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

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(54) **RECYCLABLE MEDICATION DISPENSING DEVICE**

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(73) Assignee: **Eli Lilly and Company**, Indianapolis, IN (US)

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

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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **08/678,528**

(22) Filed: **Jul. 9, 1996**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/399,764, filed on Mar. 7, 1995, now abandoned.

(51) **Int. Cl.**⁷ **A61M 1/00**; A61M 5/00; A61M 5/315

(52) **U.S. Cl.** **604/153**; 604/207; 604/220; 604/232; 604/208

(58) **Field of Search** 604/207, 208, 604/209, 210, 211, 181, 186, 187, 232, 224, 218, 220, 228, 229, 71, 72, 404, 246; 222/309, 390, 391

Primary Examiner—Richard K. Seidel
Assistant Examiner—Michael J Hayes
(74) *Attorney, Agent, or Firm*—Michael T. Bates

(57) **ABSTRACT**

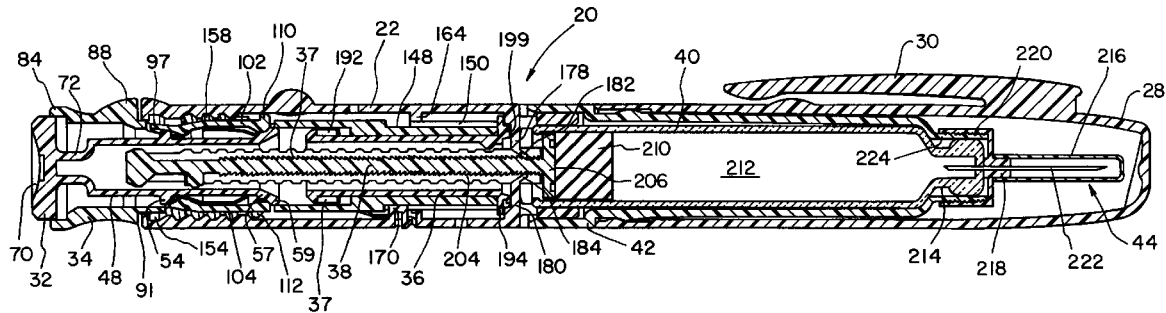
A multi-use medication dispensing pen made of a plastic material that is recyclable after the contents of the medication cartridge have been exhausted. The pen is made of a minimal number of parts, which include a housing, a dial mechanism, a generally cylindrical button assembly located within the proximal end of the dial mechanism, an internally threaded nut, and an externally threaded leadscrew. The pen is arranged so that the dial mechanism must be rotated to the zero-dose position prior to setting a dose. The pen includes a lockout mechanism that prevents the dial mechanism from being inadvertently depressed during dosing. The pen further includes a mechanism that limits the maximum dosage that can be dialed up and a mechanism that prevents the user from dialing up a dosage greater than that remaining in the cartridge.

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23 Claims, 4 Drawing Sheets



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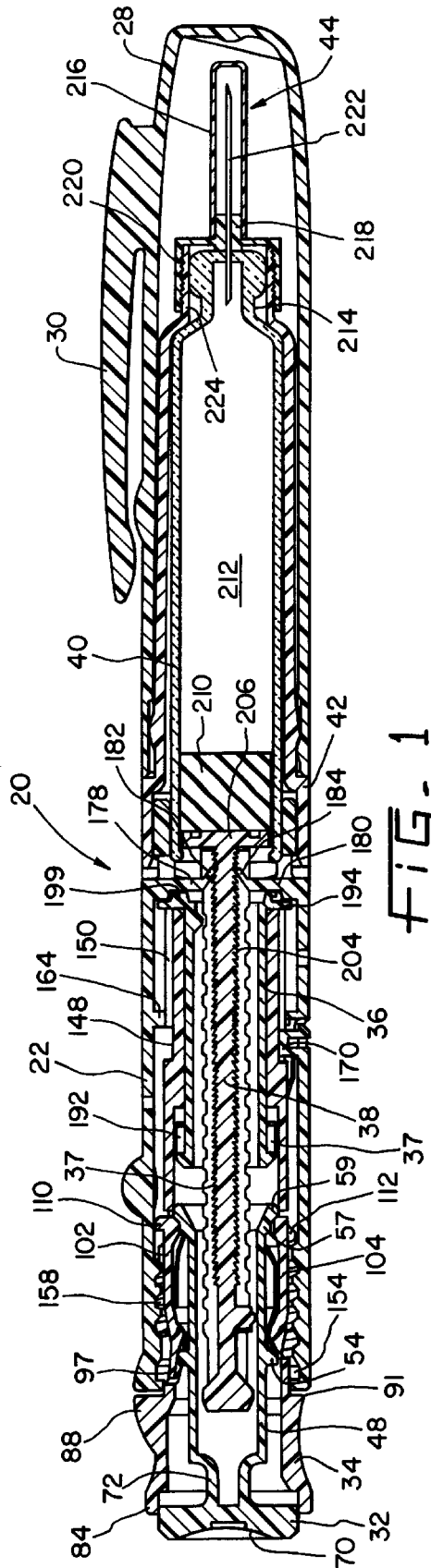


FIG. 1

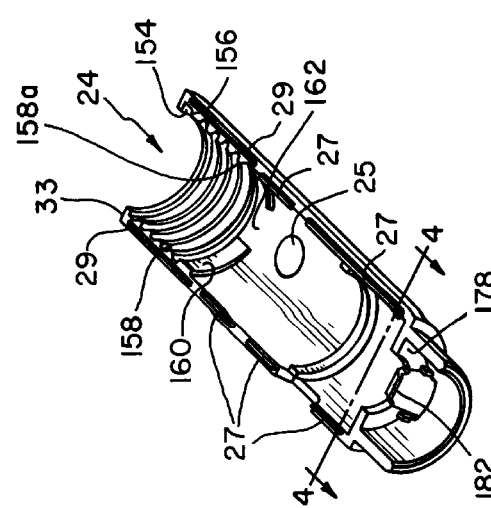


FIG. 3

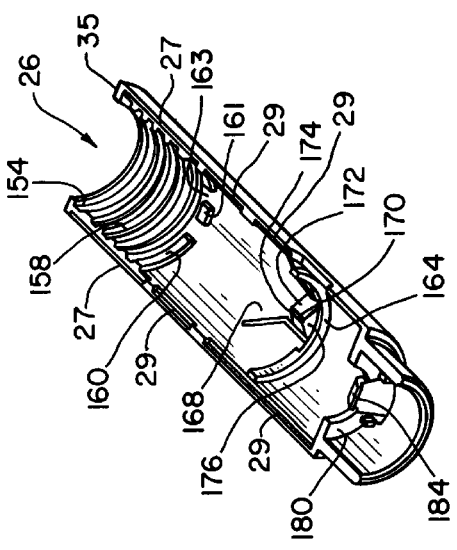


FIG. 4

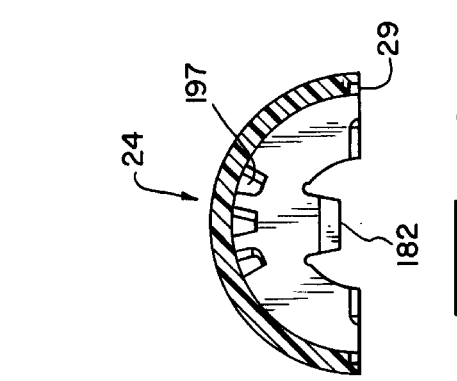
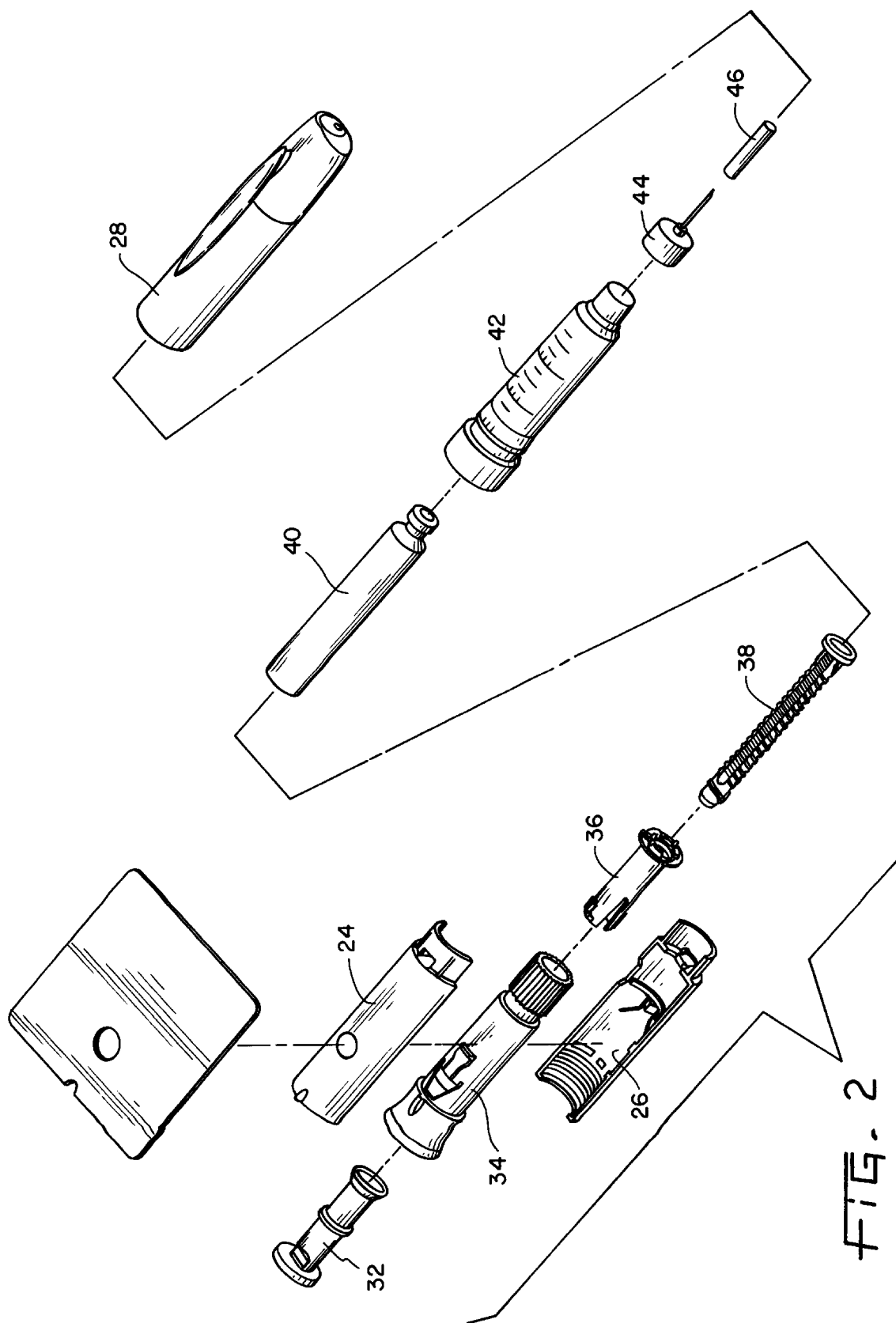


FIG. 5



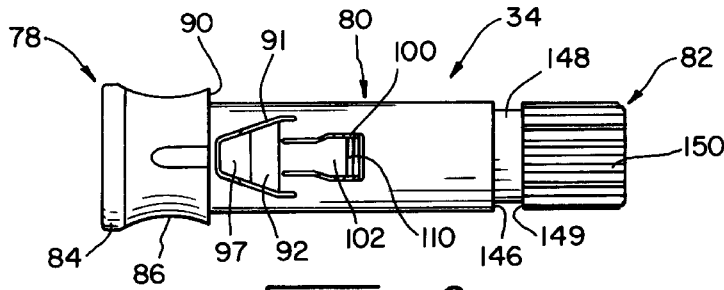


FIG. 6

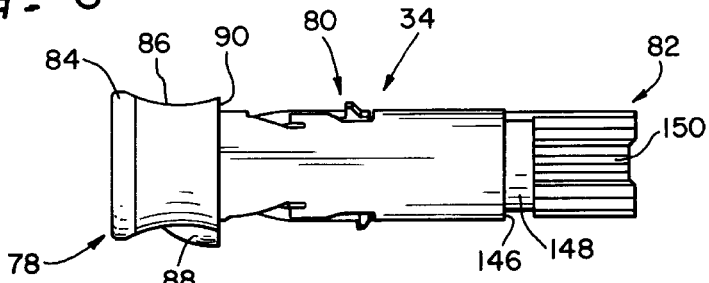


FIG. 7

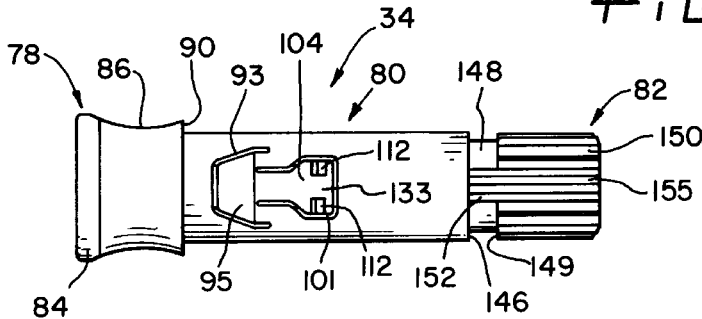


FIG. 8

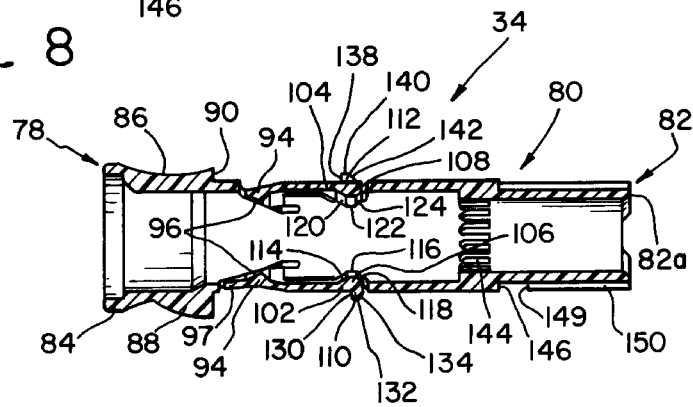


FIG. 9

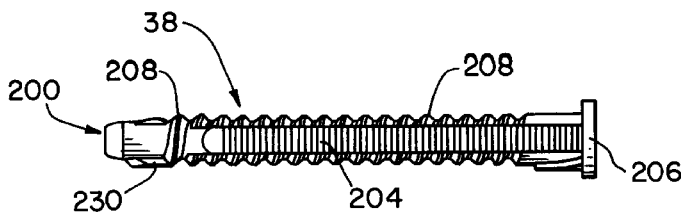


FIG. 12

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