



US008561871B2

(12) **United States Patent**
Rajappa et al.

(10) **Patent No.:** **US 8,561,871 B2**
(45) **Date of Patent:** **Oct. 22, 2013**

(54) **INDICATORS FOR SURGICAL STAPLERS**

(75) Inventors: **Ranjit Rajappa**, Chennai-Tamil Nadu (IN); **Sekar Perumal**, Chennai-Tamil Nadu (IN)

(73) Assignee: **Covidien LP**, Mansfield, MA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 378 days.

(21) Appl. No.: **12/953,615**

(22) Filed: **Nov. 24, 2010**

(65) **Prior Publication Data**

US 2011/0155783 A1 Jun. 30, 2011

Related U.S. Application Data

(60) Provisional application No. 61/291,486, filed on Dec. 31, 2009.

(51) **Int. Cl.**
A61B 17/068 (2006.01)

(52) **U.S. Cl.**
USPC **227/176.1**; 227/175.1; 227/175.2; 227/4; 227/19; 227/182.1

(58) **Field of Classification Search**
USPC 227/175.1, 175.2, 4, 19, 182.1; 340/540, 542; 70/432; 200/61.62, 200/61.71

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,379,457 A 4/1983 Gravener et al.
4,527,724 A 7/1985 Chow et al.

4,892,244 A 1/1990 Fox et al.
5,005,749 A 4/1991 Aranyi
5,071,052 A 12/1991 Rodak
5,271,544 A 12/1993 Fox et al.
5,275,322 A 1/1994 Brinkerhoff et al.
5,285,945 A 2/1994 Brinkerhoff et al.
5,292,053 A 3/1994 Bilotti et al.
5,333,773 A 8/1994 Main et al.
5,350,104 A 9/1994 Main et al.
5,403,312 A 4/1995 Yates et al.
5,443,198 A 8/1995 Viola et al.
5,464,144 A 11/1995 Guy et al.
5,474,223 A 12/1995 Viola et al.
5,487,499 A 1/1996 Sorrentino et al.
5,503,320 A 4/1996 Webster et al.
5,529,235 A 6/1996 Boiarski et al.
5,533,661 A 7/1996 Main et al.
5,535,934 A 7/1996 Boiarski et al.
5,535,937 A 7/1996 Boiarski et al.

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0570915 A2 11/1993
EP 0639349 A2 2/1995

(Continued)

OTHER PUBLICATIONS

US 5,826,777, 10/1998, Green et al. (withdrawn)

Primary Examiner — Michelle Lopez

(57) **ABSTRACT**

A surgical stapler including one or more visual indicators is provided. The surgical stapler includes a body and a stapling assembly positioned at a distal portion of the body. The stapling assembly includes a cartridge assembly and an anvil assembly. An alignment pin is mounted on the stapling assembly and configured to engage the anvil assembly. A visual indicator of engagement of the alignment pin with the anvil assembly, clamping and/or stapling can be provided.

25 Claims, 7 Drawing Sheets

