

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent of: Frederick E. Shelton, IV  
U.S. Pat. No.: 8,479,969 Attorney Docket No.: 11030-0049IPA  
Issue Date: July 9, 2013  
Appl. Serial No.: 13/369,609  
Filing Date: Feb. 9, 2012  
Title: DRIVE INTERFACE FOR OPERABLY COUPLING A  
MANIPULATABLE SURGICAL TOOL TO A ROBOT

**Mail Stop Patent Board**

Patent Trial and Appeal Board  
U.S. Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF DR. BRYAN KNODEL  
IN SUPPORT OF PETITION FOR  
*INTER PARTES* REVIEW OF U.S. PATENT NO. 8,479,969  
(GIORDANO AS PRIMARY REFERENCE)**

**TABLE OF CONTENTS**

I. QUALIFICATIONS .....2

II. MY UNDERSTANDING OF CLAIM CONSTRUCTION .....4

III. LEGAL STANDARDS .....4

IV. LEVEL OF ORDINARY SKILL IN THE ART .....8

V. OVERVIEW OF THE '969 PATENT .....8

VI. PROSECUTION HISTORY OF THE '969 PATENT.....9

VII. THE '969 PATENT'S PRIORITY DATE .....10

VIII. INTERPRETATION OF THE '969 PATENT CLAIMS AT ISSUE.....12

IX. OVERVIEW OF THE ASSERTED PRIOR ART .....12

    A. Giordano .....12

    B. Shelton .....15

    C. Wallace .....18

    D. Tierney .....20

    E. Hueil .....23

X. APPLICATION OF THE PRIOR ART TO THE '969 PATENT .....23

    A. Claims 1-11 and 24 are invalid as obvious over Giordano in view  
    of Wallace .....23

    B. Claims 1-11 and 24 are invalid as obvious over Giordano in view  
    of Wallace and further in view of Tierney .....102

    C. Claims 1-6 and 9-10 are invalid as obvious over Shelton in view of  
    Wallace and Tierney .....103

    D. Claims 7, 8, 11, and 24 are invalid as obvious over Shelton in view  
    of Giordano and further in view of Wallace and Tierney .....103

    E. Claims 5 and 6 are invalid as obvious over Giordano in view of  
    Wallace and Tierney, and further in view of Hueil .....104

XI. CONCLUSION.....107

I, Bryan Knodel, declare as follows:

1. I have been engaged as an expert by Fish & Richardson P.C. on behalf of Intuitive Surgical, Inc. (“Petitioner”) for the above-captioned *inter partes* review. I understand that this proceeding involves United States Patent No. 8,479,969 entitled “Drive Interface for Operably Coupling a Manipulatable Surgical Tool to a Robot” by Frederick E. Shelton IV, filed February 9, 2012 and issued July 9, 2013 (the “’969 Patent” or “’969”). I understand that the ’969 Patent is currently assigned to Ethicon LLC.

2. I have reviewed and am familiar with the specification of the ’969 Patent. I will cite to the specification using the following format (’969 Patent, 1:1-10). This example citation points to the ’969 Patent specification at column 1, lines 1-10.

3. I have reviewed and am familiar with the file history of the ’969 Patent (“FH”). I understand that the file history is being provided as an exhibit in a single PDF document. I will cite to the PDF pages when I cite to the file history.

4. I have also reviewed the Petition for *Inter Partes* Review of the ’969 Patent and am familiar with the following prior art used in the Petition:

- IS1014 U.S. Patent App. No. 2008/0167672 to Giordano et al. (“Giordano”)
- IS1008 U.S. Patent No. 6,699,235 to Wallace *et al.* (“Wallace”)

- IS1009 U.S. Patent No. 6,331,181 to Tierney et al. (“Tierney”)
- IS1015 U.S. Patent No. 6,978,921 to Shelton et al. (“Shelton”)
- IS1016 U.S. Patent App. No. 2007/0158385 to Hueil et al. (“Hueil”)

5. I have been asked to provide my technical review, analysis, insights and opinions regarding the '969 Patent and the above-noted references.

## I. QUALIFICATIONS

6. My resume is being provided with this Declaration. As indicated there, I have eight publications and I am a named inventor on over 130 patents for medical devices. I have extensive experience with surgical instruments, and surgical staplers in particular, which is the subject matter of the '969 Patent.

7. Specifically, I have been involved in the research and development, design, and manufacture of medical devices including surgical cutting and stapling devices since 1992, and am qualified to present the analysis provided in this declaration.

8. I was employed in the Research and Development department as an engineer of Ethicon Endo-Surgery. I was the lead design engineer for endoscopic linear staplers/cutters. In this lead design engineer role, it was my responsibility to understand every aspect of these devices.

9. One early patent of mine is U.S. Patent No. 5,465,895, entitled “Surgical Stapler Instruments,” and granted on November 14, 1995. This patent is referenced in the Background section of the '969 Patent's specification as

“disclos[ing] an endocutter with distinct closing and firing actions,” but was not cited by the Examiner during prosecution. ’969 Patent, 2:13-16. The ’895 Patent states: “The present invention relates in general to surgical stapler instruments which are capable of applying lines of staples to tissue while cutting the tissue between those staple lines and, more particularly, to improvements relating to stapler instruments and improvements in processes for forming various components of such stapler instruments.” My ’895 Patent specifically discloses jaws that open and close and a gear-driven knife to cut stapled tissue. I am thus generally familiar with such mechanisms for surgical instruments.

10. Beginning in 1998, I have been a consultant for medical device companies and law firms. I have consulted in the areas of conceptual design, prototyping, and turnkey product design.

11. In addition, I have worked on a variety of surgical products for use in a wide range of surgical procedures including female reproductive system, female incontinence, female pelvic floor dysfunction, lung volume reduction, colon, GERD, bariatrics, CABG, heart valve repair, hernia, general surgical procedures, and surgical stapling, which is the general subject matter of the patent-at-issue.

12. As part of my consulting practice, I have also acted as a non-testifying expert in a patent litigation case in the area of medical devices.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.