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[54] **SKIN PIERCING DEVICES FOR MEDICAL USE**

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[58] **Field of Search** 604/113, 117, 604/187, 110, 192, 198, 218, 263; 128/919; 606/167, 170, 172, 181, 182

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[57] ABSTRACT

Apparatus for piercing skin including a skin contact surface arranged to contact a portion of skin to be pierced, a skin piercing needle arranged to pierce the skin within the region and a cooling assembly providing cooling of the skin contact surface thereby cooling the portion of skin prior to and during piercing thereof by the skin piercing needle.

22 Claims, 19 Drawing Sheets

