

- [54] **APPARATUS FOR GROWING GRAFT TUBES IN PLACE**
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Related U.S. Application Data

- [60] Continuation of Ser. No. 241,189, April 5, 1972, abandoned, which is a division of Ser. No. 101,031, Dec. 23, 1970, Pat. No. 3,710,777, said Ser. No. 241,189, Continuation-in-part of Ser. No. 178,171, Pat. No. 3,703,009, is a division of Ser. No. 823,287, May 9, 1969, Pat. No. 3,625,198, which is a continuation-in-part of Ser. No. 655,838, July 25, 1967, Pat. No. 3,514,791.
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 [58] Field of Search **3/1, DIG. 1; 128/334 R, 128/303, 347-351, 214.4, 2 B, 1 R, 3-6; 27/24 A, 24 R**

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[57] **ABSTRACT**

The invention is illustrated and described in connection with the growing of a femoro-popliteal artery graft. A tunneling tube is inserted through an incision above the inguinal ligament in the groin area adjacent an upper portion of the femoral artery and thrust downward subcutaneously through the thigh to a point below the knee on the inner or medial side of the leg adjacent a lower portion of the popliteal artery. A flexible silicone mandrel assembly having two layers of knitted Dacron on a flexible silicone rod is inserted in the tunneling tube. Then the tunneling tube is removed and the incision closed. The patient resumes his normal activity for a number of weeks during which time an ingrowth of connective tissue incorporates itself in the Dacron mesh, making an autogenous artery graft grown in the place where it is to be used.

In a second operation, a new incision is made below the inguinal ligament to expose the upper end of the graft tube containing the mandrel and an incision is made below the knee to expose the lower end of the graft tube containing the mandrel. Both ends of the graft and mandrel are cut off and the mandrel is pulled out. The graft is then anastomosed to the femoral artery above and the popliteal artery below, using the end-to-side method of anastomosis. The closing of the two incisions completes the operation with the graft providing a shunt for the femoro-popliteal artery extending from the groin to a point below the knee.

7 Claims, 19 Drawing Figures

