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United States Patent [19]

Barton

[11] Patent Number: 5,049,003

[45] Date of Patent: * Sep. 17, 1991

[54] **METHOD AND APPARATUS FOR REPAIRING RUPTURES IN UNDERGROUND CONDUITS**

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[*] Notice: The portion of the term of this patent subsequent to Feb. 26, 2008 has been disclaimed.

[21] Appl. No.: 633,472

[22] Filed: Dec. 24, 1990

Related U.S. Application Data

[63] Continuation of Ser. No. 397,771, Aug. 23, 1989, Pat. No. 4,995,761.

[51] Int. Cl.³ F16L 1/00; F16L 55/18

[52] U.S. Cl. 405/154; 405/303; 138/97

[58] Field of Search 405/154, 156, 303; 138/97; 156/287, 294, 156; 166/63

[56] **References Cited**

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[57] **ABSTRACT**

An apparatus and method are disclosed for repairing ruptures in underground conduits. An inflatable bladder and a flexible sleeve that is wrapped about at least a portion of the bladder are introduced into a conduit proximate a rupture therein. The bladder is inflated to urge the sleeve into engagement with the conduit such that the sleeve covers the rupture. The sleeve includes an adhesive bonding substance that adheres the sleeve to the conduit and is hardenable to bond the sleeve to the conduit.

20 Claims, 4 Drawing Sheets

