

[54] **HOT TIP DEVICE WITH OPTICAL DIAGNOSTIC CAPABILITY**

[75] **Inventors:** Kenneth J. Daignault, Jr., Jefferson; Edward I. McNamara, Chelmsford; Edward L. Sinofsky, Peabody, all of Mass.

[73] **Assignee:** C. R. Bard, Inc., Murray Hill, N.J.

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Primary Examiner—Stephen C. Pellegrino
Assistant Examiner—David Shay
Attorney, Agent, or Firm—Wolf, Greenfield & Sacks

[57] **ABSTRACT**

A hot tip device, typically used for melting and plowing through stenotic deposits in a coronary artery, is provided with optical diagnostic capabilities. The device includes an elongated, flexible member, a filter glass heating element attached to the distal end of the flexible member and an optical fiber extending through the flexible member and optically coupled to the heating element. The filter glass heating element absorbs a first range of wavelengths for heating and passes a second range of wavelengths for irradiating the artery through the filter glass heating element. In a preferred embodiment, the flexible member is a steerable guidewire, and the filter glass heating element is heated by infrared radiation. Ultraviolet or visible radiation is used to stimulate fluorescence from deposits in the artery.

27 Claims, 2 Drawing Sheets

