



US006988649B2

(12) **United States Patent**
Shelton, IV et al.

(10) **Patent No.:** **US 6,988,649 B2**
(45) **Date of Patent:** **Jan. 24, 2006**

(54) **SURGICAL STAPLING INSTRUMENT HAVING A SPENT CARTRIDGE LOCKOUT**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/441,565**

(22) Filed: **May 20, 2003**

(65) **Prior Publication Data**

US 2004/0232200 A1 Nov. 25, 2004

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

(52) **U.S. Cl.** **227/175.2**; 227/19; 227/176.1; 227/180.1

(58) **Field of Classification Search** 227/175.1, 227/175.2, 178.1, 182.1, 19, 180.1, 176.1
See application file for complete search history.

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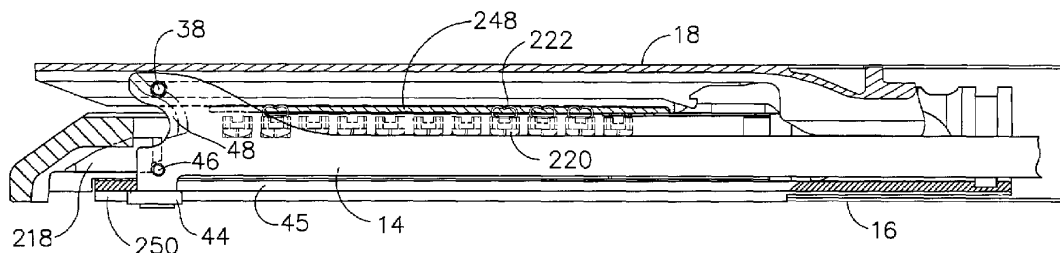
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(57) **ABSTRACT**

A surgical instrument for laparoscopic and endoscopic clinical procedures simultaneously severs and staples tissue clamped in an end effector comprising an elongate channel, which holds a staple cartridge, and a pivotally attached anvil. An E-beam firing bar engages the channel and selectively engages the anvil during distal firing movements, wherein the tissue is severed and stapled driven upward from the staple cartridge to form against the anvil. In particular, a wedge integral to the staple cartridge is driven distally by a middle pin of the firing bar to effect stapling. A lockout mechanism of the staple cartridge responds to the presence of the wedge sled in its unfired position to allow the firing bar to fire. Otherwise, the lockout mechanism prevents firing when the staple cartridge is spent.

11 Claims, 21 Drawing Sheets



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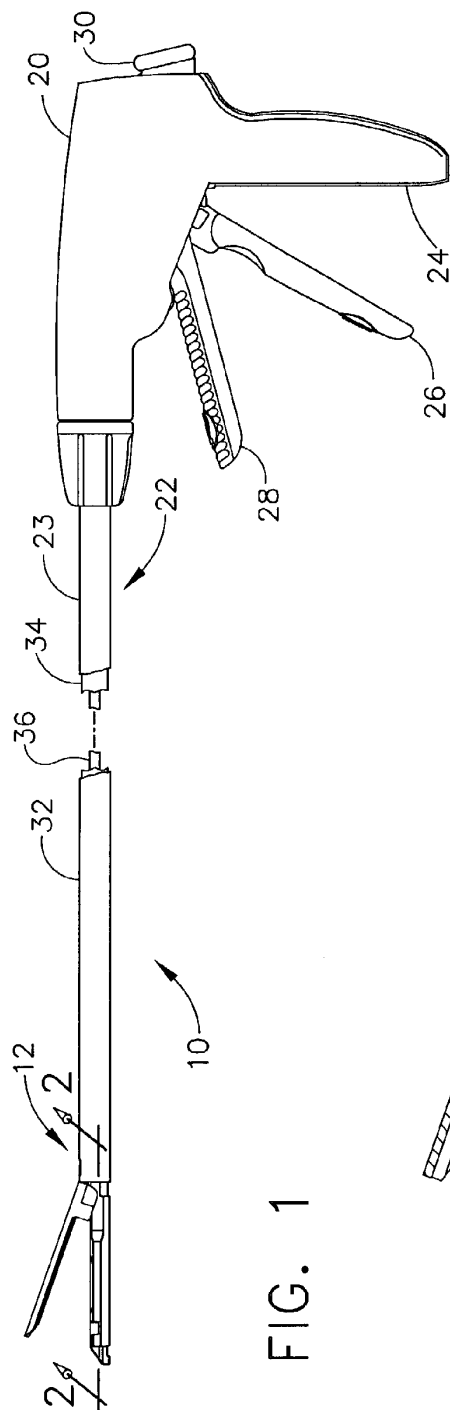


FIG. 1

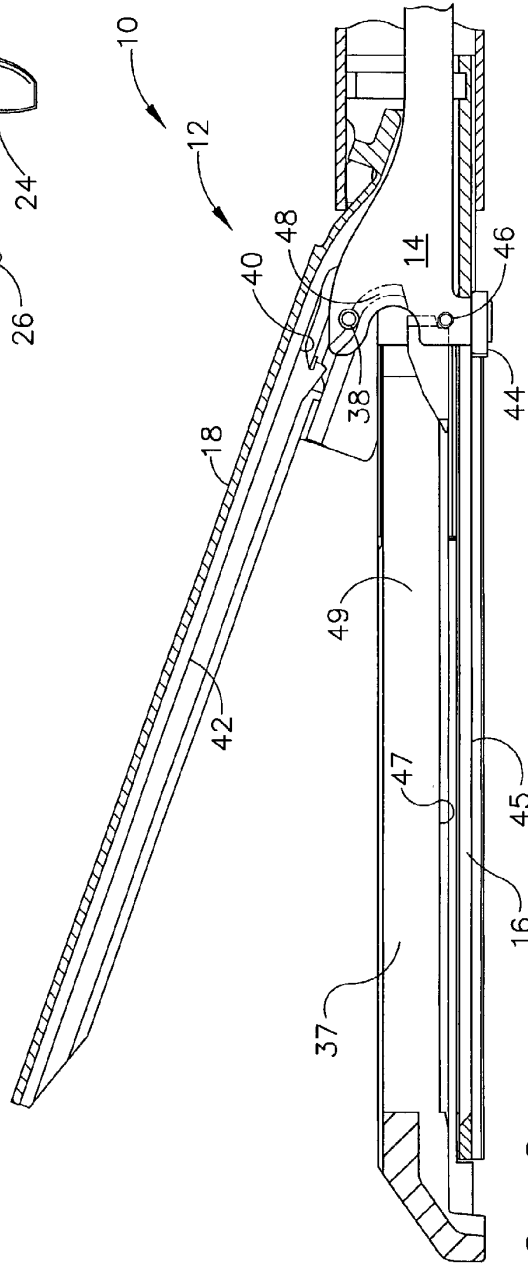


FIG. 2

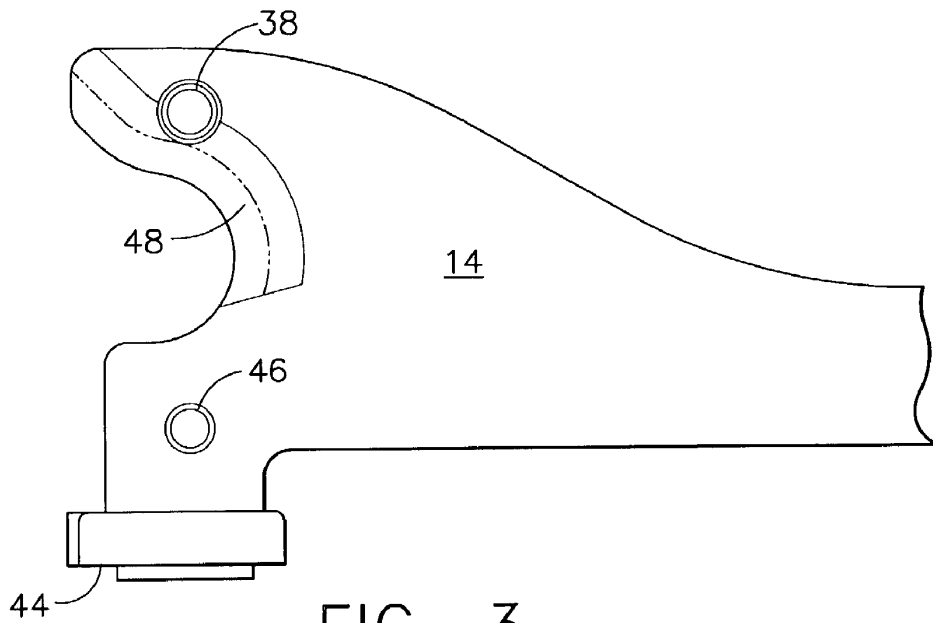


FIG. 3

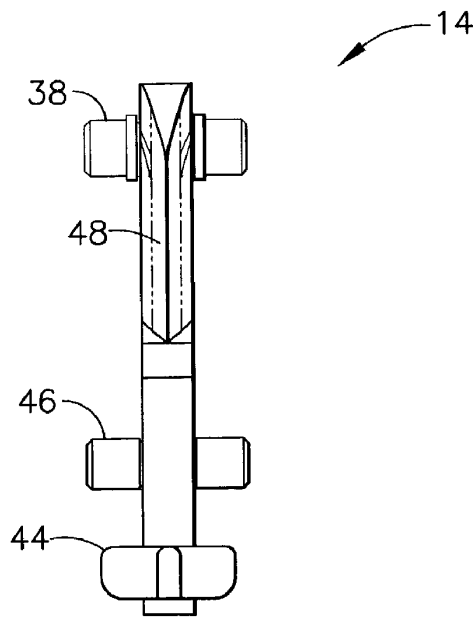


FIG. 4

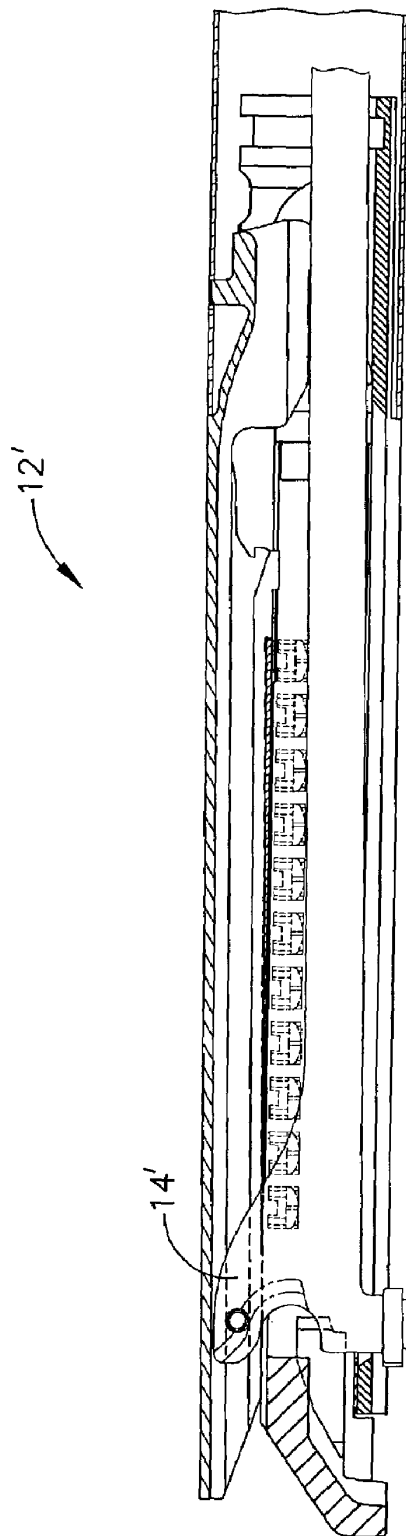


FIG. 5

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