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United States Patent [19]

[11] **Patent Number:** **5,484,437**

Michelson

[45] **Date of Patent:** **Jan. 16, 1996**

[54] **APPARATUS AND METHOD OF INSERTING SPINAL IMPLANTS**

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

[76] **Inventor:** **Gary K. Michelson**, 438 Sherman Canal, Venice, Calif. 90291

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Attorney, Agent, or Firm—Lewis Anten; Amedeo Ferraro

[21] **Appl. No.:** **74,781**

[22] **Filed:** **Jun. 10, 1993**

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**

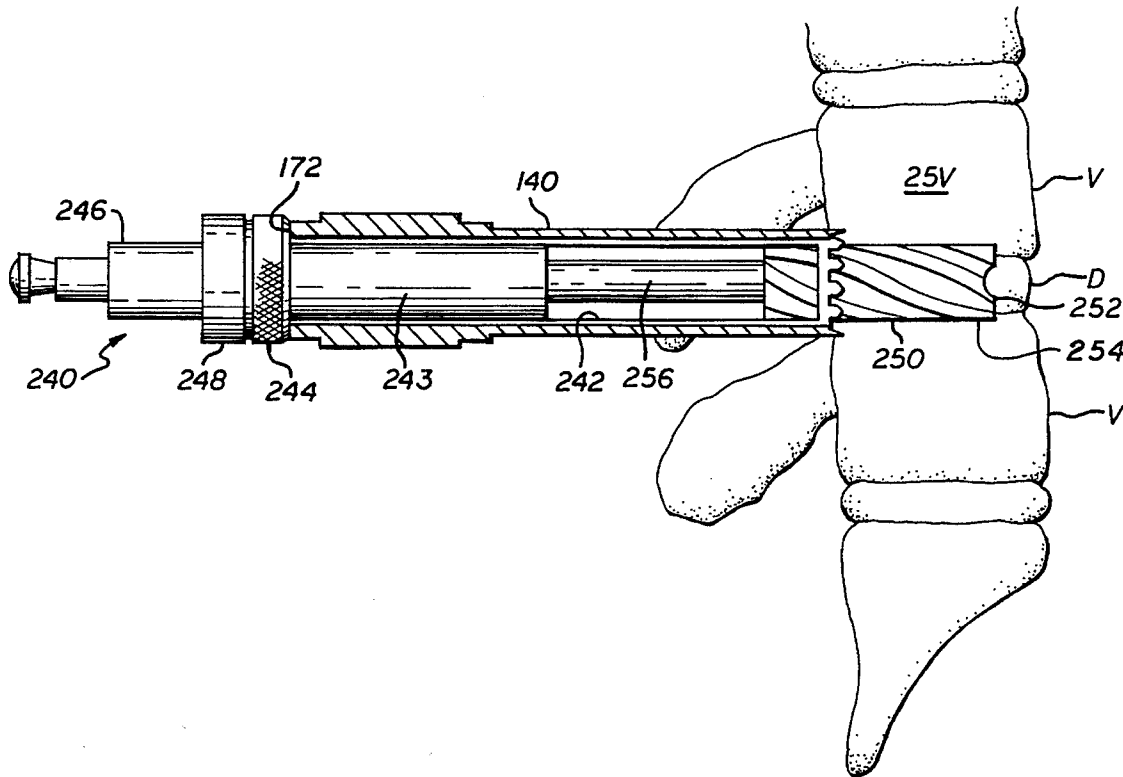
Apparatus and a method of inserting spinal implants is disclosed in which an intervertebral space is first distracted, a hollow sleeve having teeth at one end is then driven into the vertebrae adjacent that disc space. A drill is then passed through the hollow sleeve removing disc and bone in preparation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



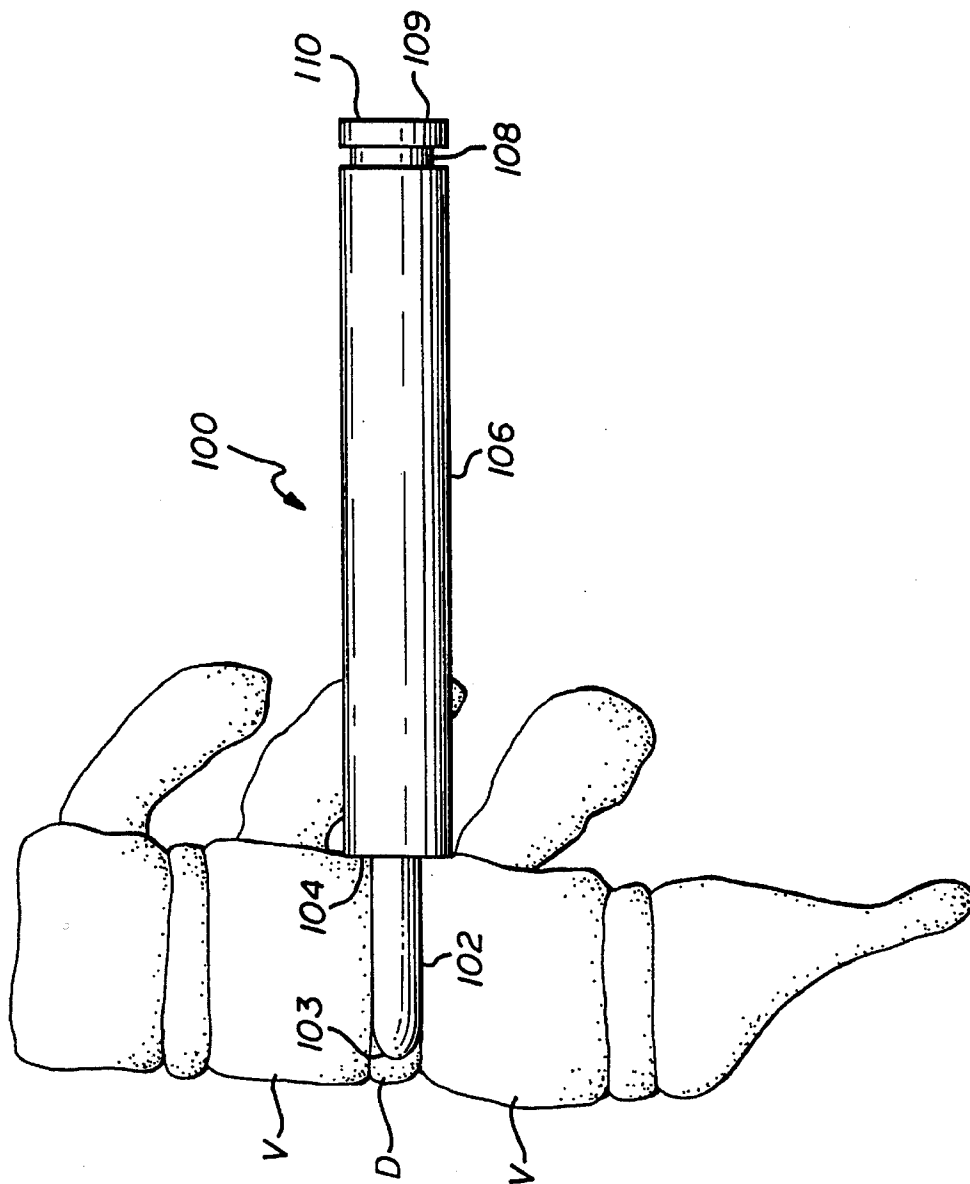


FIG. 1

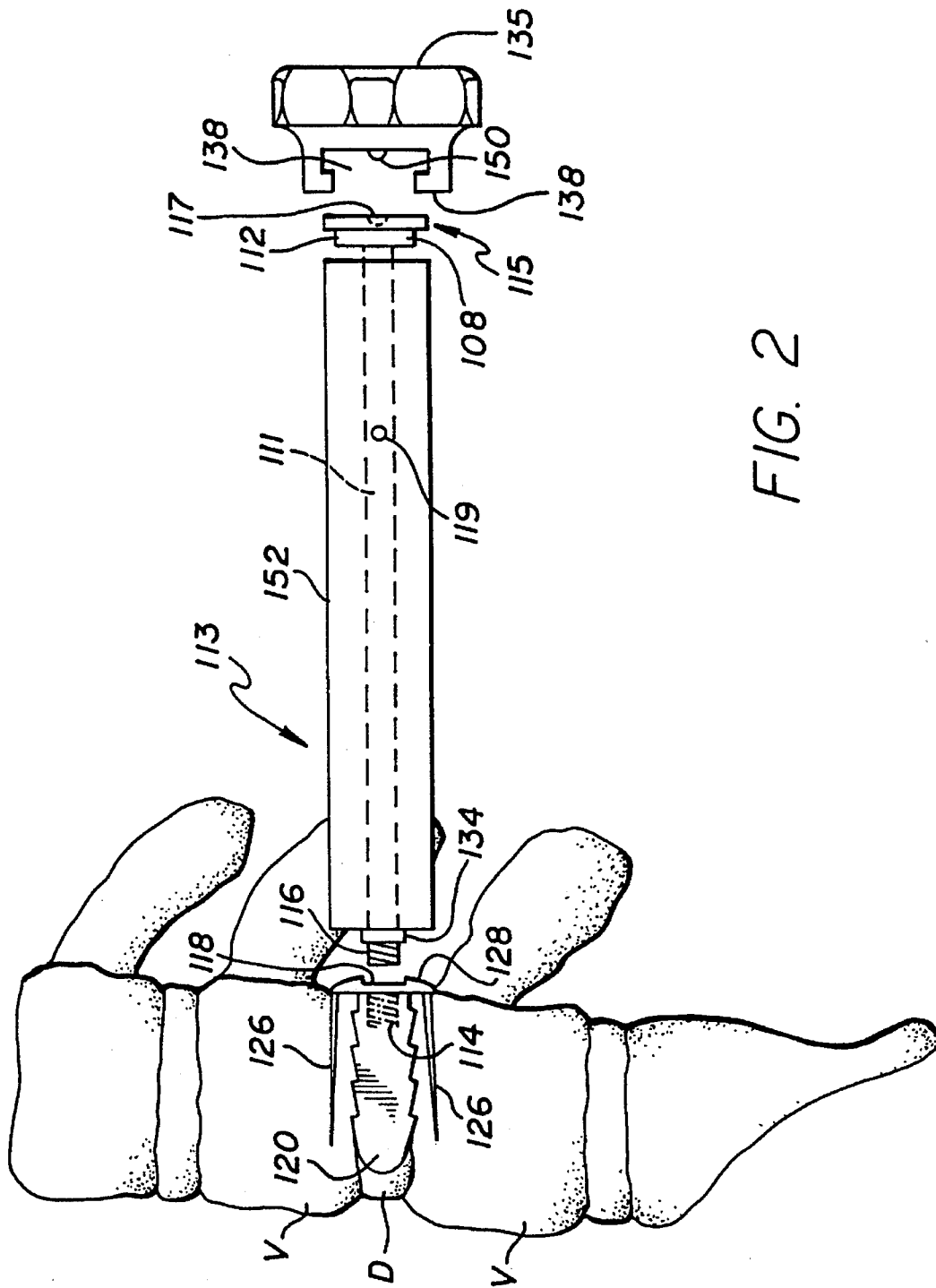


FIG. 2

FIG. 3

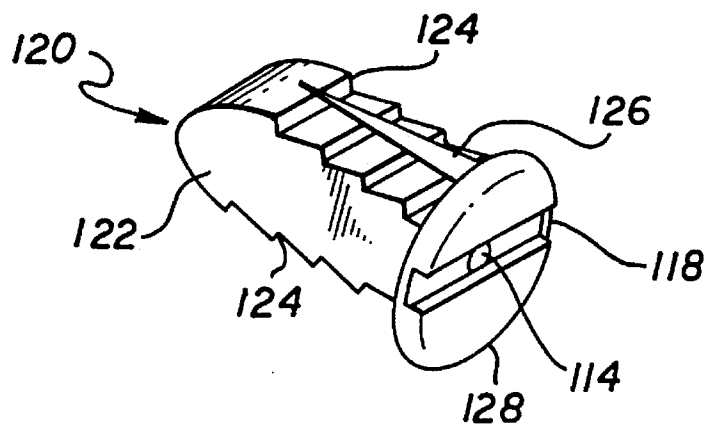


FIG. 3A

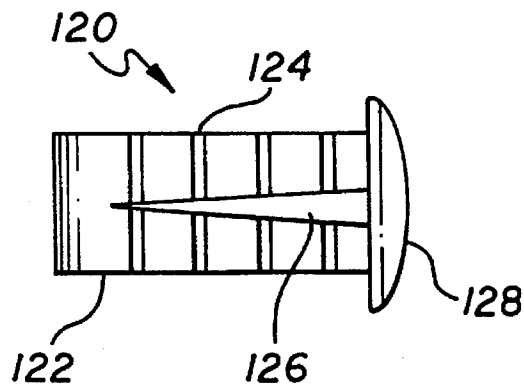


FIG. 3B

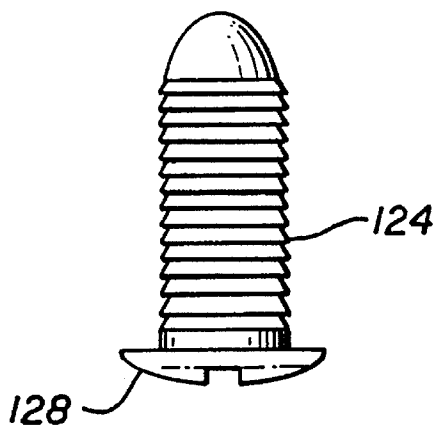


FIG. 3C

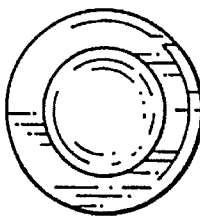


FIG. 3D

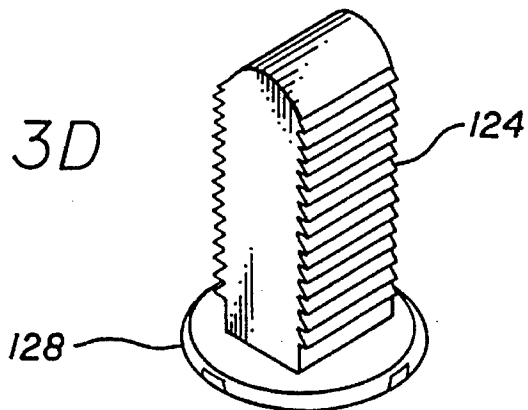


FIG. 3E

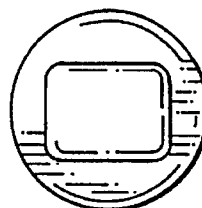
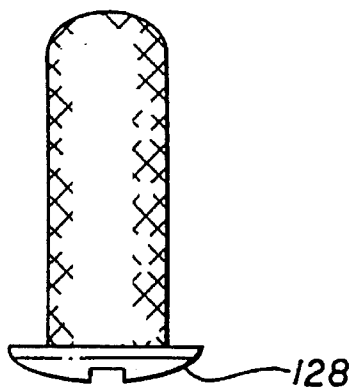


FIG. 3F



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