System for the magnetic localization and locomotion of an endoscopic capsule

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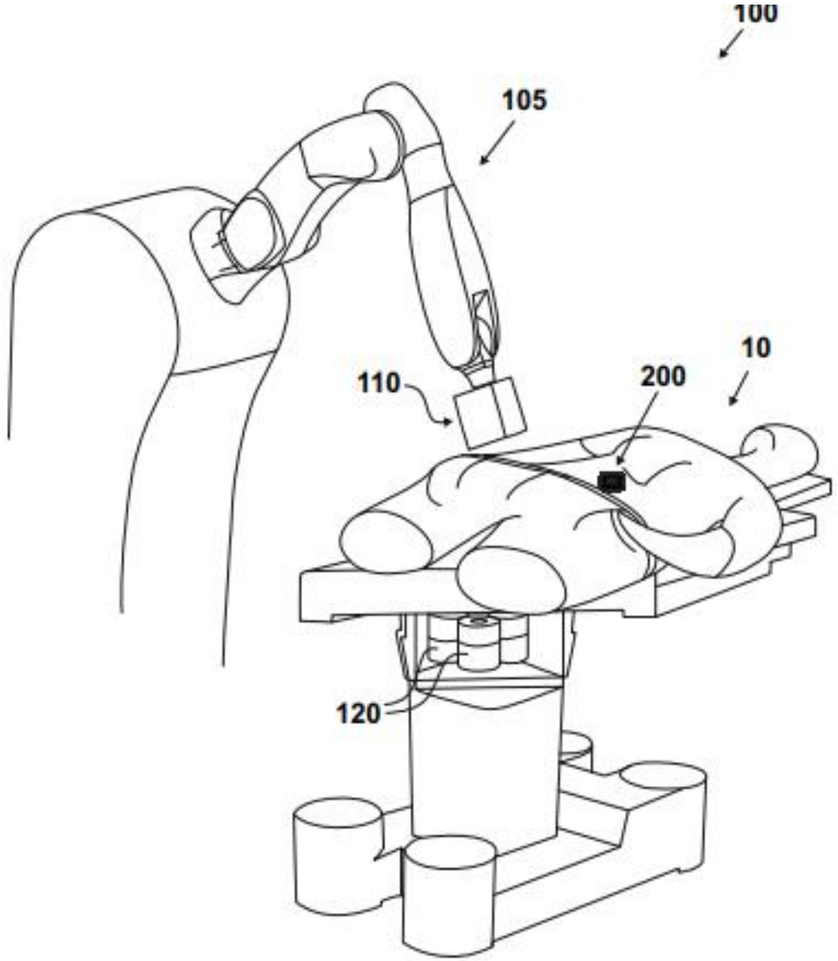
Invention

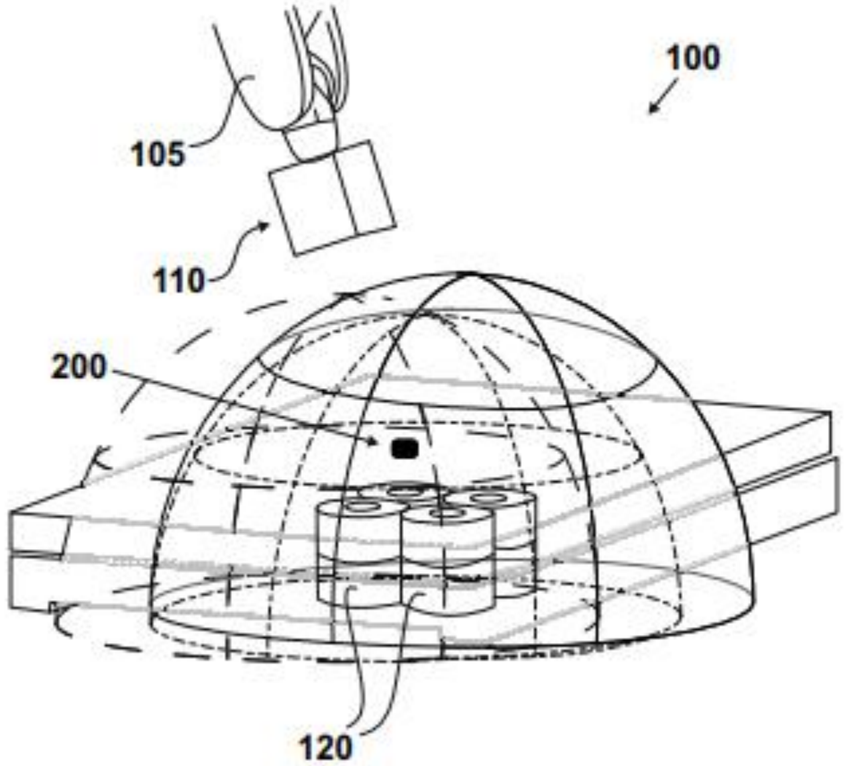
The invention relates to a system for the localization and magnetic locomotion of an endoscopic capsule within a gastrointestinal tract.

Traditional endoscopy systems are manually pushed and pulled from the outside through the natural sphincters within the gastrointestinal system, the tip of the device then moves under the action of forces transmitted along the entire device.
Magnetic guide endoscopic systems, on the other hand, are moved by the tip of the device under the action of magnetic interactions. In particular, the endoscopic system is composed of a robotic platform which supports one or more field sources in its terminal partpermanent magnetic containing an internal source of permanent magnetic field. The force required for advancement is therefore transmitted from the tip to the tail as opposed to traditional systems.

This paradigm shift in the modality of locomotion has led to the need for a localization system to accurately and repeatably identify the position and orientation of the tip of the endoscopic system within the anatomical district concerned, greatly reducing the pain caused to the patient.

Drawings & pictures





Industrial Applications

Create a new and innovative highly professional endoscopic product capable of improving the endoscopic service to the target patient by decreasing the impact that anesthesia could have.

Possible developments

The research group is interested in industrial partners interested in licensing the technology covered by this patent.

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