



US005921966A

United States Patent [19]**Bendek et al.**[11] **Patent Number:** **5,921,966**[45] **Date of Patent:** **Jul. 13, 1999**[54] **MEDICATION DELIVERY PEN HAVING AN IMPROVED CLUTCH ASSEMBLY**[75] Inventors: **Antonio A. Bendek**, Vernon, N.J.; **John E. Burbank, III**, Ridgefield, Conn.; **Charles L. Bush, Jr.**, Fairfield, N.J.; **Jonathan B. Gabel**, Randolph, N.J.; **Lucio Giambattista**, East Hanover, N.J.; **Roger W. Hoeck**, Loomis, Nebr.; **Malcolm E. Taylor**, Pepperell, Mass.

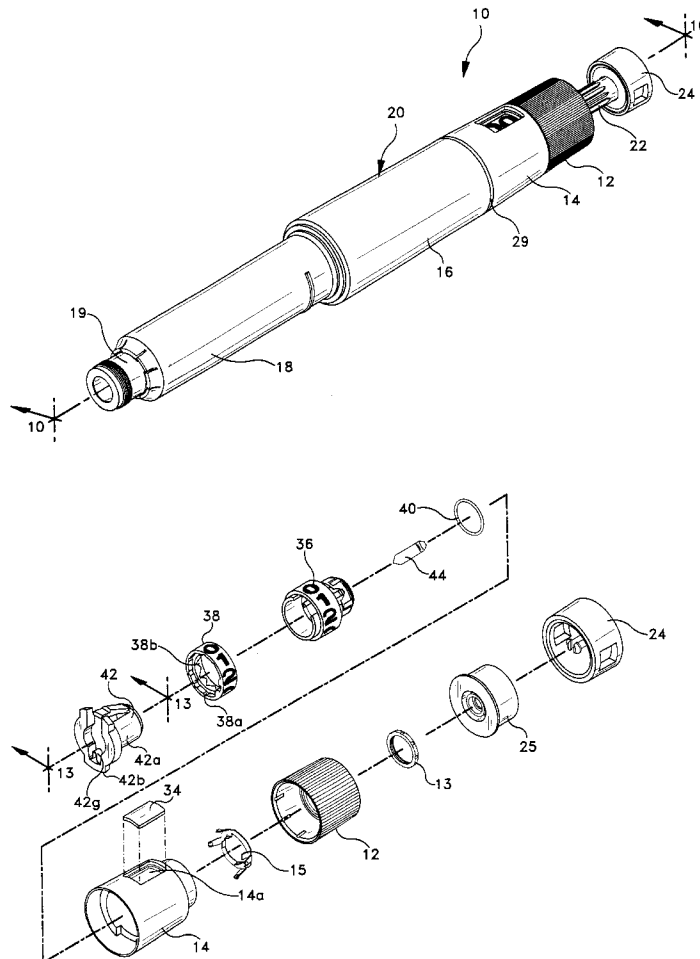
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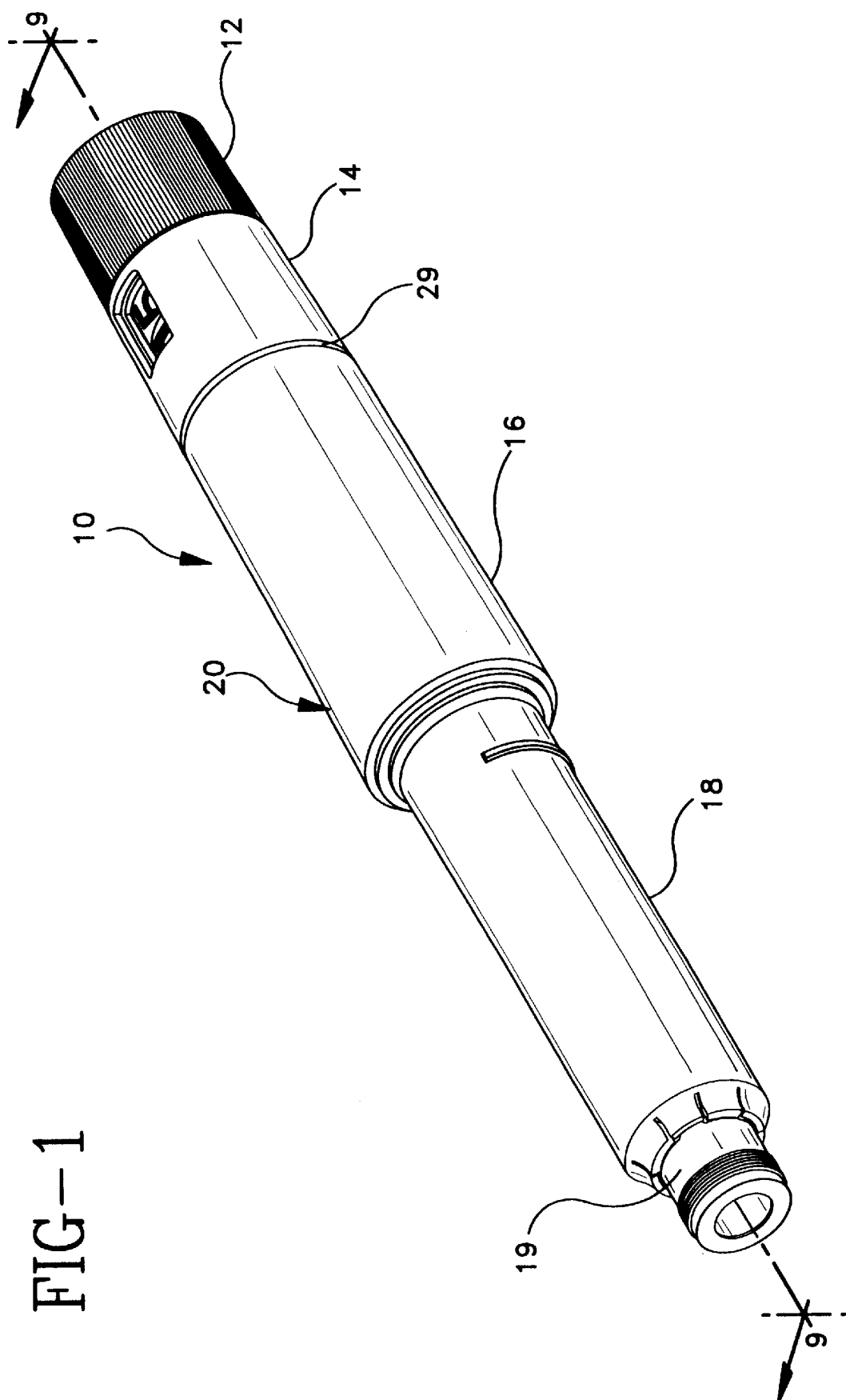
Primary Examiner—Ronald Stright*Assistant Examiner*—A. T. Nguyen*Attorney, Agent, or Firm*—Alan W. Fiedler[73] Assignee: **Becton Dickinson and Company**, Franklin Lakes, N.J.[57] **ABSTRACT**

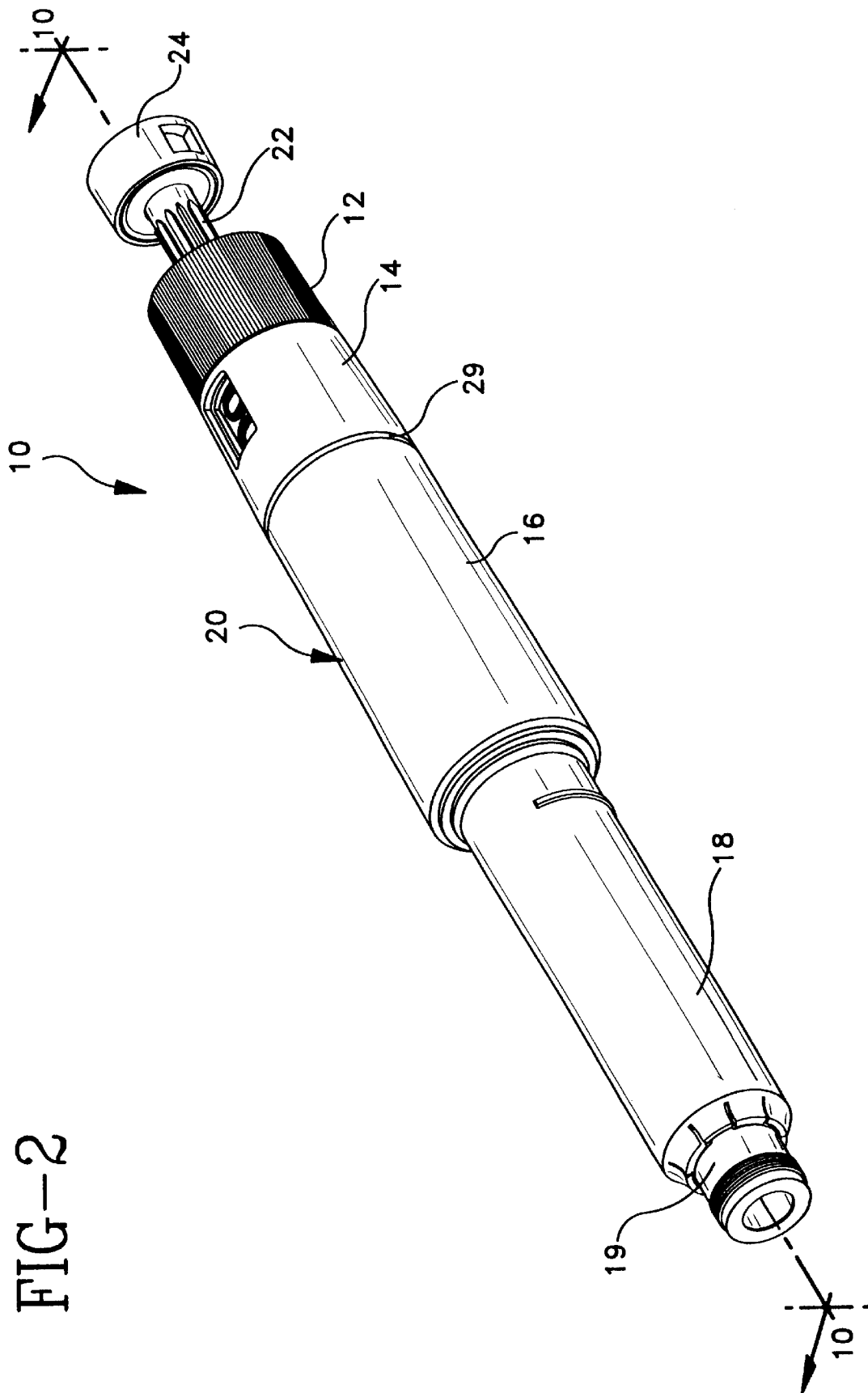
An improved medication delivery pen is provided for injecting fluids such as insulin within body tissue. The medication delivery pen includes a mechanism that prevents the removal of a cartridge unless an injector button on the medication pen is in a predefined position, a bayonet attachment and an improved clutch assembly in a dose setting mechanism that provides improved control over the torque necessary to rotate a units counter ring in the medication delivery pen using a dose setting knob.

[21] Appl. No.: **08/909,222**[22] Filed: **Aug. 11, 1997**[51] **Int. Cl.⁶** **A61M 5/00**[52] **U.S. Cl.** **604/207; 604/211; 604/232**[58] **Field of Search** 604/207–211, 224, 604/232, 152, 218[56] **References Cited****U.S. PATENT DOCUMENTS**

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7 Claims, 14 Drawing Sheets





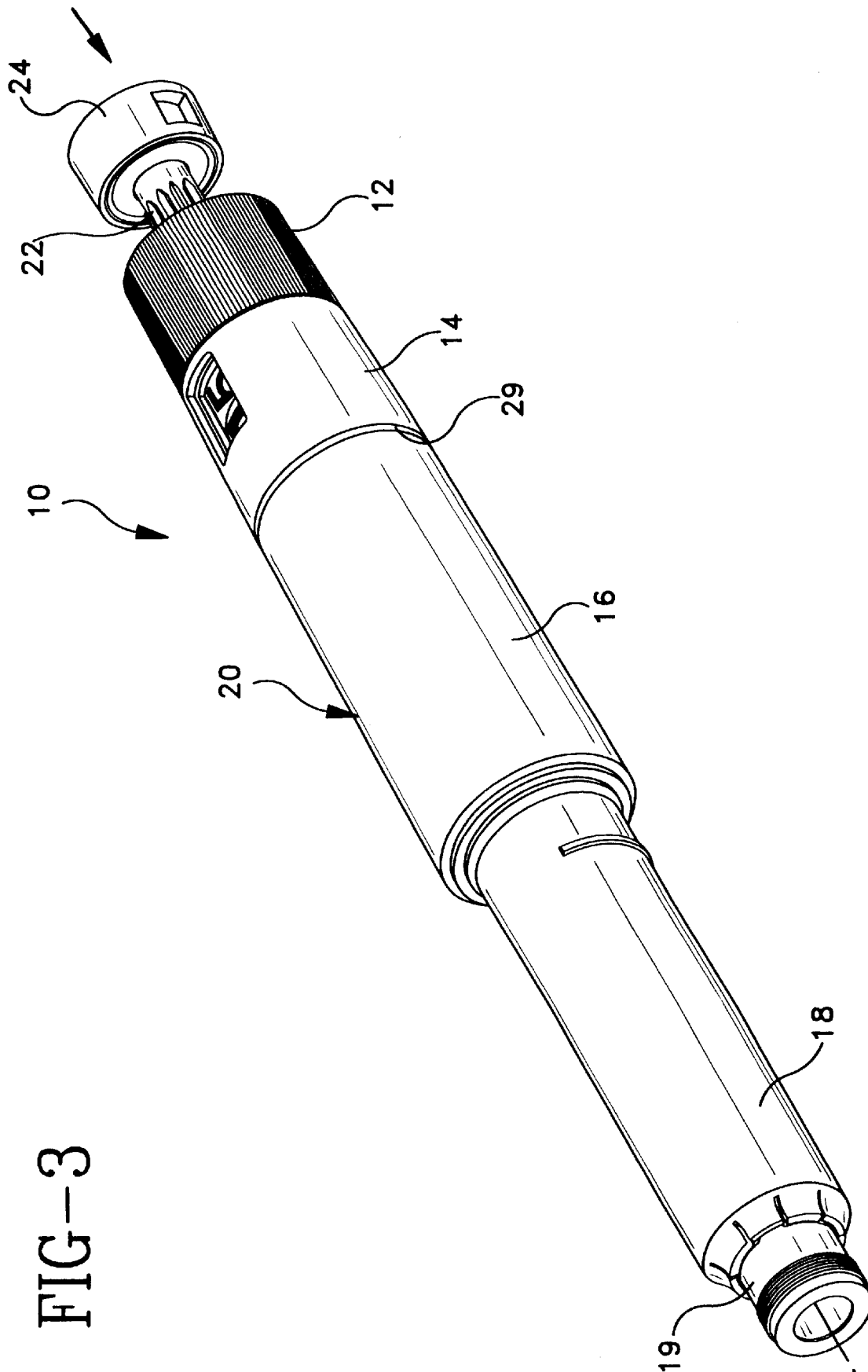
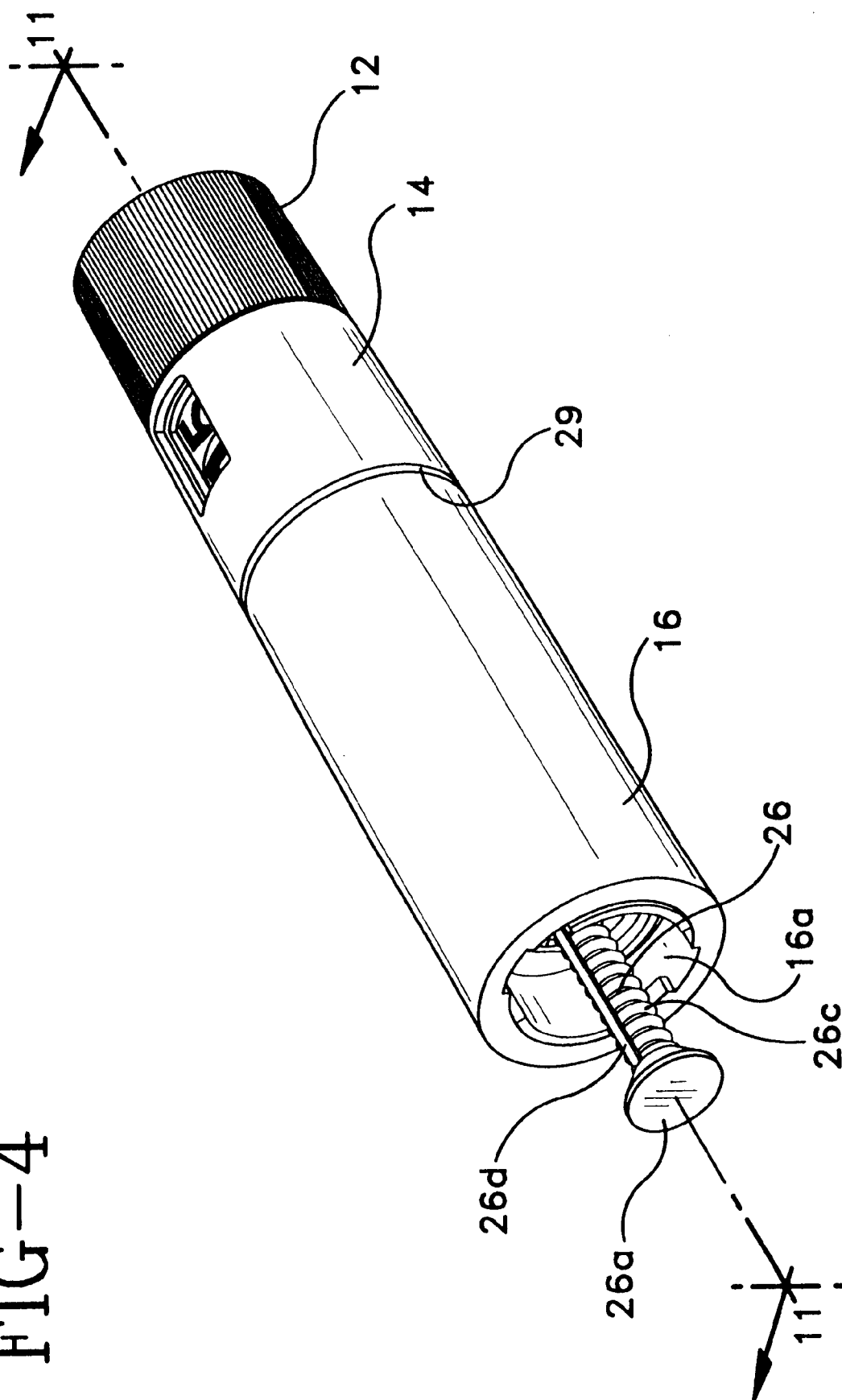


FIG-3

FIG-4



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