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(12) **United States Patent**
Gabriel

(10) **Patent No.:** **US 6,173,199 B1**
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- (54) **METHOD AND APPARATUS FOR INTUBATION OF A PATIENT**
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- (73) Assignee: **Syncro Medical Innovations, Inc., Macon, GA (US)**
- (*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.
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- (51) **Int. Cl.⁷** **A61B 5/05**
- (52) **U.S. Cl.** **600/424; 128/899**
- (58) **Field of Search** 600/424, 373; 128/899; 604/264, 270, 280; 324/260, 207.11, 207.13

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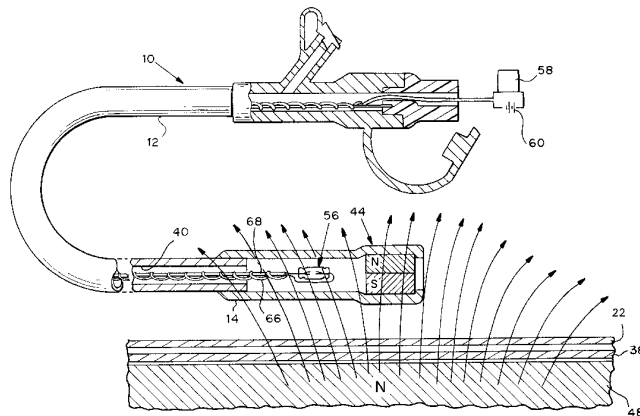
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(57) **ABSTRACT**

A catheter having a distal end portion including a sensor responsive to the presence of a magnetic field or flux of a predetermined strength is provided. Also provided is a catheter system which further includes an external magnet. The sensor in the distal end portion is selected to respond when the distal end portion of the catheter is exposed to a magnetic field, such as provided by the external magnet, sufficient to capture and maneuver the distal end of the catheter. A catheter having a distal end portion that includes a steering portion for maneuvering the distal end of the catheter during intubation of a patient is also provided. A method for intubating a patient using the catheter systems provided, including an external magnet, is also disclosed.

32 Claims, 7 Drawing Sheets



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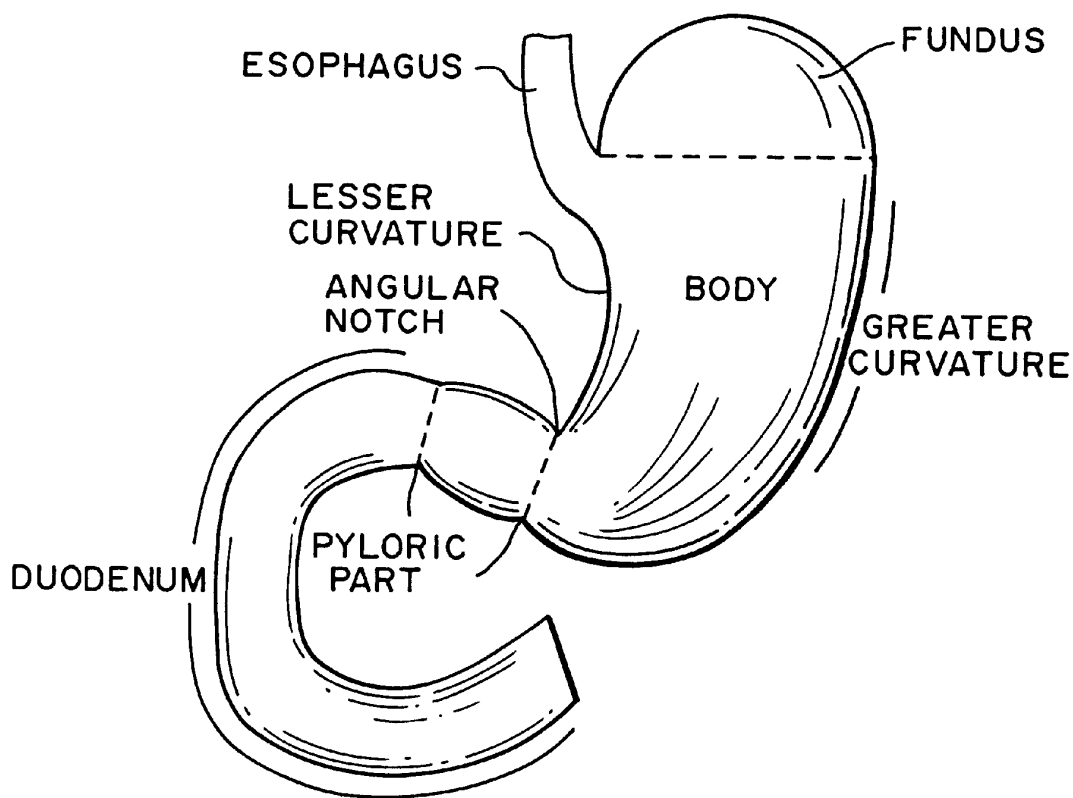


FIG. 1

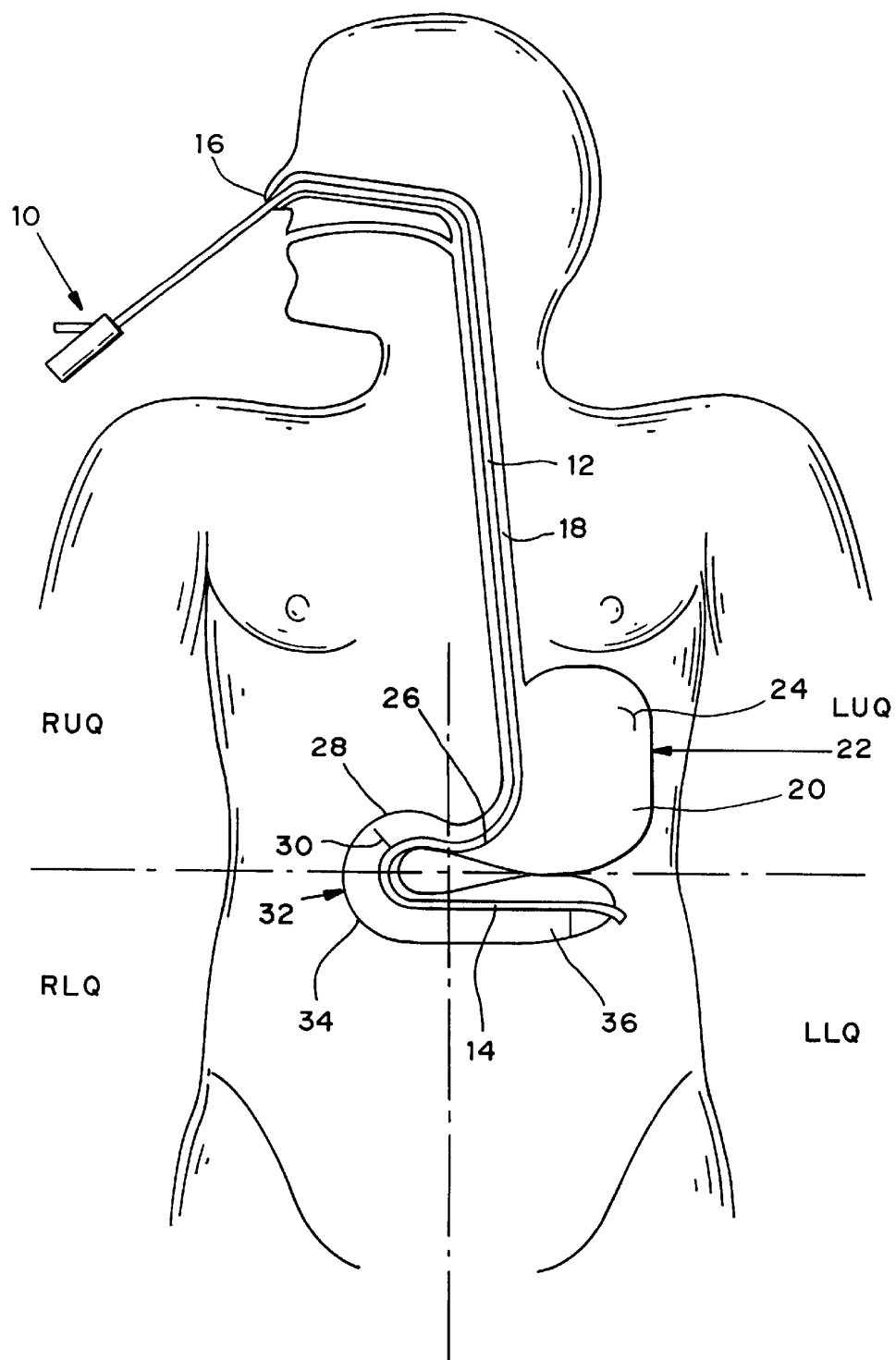


FIG. 2

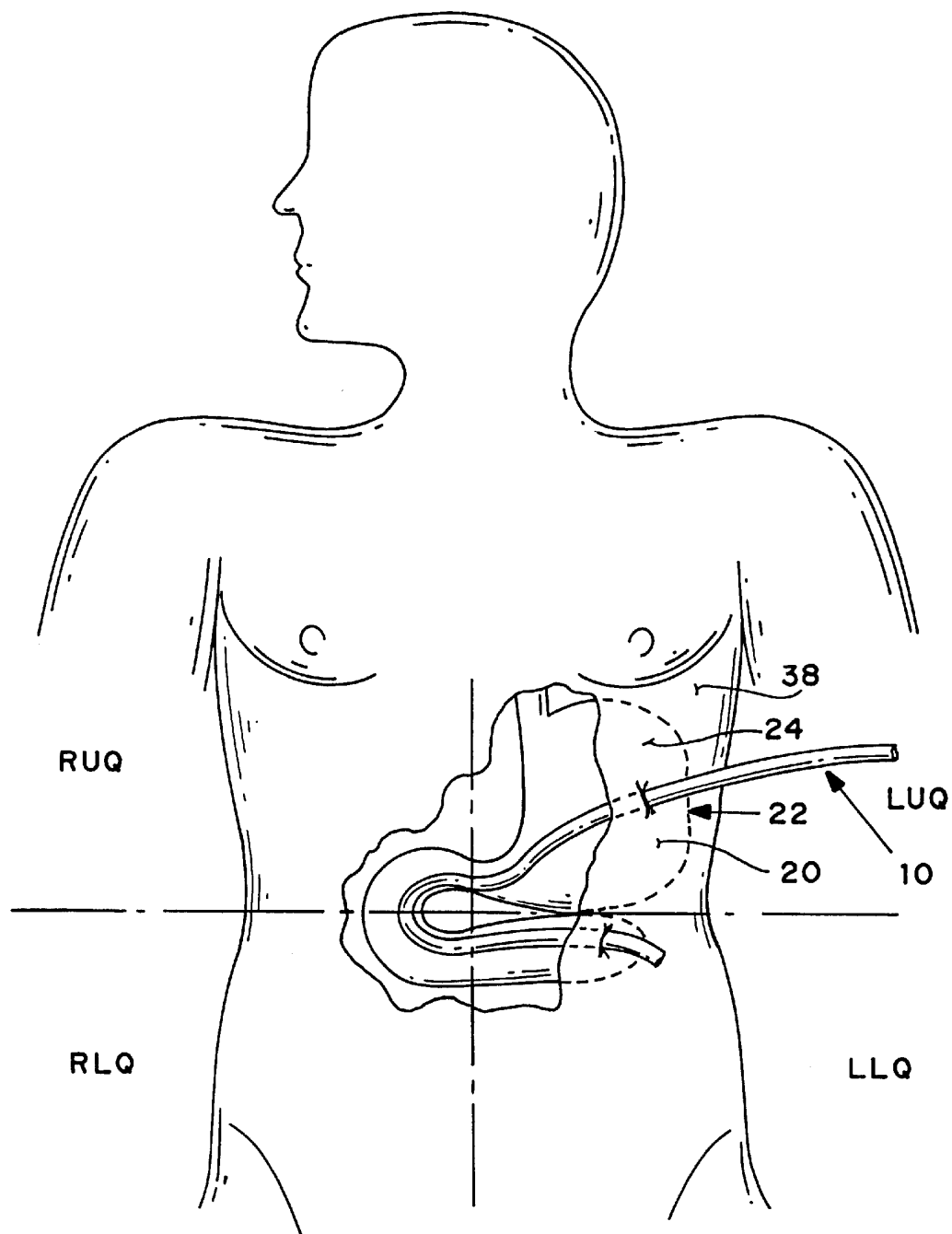


FIG. 3

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