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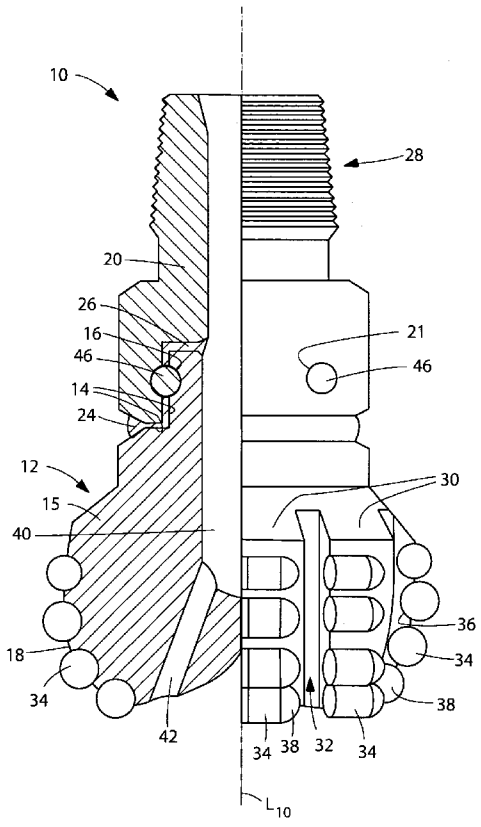
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(54) Title: EARTH-BORING ROTARY DRILL BITS INCLUDING BIT BODIES COMPRISING REINFORCED TITANIUM OR TITANIUM-BASED ALLOY MATRIX MATERIALS, AND METHODS FOR FORMING SUCH BITS



(57) Abstract: Earth-boring rotary drill bits include bit bodies comprising a composite material including a plurality of hard phase regions or particles dispersed throughout a titanium or titanium-based, alloy matrix material. The bits further include a cutting structure disposed on a face of ' the bit body. Methods for forming such drill bits include at least partially sintering a plurality of hard particles and a plurality of particles comprising titanium or a titanium-based alloy material to form a bit body comprising a particle-matrix composite material. A.shank may be attached directly to the bit body.

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