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Liang et al.

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[54] **ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES**

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2295157 5/1996 United Kingdom .

[21] Appl. No.: **815,745**

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[57] ABSTRACT

Related U.S. Application Data

An improved hardfacing for teeth and other surfaces of milled tooth rock bits includes steel in the range of from 20 to 50 percent by weight, and filler in the range of from 50 to 80 percent by weight. The filler includes spherical cast tungsten carbide particles alone or in a mixture of other tungsten carbide particles such as crushed cast spherical or crushed cemented tungsten carbide, macrocrystalline tungsten carbide, or the like. The single crystal monotonungsten tungsten carbide particles have a particle size in the range of from 16 to 40 mesh and/or in the range of from 80 to 200 mesh.

[60] Provisional application No. 60/014,225, Mar. 27, 1996, and provisional application No. 60/014,731, Mar. 12, 1996.

[51] Int. Cl.⁶ **E21B 10/00**

[52] U.S. Cl. **175/374; 175/425; 428/539.5**

[58] Field of Search **175/331, 374, 175/432, 425; 428/539.5**

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27 Claims, 1 Drawing Sheet

