



US005484437A

United States Patent [19]**Michelson**[11] **Patent Number:** **5,484,437**[45] **Date of Patent:** **Jan. 16, 1996**[54] **APPARATUS AND METHOD OF INSERTING SPINAL IMPLANTS**[76] Inventor: **Gary K. Michelson**, 438 Sherman Canal, Venice, Calif. 90291[21] Appl. No.: **74,781**[22] Filed: **Jun. 10, 1993**

3,892,232	7/1975	Neufeld	606/80
4,341,206	7/1982	Perrett	606/80
4,450,834	5/1984	Fischer	606/80

Primary Examiner—Michael A. Brown*Attorney, Agent, or Firm*—Lewis Anten; Amedeo Ferraro**Related U.S. Application Data**

[60] Continuation-in-part of Ser. No. 205,935, Jun. 13, 1988, Pat. No. 5,015,247, which is a division of Ser. No. 698,674, May 10, 1991, abandoned.

[51] Int. Cl.⁶ **A61B 17/56**; A61B 17/00[52] U.S. Cl. **606/61**; 128/898; 606/80

[58] Field of Search 606/60-80, 86-88, 606/96-98, 104

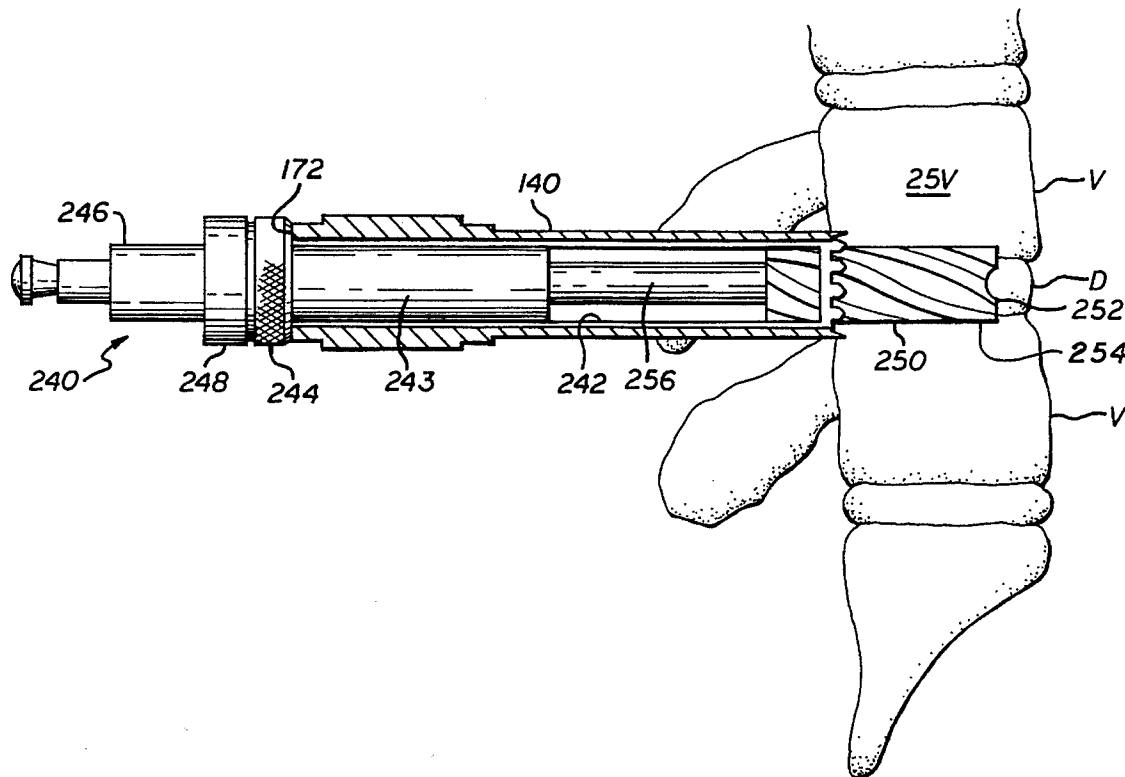
[57]

ABSTRACT

Apparatus and a method of inserting spinal implants is disclosed in which an intervertebral space is first distracted, a hollow sleeve having teeth at one end is then driven into the vertebrae adjacent that disc space. A drill is then passed through the hollow sleeve removing disc and bone in preparation for receiving the spinal implant which is then inserted through the sleeve.

[56] **References Cited****U.S. PATENT DOCUMENTS**

3,848,601 11/1974 Ma 606/80

35 Claims, 24 Drawing Sheets

MSD 1150

IPR2013-00506

IPR2013-00508

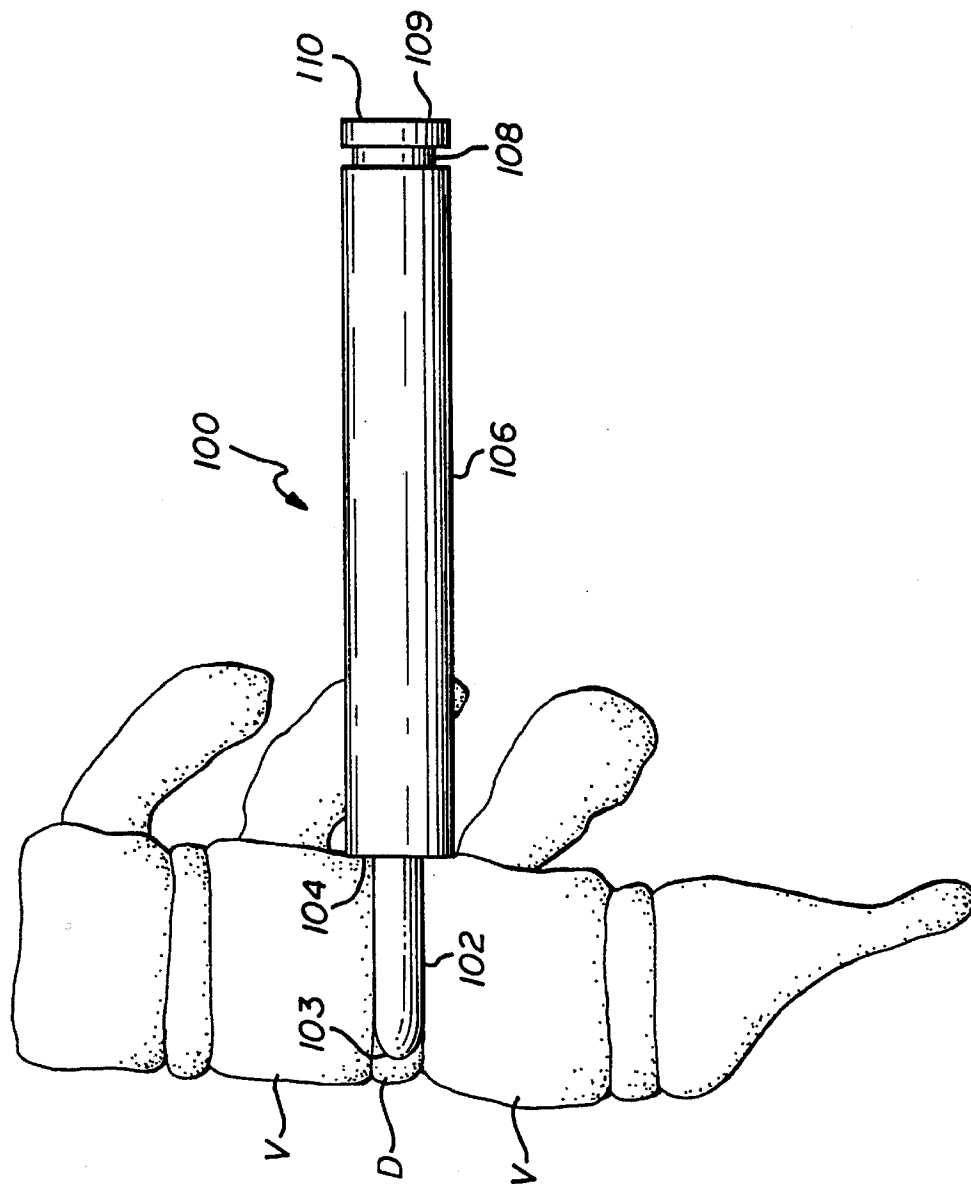


FIG. 1

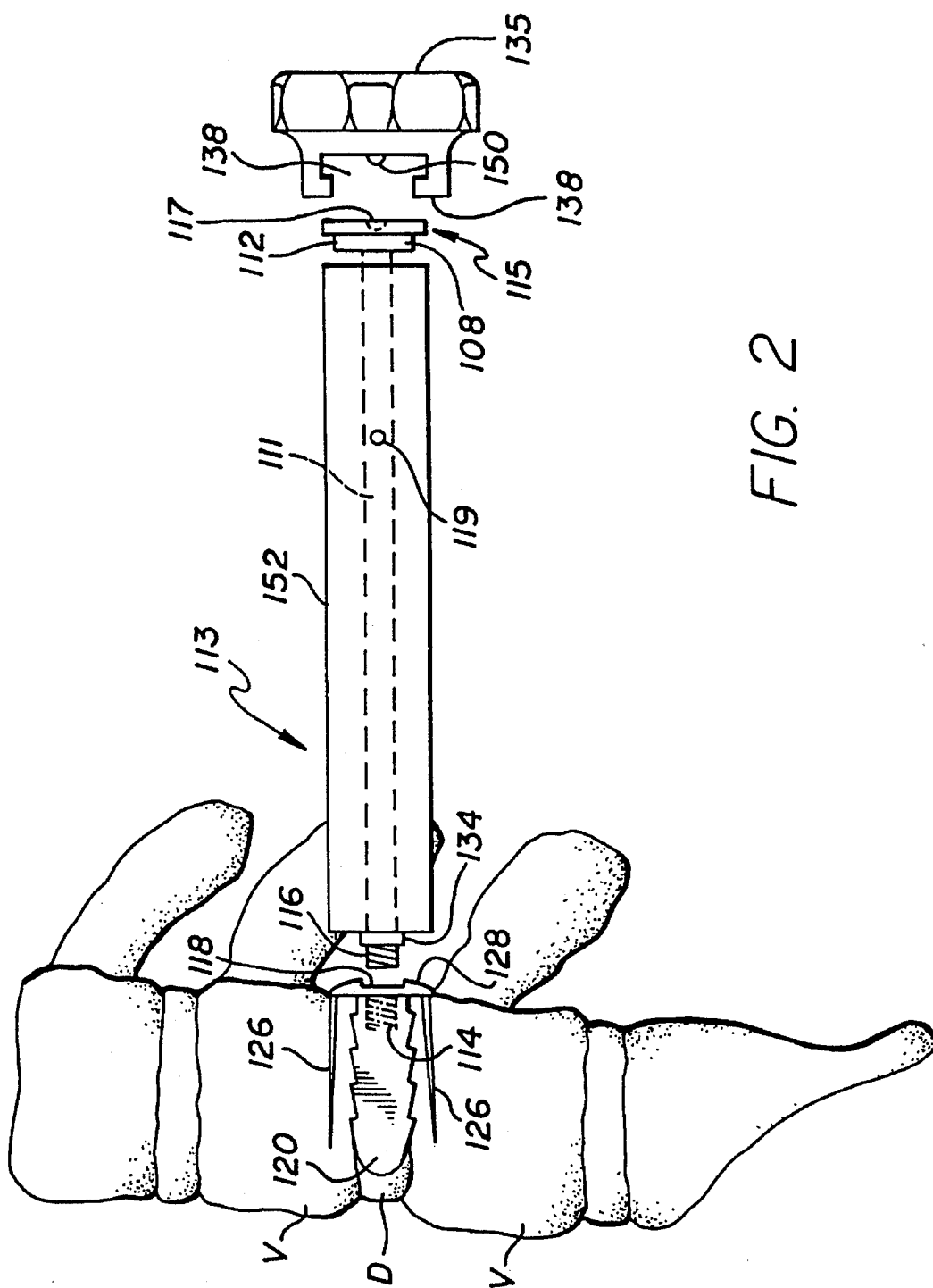


FIG. 2

FIG. 3

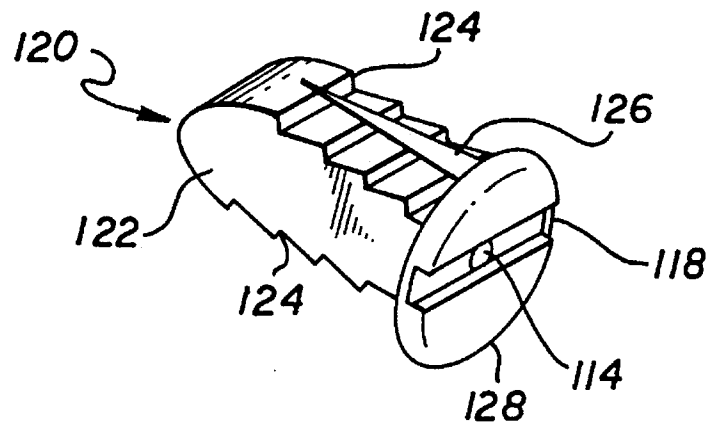


FIG. 3A

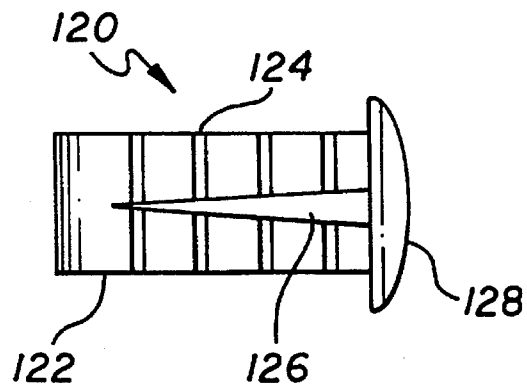


FIG. 3B

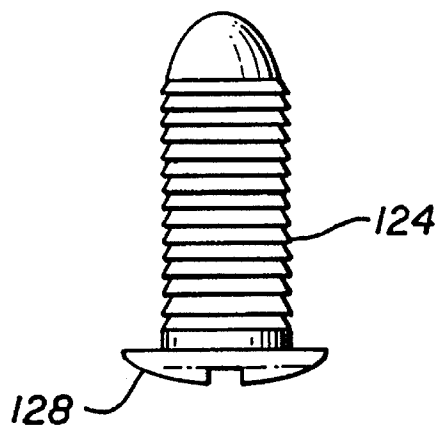


FIG. 3C

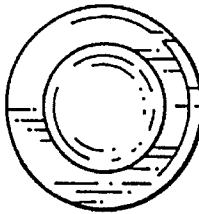


FIG. 3D

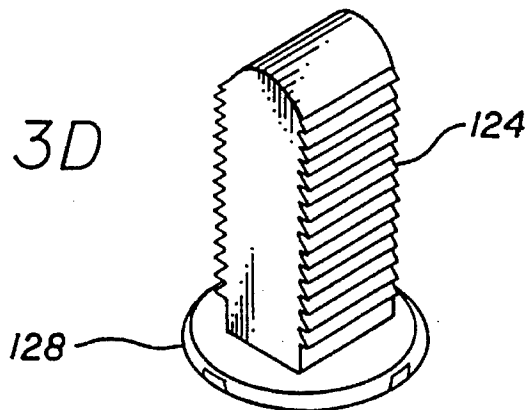


FIG. 3E

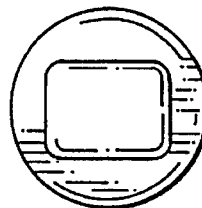
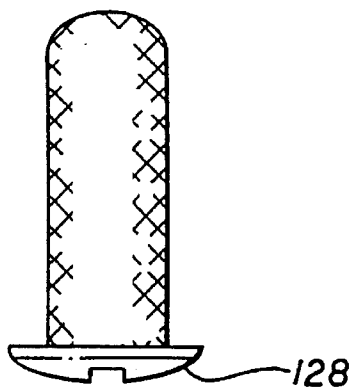


FIG. 3F



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.