

United States Patent [19]

Smith et al.

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[54] **BONDING TO CALCIFIED TISSUES**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 424,051, Sep. 27, 1982, which is a continuation of Ser. No. 235,166, Sep. 27, 1981, Pat. No. 4,382,792.

[51] **Int. Cl.⁴** A61K 6/08

[52] **U.S. Cl.** 433/228.1; 106/35

[58] **Field of Search** 106/35; 260/998.11; 523/118; 433/180, 183, 217, 228

[56] **References Cited**

U.S. PATENT DOCUMENTS

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[57] **ABSTRACT**

Bonding to calcified tissues, including human teeth, tooth dentine and bone, is achieved through the medium of crystal growth adhered to the tissue. The crystals preferably comprise gypsum crystals which are formed by contacting the tissue surface with a mildly acidic solution containing sulphate ions. An uncured liquid resin is applied to the crystal growth and is cured to achieve adhesion by micromechanical interlock with the crystal growth and by superficial penetration of the tissue surface.

6 Claims, No Drawings