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United States Patent [19]
Fontayne

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[54] **APPARATUS FOR APPLYING SURGICAL FASTENERS**

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[51] **Int. Cl.⁶** **A61B 17/072**

[52] **U.S. Cl.** **227/178.1; 227/180.1; 227/19; 227/111**

[58] **Field of Search** **227/19, 175, 176, 227/177, 178, 179, 180, 111; 606/139, 142, 143, 219, 215**

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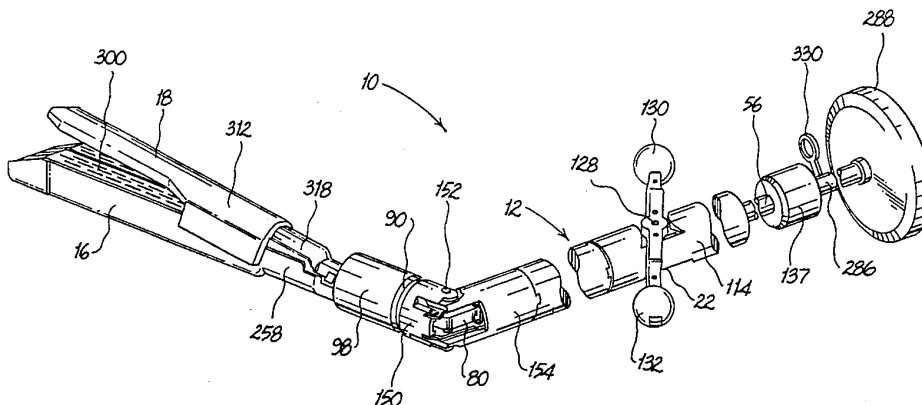
Swain, C. P., Brown, G. J. and Mills, T. N., "An Endoscopic Stapling Device: The Development of a New Flexible Endoscopically Controlled Device for Placing Multiple Transmural Staples in Gastrointestinal Tissue", *Gastrointestinal Endoscopy*, 1989, vol. 35, No. 4, pp. 338-339.

Primary Examiner—Rinaldi I. Rada

[57] **ABSTRACT**

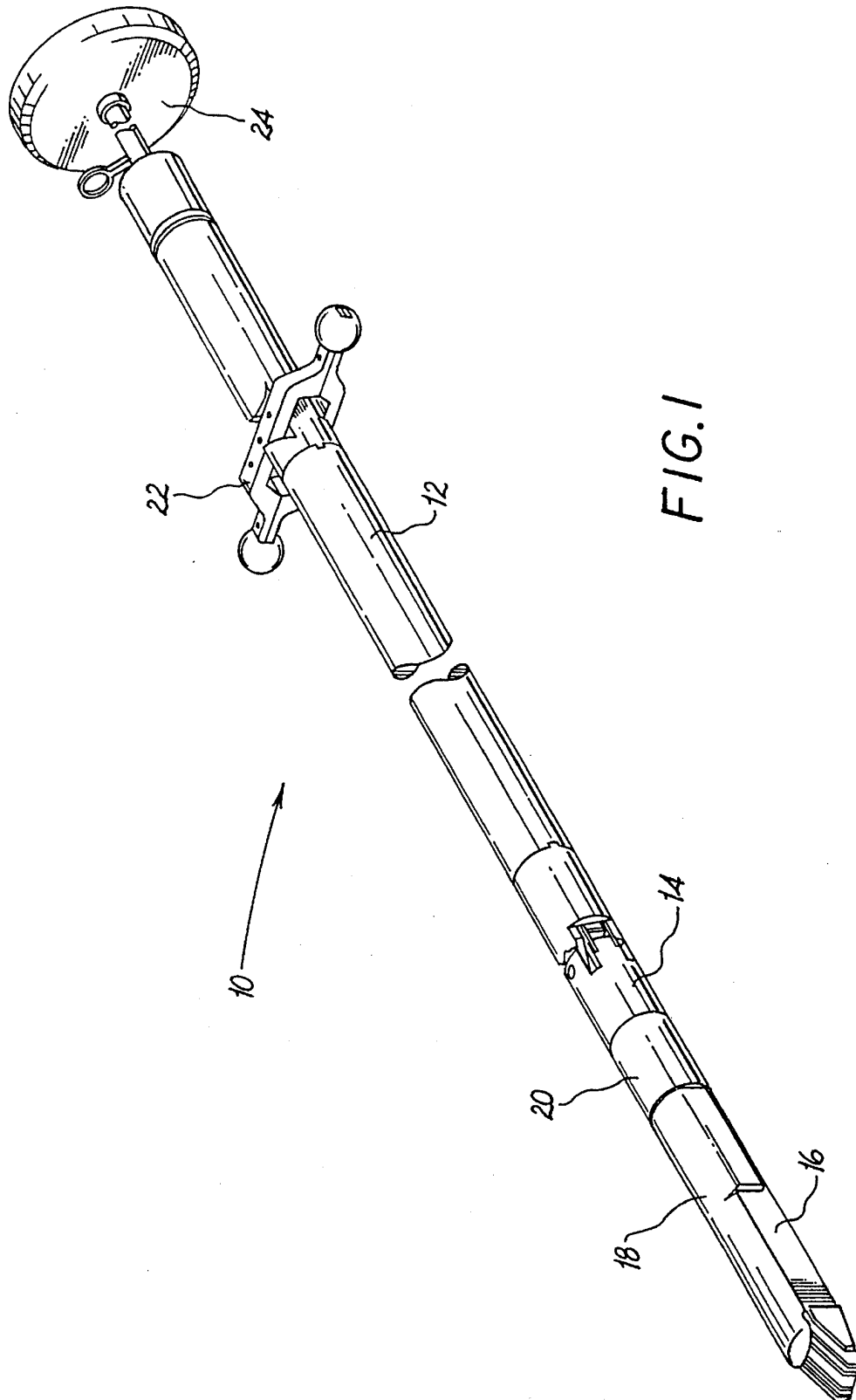
Surgical apparatus is provided for placing lateral lines of surgical fasteners into body tissue. The apparatus includes an endoscopic body having an elongated proximal portion and an articulating distal portion which moves relative to the proximal portion. A cartridge assembly and an anvil member are detachably mounted adjacent the articulating distal portion which move relative to one another between an open position and a closed position. A camming mechanism is associated with the articulating portion of the apparatus for moving the anvil member relative to the cartridge assembly, and a linkage system is provided for effectuating the articulation of the distal portion of the endoscopic body to increase the range of operability of the apparatus. In addition, a driving mechanism is provided for ejecting the surgical fasteners from the cartridge assembly.

30 Claims, 11 Drawing Sheets



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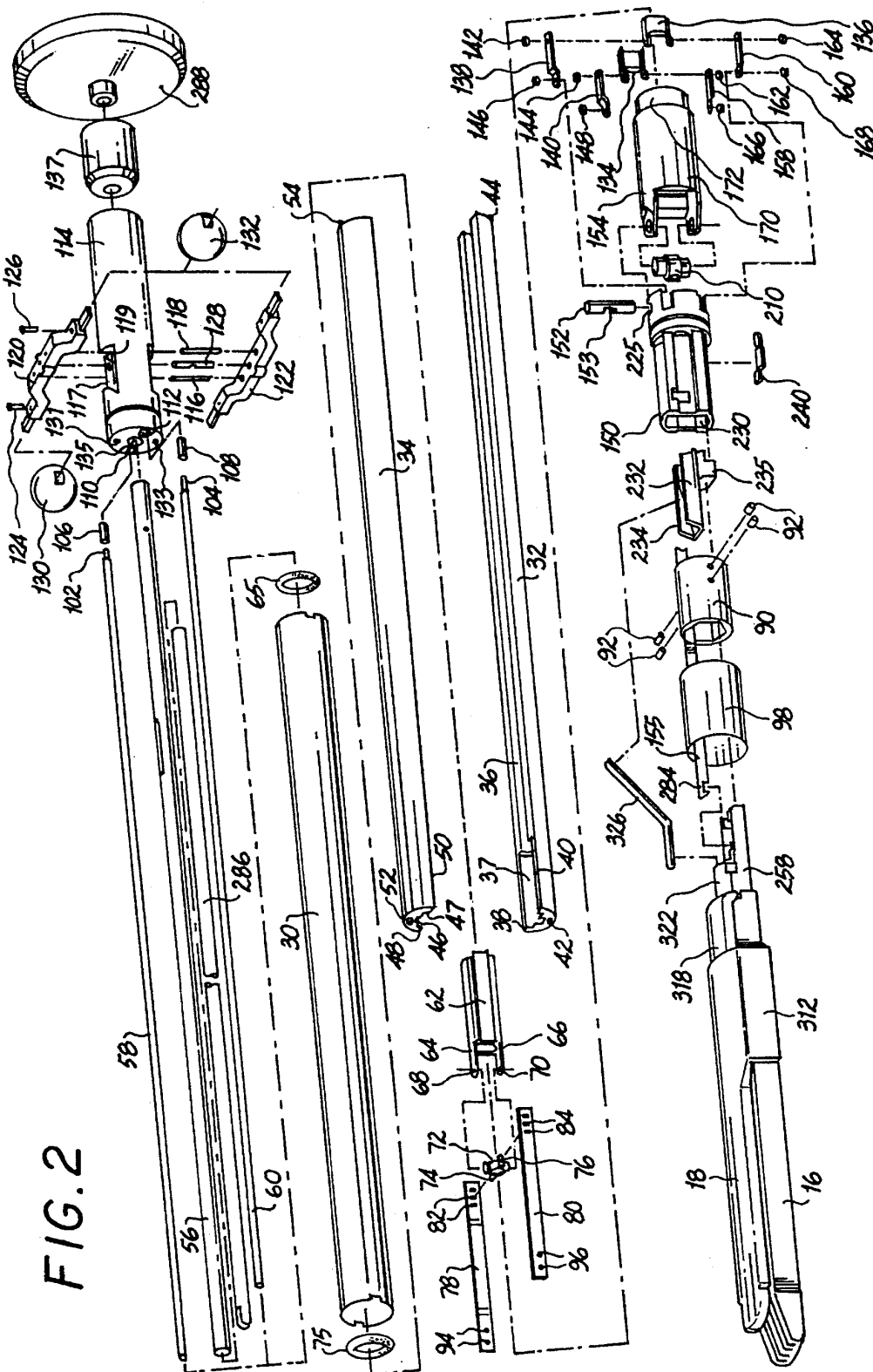


FIG. 2

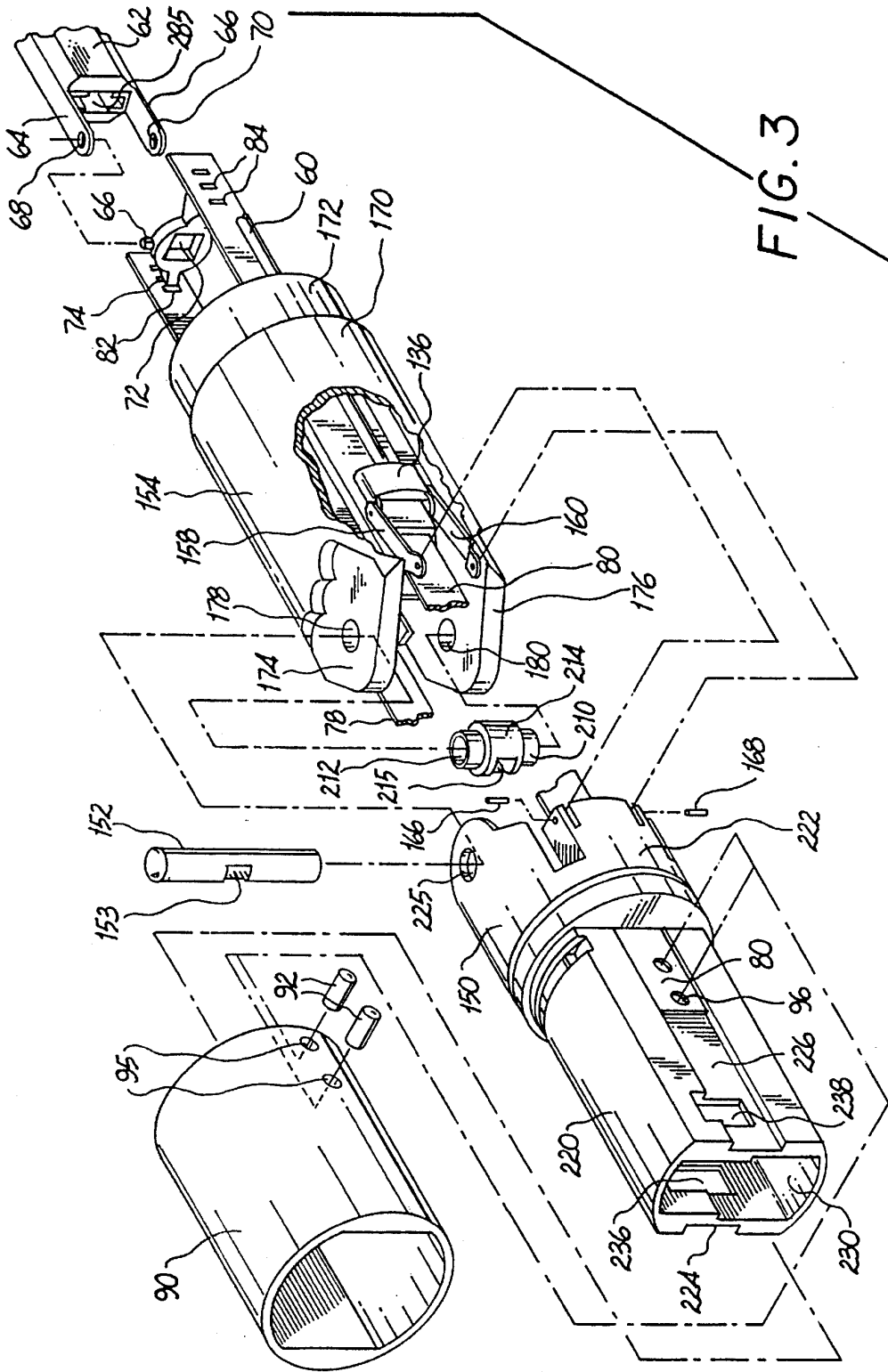


FIG. 3

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