



US009408614B2

(12) **United States Patent**  
**Duncan**

(10) **Patent No.:** **US 9,408,614 B2**  
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **OLECRANON FRACTURE FIXATION SYSTEM**

4,262,665 A 4/1981 Roalstad et al.  
4,590,930 A 5/1986 Kurth et al.  
4,632,101 A \* 12/1986 Freedland ..... 606/68

(75) Inventor: **Scott F. M. Duncan**, Owatonna, MN (US)

(Continued)

(73) Assignee: **MAYO Foundation for Medical Education and Research**, Rochester, MN (US)

FOREIGN PATENT DOCUMENTS

EP 0517435 A1 9/1992  
EP 1792578 6/2007

(Continued)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1284 days.

OTHER PUBLICATIONS

<http://www.acumed.net/product-detail-print.php?productID=18>.

(Continued)

(21) Appl. No.: **12/399,400**

(22) Filed: **Mar. 6, 2009**

(65) **Prior Publication Data**

US 2009/0228009 A1 Sep. 10, 2009

*Primary Examiner* — Nicholas Plionis

(74) *Attorney, Agent, or Firm* — Quarles & Brady, LLP

**Related U.S. Application Data**

(60) Provisional application No. 61/035,274, filed on Mar. 10, 2008.

(51) **Int. Cl.**

**A61B 17/72** (2006.01)  
**A61B 17/17** (2006.01)  
**A61B 17/88** (2006.01)

(52) **U.S. Cl.**

CPC ..... **A61B 17/1725** (2013.01); **A61B 17/1739** (2013.01); **A61B 17/7225** (2013.01); **A61B 17/7241** (2013.01); **A61B 17/8869** (2013.01)

(58) **Field of Classification Search**

CPC ..... A61B 17/72–17/748  
USPC ..... 606/62–68, 246–279  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,990,438 A 11/1976 Pritchard  
4,212,294 A 7/1980 Murphy

(57) **ABSTRACT**

An olecranon fracture fixation system includes an intramedullary core that is dimensioned for insertion in an intramedullary canal of the bone, and a hollow shell that is dimensioned for insertion in the intramedullary canal. The shell includes fixation elements that extend outwardly away from a proximal end of the shell. A fastener is provided for attaching the shell to the core in the intramedullary canal. When the core and shell are inserted in the intramedullary canal, the fixation elements extend away from the fracture line of the bone, and when the core and shell are attached in the intramedullary canal, the fixation elements engage an end surface of the end section of the bone. In one example version of the invention, the system is an olecranon fracture fixation system wherein the fixation elements are dimensioned to engage the triceps tendon and an end surface of the olecranon when the core and shell are attached in the intramedullary canal of the proximal ulna.

**19 Claims, 3 Drawing Sheets**

