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Melker et al.

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[54] INTRAOSSEOUS NEEDLE

FOREIGN PATENT DOCUMENTS

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[73] Assignees: **Cook Incorporated**, Bloomington, Ind.; **University of Florida Research Foundation**, Gainesville, Fla.

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,431,655.

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[21] Appl. No.: **192,006**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 74,216, Jun. 9, 1993, Pat. No. 5,431,655, which is a continuation of Ser. No. 884,323, May 11, 1992, Pat. No. 5,484,442, which is a continuation of Ser. No. 627,020, Dec. 13, 1990, abandoned, which is a continuation-in-part of Ser. No. 261,699, Oct. 24, 1988, abandoned.

[57] ABSTRACT

[51] **Int. Cl.⁶** **A61B 5/00**
[52] **U.S. Cl.** **606/79; 604/264; 606/191**
[58] **Field of Search** 606/53, 86, 87, 606/88, 185, 72, 73, 74, 79, 80; 604/272-274, 164, 165, 51, 93

An intraosseous needle having a threaded shaft with a passageway extending substantially therethrough, a solid and pointed tip at one end thereof, the tip having a plurality of cutting edges which facilitate boring through a bone. The shaft also includes two side ports in communication with the passageway to allow fluids to pass through the needle into the interior of the bone after successful insertion thereof. There is a hub at the opposite end of the shaft, whereby the needle is adapted to couple with an appropriate gripping device. A handle is provided in the shape of a ball knob and is adapted to telescopically and grippingly receive the hub of the needle. The hub and handle are both equipped with mutually engaging torque-transmitting surfaces. Additionally, the threads of the intraosseous needle may optionally be tapered so that at least one thread at the proximal end of the threaded shaft has a greater major (and/or minor) diameter than at least one thread located at the distal end of the threaded shaft. As the needle is inserted, the tapering of the threads provides a tighter fit between the bone and the needle to prevent needle wobble and fluid leakage.

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34 Claims, 4 Drawing Sheets

