

[54] WELL DRILLING APPARATUS

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[58] Field of Search.....173/149, 152, 159, 164; 81/57.16, 57.18; 175/85

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[57] ABSTRACT

A fluid pressure-operated snubber device for use in drilling wells, generally in place of rotary table and drawworks systems commonly employed for rotary drilling. The device comprises a stationary lower snubbing member and rotatable and vertically reciprocable upper snubbing member operable for rotating drill pipe for drilling a well and for running the drill pipe into and out of the well. Each of the snubbing members includes a set of pipe-gripping wedges movable into and out of pipe-gripping engagement by fluid pressure-operated means and a set of cam actuated shoes for applying torsional forces to the pipe string for rotating the same in drilling and in making-up and breaking-out the sections of the pipe string when running into and out of the well.

5 Claims, 10 Drawing Figures

