018] Figure 12 is a bottom view of a release handle mechanism mounted on the foot end lift handle assembly, which handle is in the stowed position;

[0019] Figure 13 is a view similar to Figure 12, except that the handle has been shifted to an operative position;

[0020] Figure 14 is a view similar to Figure 13, except that the handle has been moved to an operated position;

[0021] Figure 15 is an isometric view of a mounting assembly on the ambulance cot for the hydraulic circuit;

[0022] Figure 16 is a fragmentary sectional view of a portion of the base whereat the base connects to an X frame member;

[0023] Figure 17 is a hydraulic circuit diagram embodied on the ambulance cot;

[0024] Figures 18-23 are additional illustrations of the hydraulic circuit diagram illustrated in Figure 17, except that various valves have been shifted to demonstrate operation of the hydraulic circuit;

[0025] Figure 24 is a schematic representation of a control for the hydraulic circuit;

[0026] Figure 25 is a decision tree diagram representative of the operational characteristics of the control illustrated in Figure 24 and the hydraulic circuit of Figures 17-23;

[0027] Figure 26 is an isometric view of the litter and similar to the illustration in Figure 1;

[0028] Figure 27 is an isometric view of a fragment of the ambulance cot in the collapsed and lowered position inside a cargo area of an ambulance;

[0029] Figure 28 is a bottom view of the hydraulic assembly illustrated in Figure 15 (minus the mounting assembly);

[0030] Figure 29 is a view similar to Figure 28, except that one of the valves has been actuated;

[0031] Figure 30 is a view similar to Figure 29, except that both of the valves have been actuated;

[0032] Figure 31 is a sectional view of one of the valves illustrated in Figures 28-30;

[0033] Figure 32 is a decision tree diagram for the logic employed on a handheld diagnostics tool;

[0034] Figure 33 is a decision tree diagram for the general logic employed on the cot and load system in an ambulance to facilitate wireless diagnostics;

[0035] Figure 34 is a fragmentary isometric view of an antenna system on the ambulance cot as well as an antenna system on a load arm provided on the ambulance;

[0036] Figure 35 is a side elevational view of the ambulance cot in the fully collapsed position with the head section retracted;

[0037] Figure 36 is a view similar to Figure 35, except that the head section on the ambulance cot has been moved to the fully deployed position;

[0038] Figure 37 is a fragmentary isometric view of the head section on the ambulance cot;

[0039] Figure 38 is a view similar to Figure 37, except that a handle has been shifted to a fully operated position;

[0040] Figure 39 is a side view of the head section with the handle in a first position;

[0041] Figure 40 is a view similar to Figure 39, except that the handle has been moved to the fully operated second position;

[0042] Figure 41 is a view similar to Figure 40, except that the handle has been shifted back to its first position illustrated in Figure 39;

[0043] Figure 42 is a sectional view of a latch mechanism on the head section;

[0044] Figure 43 is a view similar to Figure 42, except that the latch mechanism has been shifted to its fully operated position;

[0045] Figure 44 is an isometric view of a fully folded foldable safety bar on the head section;

[0046] Figure 45 is a side elevational view of the safety bar in the fully folded position as illustrated in Figure 44;

[0047] Figure 46 is a view of the safety bar in the unfolded position;

[0048] Figure 47 is a bottom isometric view of the foot end lift handle assembly with a battery locked into an operating position;

[0049] Figure 48 is a view similar to Figure 47 except that the battery has been moved to an inoperative position;

[0050] Figure 49 is a fragmentary isometric view of a non-circular X frame member receiving therein a circular further X frame member;

[0051] Figure 50 is an isometric view of the head end of the cot and showing on the underside of the fowler an accessory hook;

[0052] Figure 51 is an enlarged view of a fragment of Figure 50;

[0053] Figure 52 is an isometric view of the cot having a collapsible pouch accessory thereon, which pouch is in the extended position of use in response to an extension of the head section;

[0054] Figure 53 is an enlarged view of a fragment of Figure 52;

[0055] Figure 54 is a plan view of the pouch accessory;

[0056] Figure 55 is a view similar to Figure 52 but with the pouch in the collapsed condition in response to a retraction of the head section; and

[0057] Figure 56 is an enlarged view of a fragment of Figure 55.

DETAILED DESCRIPTION

AMBULANCE COT

[0058] An ambulance cot 10 embodying the invention is illustrated in the drawings. The ambulance cot 10 is similar to the ambulance cots disclosed in U.S. Patent No. 5 537 700 and WO 2004/064698, the subject matters thereof being incorporated herein by reference. The ambulance cot 10 includes a base frame 11 composed of longitudinally extending side rails 12 and crosswise extending rails 13 interconnected at the ends thereof to the side rails 12 to form a rectangle. Castered wheels 14 are operatively connected to each corner of the rectangle base frame formed by the rails 12 and 13.

[0059] The ambulance cot 10 includes a litter 16 comprising a litter frame 17. An elevating mechanism 18 is provided between the base frame 11 and the litter frame 17 in order to facilitate a lifting and lowering of the litter 16 relative to the ground. More specifically, the elevating mechanism 18 includes a pair of side-by-side oriented "X" frames 19 and 21. The X frame 19 includes a pair of X frame members 22 and 23 connected together adjacent their midlength portions by means of a pivot axle 24. Each of the X frame members 22 and 23 is hollow and telescopingly receives therein a further X frame member 26 and an X frame member 27, respectively. The further X frame members 26 and 27 are supported for movement into and out of the respective X frame members 22 and 23. The distal end of the further X frame member 26 is secured via a connection 28 to the cross rail 13 at the left end (foot end) of the base frame illustrated in Figure 1 whereas the distal end of the further X frame member 27 is connected via a connection 29 to the cross rail 13 at the right end of the base frame 11.

[0060] The X frame 21 is similarly constructed and includes a pair of X frame members 32 and 33 which are connected together at about their midlength portions by the aforesaid axle 24. While the axle 24 is illustrated to extend laterally between the X frames 19 and 21, it is to be understood that separate axles 24 can, if desired, be employed (as shown in Figure 50). The X frame members 32 and 33 are hollow and telescopingly receive therein a further X frame member 36 telescopingly received in the X frame member 32 whereas a further X frame member 37 is telescopingly received in the X frame member 33. The distal end of the further X frame member 36 is connected via a connector 38 to the cross rail 13 at the foot end of the base frame 11 and the distal end of the further X frame member 37 is connected via a connector 39 to the

cross rail 13 at the head end of the base frame 11. The X frame members 22, 26 extend parallel to the X frame members 32, 36 whereas the X frame members 23, 27 extend parallel to the X frame members 33, 37.

[0061] Referring to Figure 4, the cross rail 13 at the foot end of the base frame 11 is illustrated. To the cross rail 13 there is pivotally connected a pair of laterally spaced linkage members 41. In this particular embodiment, each of the linkage members 41 includes at the end thereof adjacent the cross rail 13 a bore 42 which encircles the cross rail 13 to facilitate the pivotal connection of each of the linkages 41 about the longitudinal axis of the cross rail 13. The ends of each of the linkages 41 remote from the cross rail 13 are connected to respective laterally spaced brackets 43 by means of a fastener 44. In this particular embodiment, a sleeve 46 extends between the respective brackets 43 and receives therein the respective fastener 44 to facilitate the connection of the linkages 41 to the brackets 43. The axle 24 also facilitates a connection of the respective brackets 43. Each of the brackets 43 includes a receptacle 47 into which is received a respective X frame member 23 and 33 as illustrated in Figure 1. In this particular embodiment, the axle 24 passes through an opening provided in each of the respective X frame members 23 and 33.

[0062] A first bracket 48 (Figure 4) is fixedly secured to the cross rail 13. A second bracket 49 is secured to a rod 51 that is connected to and extends between the respective brackets 43. In this particular embodiment, the rod 51 is connected to each bracket by a respective fastener 52. It is to be noted that there is a spacing between the axle 24 and the respective rods 46 and 51. The purpose of this spacing will become apparent below.

[0063] At least one linear actuator 53 (two, if desired to provide improved stability) is connected to and extends between the respective brackets 48 and 49. In this particular embodiment, the linear actuator 53 includes a hydraulic cylinder housing 54 fastened to the bracket 49, which cylinder housing 54 includes a reciprocal rod 56 having a piston (not illustrated) at one end thereof located within the cylinder housing 54. The distal end of the reciprocal rod 56 is connected in a conventional manner by a universal-like joint 55 to the bracket 48. That is, the universal joint allows pivotal movement about two orthogonally related axes. As will be evident from Figure 4, extension and retraction of the reciprocal rod 56 will facilitate movement of the brackets 43 about the axis of the rod 46. The end of the rod is lengthwise adjustable to accommodate tolerances encountered during production.

[0064] As is illustrated in Figure 5, the ends of the X frame members 22 and 32 remote from the base frame 11 are each pivotally secured to a cross rail 59 adjacent the head end of the litter frame 17 as at 57 and by respective connectors 58. The connectors 58 are each relatively movable with respect to the cross rail 59. In one embodiment (Figure 6), on the other hand, the ends of the X frame members 23 and 33 remote from the base frame 11 are connected by a hollow pivot tube 61 via connectors 62. Only one of the connectors 62 is illustrated in Figure 6, it being understood that the end of the X frame member 23 remote from the base frame 11 also has a connector 62 thereon. A slide bearing (not shown) can, if desired, be provided to allow longitudinal movement of the X frame member 33 along the litter rail 66. Alternatively, a timing rod 63 can be relatively rotatably received inside the pivot tube 61. Opposite ends of the timing rod 63 have a pinion gear 64 fastened

thereto and rotatable therewith. The purpose of the timing rod and the pinion gear 64 oriented at the opposite ends thereof will become apparent below. If desired, the X frame members 23, 33 and the pivot tube 61 can be welded together to enhance the overall strength and resistance to twisting characteristics.

[0065] As is shown in Figure 5, the litter 16 comprises a litter frame 17 which consists of a pair of lengthwise extending side rails that are laterally spaced from one another, which side rails 66 are connected at the head end by the aforesaid cross rail 59, further cross rails 67 and other cross rails not illustrated. A housing 68 (see also Figure 6) is secured to the underside of each of the side rails 66 at a location spaced from the head ends thereof. Each housing 68 has an inwardly opening recess 69 therein, the openings in each of the housings 18 opposing one another. In one embodiment, the openings 69 each have a downwardly facing upper wall 71 to which is secured a toothed rack 72 extending lengthwise of each of the respective side rails 66. The teeth of each of the pinion gears 64 are configured to mesh with the teeth of the tooth rack 72. Since the pinion gears 64 are fixedly secured to the timing rod 63, the mating teeth on the pinion gear 64 and the rack 72 will prevent twisting of the elevating mechanism 18 as it raises and lowers the litter 16 relative to the base frame 11.

[0066] In this particular embodiment, the longitudinally extending side rails 66 of the litter frame 17 are hollow. Thus, the cross rails 59 and 67 as well as others not specifically described are secured by brackets to the exterior surface of each of the side rails 66. Several of the brackets 71 are illustrated in Figure 5.

[0067] A foot end lift handle mechanism 72 is illustrated in Figure 8 and consists of a pair of vertically spaced U shaped frame members 73 and 74. The legs of each of the U shaped frame members 73 and 74 are joined together by a bracket 76 (only one bracket being illustrated in Figure 8), which bracket 76 is fastened to the respective legs by fasteners not illustrated. Each bracket 76 is telescoped inside of the foot end of the respective side rail 66 as illustrated in Figure 1. Further, the legs of the lower frame member 74 diverge away from the legs of the frame member 73 so that there is provided pairs of vertically spaced hand grip areas as at 77 and 78 on the respective frame members 73 and 74, respectively. Plural spacer brackets 79 are connected to the bight portions of each of the frame members 73 and 74 to maintain the vertical spacing between the grip areas 77 and 78. Fasteners (not illustrated) facilitate a connection of the brackets 76 to the interior of each of the respective side rails 66.

[0068] A battery mount 89 is secured to the foot end lift handle assembly 72, preferably to the underside of the assembly as show in Figures 47 and 48. The battery mount 89 includes a downwardly opening bayonet socket 90 having electrical contacts 94 exposed therein for connection to a properly configured battery 160 shown in broken lines. The manner in which the battery 160 connects to the electrical contacts 94 when the battery is in the broken line position shown in Figure 48 is conventional and, therefore, further discussion about this connection is believed unnecessary. The electrical contacts 94 on the battery mount 89 are connected to the control 158 as schematically shown in Figure 24. In order to connect the battery 160 into place in the battery mount 89, the battery is moved leftwardly from the Figure 47 disconnected inactive position to the

Figure 48 connected and active position. The battery 160 in the installed position of Figure 48 is releasably locked in place and is capable of withstanding excessive acceleration forces that will occur during an accident to remain locked in place in the Figure 48 position.

[0069] One leg 81 of the frame member 73 includes a switch housing 82 fastened thereto by at least one fastener 83 (Figure 9). The switch housing 82 is located in an ergonomically advantageous position to the obvious grasping point of the user. An enlarged isometric view of the switch housing 82 is illustrated in Figure 10. The switch housing has a pair of manually engageable buttons 84 and 86 thereon. The manually engageable buttons 84 and 86 are shielded from above by a shroud 87 and are of a low profile membrane design so as to prevent inadvertent actuation of the buttons 84 and 86 by a patient lying on the upper surface of the litter 16. That is, the shroud 87 is oriented at the head end of the switch housing 82. The switch housing 82 includes an opening 88 extending therethrough and through which the leg 81 of the frame 73 extends. The fastener 83 extends through a hole in the leg 81 to facilitate a connection of the housing 82 to the leg 81 extending through the opening 88.

[0070] Similarly, the leg 91 of the frame member 74 includes a further switch housing 92, located in an ergonomically advantageous position to the obvious grasping point for the user, having an opening 98 extending therethrough and through which the leg 91 extends. A fastener 93 facilitates a connection of the switch housing 92 to the leg 91 that extends through the opening 98. The switch housing 92 includes a construction identical to the switch housing 82 illustrated in Figure 10 and it includes a pair of manually engageable buttons 84 and 86 which, as will be

explained in more detail below, provide a redundant operation with respect to the buttons in the switch housing 82. The switch housing 92 also includes a shroud 97 similar to the shroud 87 and it is provided for the same purpose, namely, to shield the buttons 84, 86 from inadvertent actuation by a patient lying on the litter 16. In addition to the safety shrouds 87 and 97 preventing inadvertent actuation of the push buttons 84 and 86, each of the push button switches 84, 86 have a dual switch closing feature requiring both switch contacts to be closed (see Figure 11) in order to effect the desired operation as will be explained in more detail below.

[0071] The bight section 99 of the frame member 74, particularly at the base of one of the spacers 79, there is provided a bracket 101 secured to the bight section by a fastener 102 (Figure 12). A manually engageable handle 103 is pivotally secured to the bracket 102 by a pivot axle 104. The handle includes a pair of arcuately spaced shoulders 106 and 107. A cable support member 108 is pivotally secured to the bracket 101 by a pivot axle 109. A cable, here a Bowden cable 111, is fastened as at 112 to the cable support 108 (at one end) while the other end is fastened to a valve actuation device which will be explained in more detail below. The cable 111 extends into and through the hollow interior of the frame member 74. The cable support member 108 has a pair of arcuately spaced shoulders 113 and 114 that operatively cooperate with the arcuate shoulders 106 and 107, respectively, as will be explained in more detail below. The handle 103 as illustrated in Figure 12, is in a stowed out of the way position. When it is desired to move the handle and use it for operation of the ambulance cot, it is shifted clockwise in its position from the position illustrated in Figure 12 to the position illustrated in Figure 13 at

which time the shoulder 107 engages the shoulder 114 on the cable support member 108. When the handle 103 is further pivoted clockwise about the axle 104 to the position illustrated in Figure 14, the cable support member 108 will pivot about the axle 109 to effect a pulling of the cable 111 to effect actuation of a valve structure that will be described in more detail below. A torsional spring 116 (only the ends of which are illustrated in Figures 12-14) serves to continually urge the handle 103 counterclockwise to the stowed position so that the shoulders 106 and 113 will engage one another.

[0072] Referring to Figure 5, and as stated above, there is provided a pair of longitudinally spaced brackets 71 on each of the side rails 66. Between laterally spaced ones of the brackets 71, there extends a respective cross rail 67. Referring to Figure 15, these cross rails 67 support a hydraulic assembly bracket 121. More specifically, the hydraulic assembly bracket 121 includes several ears 117 which operatively engage the respective cross rails 67 and from which ears is suspended the hydraulic assembly bracket 121. The hydraulic assembly bracket 121 is generally U shaped with the bight section forming a base upon which is mounted a variable speed electric motor 122, a hydraulic manifold plate 123 and a hydraulic pump 124. The hydraulic pump 124 has two outlets 126 and 127. The hydraulic outlets 126 and 127 are connected through hydraulic conduits 128, 129, respectively (Figure 4), to respective opposite ends of the hydraulic cylinder housing 54. In this particular embodiment, the cross rails 67 also provide a support for a seat section 128 (Figure 1) on the litter 16.

[0073] Referring to Figures 1 and 16, the further X frame members 26, 27, 36 and 37 are all connected through respective connectors 28, 29, 38 and 39 to a cross rail 13. Figure 16 illustrates a representative example of

the connectors 28, 29, 38 and 39. That is, each connector includes a sleeve 128 that encircles the cross rail 13 and includes a stem 129 that is telescoped inside the interior of each of the respective further X frame members 26, 27, 36, 37. A bearing assembly 131 is provided between the stem 129 and the interior surface of the further X frame members 26, 27, 36, 37. Thus during normal use, off center loads and flex in the aluminum frame members may cause some twisting in the geometry of the frame members which will cause a binding of the mechanism. In order to accommodate this twist, the bearing assembly 131 will facilitate a relative rotation between the sleeve 128 and the further X frame members 26, 27, 36, 37. The bearing assembly 131 becomes particularly important when the X frame members 22, 23, 32, 33 are not circular in cross section and the further X frame members 26, 27, 36, 37 are circular in cross section (as depicted in Figure 49). That is, a bushing 236 is fixedly positioned inside the non-circular X frame members 22, 23, 32, 33, which bushing 236 has a circular opening therethrough through which the further X frame members 26, 27, 36, 37 slidably extend. The end of the further X frame members 26, 27, 36, 37 remote from the base 11 have a further bushing 237 longitudinally slidably disposed in the X frame members 22, 23, 32, 33. The bushing 237 is relatively moveably secured to the respective further X frame members 26, 27, 36, 37, such as through the use of a rivet and washer mechanism 238 being secured to the further X frame members 26, 27, 36, 37 on opposite sides of the bushing 237 so as to prevent a relative longitudinal movement of the bushing 237 along the length of the further X frame members and so that the further X frame members can rotate about their respective longitudinal axes relative to the bushing 237.

HYDRAULIC CIRCUIT

[0074] A hydraulic circuit 132, illustrated in Figures 17-23, is included in the manifold plate 123 (Figure 15). It is to be understood that the pump 124 and the linear actuator 53 and the conduits carrying hydraulic fluid to the linear actuator 53 are preferably always filled with hydraulic fluid. Further, the pump 124 is reversible and the electric motor 122 driving same is also reversible. As a result, there will be no delay in actuation of the linear actuator in response to an operation of the pump 124 by the electric motor 122. The output of the pump 124, in one direction of operation, will supply hydraulic fluid through a pilot operated check valve 133 to the outlet 126 connected through the hydraulic conduit 128 to the end of the cylinder housing 54 remote from the reciprocal rod 56. Operation of the pump 124 in the opposite direction will direct fluid through a poppet valve 134 having in parallel therewith an orifice or fluid throttle 136 and a two way poppet valve 137 to the outlet 127 which in turn is connected through a conduit 129 to the end of the cylinder housing 54 adjacent the reciprocal rod 56. The fluid controlling the pilot operated check valve 133 is delivered to it through a conduit 138 connected to the fluid path intermediate the poppet valve 134 and the pump 124. There is also provided a pressure relief operated check valve 139 connected at one end between the pilot operated check valve 133 and the pump 124 and, at the other end, to a tank or reservoir for the hydraulic fluid. Intermediate the pilot operated check valve 133 and the outlet 126, there is provided a fluid passageway 142 extending to a series connected pressure compensated flow controller 143, a spring controlled check valve 144 and a two way poppet valve 146 connected to the tank 141. The spring is sized in this check valve so as to provide a dampening

against a surge of fluid when passively lowering. This prevents a lurch in the lowering action providing increased comfort to the patient during lowering. The passageway 142 includes a further passageway 147 connected through a spring biased check valve 148 to tank 141, on the one hand and through a passageway 149 to a manual release valve 151 also connected to tank 141. The outlet 127 is connected through a passageway 152 to a spring biased check valve 153 connected to the tank 141, on the one hand, and through a passageway 154 to a series connected fluid throttle 156 and thence to a further manual release valve 157 connected to the tank 141.

[0075] The hydraulic circuit 132 is controlled by a control mechanism 158, which control mechanism is also schematically represented in Figures 24 and 25. A hydraulic fluid pressure monitoring mechanism 159 is connected to the outlet 126 and provides a signal indicative of the magnitude of the fluid pressure to the control mechanism 158. The battery 160 (Figures 47 and 48) on board the ambulance cot provides power to the control mechanism 158. The charged status of the battery 160 is linked to a display 161 on a user interface 162 mounted on the foot end lift handle assembly 72 near the battery mount 89, particularly between the spacer members 79. The user interface 162 also includes a mode switch (not illustrated) for allowing the user interface to display a multitude of different functions, one of which can be an hour meter indicative of the total elapsed time that the electrical motor 122 has been operated, such as "HH:MM", where H is hour and M is minute or in tenths of an hour such as "HH.H hours". In addition, it is also possible for the user interface to display the elapsed amount of time that the control 158 has been on, the elapsed amount of time a certain switch is activated, the elapsed amount of time certain valves have been actuated

or the elapsed amount of time a certain pressure has been maintained on the system. These values may be combined to a suitable display to accurately determine the amount of wear that can be expected on the system. As a result, ambulance attendants can more accurately determine what preventative maintenance is required based upon the aforesaid displays. Additionally, a symbol can be provided at pre-programmed interval(s) to indicate when service may be necessary.

[0076] The control mechanism 158 also receives signals from position sensors provided on the ambulance cot. More specifically, and referring to Figure 26, a cover 163 has been removed from the housing 68 to reveal the opening 69 inside the housing. A first transducer 164 is provided inside the opening 69, particularly at the foot end of the opening 69 whereas a second transducer 166 is oriented at the head end of the opening 69. These transducers 164 and 166 are, in this embodiment, Hall effect sensors which are used to indicate the low and high heights of the ambulance cot. Alternatively, proximity sensors or reed switches can be employed in place of the Hall effect sensors. These transducers are adjustably positioned in the opening 69 such that they detect a magnetic field of a magnet mounted, for example, on one end of the pivot tube 61 (Figure 5) or on the slide bearing thereat (not shown) and oriented on the outboard side of the pinion gear 64 or slide bearing located thereat. Thus, as the pinion gear 64 approaches either one of the transducers 164 or 166, the magnetic field of the magnet will saturate the respective transducer to create an appropriate signal to the control mechanism 158 that is indicative of the height position of the cot. The position of the transducers 164, 166 are variable lengthwise of the opening 69 so as to provide an ability to effect a height adjustment for the ambulance

cot in both its collapsed and its uppermost position. A specific advantage of having a movable second transducer 166 is that the high height of the ambulance cot can be adjusted to provide a stopping point custom adjusted to a specific ambulance for ease of loading the cot into the ambulance. A further transducer 167 is provided adjacent the second transducer 166 so as to cause an additional signal to be sent to the control mechanism 158. This additional signal is supplied as feedback to the control mechanism 158 to subsequently control motor speed to effect a smooth stop of the litter 16 in the uppermost position. Similarly, a further transducer 168 can be provided adjacent the first transducer 164 so as to cause a further signal in the form of feedback to be sent to the control mechanism 158 to effect a subsequent controlling of motor speed to effect a smooth stop of the litter 16 in the lowered position. This smooth stopping operation is provided for patient comfort.

[0077] The control mechanism 158 also receives signals indicative of the presence of the ambulance cot inside the ambulance. In the preferred embodiment and referring to Figure 27, an ambulance cot latching mechanism inside the ambulance includes a rod 169 that extends along one side of the ambulance cot and has adjacent its distal end 171 a bracket 172 which has a magnet 173 provided thereon. The magnet 173 becomes positioned adjacent a transducer (not shown) to send a signal to the control mechanism 158 to effect a total and complete deactivation of the hydraulic lift or lower operation capabilities of the hydraulic circuit. This transducer may optionally be the position transducer 164.

[0078] Figures 28-30 are a bottom view of the manifold plate 123 having mounted thereon the reversible electric motor 122 and the reversible pump 124. If desired, the motor 122 could be driven in one direction and a

transmission utilized to effect a reverse operation of the pump 124. The release valves 151 and 157 are mounted on the manifold plate 123. The release valve 151 includes a reciprocal stem 174 which, when moved to the right in the aforesaid figures, effects an opening of the valve to allow fluid flow to pass therethrough. Similarly, the release valve 157 has a stem 176 which, when moved to the right in the aforesaid drawing figures, also effects an opening of the valve 157 to allow hydraulic fluid to pass therethrough. Incrementally opening the valve will effect a variable flow through the valve, allowing variable drop rates of the litter. Additionally, the orifice 156 may be sized to control the drop rate of the base 11 when the litter 16 is supported by an attendant or plural attendants. A plate 177 is provided and has holes therethrough which receive the respective stems 174 and 176 therethrough so that an appropriate fastener 178 can effect a fastening of the respective stems 174 and 176 to the plate 177. The cable 111 is connected to the plate as at 179. The opposite end of the cable 111 is connected to the release handle mechanism illustrated in Figures 12-14.

[0079] In this particular embodiment, and referring to Figure 31, the release valves 151 and 157 each have a fluid chamber 181 therein into which hydraulic fluid directly from the outlet port 126 is fed through an inlet port 183. The valves 151 and 157 each have a reciprocal spool 184 therein, the movement of which is controlled by the tension applied to the stems 174, 176 by the cable 111. The spool 184 includes a land 186 having a valve seat surface 187 thereon which mates with a valve seat surface 188 provided on the body 189 of the release valve 151. A spring (not illustrated) serves to urge the valve seat surface 187 against the valve seat surface 188, especially when no fluid pressure is applied to the

chamber 181. Once the fluid pressure inside the chamber 181 has been reduced to a desired level, tension applied to the cable 111 urging the spool 184 to the right (Figure 31) against the urging of the return spring, the seat surface 187 will be separated from the seat surface 188 to allow fluid to flow from the inlet port 183 to an outlet port 191 and thence to tank 141. The purpose of the aforesaid construction of the valves 151 and 157 will facilitate it being necessary that the ambulance cot attendants lift the cot prior to activation of the manual release valves 151 and 157 so that the fluid pressure in the chamber 181 will be reduced to facilitate a rightward movement of the spool 184.

[0080] A conventional velocity fuse 192 (Figure 17) is provided in the inlet port to the end of the cylinder housing 54 of the linear actuator 53, particularly at the end thereof remote from the reciprocal rod 56. This conventional velocity fuse is Model No. 8506 available from Vonberg Valve, Inc. of Rolling Meadows, Illinois. The purpose of the velocity fuse is to prevent a rapid lowering of the cot when there is a sudden loss of hydraulic pressure as in the case of a severed hydraulic hose, or accidental manual release with a patient on the cot.

WIRELESS DIAGNOSIS

[0081] The ambulance cot and load system electronics for facilitating a loading of the cot into an ambulance (see also WO 2004/064698, the subject matter of which is to be incorporated herein) contain the capability to interact with a handheld diagnostics tool over a wireless communication link. This tool allows manufacturing and maintenance personnel to perform basic configuration, troubleshooting and complex diagnostic operations on both the cot and load system, while remaining free from physical cable attachment to either unit. An example of

the functional descriptions for each of the elements involved in wireless diagnostics are set forth below.

WIRELESS DIAGNOSTIC TOOL

[0082] The handheld device or tool is self contained, and includes a wireless transmitter and receiver that operate under the same basic protocol as the wireless link connecting the cot and load system during normal operation. Operations such as collecting and configuring control parameters and initiating simple or complex diagnostics tests are supported through this interface. By design, this handheld device is capable of three main modes of operation:

- Two-way active communication mode: The handheld device interacts with one other wireless-capable unit;
- Multi-way active communication mode: The handheld device interacts with two or more wireless-capable units; and
- Passive "listen only" mode: The handheld device observes the communication activity which exists near one or more wireless-capable units without disrupting it.

[0083] Two-way active communication allows the handheld device to interact directly and exclusively with one cot (or one load system) in order to provide streamlined communication during programming or troubleshooting phases. Multi-way communication allows the handheld device to participate in communications with multiple other parties, and allows for more complex troubleshooting and diagnostics operations. For example, when a cot is docked in the load system and a handheld device is brought into proximity of the wireless communication field, it will be able to interact with both units to gather information or allow the user to invoke special tests to verify operation of the loading

algorithm. For two-way and multi-way modes, the wireless diagnostic tool is capable of auto-detecting the proper mode in which to operate, which is based on the number of active participants it senses in the wireless communication field. The "listen only" mode is entered at the prompting of the user of the handheld device. This mode is passive in nature, and can be used to analyze communications coming from one unit (cot or load system), or multiple units which are in dialog with one another.

COT

[0084] The ambulance cot's electronic controller contains software components to support wireless diagnostics capabilities. This software functionality is capable of detecting the difference between a load system that is trying to communicate and a wireless handheld device that is trying to initiate a diagnostic session. As this determination is made, the cot is able to enter into either a normal session with the load system, a dedicated session with the handheld device (if no load system is present), or a three-way session that involves both the handheld device and the load system. In the latter case, the cot software allows normal operation of the loading sequence, while simultaneously supporting a specific set of diagnostics that are useful in troubleshooting the overall system.

LOAD SYSTEM

[0085] The load system's electronic controller is also capable of distinguishing between a basic communication session for loading and unloading, and a session which involves diagnostics operations. Using similar software components, the load system will participate in dedicated two-way communication with a handheld device, or allow the device to coexist during a load or unload operation with the cot being present. It is capable of detecting

the difference between these various modes of operation, and react accordingly to provide the necessary functional behavior.

[0086] Figures 32 and 33 provide a further description of the software functionality used in the wireless diagnostics feature.

[0087] Referring to Figure 34, beneath the seat section 128 there is provided a cot antenna 193. The load arm on the ambulance (see WO 2004/064698, here in Figure 34 the load arm 194) includes a load arm antenna 196. The two antennas 193 and 196 provide communication between the cot and the load system as well as communication with the handheld unit. The antennas also provide a controlled communication envelope to allow any cot to communicate with any load system or handheld troubleshooting device while not interfering with other load systems/cots in the area. One exemplary way of establishing communication between the cot and the fastener system or between the cot or load system and the troubleshooting handheld device, as well as communication therebetween, is set forth below.

Preamble	P0	P1	D0	P2	D1	D2	P3	D3	D4	D5	D6	D7	P
----------	----	----	----	----	----	----	----	----	----	----	----	----	---

	Preamble for signal detection
Px	Parity bits for error detection (Hamming Code)
P	Parity bit for extra check of data integrity
Dx	Data bits

PREAMBLE

[0088] The preamble is a special sequence to separate real data from the random noise. The preamble will contain special characters that are of 'illegal' length. This will cue the processor for a start of packet.

ERROR CORRECTION BITS

[0089] The packet uses four bits for error correction (P0, P1, P2, P3). The error correction technique employs a Hamming code algorithm that will allow the processor to correct one bit that has been misinterpreted. Assuming a moderate bit error rate, the odds of a single bit being corrupted are relatively high while the odds of multiple bits being corrupted is relatively very low. Allowing for 1 bit to be corrected will result in an overall greater throughput at a relatively low cost of extra bits.

PARITY BIT

[0090] The parity bit is an extra check to ensure data integrity. The parity bit is calculated using basic even parity checking; the parity bit is set so that the number of 1s in the packet will always be an even number. The parity bit will allow detection of a second bit error; however, it will not be able to correct it.

DATA BITS

[0091] There are 8 data bits. The data bits communicate information about the cot status, an action request or diagnostic information. The most significant bit (D7) indicates whether the data is in diagnostic mode or not. If in diagnostic mode, remaining 7 bits indicate a diagnostic code or response. Otherwise each bit acts as an independent flag for a certain condition. If the transmission gets a response, the value is passed to the master controller; if no response is found, a value of '0'.

Table 1 - Example of possible Ambulance to Cot Data Bits

Bit	Name	Value = 1	Value = 0
7	Normal/Diagnostic	In Normal Mode	In Diagnostic Mode
6	Arm Load	Detect load on arm	No load detected
5	Arm Up	Load arm is fully up	Load arm not fully up
4	Arm Down	Load arm is fully down	Load arm not fully down
3	Proximity Switch	Prox switch closed	Prox switch open
2	TBD		
1	TBD		
0	Comm present	Comm is active	No Comm

Table 2 - Example of possible Cot to Ambulance Data Bits

Bit	Name	Value = 1	Value = 0
7	Normal/Diagnostic	In Normal Mode	In Diagnostic Mode
6	Cot load	Detect load on cot legs	No load detected
5	Cot legs up	Cot legs are fully up/not extended	legs not fully up
4	Cot legs down	Cot legs are fully down/extended	legs not fully down
3	Plus button	"+" button is pressed	"+" button not pressed
2	Minus button	"-" button is pressed	"-" button is not pressed
1	TBD		
0	Comm present	Comm is active	No Comm

Table 3 - Example

Event	A→C	C→A	Comment
Cot "-" button pressed, turns on	----	111001xx	Patient on Cot, Ambulance not yet in range No response from Ambulance, a value of zero is passed to the cot controller
Cot moved within range of Ambulance	10010xxx	111001xx	"-" button is still pressed Prox switch is not set, Arm not bearing load
Cot docked to prox switch	10011xxx	111001xx	"-" button is still pressed Prox switch is set, Arm not bearing load
Cot legs folding up, Cot drop slightly	11011xxx	110001xx	Arm starts to take weight, still down
Cot legs continue folding up	11001xxx	100001xx	Arm starts lifting up
Cot legs completely up	11001xxx	101001xx	Arm still lifting
Arm is all the way up	11101xxx	101001xx	
Button is released Arm still up	11101xxx	101000xx	Waiting for cot to be pushed on

RETRACTABLE HEAD SECTION AND LATCH

[0092] By comparing Figures 35 and 36, it will be noted that the ambulance cot 10 includes a retractable head section 197. This feature can be provided on a manual lift cot or a power lift cot. In the power lift environment, and as is illustrated in Figure 37, the retractable head section 197 is generally U shaped, namely, having a pair of parallel legs 198 and 199 connected by a cross rail 201. The legs 198 and 199 are configured to be slidably received into the interior of the respective longitudinally extending side rails 66 on the cot 10. A pair of brackets 202 interconnect the legs 198 and 199 to the cross rail 201. Each bracket 202 includes a link to a handle 203. The handle is pivotally mounted for movement 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 on the handle 203 about an axis of rotation defined by or is parallel to the axis of the cross rail 201. The pin 204 is connected by a linkage 206 to a latch mechanism 207 on each leg 198 and 199. The latch mechanism 207 is illustrated in more detail in Figures 42 and 43. More specifically, the latch 207 includes a housing 208 in which a ramp mechanism 209 is slidably disposed lengthwise of the housing 208. The ramp mechanism 209 includes a ramp surface 211 against which a pin 212 rests. The pin 212 includes a latch pin 213 that is configured to move laterally into and out of the housing 208. The position located outside the housing is illustrated in Figures 37 and 42. A spring (not illustrated) urges the pin 212 against the ramp surface 211. When the handle 203 is rotated about the axis of rotation corresponding to or parallel to the longitudinal axis of the cross rail 201, the pin 204 is moved from the position illustrated in Figure 39 to the position illustrated in Figure 40 to cause a leftward movement of the linkage 206 in each leg 198 and 199 to cause the pin 212 to shift in its position illustrated in Figure 42 to the position illustrated in Figure 43, namely, a position wherein the latch pin 212 has been retracted laterally into the body 208 of the latch mechanism 207. A slot 205 in the link 206 is provided which allows independent, passive engagement of the latch pins when the handles are released. This is illustrated in Figure 41. A plurality of holes 214 are provided along the length of the side rails 66 and are configured to receive therein the latch pin 213 when in the extended position thereof as shown in Figure 37. 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. This is done for protection

against inadvertent release, foreign matter, or potential pinching point. When the latch pin is received in an associated hole 214 provided in the side rail 66, the retractable head section will be physically locked to the cot in either the retracted position (Figure 35) or the extended position (Figure 36).

[0093] It is to be noted that the longitudinal axis of the side rails 66 are inclined to the horizontal at an angle α (see Figure 35) that is in the range of 1 to 10°. In this embodiment, the preferred angle is in the range of 2 to 3°. Thus, when the retractable head section 197 is retracted, the load wheels 216 on the retractable frame of the head section 197 are lifted from the ground surface 217 thereby enabling the cot to roll in any direction due to the castered wheels 14. When the retractable head section 197 is extended to the position illustrated in Figure 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. In this particular embodiment, the load wheels 216 are rotatable about a fixed horizontal axes of rotation. That is, the wheels 216 are not supported in a castered manner.

FOLDED SAFETY BAR

[0094] As is illustrated in Figure 37, the retractable head section 197 includes a safety bar 218. The safety bar is configured to operatively engage a safety hook provided on the floor surface of a cargo area of an ambulance to prevent the cot from rolling completely out of the ambulance without an attendant being there to handle the head end of the cot. Reference is to be made to pending U.S. Patent Application Serial No. 10/850 144, filed May 20, 2004, the subject matter of which is to be incorporated herein by reference. As is illustrated in Figures 44-46, a modified safety bar 218A can be provided which is foldable between the folded position illustrated

in Figure 45 and an unfolded position illustrated in Figure 46. That is, the safety bar 218A includes two sections 219 and 221 interconnected by a pivot axle 222. The safety bar sections 219 and 221 are approximately of the same length so that they pivot axle 222 is oriented at the midlength portion of the extended handle as is illustrated in Figure 46. Releasable locking pins 223 are provided to lock the handle sections 219 and 221 in the respective folded position (Figure 45) and the unfolded position (Figure 46). A push button release or removable pin or other means of release (not illustrated) is provided for facilitating an activation of the locking pins to unlock them and facilitate relative movement between the handle sections 219 and 221.

ACCESSORIES

[0095] Figures 50-56 illustrate two accessories that can, if desired, be incorporated on the ambulance cot 10. The first accessory is depicted in Figures 50-51 and is a hook 239 which is secured to the underside of the raisable and lowerable fowler 241 on the ambulance cot 10. The hook 239 consists of a sheet of material formed into a J with the stem of the J being secured to a cross rail 242 on the underside of the fowler 241 and the hook part 243 of the J facing toward the head end (left end) of the cot as depicted in Figures 50-51. The hook 239 facilitates the hanging of various articles therefrom while the cot is in use.

[0096] The second accessory is depicted in Figures 52-56 and is a collapsible pouch 244 secured to and extending between the legs 198 of the head section 197 as well as to and extending between the cross rail 201 on the head section and the cross rail 59 (Figure 5) on the litter frame 17. As is shown in Figure 54, the pouch 244 consists of a planar sheet of fabric 237 to which are sewn plural fasteners 247 and 248 at spaced locations

around the perimeter of the fabric sheet 246. The fasteners 247 are looped around the cross rails 59 and 201 while the fasteners 248 are looped around the laterally spaced legs 198 on the head section. When the head section 197 is in the extended position shown in Figure 52 and 53, the fabric sheet 246 is stretched between the longitudinally spaced cross rails 59 and 201 and laterally spaced legs 198 so as to provide a support surface 249. When the head section 197 is retracted to the position illustrated in Figures 55 and 56, the cross rails 59 and 201 become closely adjacent one another and the fabric sheet 246 is collapsed in an accordion style therebetween.

OPERATION

[0097] While the operative characteristics of the ambulance cot will be apparent to those skilled in the art upon reading the above set forth description and referring to the accompanying drawings, a discussion of the operational characteristics of the ambulance cot are set forth below for convenience.

[0098] When the ambulance cot is in the fully collapsed position, and referring to Figures 4 and 7, an extension of the linear actuator 53 will cause a clockwise (Figure 7) rotation of the bracket 43 about the axis of the fastener 44, the linear actuator being extended in the direction of the arrow 224. The position of the fastener 44 (Figure 4) is determined by the fixed length linkage members 41. As a result of this geometry, the amount of force in the direction of the arrow 224 is optimal and effects a rapid lifting of the litter 16 from the positions illustrated in Figures 3 and 4 through the mid-height position illustrated in Figure 2 to the full height position of the litter illustrated in Figure 1. As the brackets 43 are lifted with continued extension of the linear actuator 53, the further X frame members 32,

33, 36 and 37 will telescope outwardly to accommodate the changing height of the frame members 22 and 23 from the base 11. In this particular embodiment, the pivot axle 24 for the two brackets 43 extend through the respective X frame members 22, 23 and 32, 33. As a result, it is necessary to provide an elongate slot in each of the further X frame members 26, 27 and 36, 37 in order to accommodate the presence of the pivot axle 24. It is to be recognized that a placement of the pivot axle 24 can be oriented at a location on the bracket 43 which will make it unnecessary to provide an axle receiving hole in each of the X frame members 23 and 33 as well as the elongate slots in the further X frame members 27 and 37. This provides an advantage of increased strength and stiffness of the base. When the litter 16 is lowered to the position illustrated in Figures 3 and 4, mounts 226 (Figure 1) will operatively engage a cross rail provided on the underside of the litter 16 and additional mounts 227 will rest on the cross rail 13 on the base. The mounts 226 and 227 are oriented so that they are not readily accessible by attendants in the region of the ambulance cot and, therefore, pinching issues are avoided.

[0099] Referring to Figure 11, each push button switch 84, 86 on the foot end lift handle assembly 72 requires two sets of switch contacts to be engaged in order to effect the desired command. That is, the set of contacts 228, 229 must both be closed in order to effect, for example, a retraction of the reciprocal rod 56 into the cylinder housing 54. Similarly, the two sets of contacts 231 and 232 of the switch 86 will effect an extension of the reciprocal rod 56 from the cylinder housing 54.

[00100] Turning now to Figures 17-25, the hydraulic circuit operation will now be described. Assuming the ambulance cot is in an ambulance and is now in the

process of being removed from the ambulance, it is necessary to deploy the base from the position illustrated in Figure 3 to the position illustrated in Figure 1 and as taught in WO 2004/064698. Normally, the control 158 is in what is referred to as the "sleep" mode. Once a command is presented, such as by depressing the switch 86 to close the contacts 231 and 232, such action is noted by the control 158 to effect a powering up of the circuit to effect an opening of the valve 137 (Valve A) to shift the valve from its Figure 17 position to the Figure 18 position. The control will also make inquiry concerning whether the high top sensors 166 and 167 have been detected (see Figure 25) and, if not, the electric motor 122 is ramped in to effect a driving of the hydraulic pump 124. As soon as the motor reaches its maximum speed, the motor is continued to operate driving the pump at maximum speed until the sensor 167 is detected at which time the speed of the motor is ramped down or gradually slowed until the high top sensor 166 is detected, at which time the motor is brought to a stop. If the contacts 231 and 232 remain closed, the motor will remain stopped until the button 86 has been released by the attendant. Rapid uncontrolled deployment of the base from the Figure 3 position to the Figure 1 position is prevented by the orifice 136 in the valve 134 (Valve F). The attendant can thereafter "jog" the litter further upwardly by pressing the switch. In this case, the controller will activate the motor for a short interval of time, allowing incremental upward movement of the litter.

[00101] Figure 19 illustrates a lowering of the litter from the Figure 1 position toward the Figure 3 position. In this instance, the switch 84 is actuated to close the contacts 228 and 229 to cause an opening of the valve 146 (Valve B). It will be noted that fluid flows out of the

closed end of the linear actuator 53 through the pressure compensated flow control valve 143, through the check valve 144, through the opened Valve B to tank 141. The hydraulic fluid enters the rod end of the linear actuator 53 by sucking same out of the tank 141 through a check valve 153. In this particular situation, operation of the motor 122 is not required and hence is not activated. If the litter of the ambulance cot is lifted (no weight on the base of the ambulance cot), the pressure switch 159 will detect the lifting by reason of a reduced pressure and as long as the switch 84 and the contacts 228 and 229 thereof remain closed, the motor 122 will be activated and driven in the opposite direction of rotation to effect a rapid driving of fluid into the rod end of the linear actuator 53 to rapidly collapse the cot. Prior to this occurring, however, the Valve B will be returned to its initial position illustrated in Figure 17 as will Valve A. Alternatively, a separate switch (not shown) can be provided for effecting the same rapid collapse of the cot. Since less hydraulic fluid is required in the rod end of the linear actuator 53 by reason of the presence of the reciprocal rod 56 than is required at the opposite end of the cylinder housing 54, excess fluid will need to be bled from the closed end of the cylinder housing and this is accomplished through the high pressure side of the pump feeding a pressurized signal to open the check valve 133 and the check valve 139 to facilitate a bleeding of some of the hydraulic fluid to tank during the time that the base frame 11 is rapidly raised by the hydraulic circuit. Once the low position sensor is detected, the speed of the motor is gradually reduced until the lowermost sensor 164 is detected at which time the motor is brought to a halt. If the push button switch 84 remains activated, the motor will remain stopped until the attendant releases the

manual engagement of the button 84. The attendant can thereafter "jog" the litter further downwardly by pressing the switch. In this case, the controller will activate the motor for a short interval of time, allowing incremental downward movement of the litter.

[00102] The operative characteristics illustrated in Figure 21 are similar to those depicted in Figure 18. Even when the motor 122 is activated to drive the pump 124, the orifice or throttle 136 limits the amount of fluid that can be driven so that the base unit does not uncontrollably fall away from the litter when it is being lifted by the ambulance attendants.

[00103] In the situation where there is a loss of electrical function, it must be possible to operate the ambulance cot manually. In addition, a weep valve 233 is provided at the rod end of the cylinder housing 54 to cause a pressure relief to occur when the rod is fully extended. That is, hydraulic fluid inside the cylinder housing 54 will communicate with the outlet 127 to limit the pressure buildup inside the cylinder housing 54. In view of the construction of the valves 151 and 157, with weight on the cot 10, the handle 103 and the valve 157 are allowed to operate, as Figure 12-14 and Figure 29 indicate. Since the pressure is high in the chamber 181 of the valve 151, the valve 151 will not shift (as shown in Figure 29) in response to an operative movement of the handle 103 and the litter 16 of the cot 10 will not lower. On the other hand, when weight on the litter 16 is removed by the attendant or plural attendants lifting the litter 16 away from the base frame 11, the hydraulic pressure in the chamber 181 of the valve 151 is reduced to facilitate an easy movement of the land 186 and the valve seat surface 187 thereon (Figure 31) away from the valve seat surface 188 in order to facilitate the operation of the valve 151 simultaneously with the valve

157 (Figures 28-30, particularly Figure 30). That is, fluid flows from the closed end of the linear actuator 53 to tank through the valve 151 whereas hydraulic fluid is siphoned from the tank 141 into the rod end of the linear actuator 53 to effect a lowering of the litter 16 relative to the base frame 11. Similarly, and assuming that electrical function has still been disrupted and it is desired to deploy the base from the Figure 3 position to the Figure 1 position, the attendants will need to lift the cot while simultaneously operating the handle 103 causing the weight of the base frame 11 to effect a drawing of fluid from the tank into the closed end of the linear actuator 53 while the hydraulic fluid in the rod end of the linear actuator 53 extends through the open valve 157 to tank.

[00104] Although particular preferred embodiments of the invention have been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

AMBULANCE COT AND
HYDRAULIC ELEVATING MECHANISM THEREFOR

ABSTRACT OF THE DISCLOSURE

An ambulance cot is disclosed and the ambulance cot has, if desired, a wheel supported base and a litter raisable and lowerable by a powered elevating mechanism oriented between the base and the litter. The ambulance cot also has wireless communication capability to facilitate communication between the ambulance cot and a loading system on an ambulance as well as facilitating wireless troubleshooting via a handheld wireless unit. The ambulance cot also has a longitudinally extendable head section. The ambulance cot also has several accessories, such as an accessory hook mounted to the underside of the fowler, and a collapsible pouch accessory fastened to the retractable head section and the litter frame.

1/52

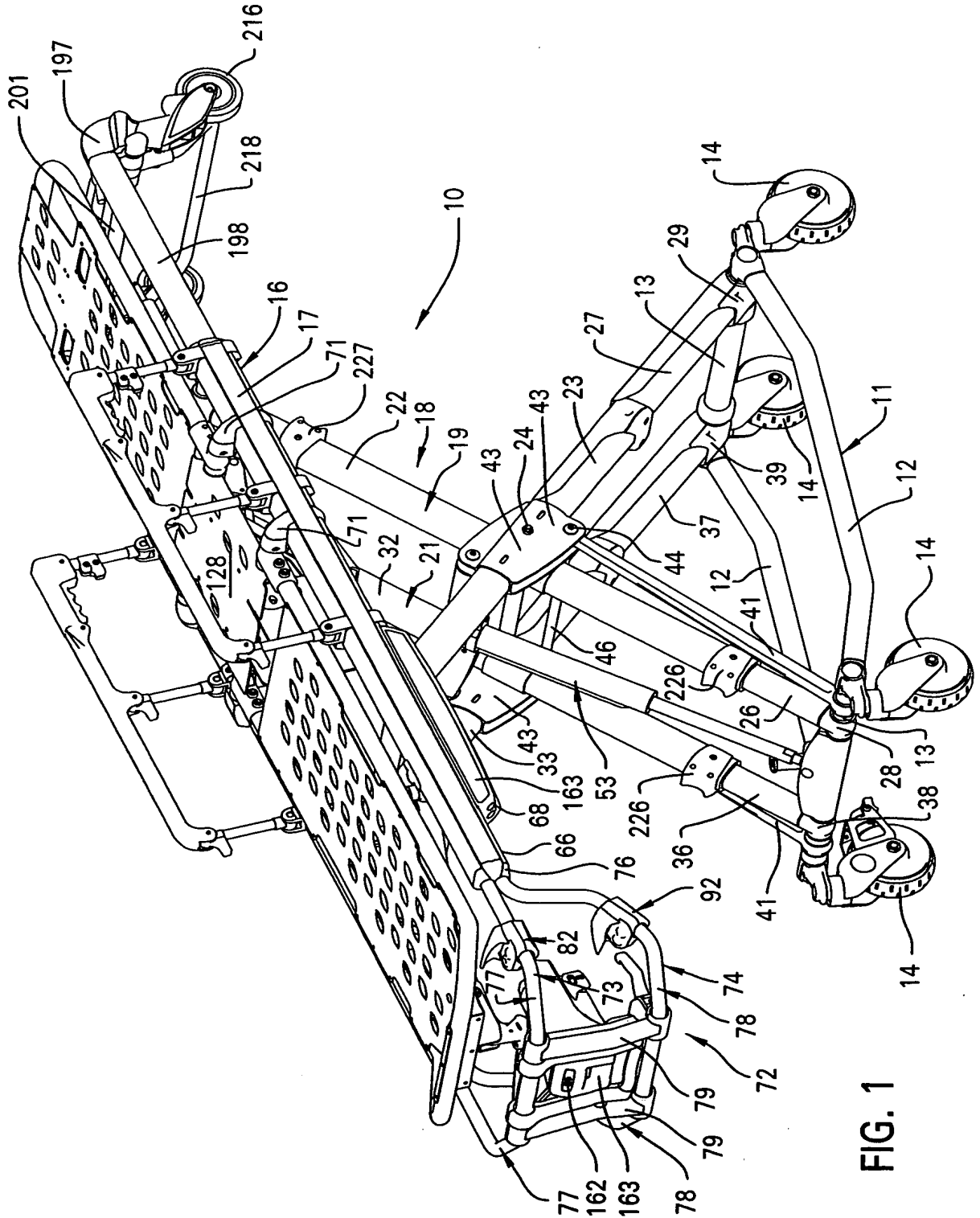


FIG. 1

2/52

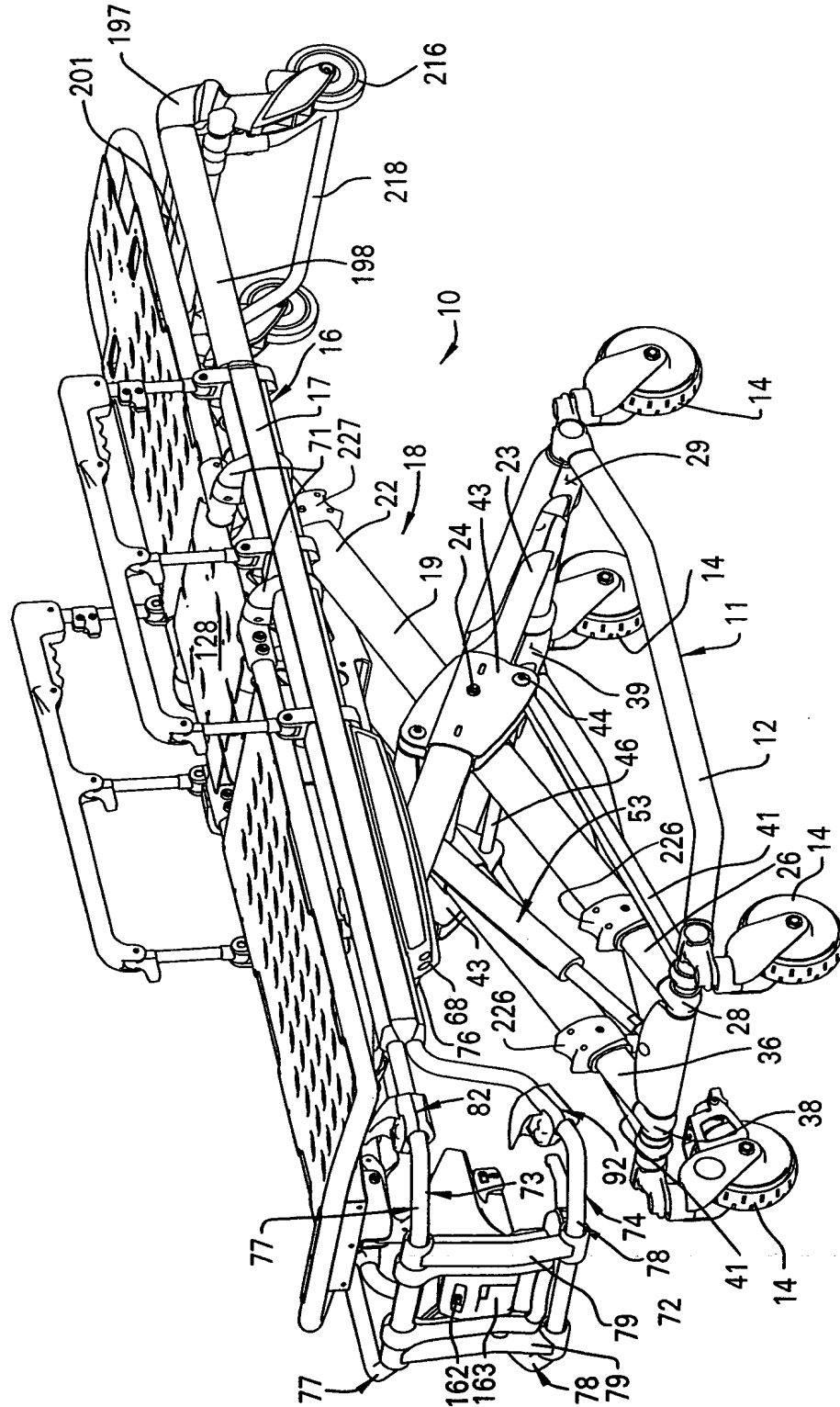


FIG. 2

3/52

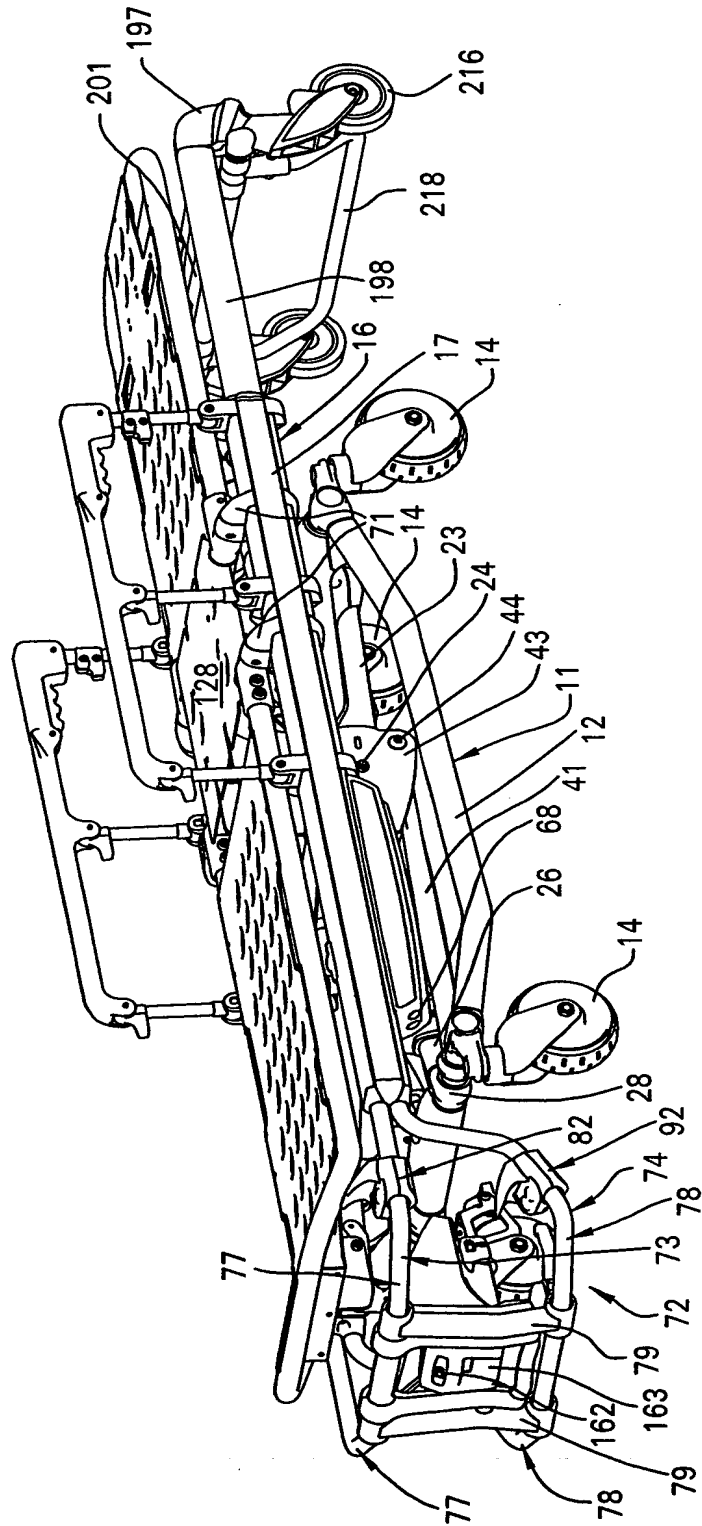


FIG. 3

4/52

FIG. 15

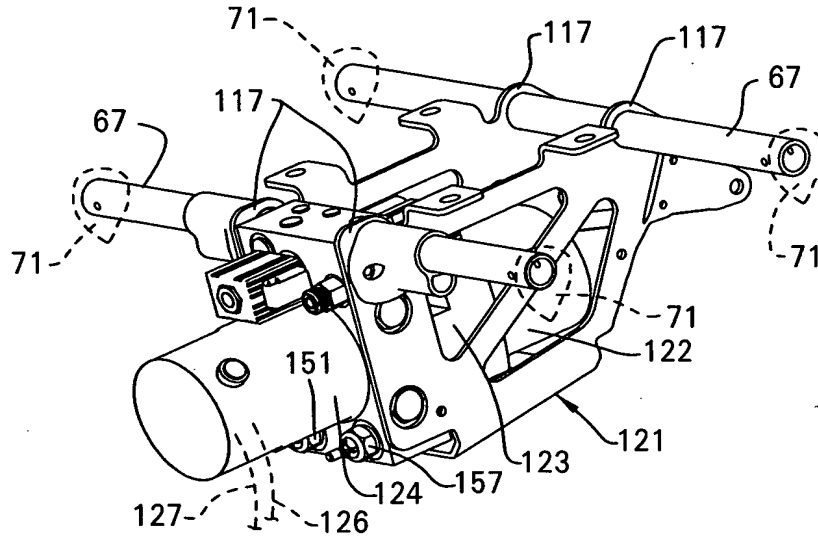
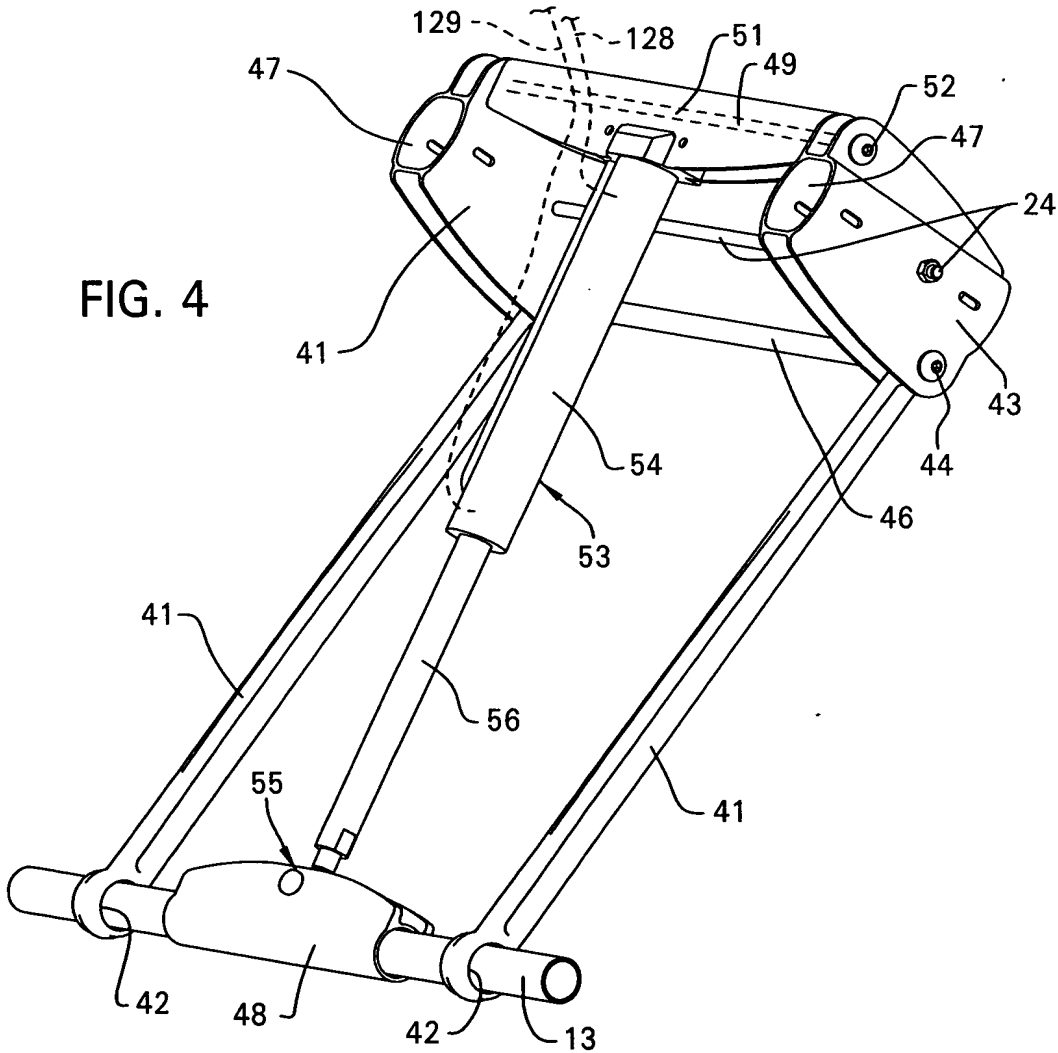


FIG. 4



5/52

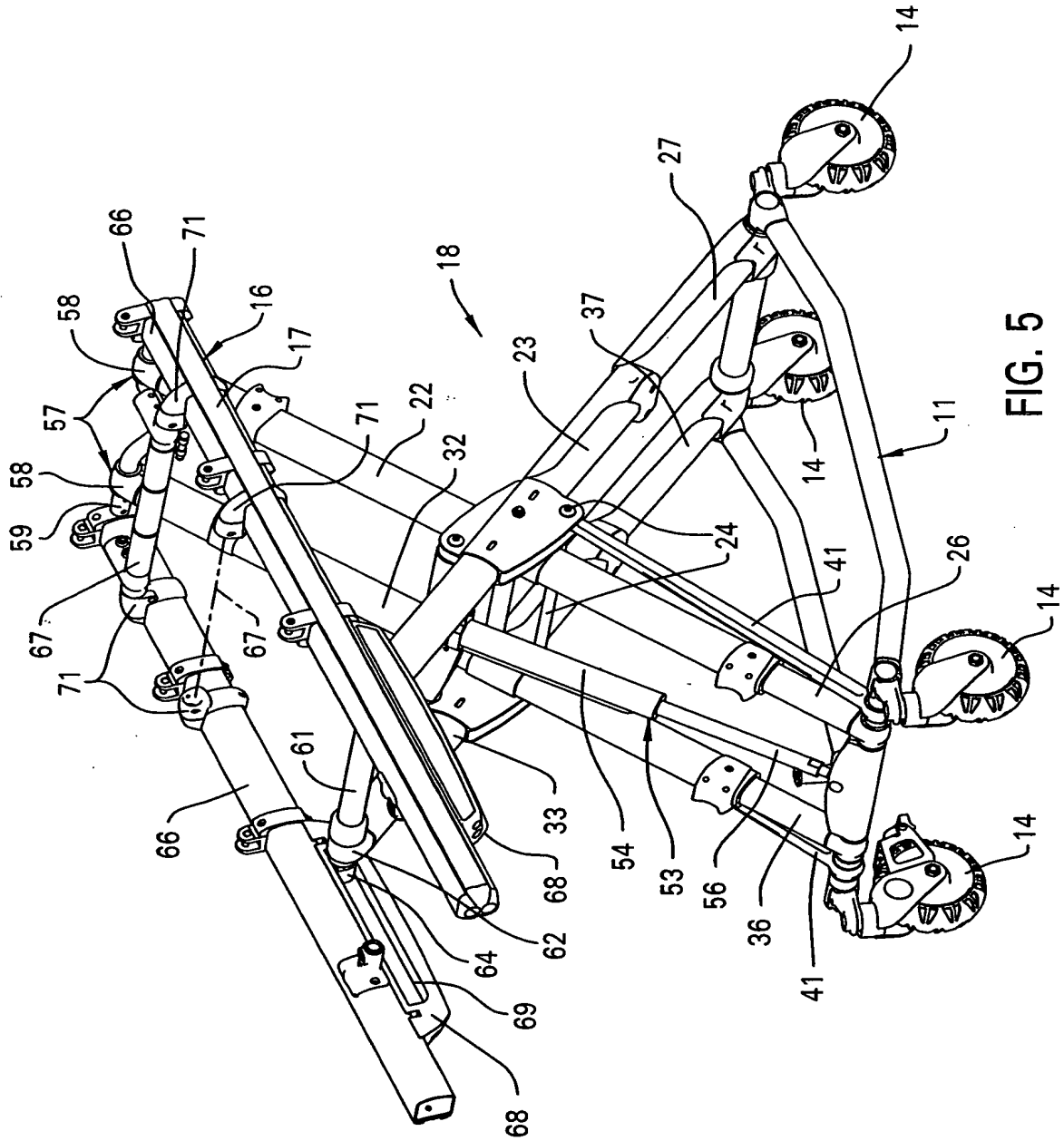


FIG. 5

6/52

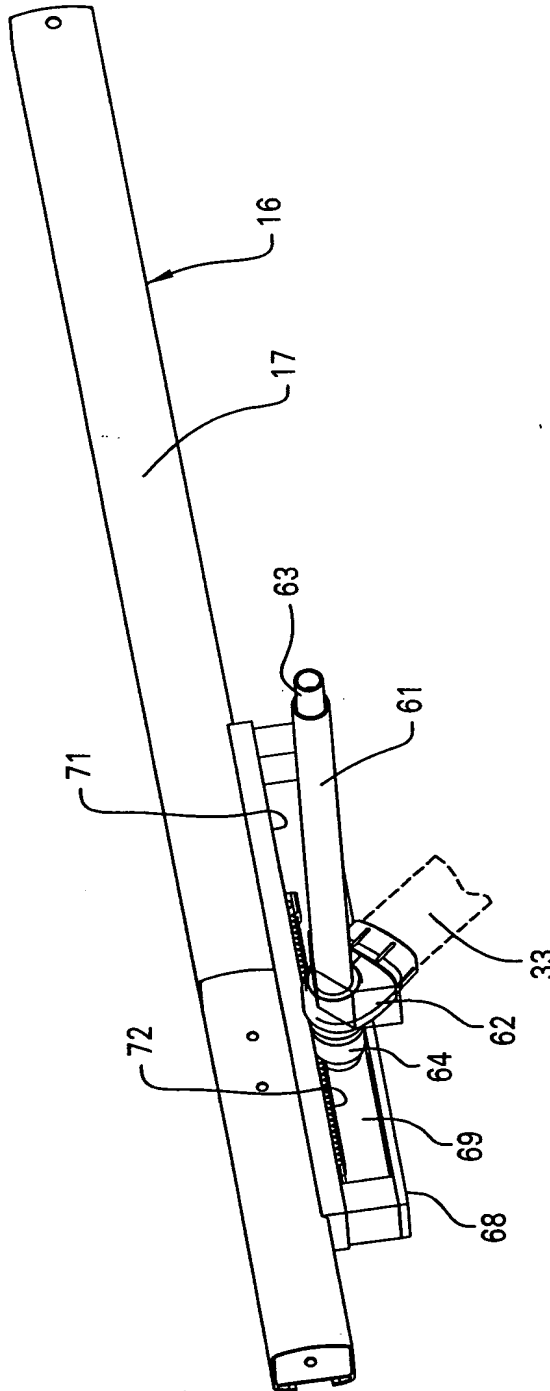


FIG. 6

7/52

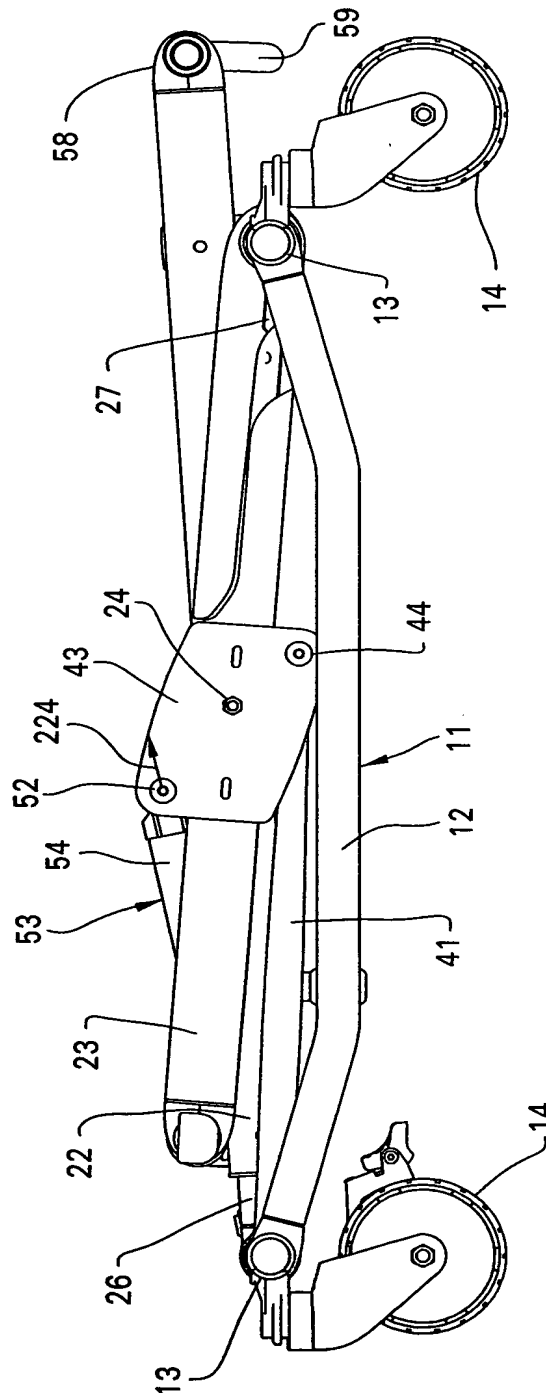


FIG. 7

8/52

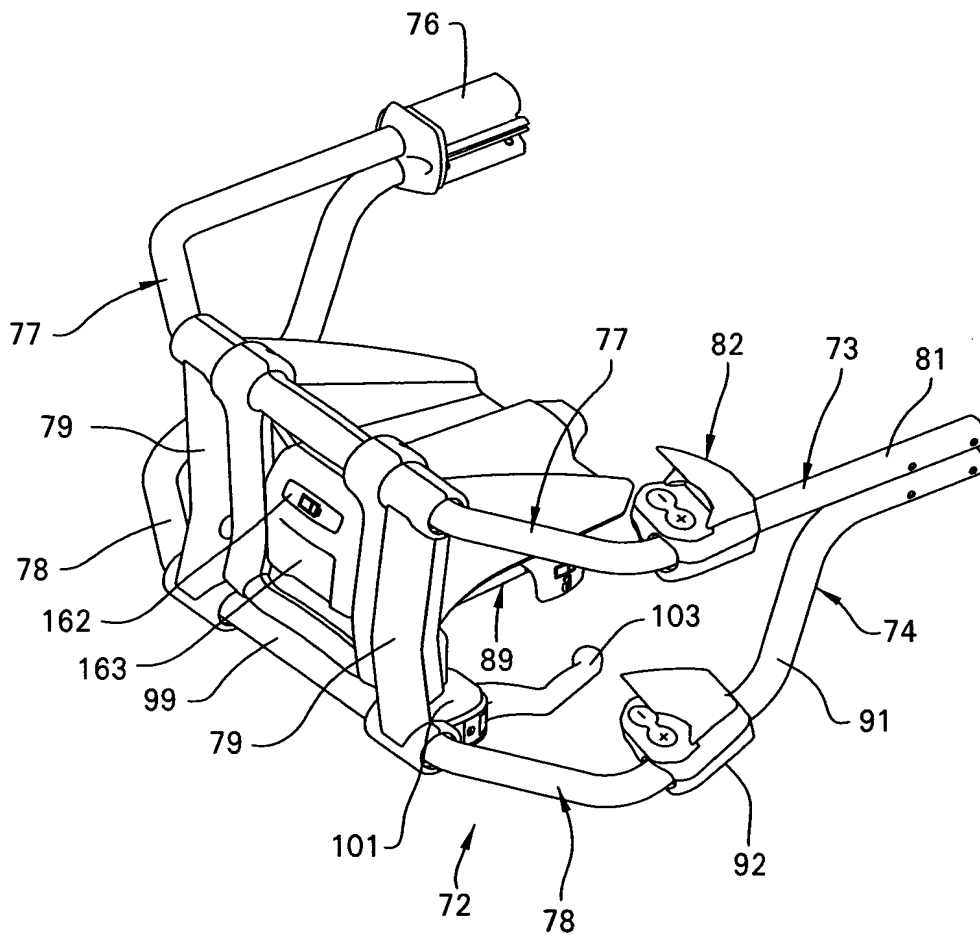


FIG. 8

10/52

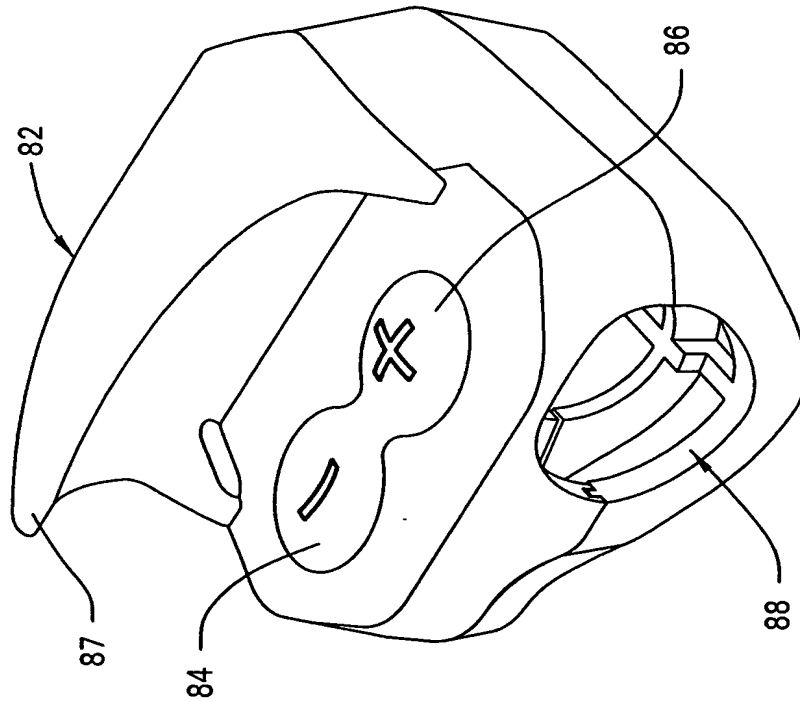


FIG. 10

11/52

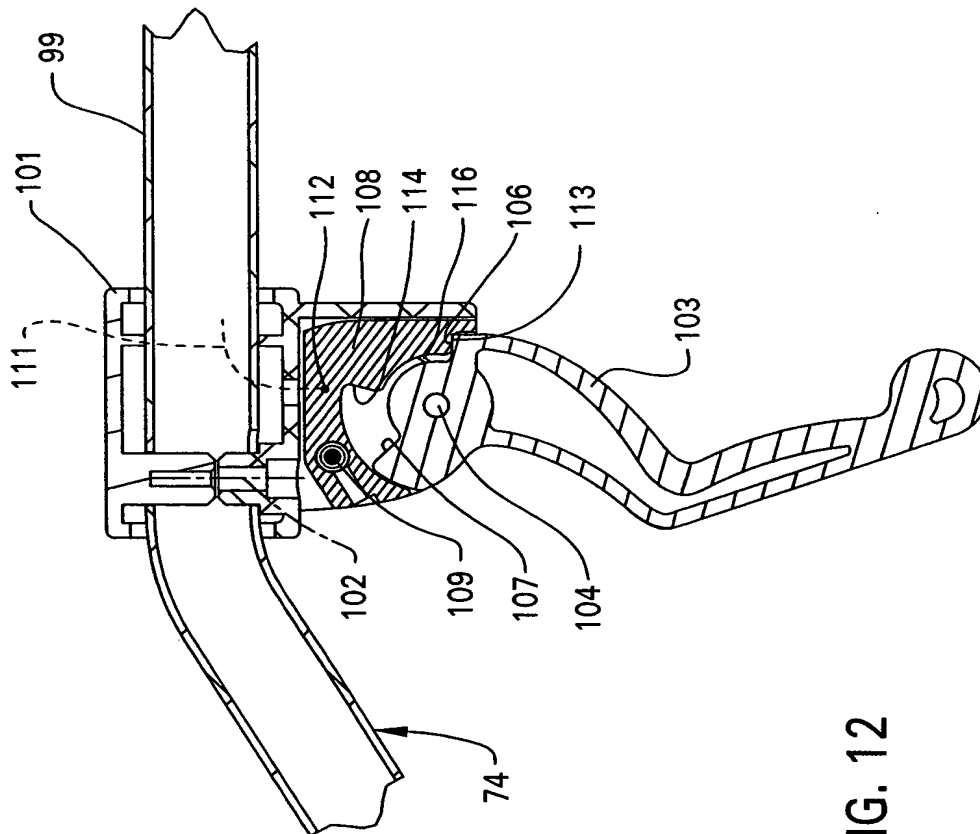
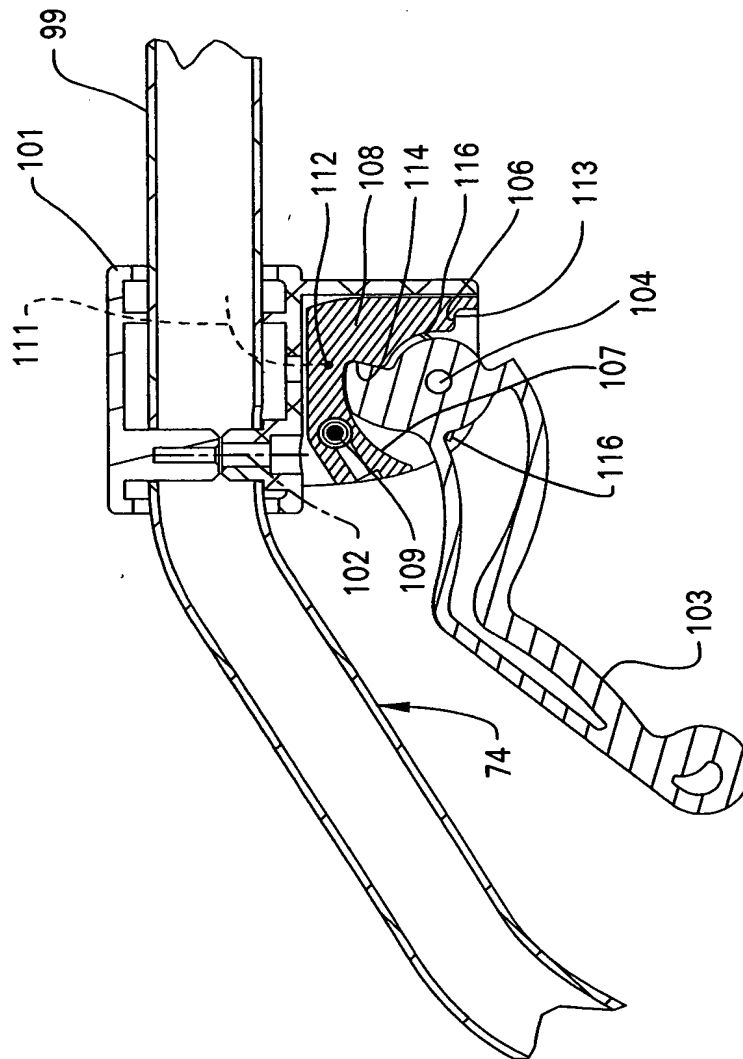


FIG. 12

12/52



13/52

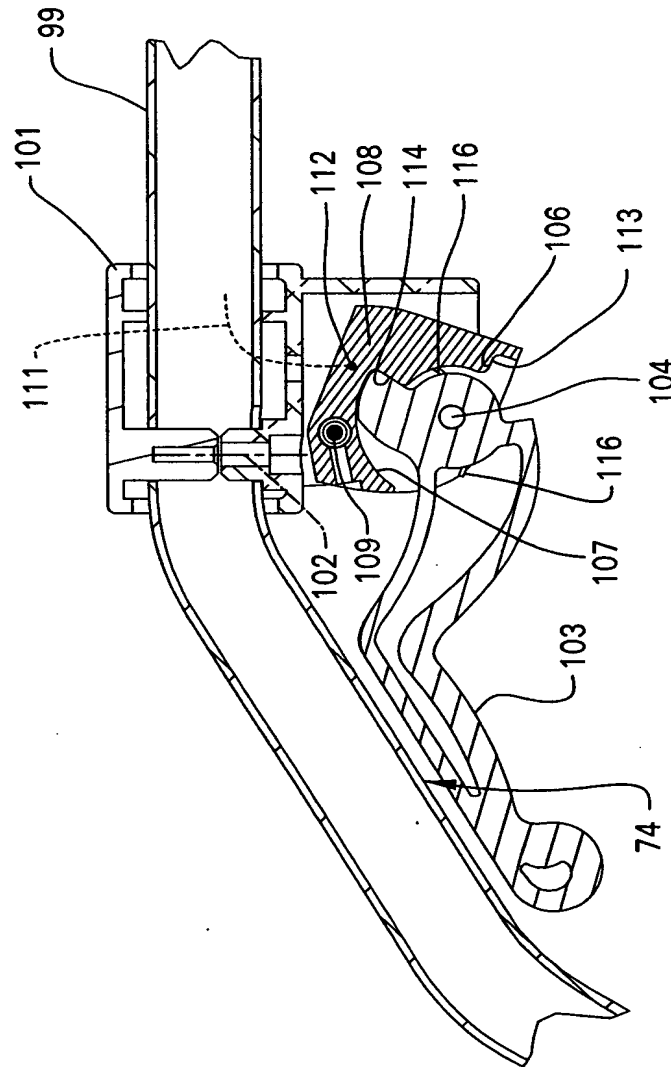


FIG. 14

14/52

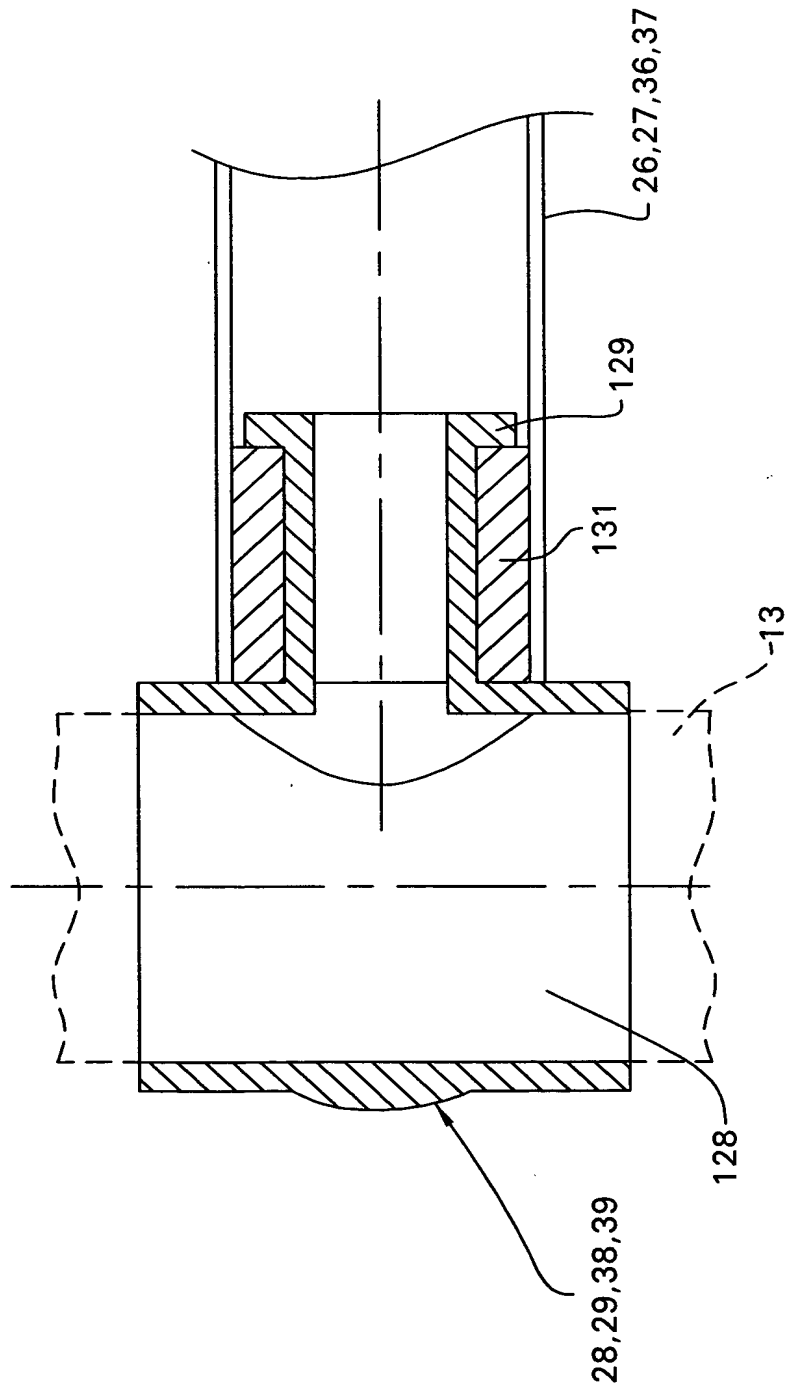


FIG. 16

15/52

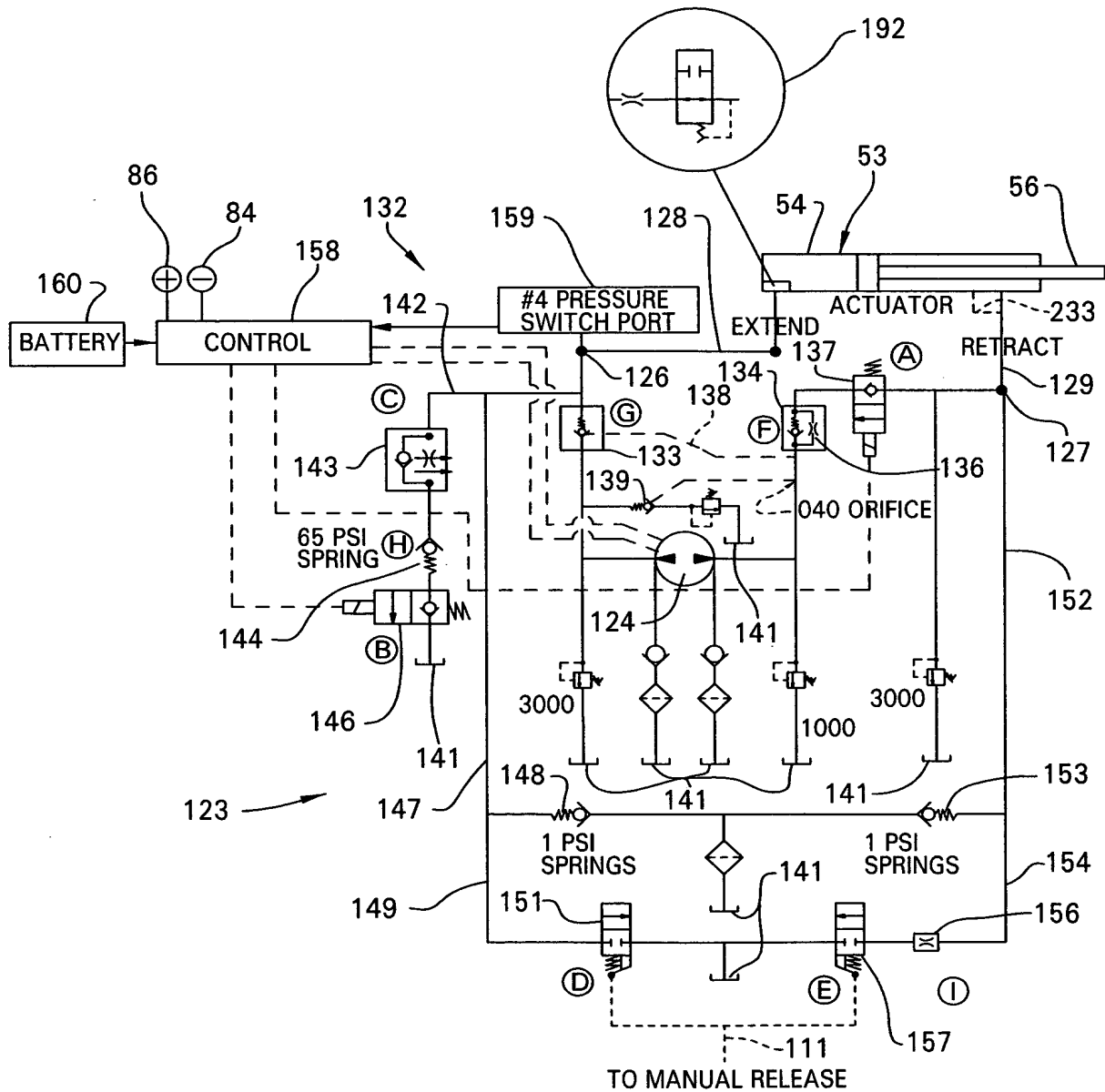
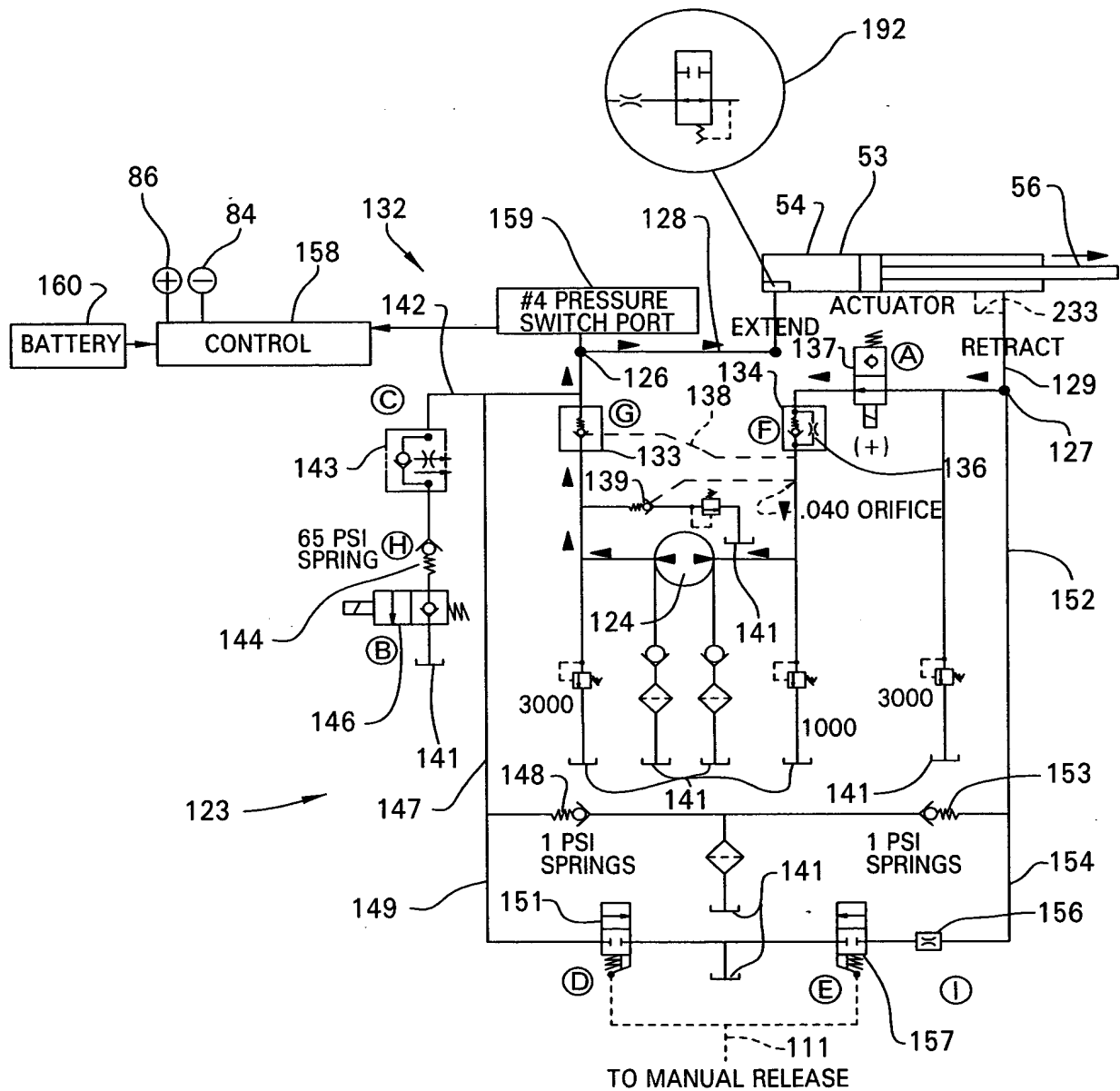


FIG. 17







19/52

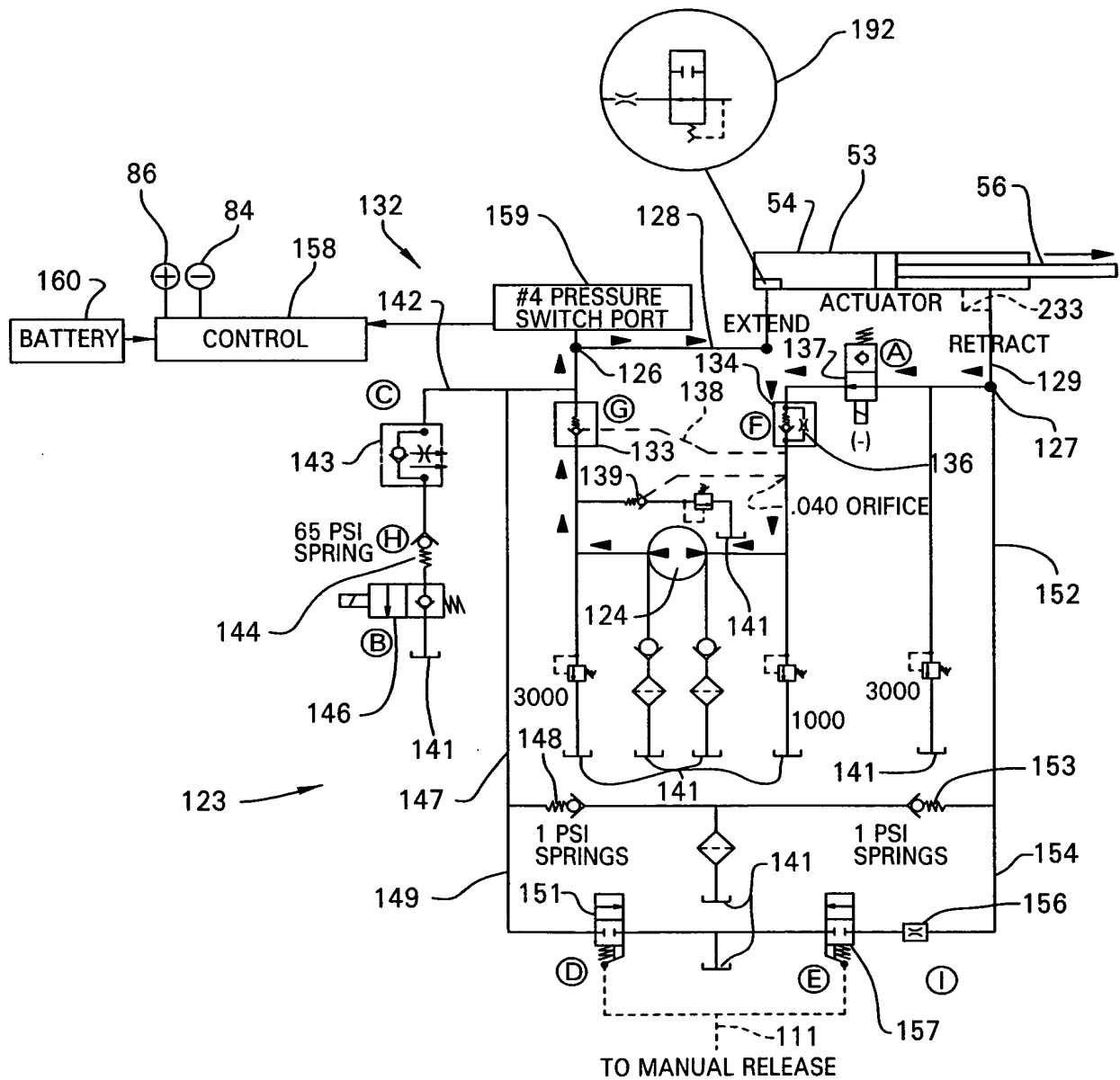


FIG. 21





22/52

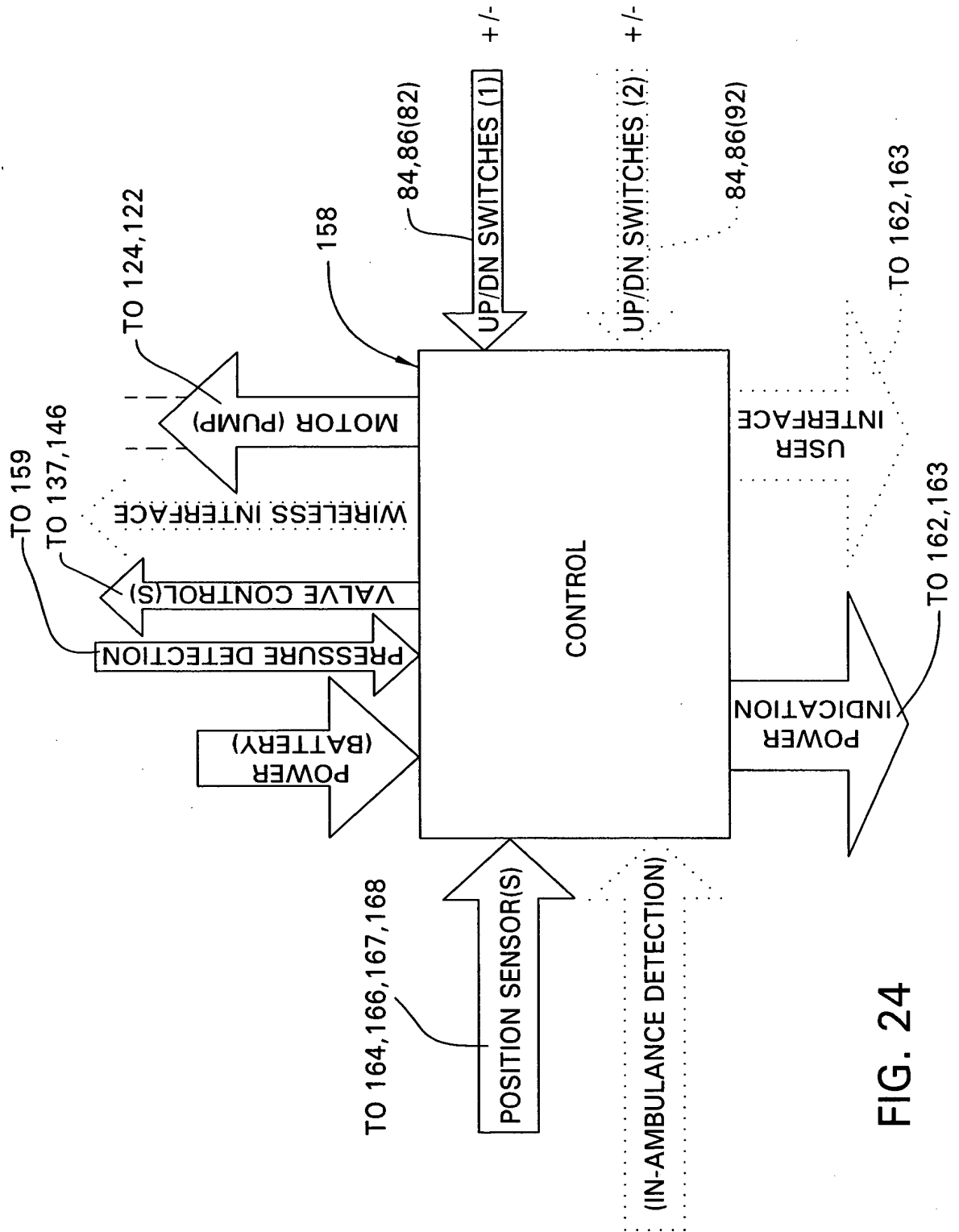


FIG. 24

23/52

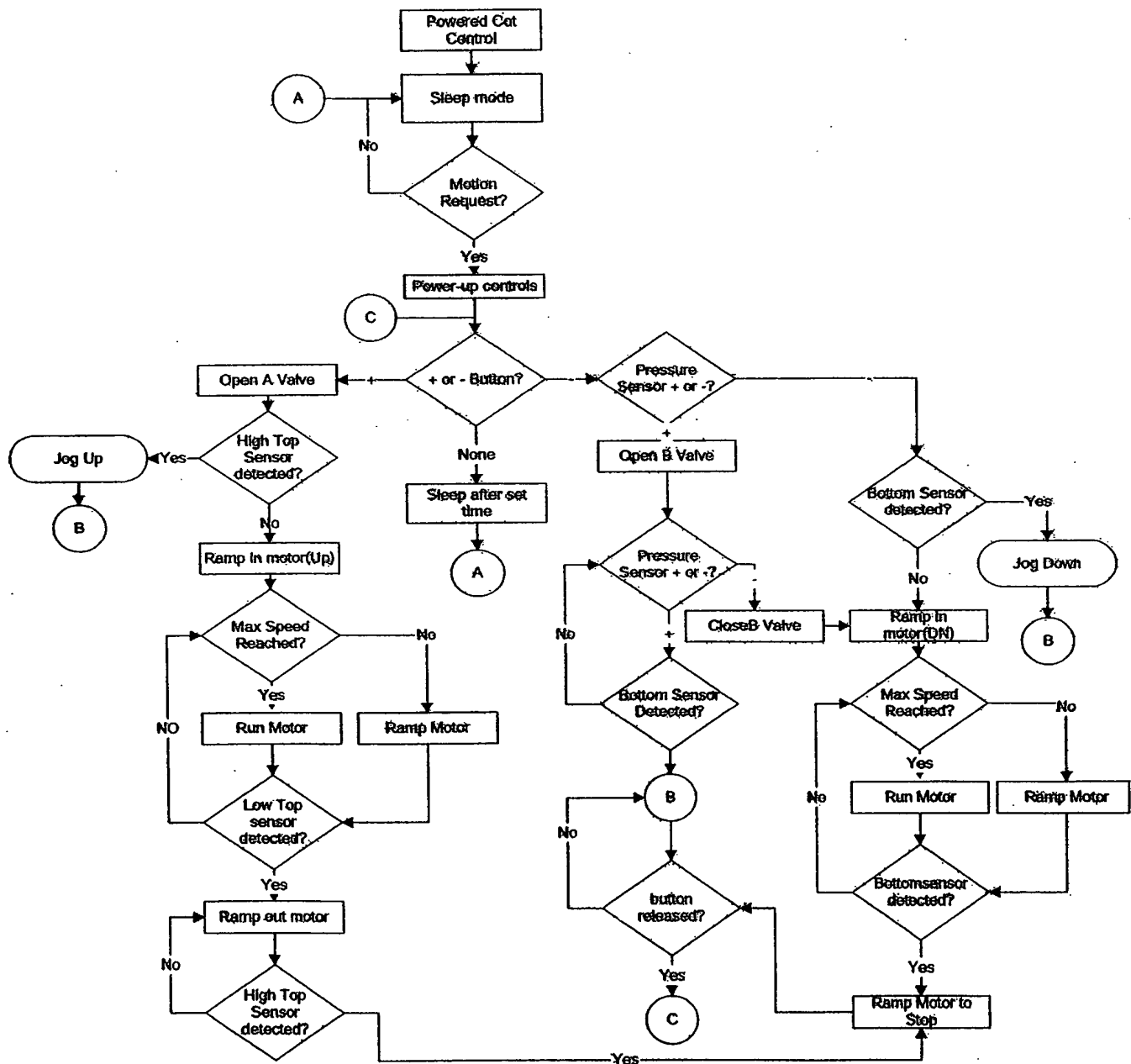
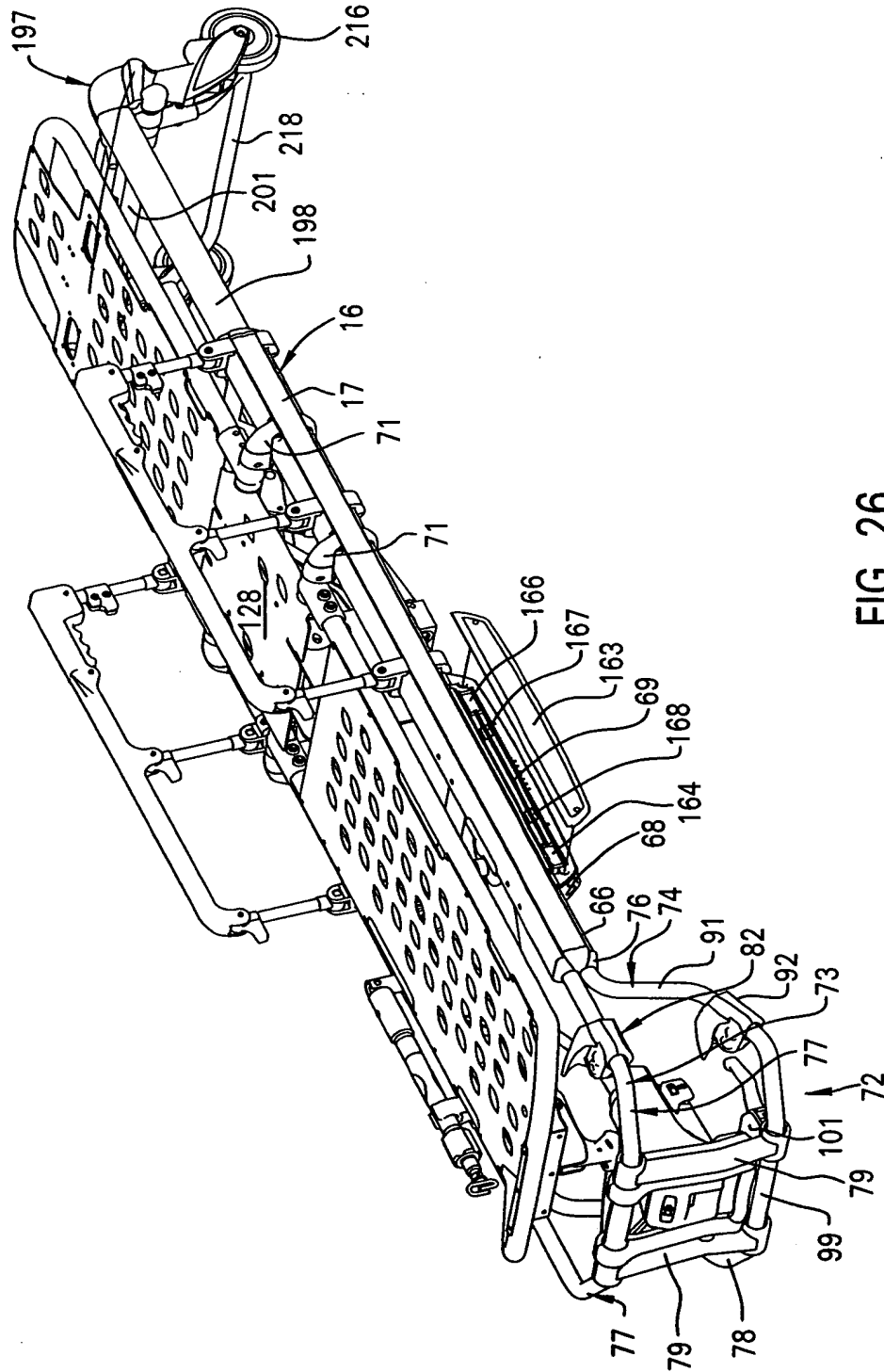


FIG. 25

24/52



26/52

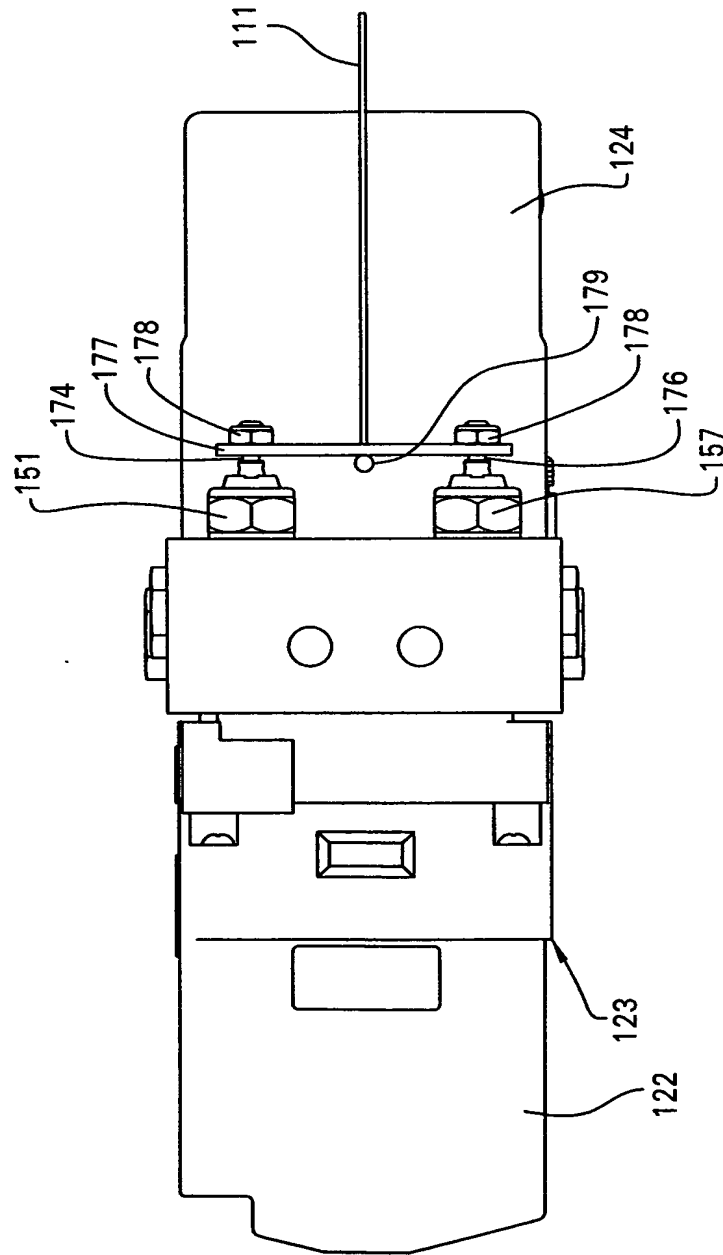


FIG. 28

27/52

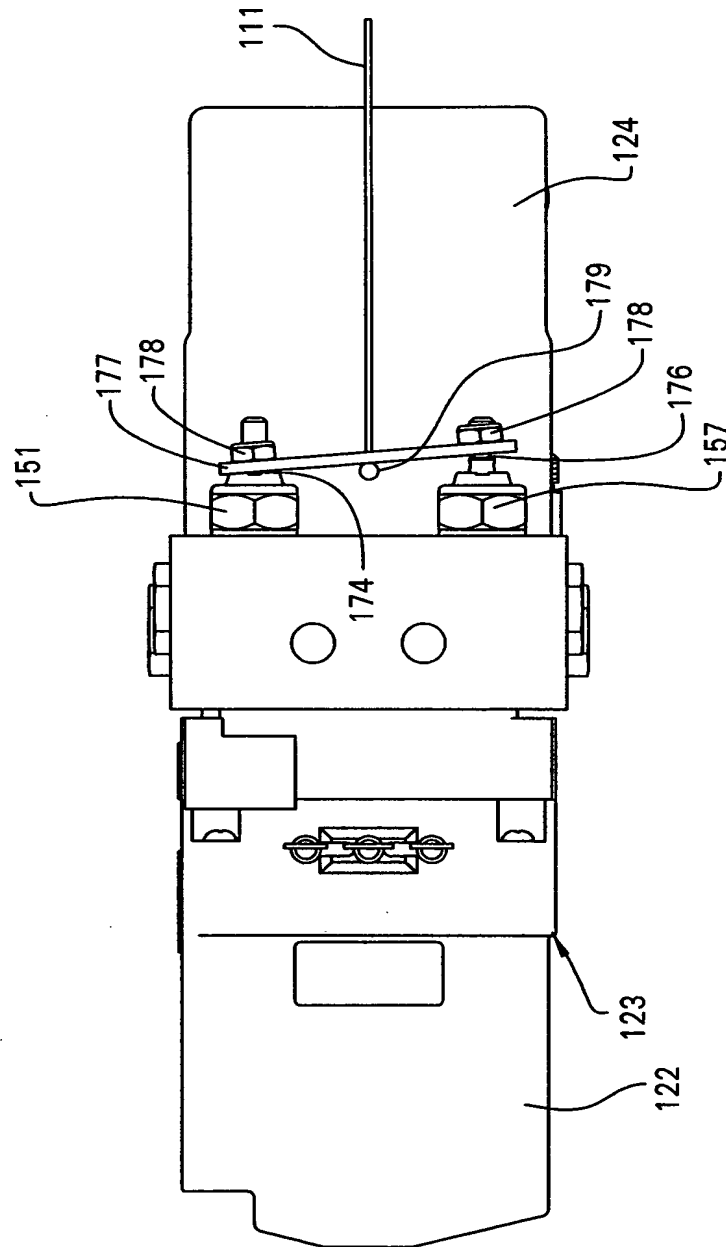


FIG. 29

28/52

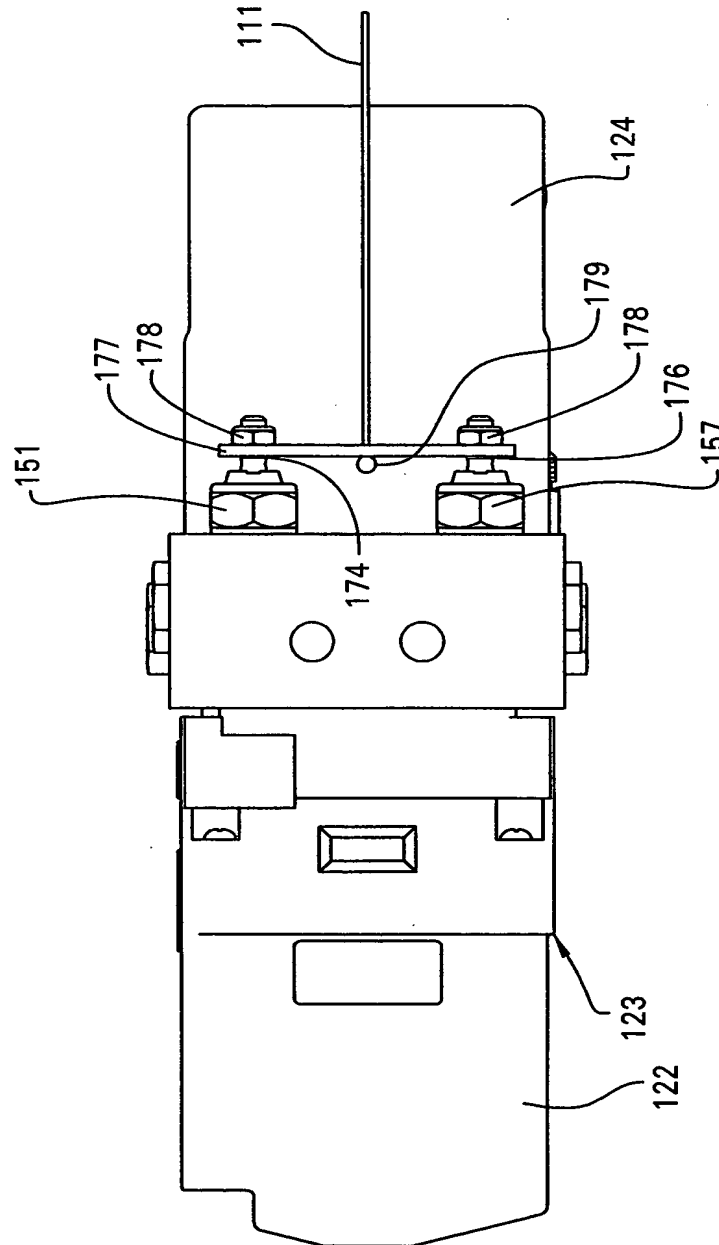


FIG. 30

29/52

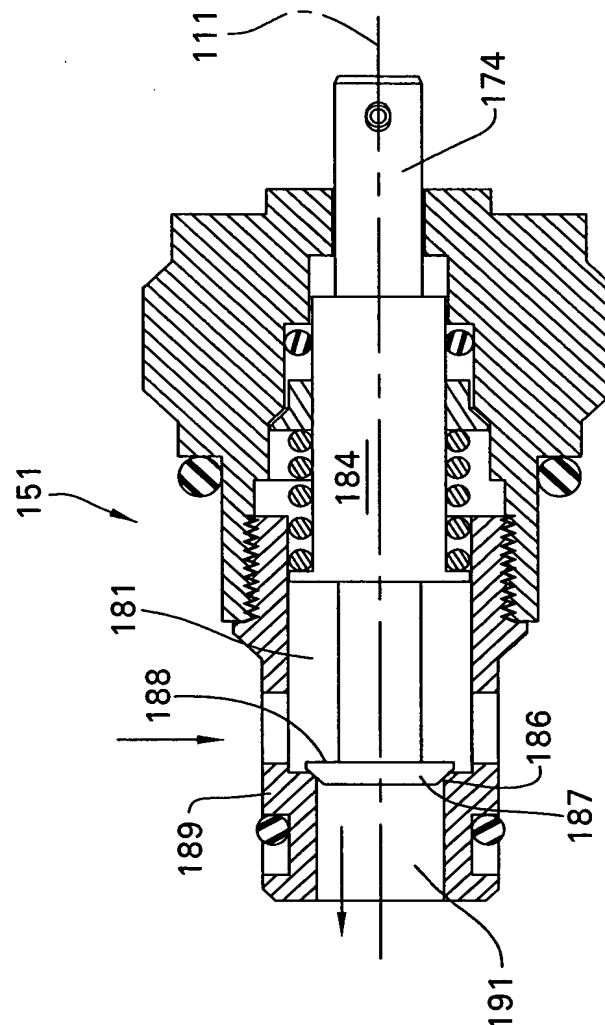
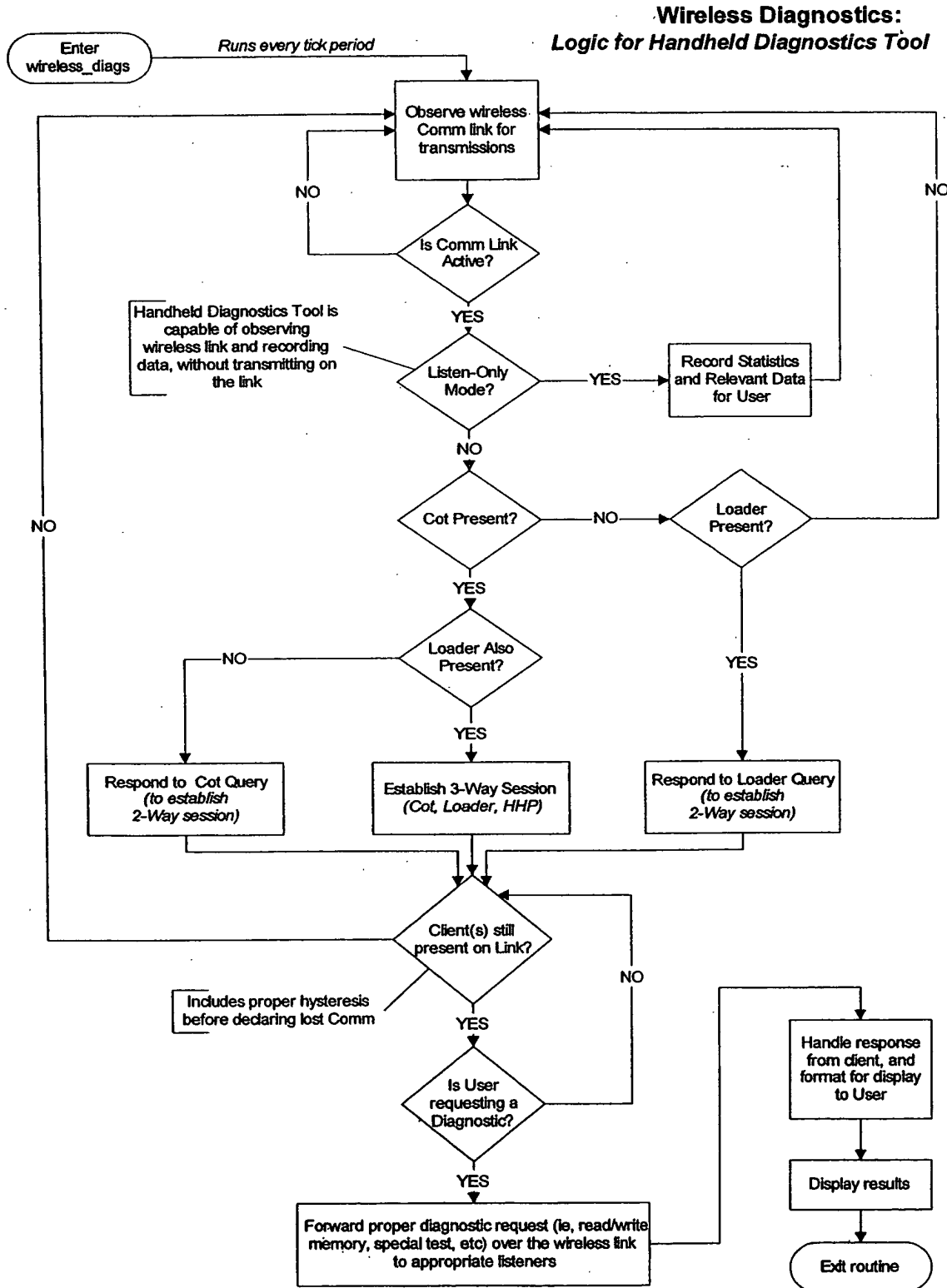


FIG. 31

30/52

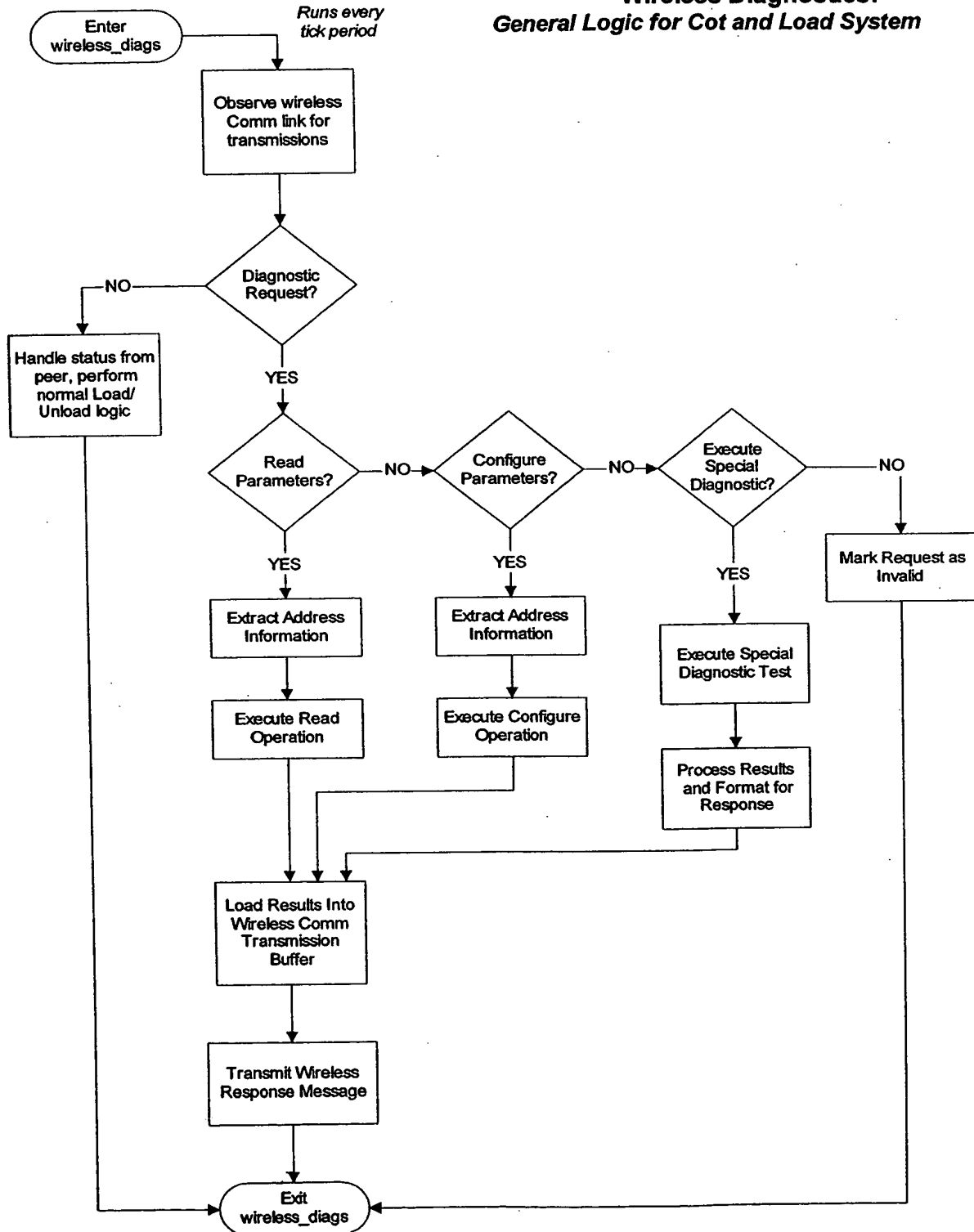
FIG. 32



31/52

FIG. 33

**Wireless Diagnostics:
General Logic for Cot and Load System**



32/52

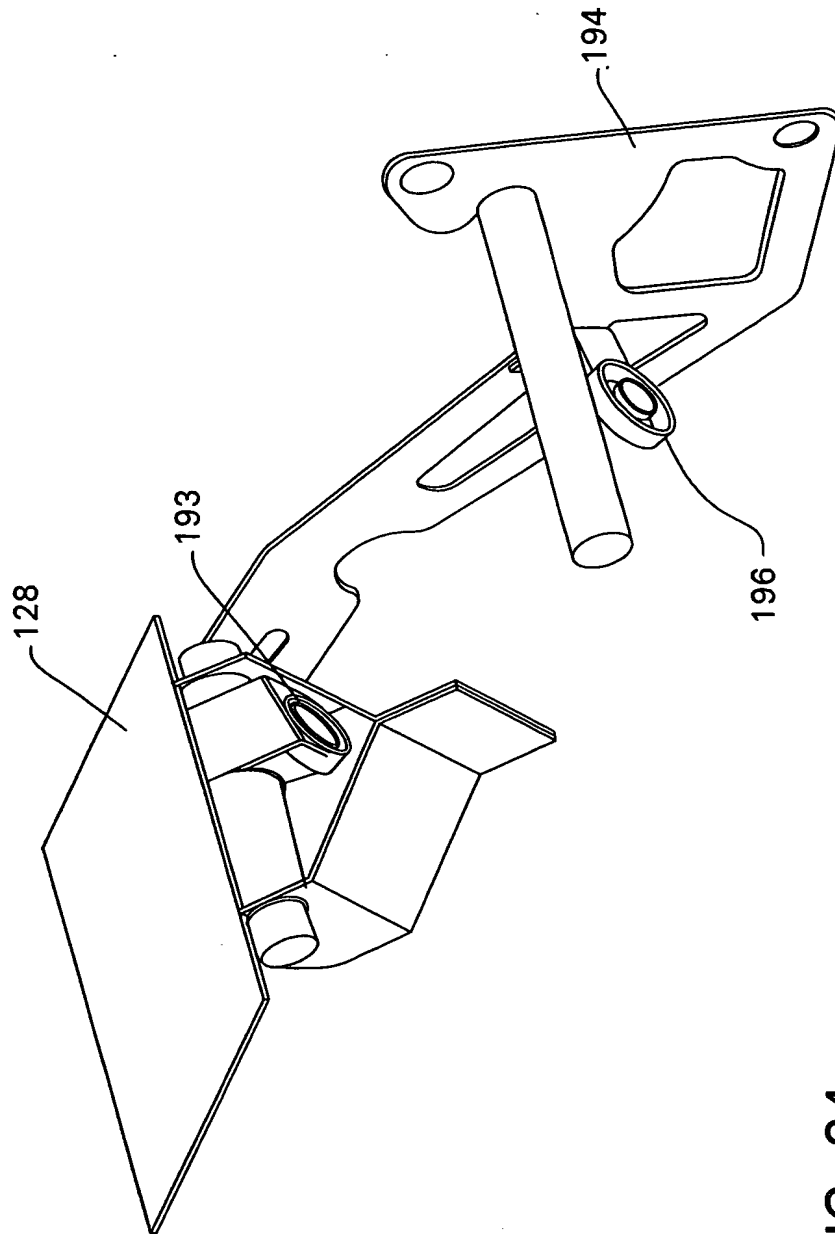


FIG. 34

33/52

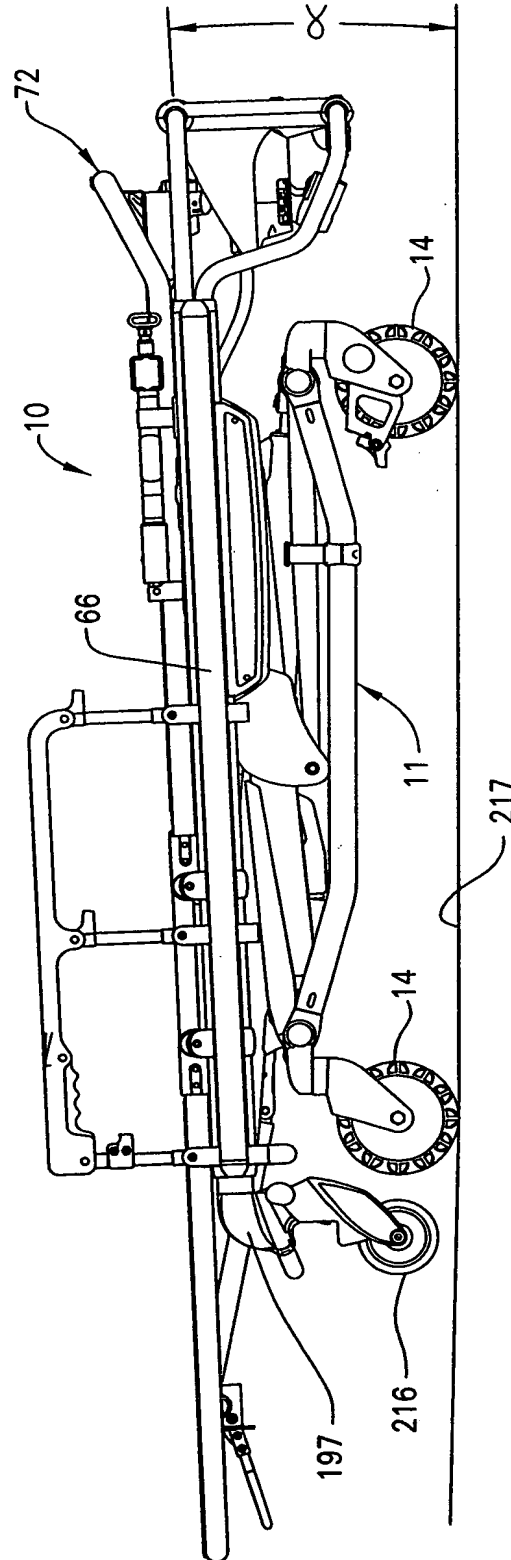


FIG. 35

34/52

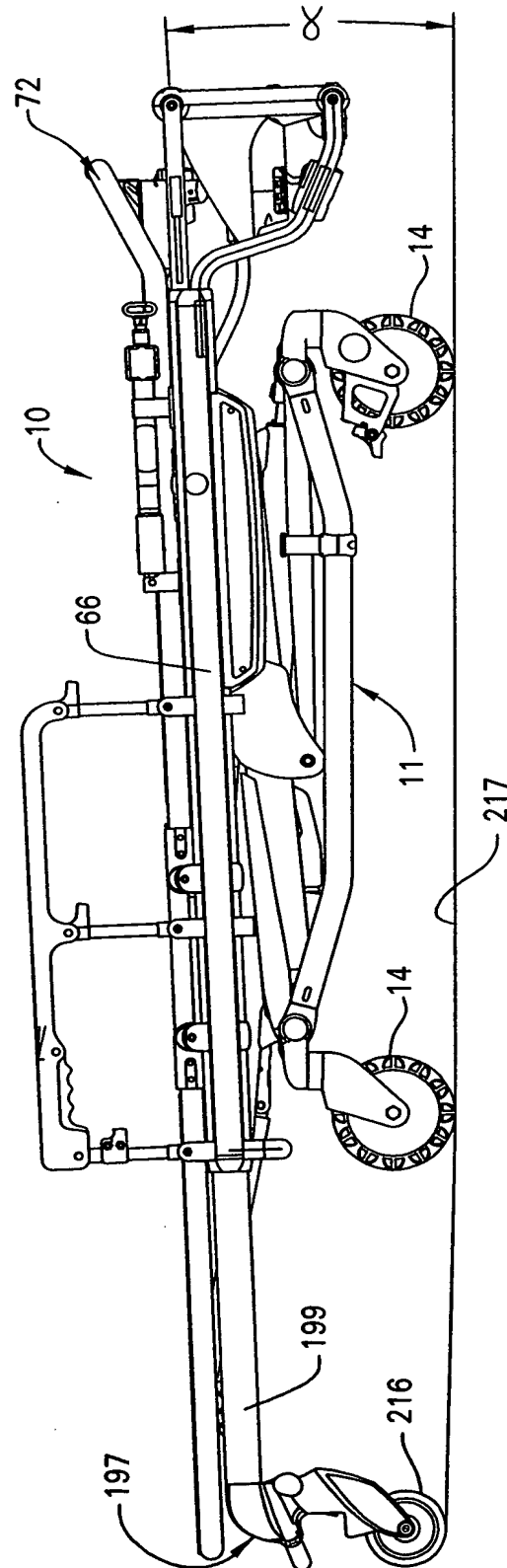


FIG. 36

35/52

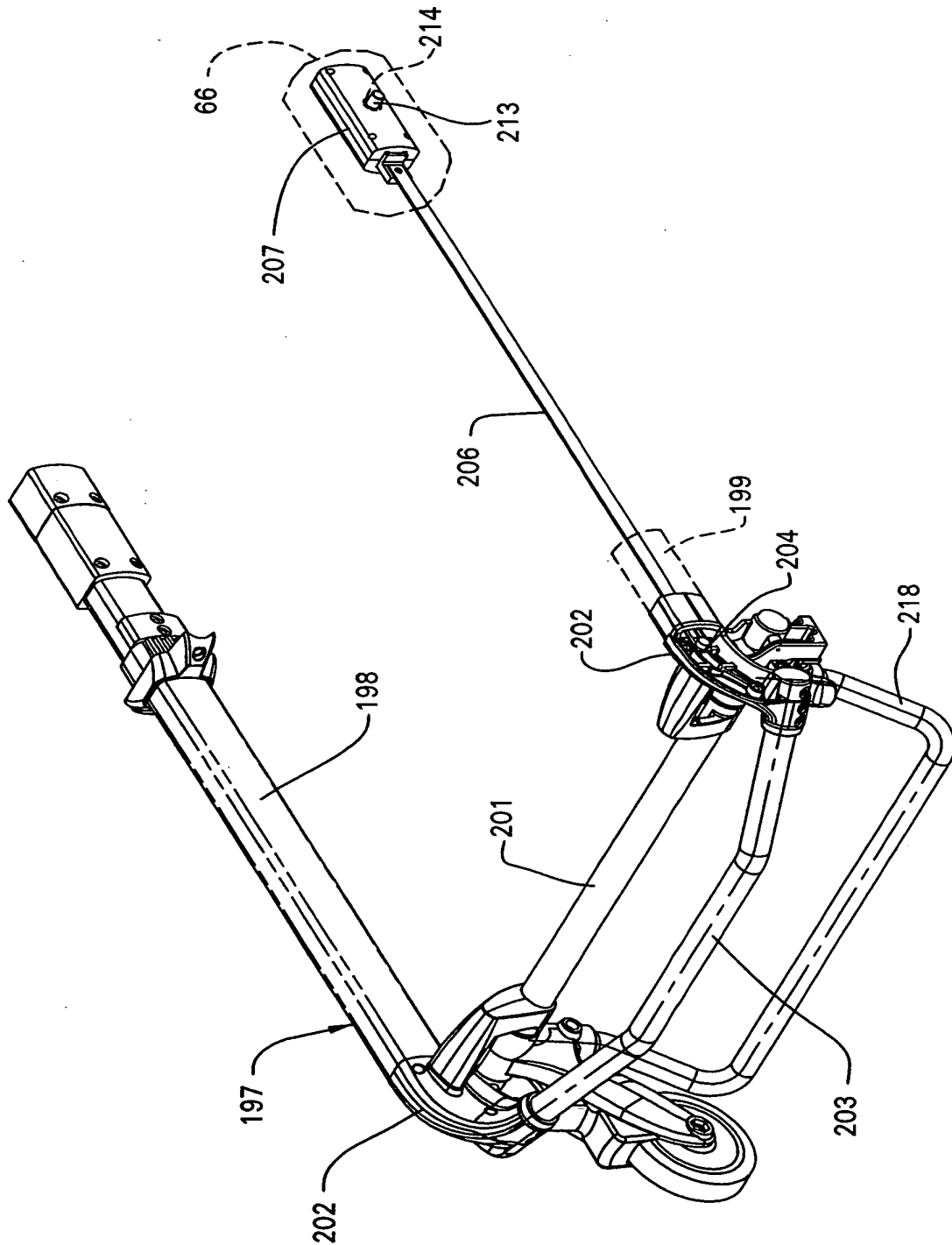
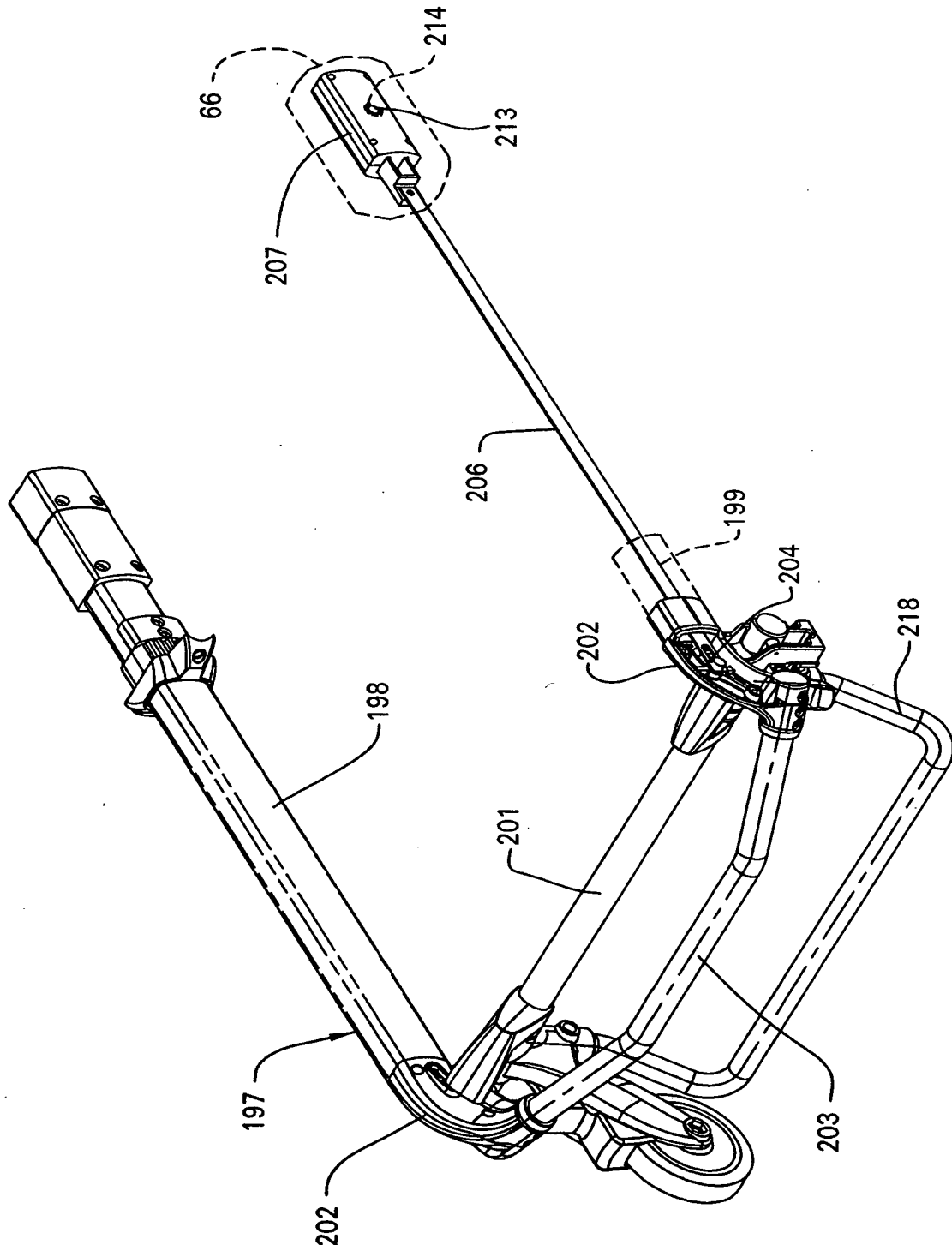


FIG. 37

36/52



37/52

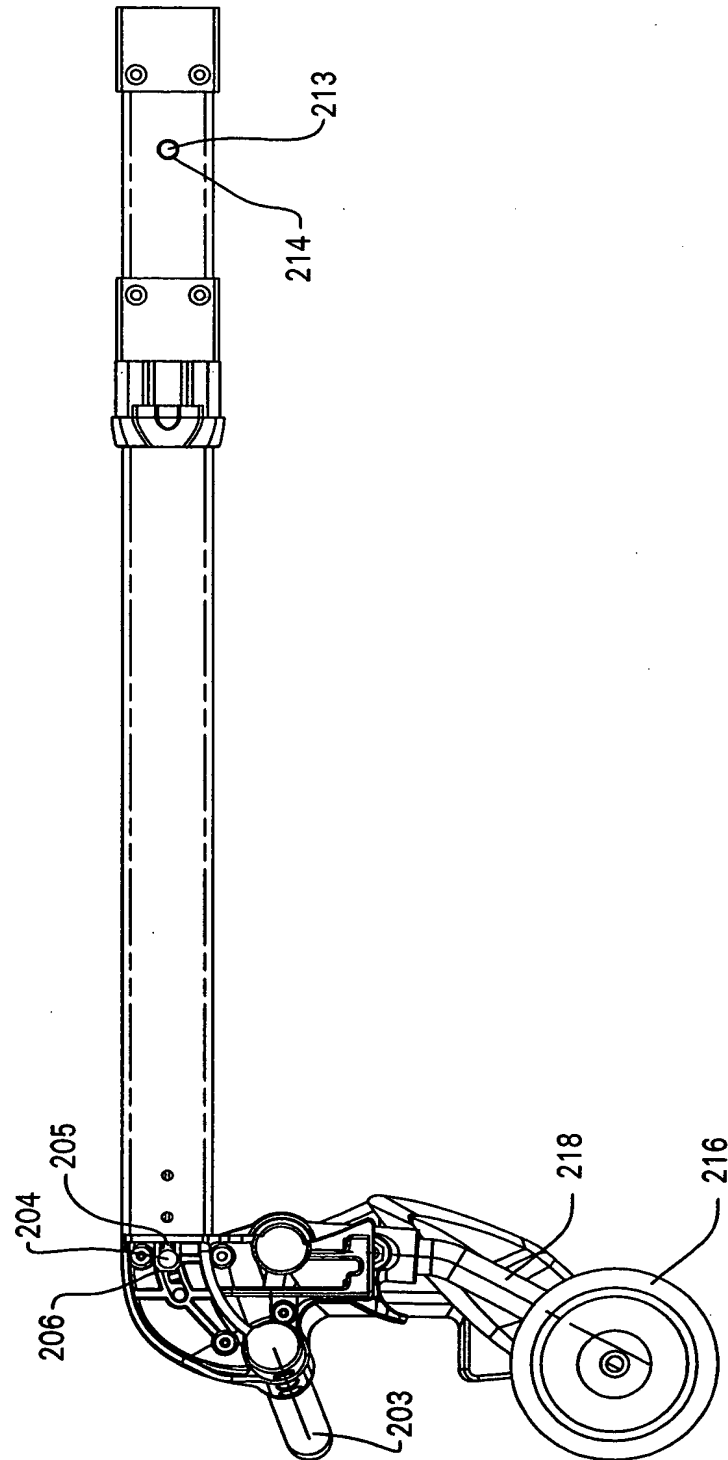


FIG. 39

38/52

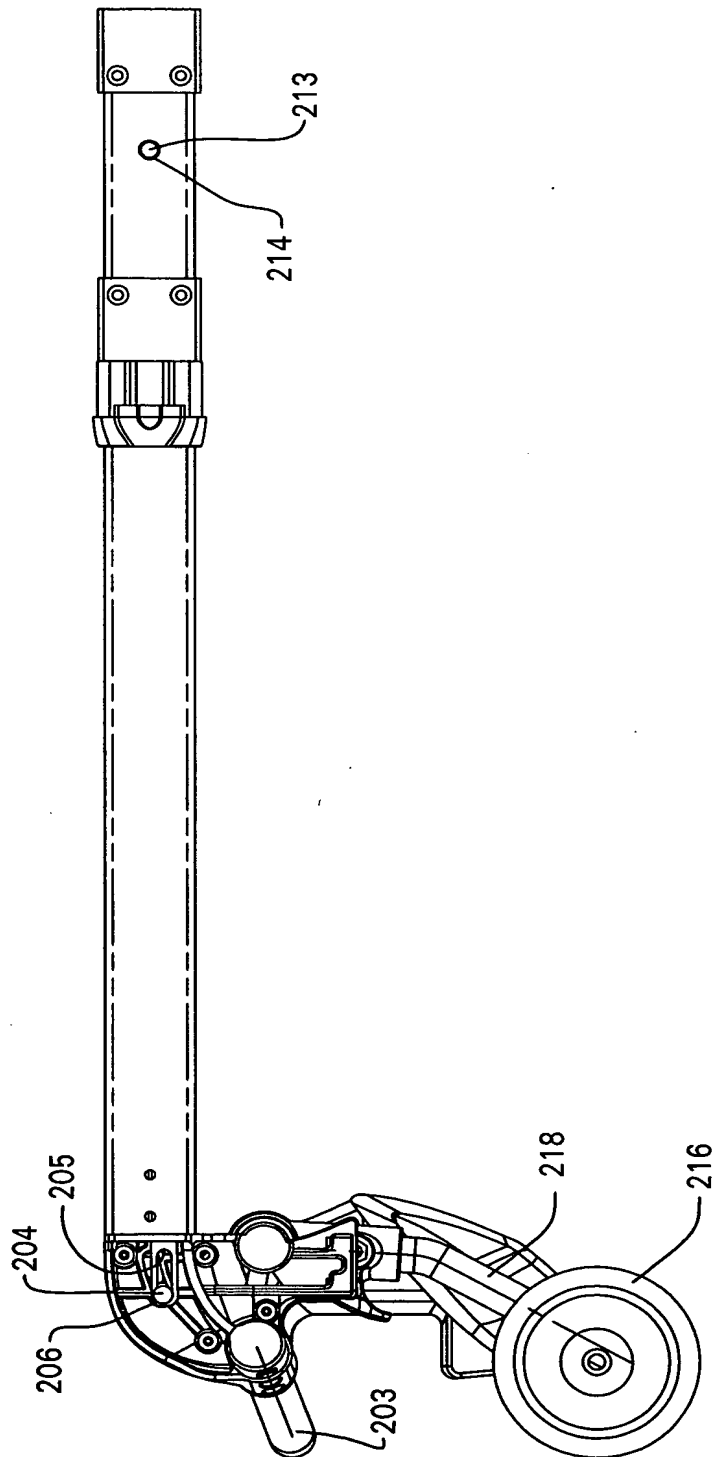


FIG. 40

39/52

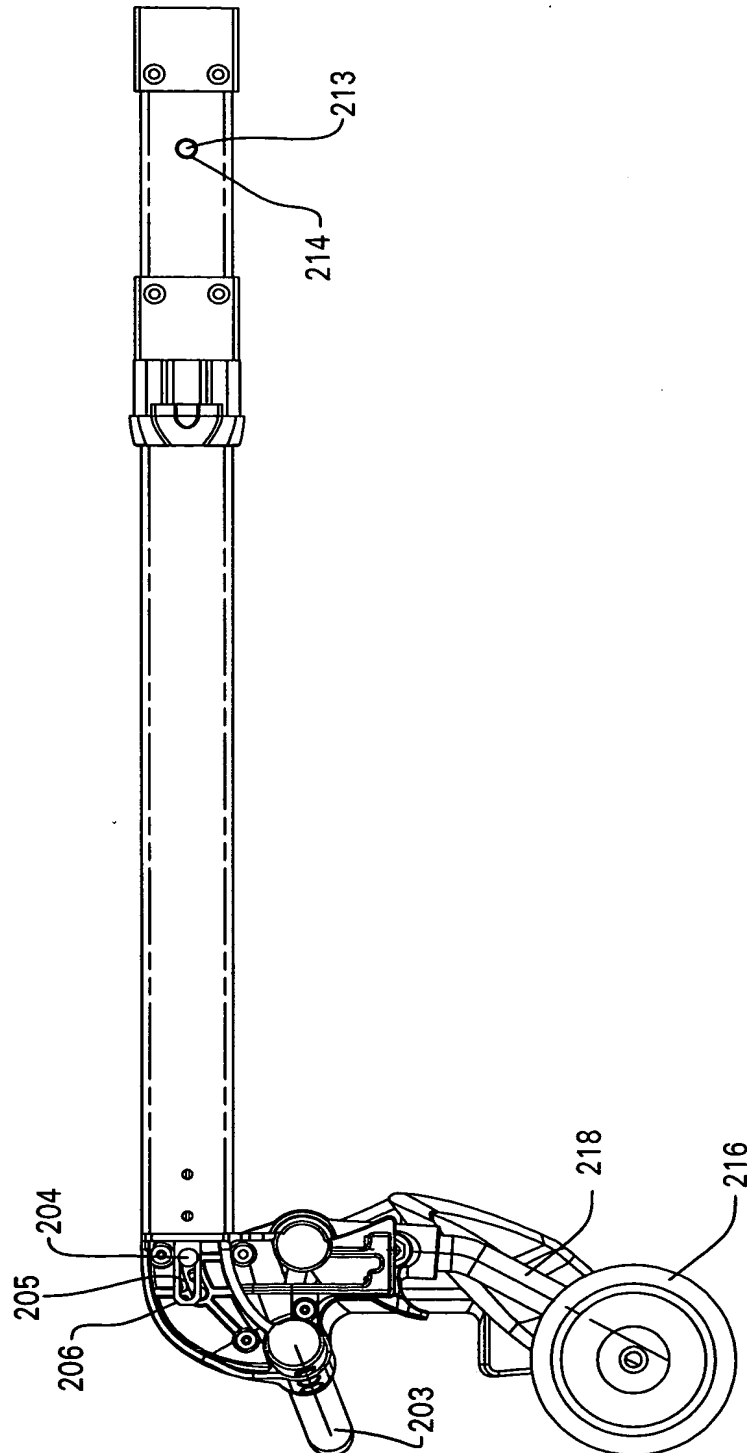


FIG. 41

40/52

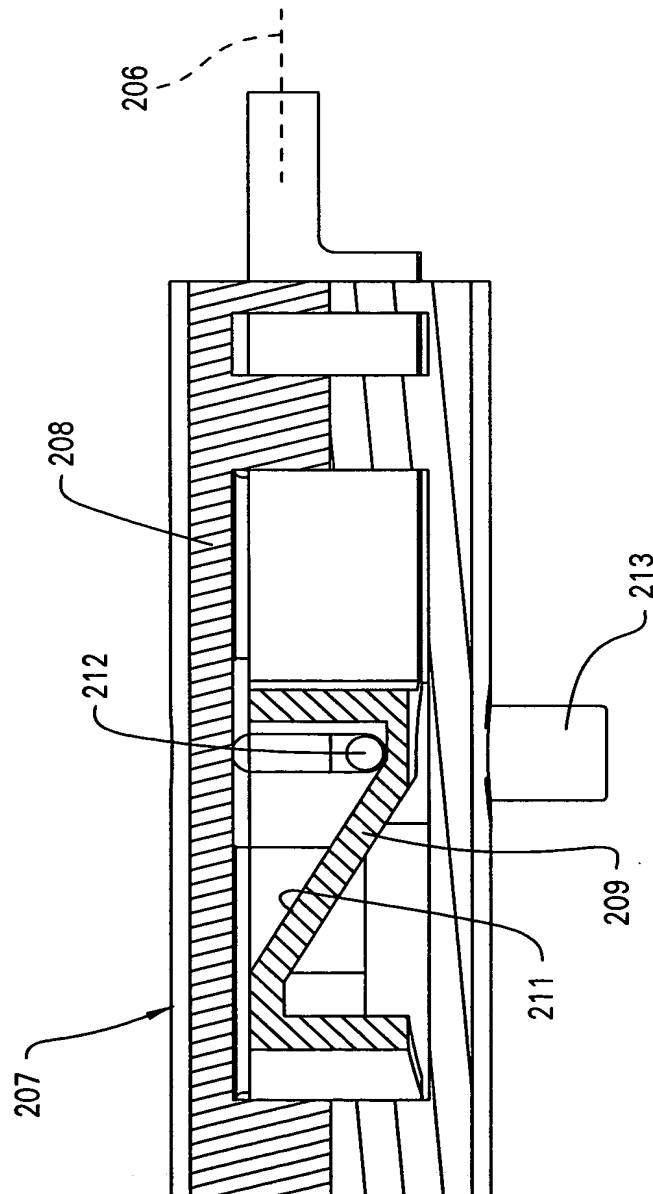


FIG. 42

41/52

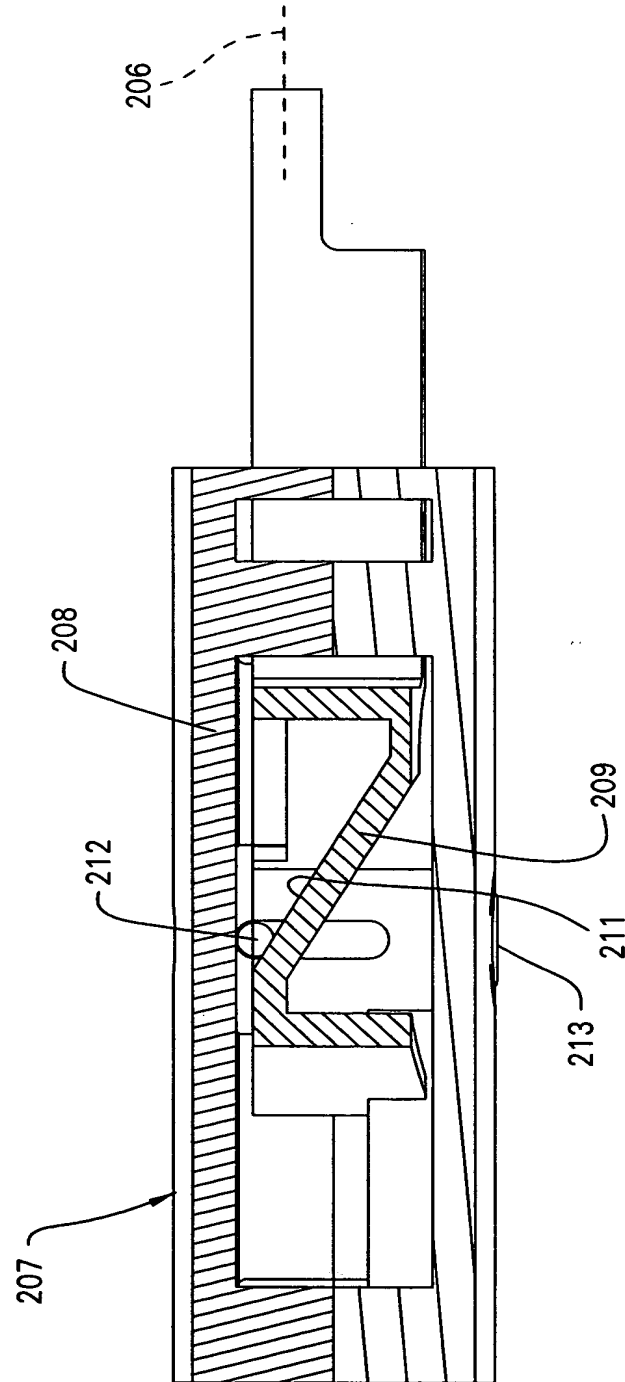


FIG. 43

42/52

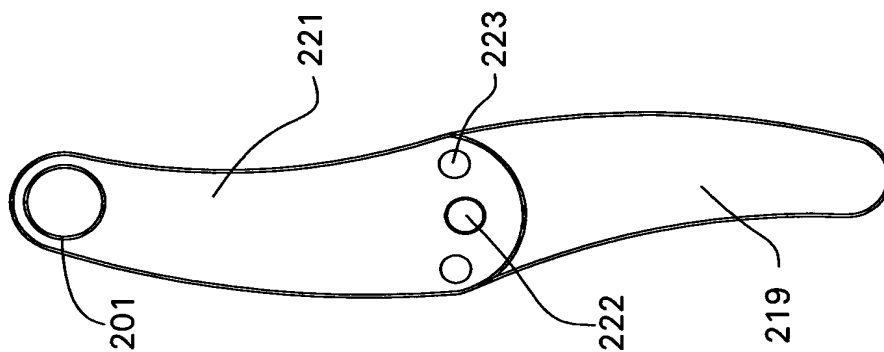


FIG. 46

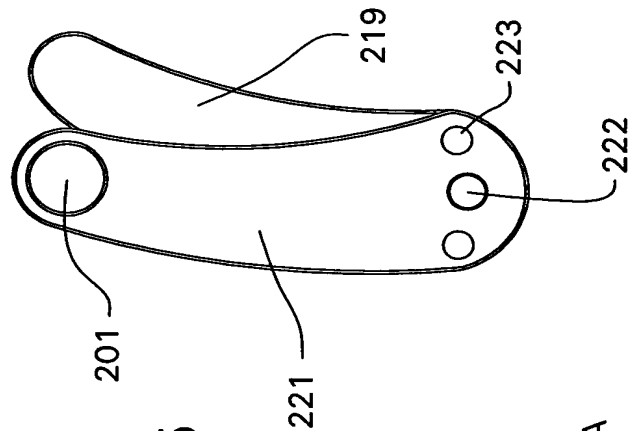


FIG. 45

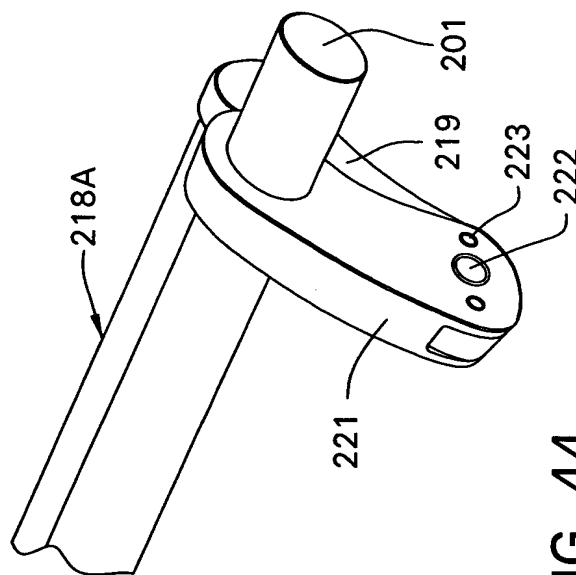
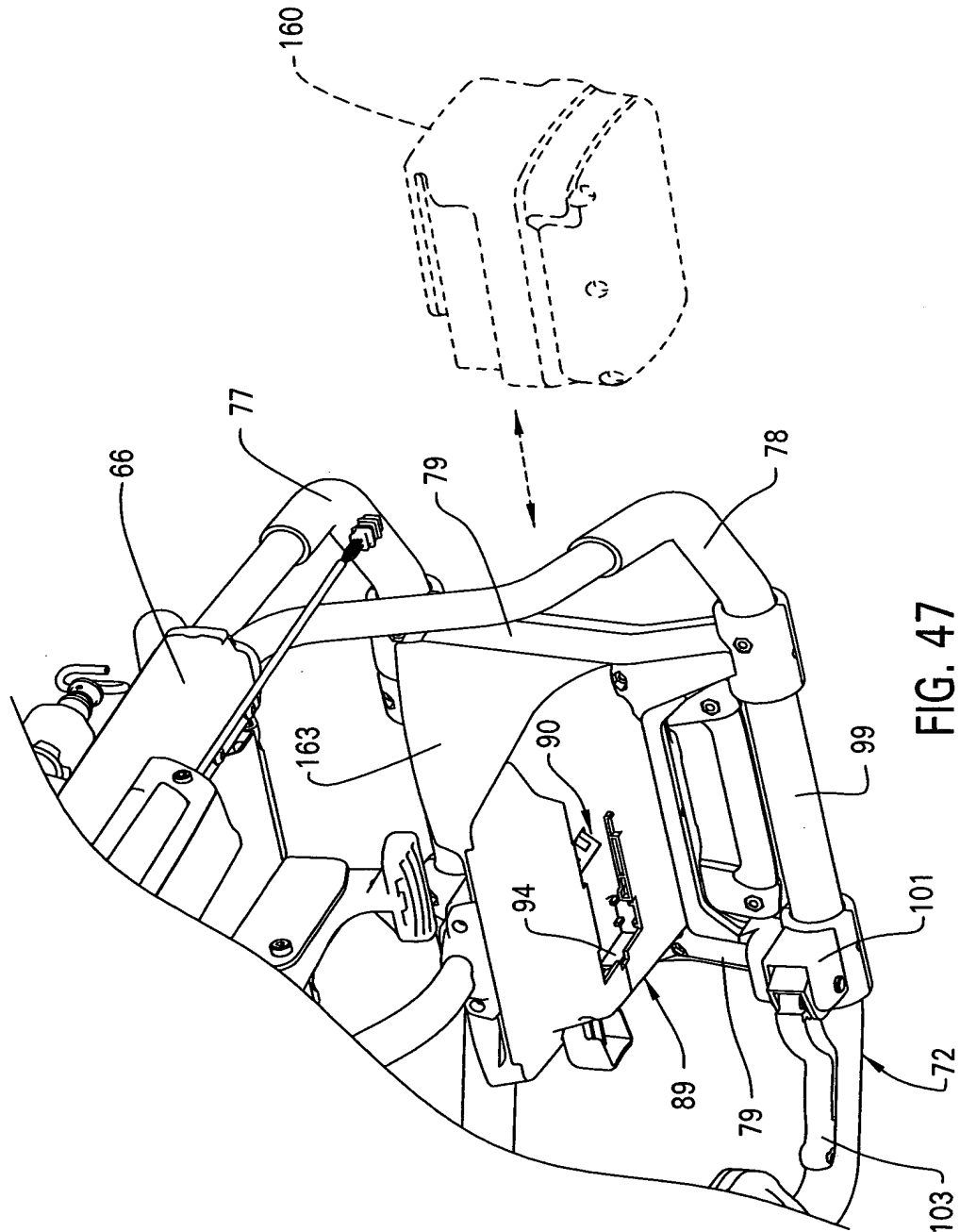
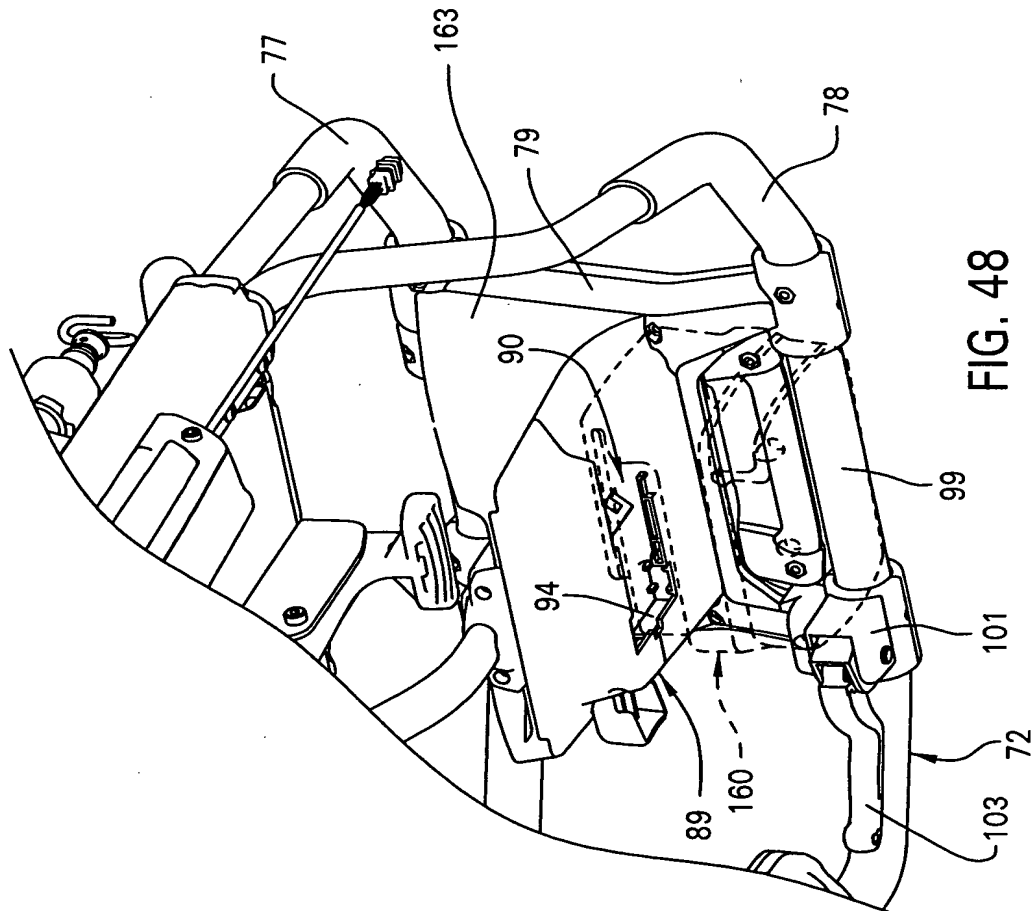


FIG. 44

43/52



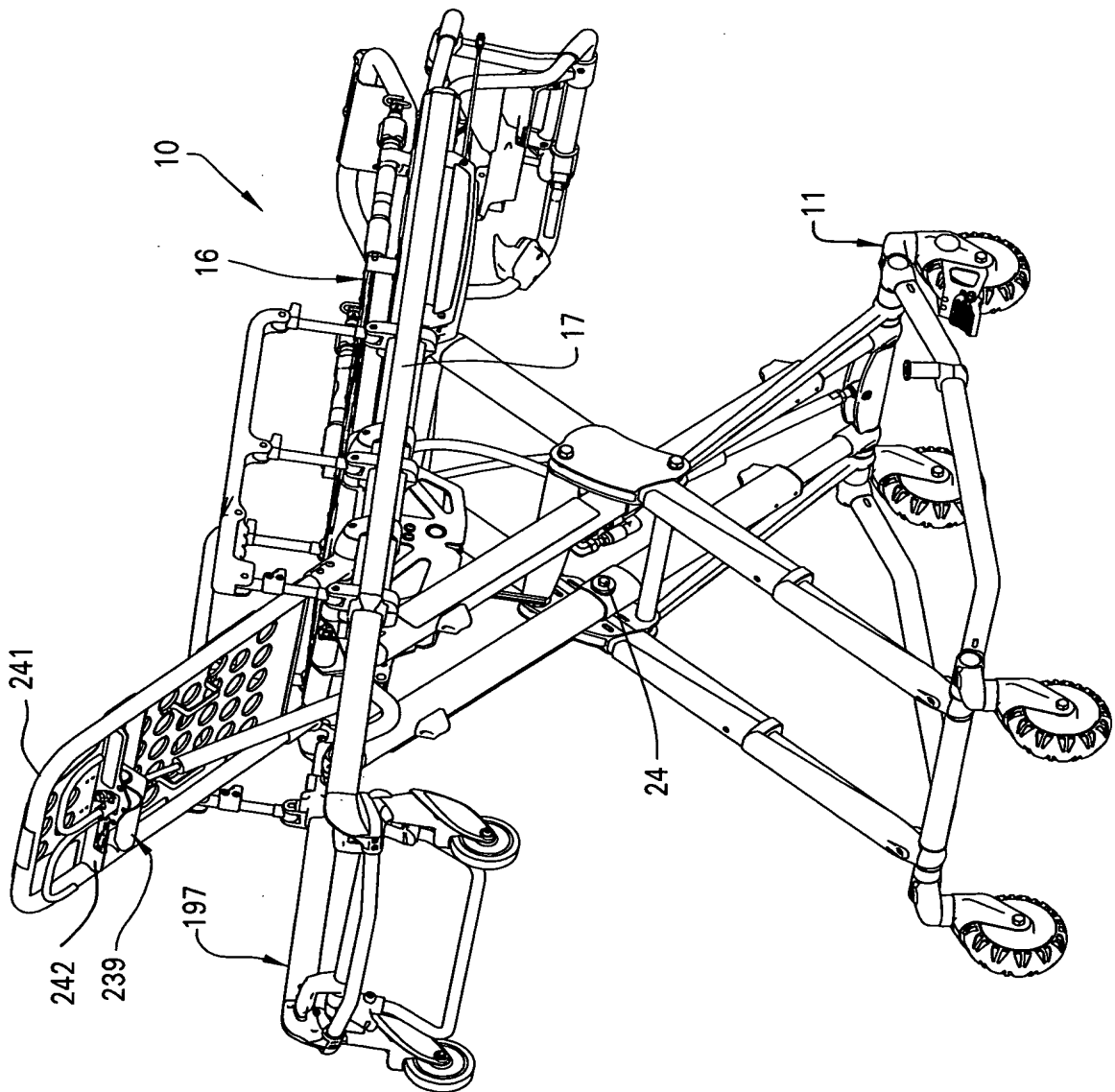
44/52





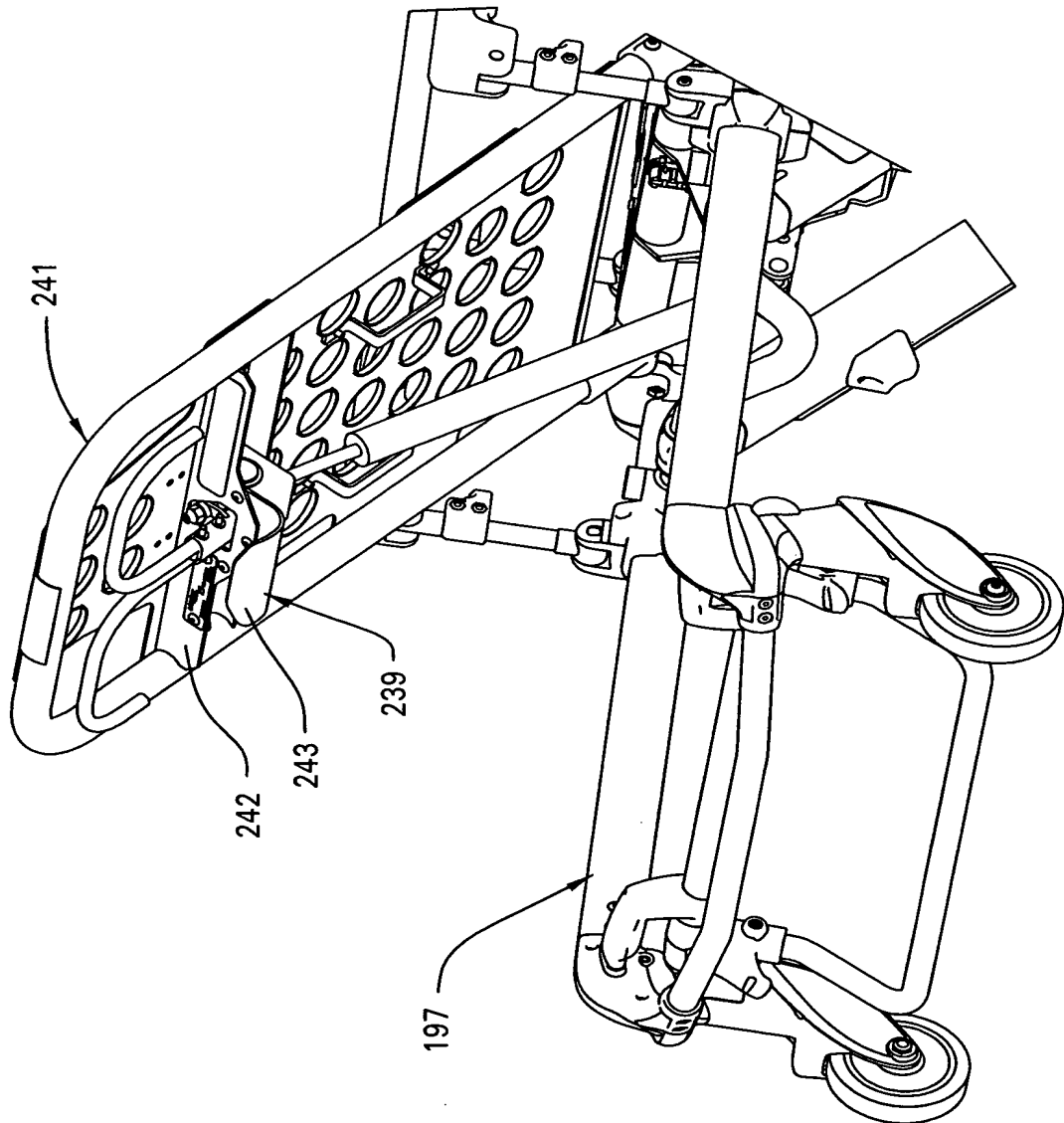
46/52

FIG. 50



47/52

FIG. 51



48/52

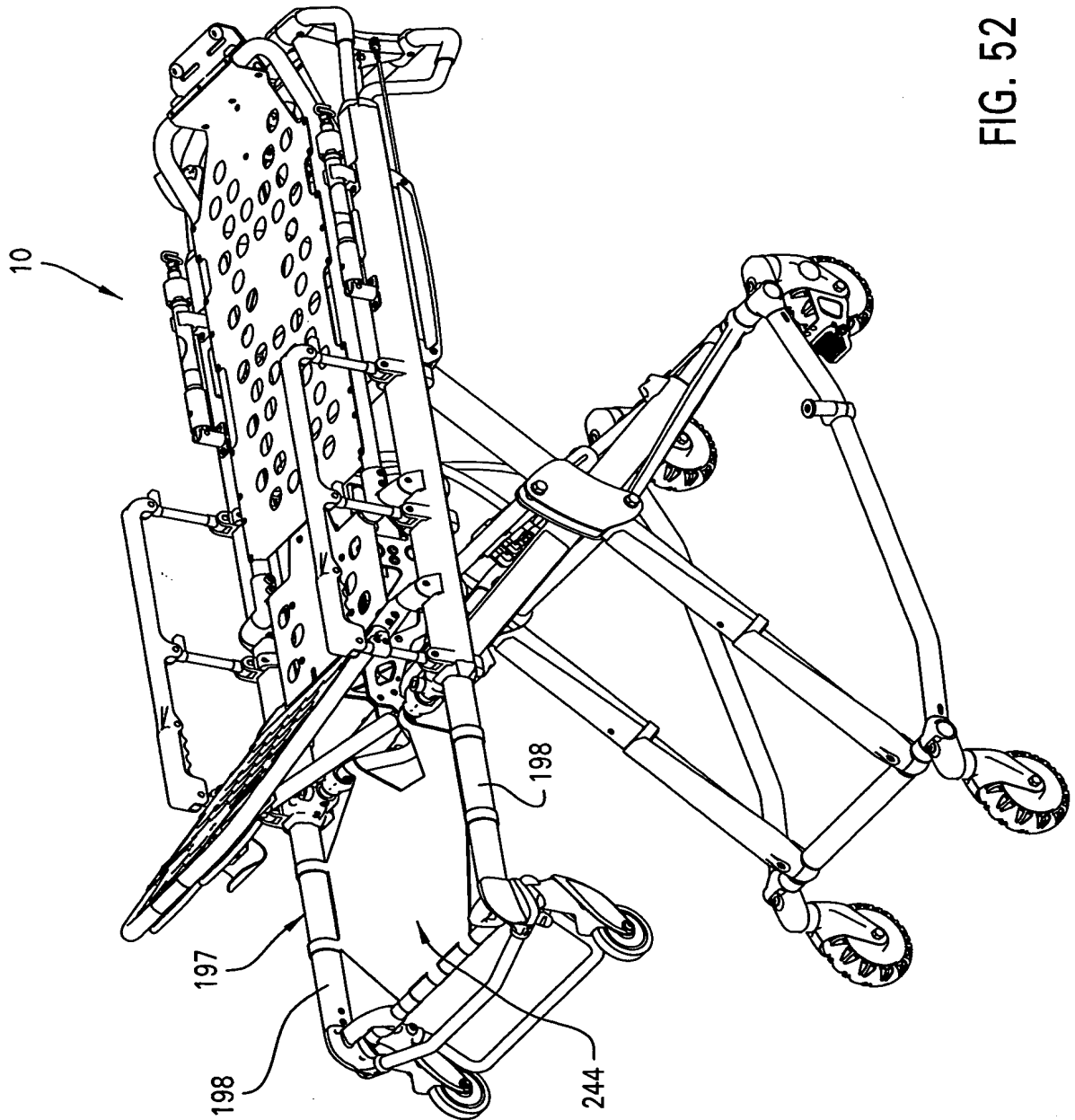


FIG. 52

49/52

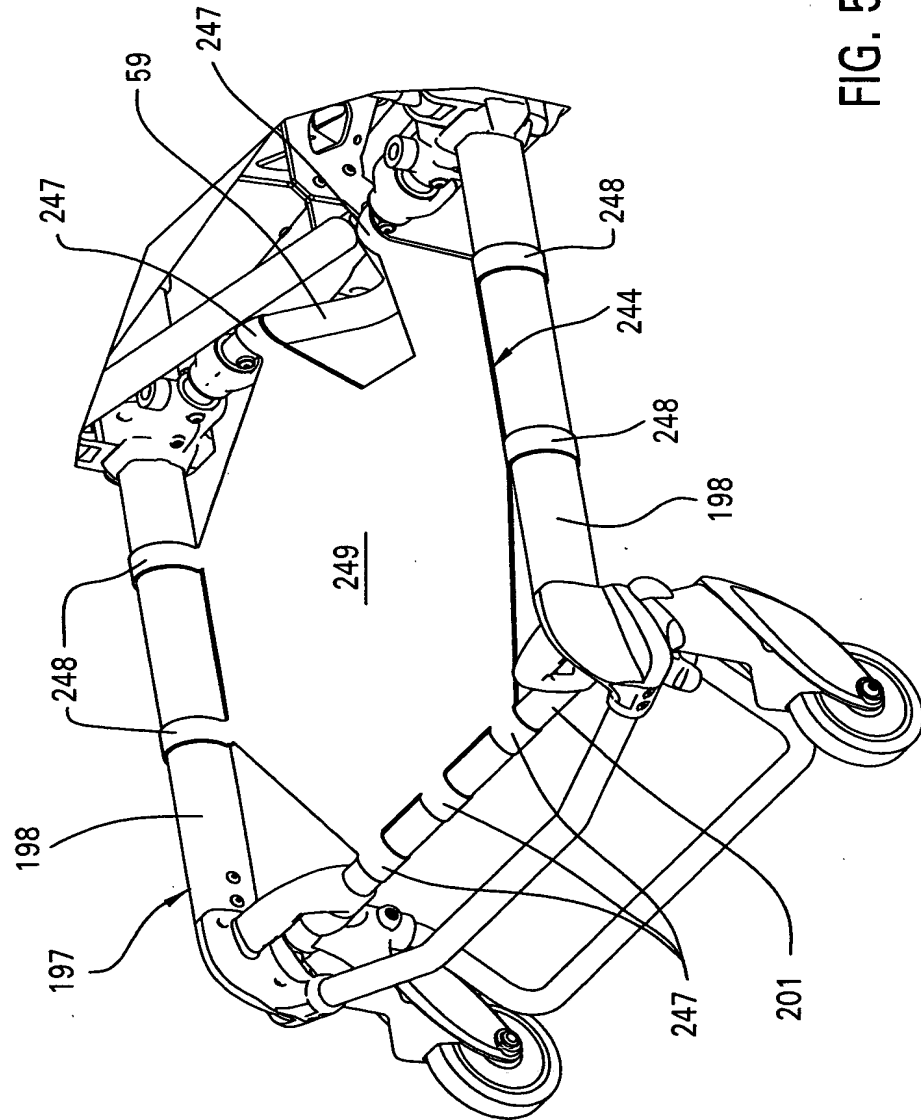
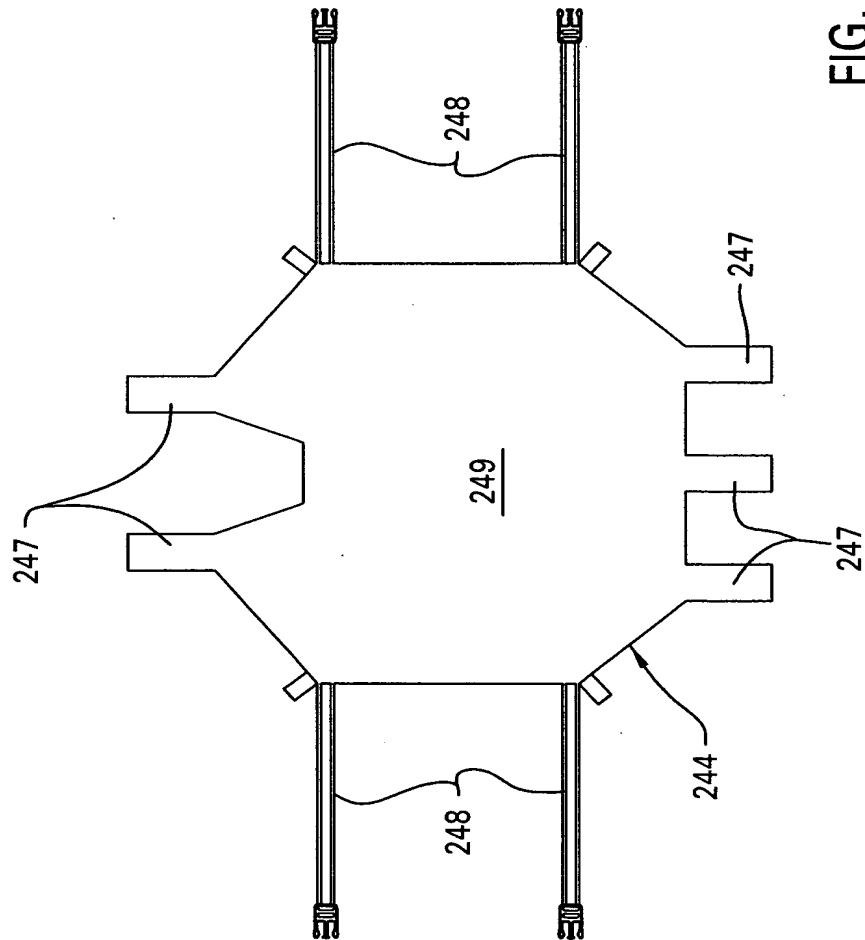


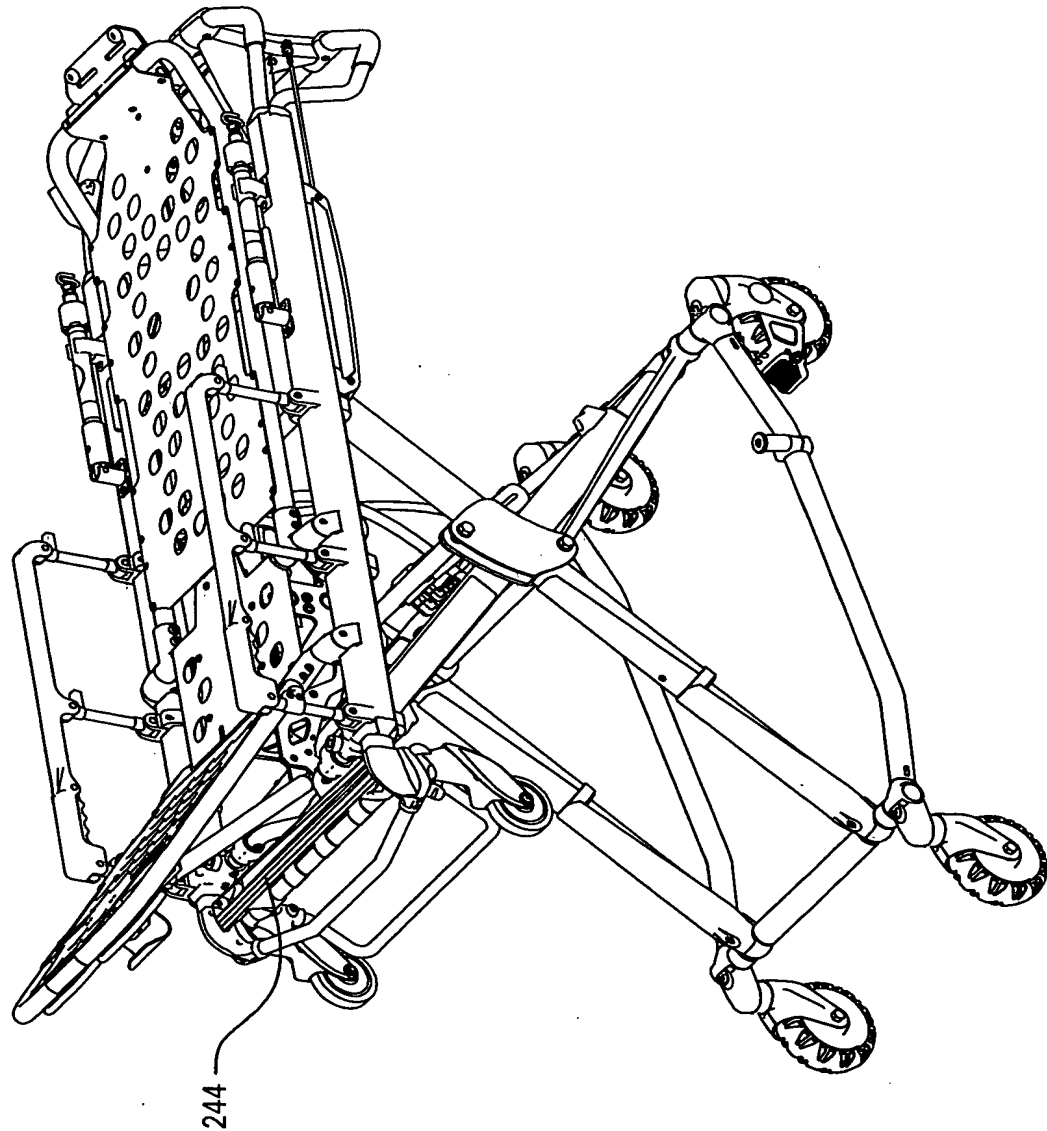
FIG. 53

50/52



51/52

FIG. 55



52/52

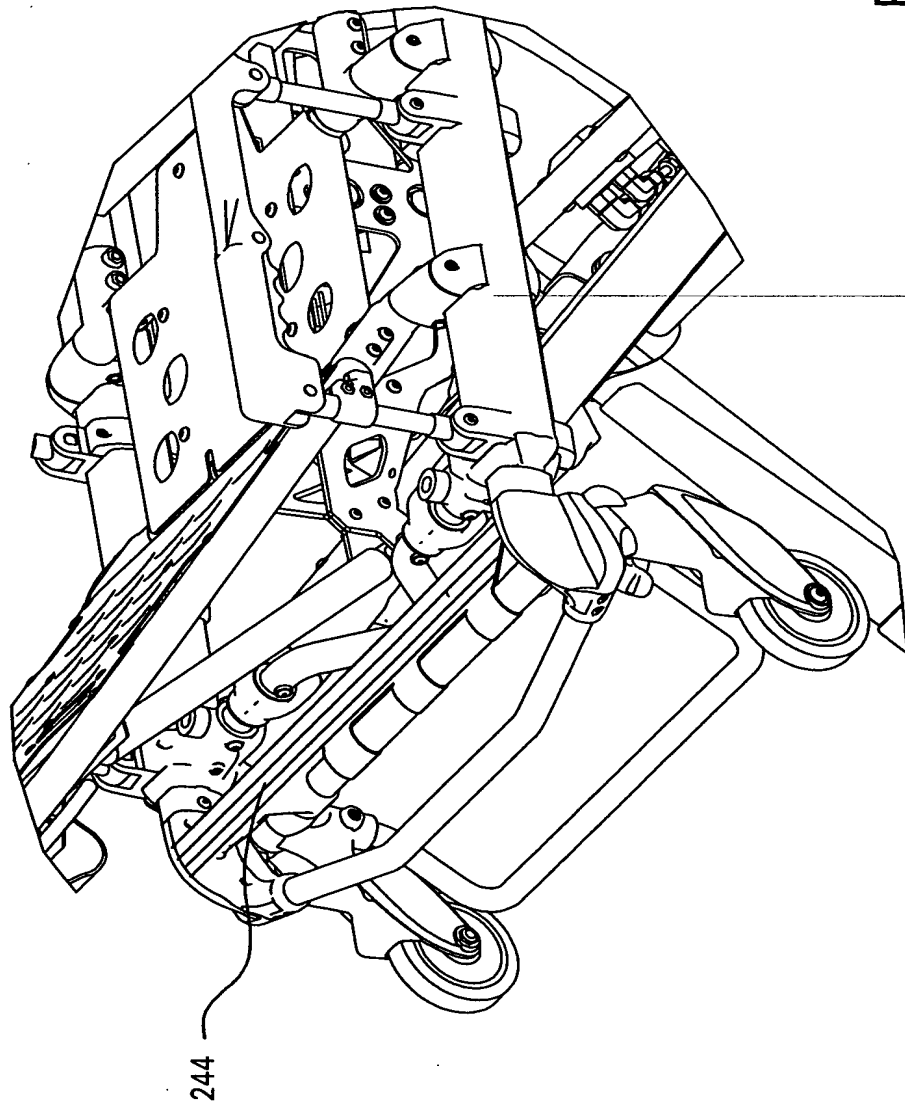


FIG. 56

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

09/29/2004 MAHMED1 00000051 60613151

01 FC:1005

160.00 DP

PTO-1556
(5/87)