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Baumberg et al.

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[54] **ELECTROLUMINESCENT LIGHT SOURCE WITH A MIXTURE LAYER FILLED WITH A TRANSPARENT FILLER SUBSTANCE**

5,469,020 11/1995 Herrick 313/511
5,485,355 1/1996 Voskoboinik et al. 313/511

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FOREIGN PATENT DOCUMENTS

3742412 12/1987 Germany .
4342264 12/1993 Germany .
9715939 5/1997 WIPO .
9724015 7/1997 WIPO .

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[52] **U.S. Cl.** **313/506**; 313/511; 313/509;
428/917

[58] **Field of Search** 313/498, 506,
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690; 315/169.3

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,819,973 6/1974 Hosford 313/498

[57] **ABSTRACT**

There is provided a light source consisting of at least one flexible, cable-like electroluminescent filament, each filament having a central electrode (2) surrounded by an electrically insulating dielectric layer (4), and a layer (6) consisting of a mixture of an electroluminescent powder and a binder. The mixture is applied to the dielectric layer (4). The light source also includes a transparent electrode (8) surrounding the mixture layer (6). Pores formed in the mixture layer (6) are filled in by a transparent filler substance. A method for preparing the light source is also provided.

17 Claims, 6 Drawing Sheets

