

United States Patent [19]

[11]

4,233,493

Nath

[45]

Nov. 11, 1980

[54] **APPARATUS FOR APPLYING INTENSE LIGHT RADIATION TO A LIMITED AREA**

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[21] Appl. No.: **859,143**

[22] Filed: **Dec. 9, 1977**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 578,416, May 19, 1975, abandoned.

Foreign Application Priority Data

May 21, 1974 [DE] Fed. Rep. of Germany 2424726
Mar. 13, 1975 [DE] Fed. Rep. of Germany 2511037

[51] Int. Cl.³ **H05B 3/02; A61N 5/06; F21V 9/00**

[52] U.S. Cl. **219/354; 128/303.1; 128/397; 128/398; 219/85 BA; 219/121 L; 219/347; 219/349; 250/504 R; 350/96.1; 350/96.34; 362/32; 362/294; 362/373; 362/804**

[58] Field of Search **219/342, 343, 347-349, 219/354, 85 BA, 85 BM, 85 R, 121 L, 121 LM; 250/494, 495, 503, 504, 510; 128/303.1, 395-399; 350/96.10, 96.26, 96.30, 96.34; 362/32, 373, 804, 294**

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[57] ABSTRACT

The apparatus, used for example to stop bleeding by heat coagulation during surgery, comprises a high power incandescent lamp emitting intense radiation high in infrared content enclosed in a housing having a light guide means, such as a solid light pipe, providing a light exit surface. The exit surface of the light guide means is provided with a self supporting stiff and non-pliable polymeric application element having a thickness of at least about 0.1 millimeters or a polymeric coating having the same thickness and physical characteristics, permanently applied to the exit surface or to a transparent end plate positioned adjacent to and protecting said exit surface. The application element or coating, respectively, is made of a polymer such as Teflon, Teflon PFA, Teflon FEP and Teflon PTFE, etc. and is substantially transparent to the radiation emitted by the lamp. The housing is made of a synthetic polymer material loaded with a coloring agent absorbing blue and green light while transmitting infrared radiation, whereby the glare from the lamp is eliminated and the housing is kept from overheating.

36 Claims, 7 Drawing Figures

