inventions







وزارة التعطيم Ministry of Education



Medical Material Delivery Device

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Abstract

Delivering medical materials efficiently and securely during procedures is a critical challenge in healthcare. Existing methods, such as manual pressure, intra-vessel anchors, and external plugs, have limitations, including prolonged duration, patient discomfort, and inconsistent effectiveness. This invention introduces a medical material delivery device designed for easy, quick, less painful, and secure material delivery. The device features an expandable member that bursts or leaks to release therapeutic agents, reducing procedure time and improving patient safety.

Introduction

Solution

The medical material delivery device consists of:

- **A shaft with a lumen** Holds and transports the therapeutic agent.
- A guide with a channel Assists in positioning the device at the target site.
- An expandable member Bursts or leaks upon activation to deliver the therapeutic agent efficiently.
- A bodily fluid locator Enhances precision by identifying the target site.

Key Benefits:

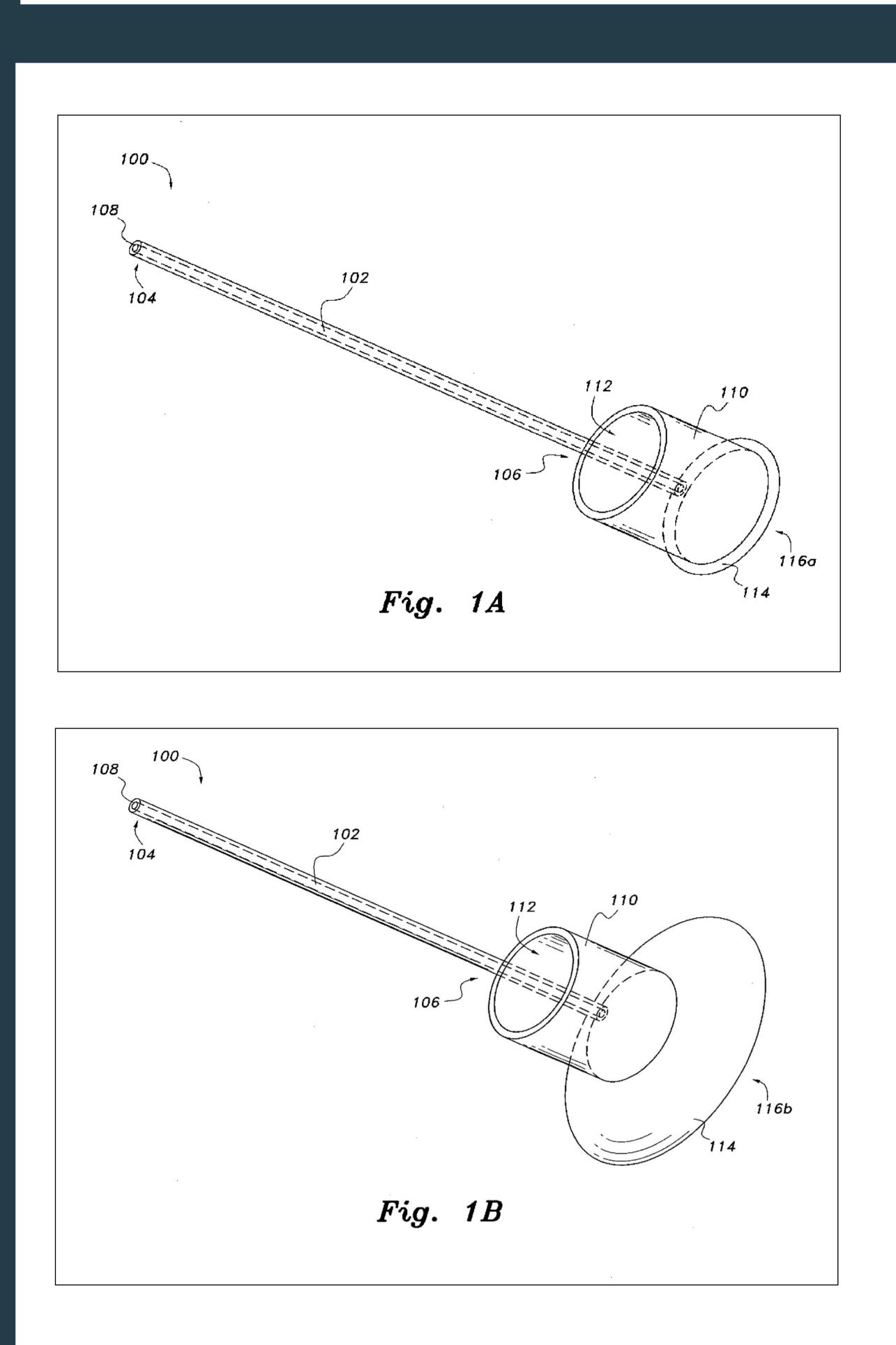
- Time-Saving Reduces procedural delays.
- **Less Painful** Minimizes discomfort compared to manual pressure or plugs.
- **Secure & Controlled** Ensures accurate material delivery without complications.

Current medical material delivery methods often face challenges like prolonged duration, discomfort, and variable effectiveness. For instance, manual pressure application can be painful and time-consuming, while intra-vessel anchors and external plugs struggle with stability and placement accuracy. There is a need for a more efficient, patient-friendly, and secure solution to enhance medical procedures and improve outcomes.

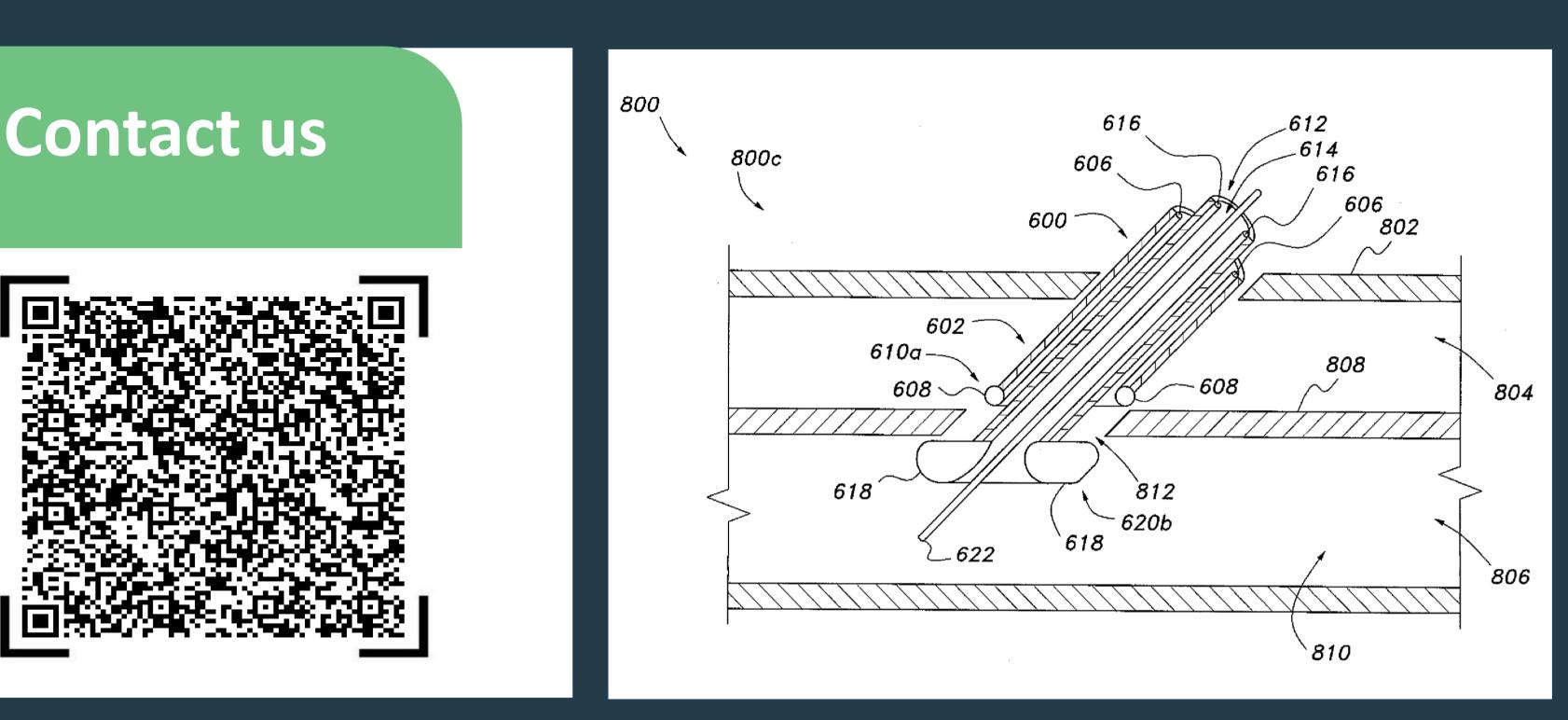
Motivation

Healthcare professionals require a faster, more effective way to deliver medical materials during procedures. This invention aims to:

- **Reduce patient discomfort** by minimizing invasive handling.
- Improve procedural efficiency by ensuring quick and controlled material delivery.
- **Enhance safety and accuracy** with a controlled **expandable** member mechanism.



Support various medical applications with an adaptable and easy-to-use design.



This device benefits **all healthcare** practitioners, improving global medical practice by offering a safe, effective, and user-friendly alternative to existing methods.