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(12) **United States Patent**
Frazier

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(54) **COMPOSITE BRIDGE PLUG SYSTEM**

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(51) **Int. Cl.**⁷ **E21B 23/00**; E21B 33/12

(52) **U.S. Cl.** **166/134**; 166/118; 166/123;
166/138; 166/387

(58) **Field of Search** 166/387, 376,
166/118, 184, 217, 138, 140, 123, 127

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Primary Examiner—David Bagnell

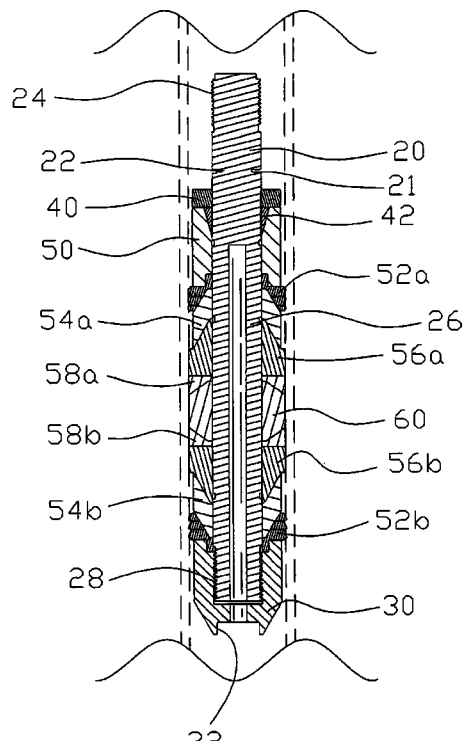
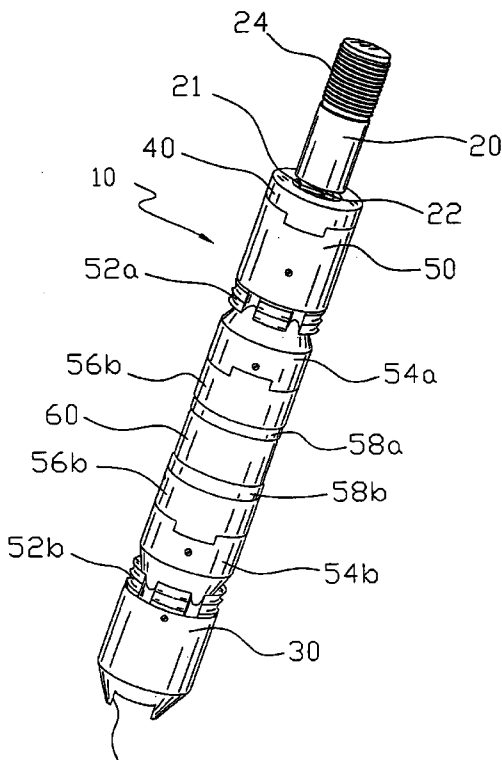
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(57) **ABSTRACT**

A composite bridge plug system for containing a well bore with reduced drill up time. The composite bridge plug system includes an elongate mandrel, a head member attached to a lower portion of the mandrel, an upper collar positioned about an upper portion of the mandrel, and a plurality of gripping members positioned about the mandrel. The gripping members are expandable outwardly when the mandrel is pulled upwardly with an engaging tube preventing the upward movement of the upper collar thereby compressing the gripping members. The upper portion of the mandrel includes a shear portion that is breakable by pulling upwardly upon the mandrel. An engaging portion surrounds the shear portion adjacent to the upper collar that is engageable with a lower slot within a head member of a higher bridge plug thereby preventing rotation of the higher bridge plug during drilling thereof.

4 Claims, 9 Drawing Sheets



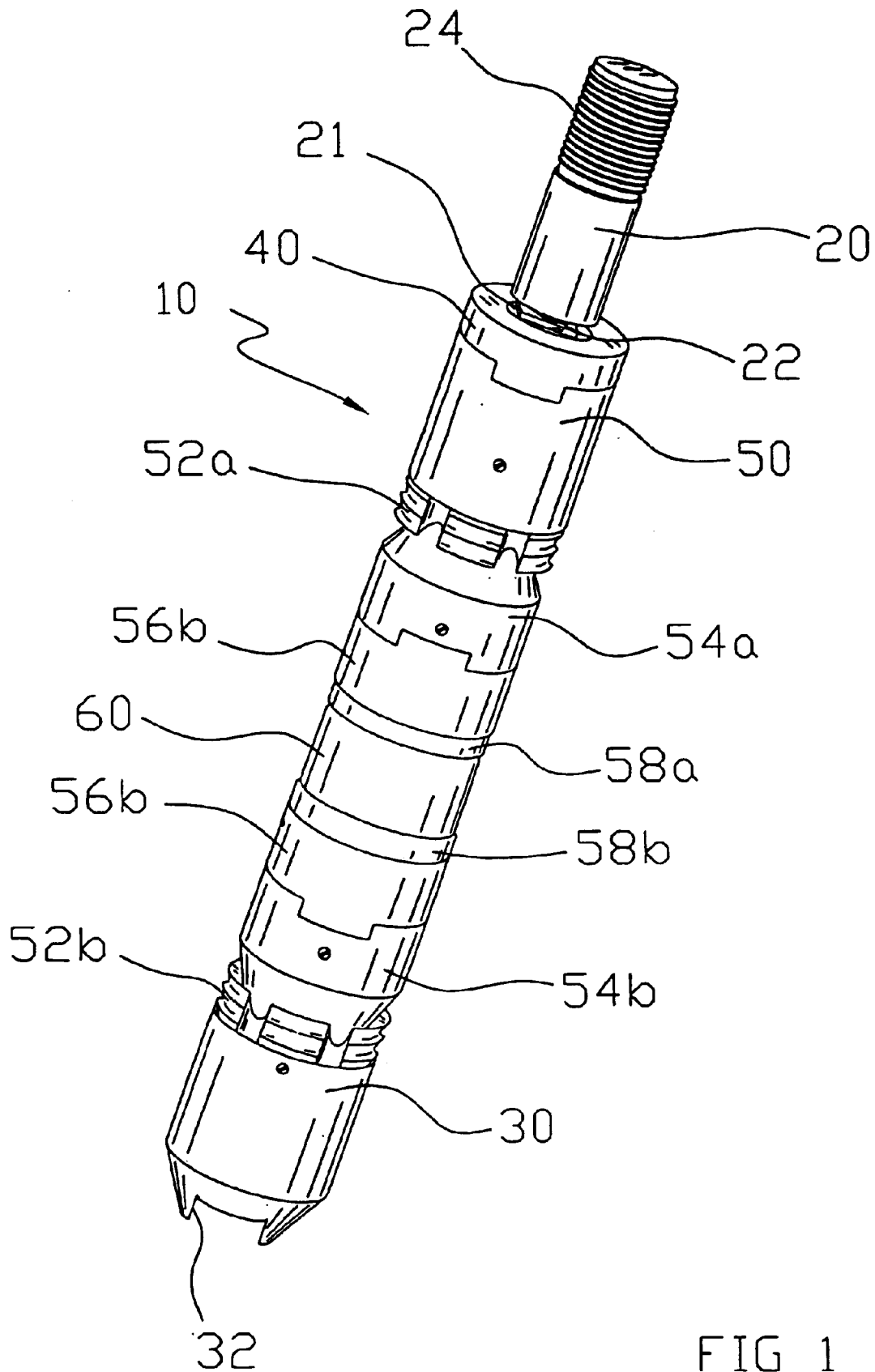


FIG 1

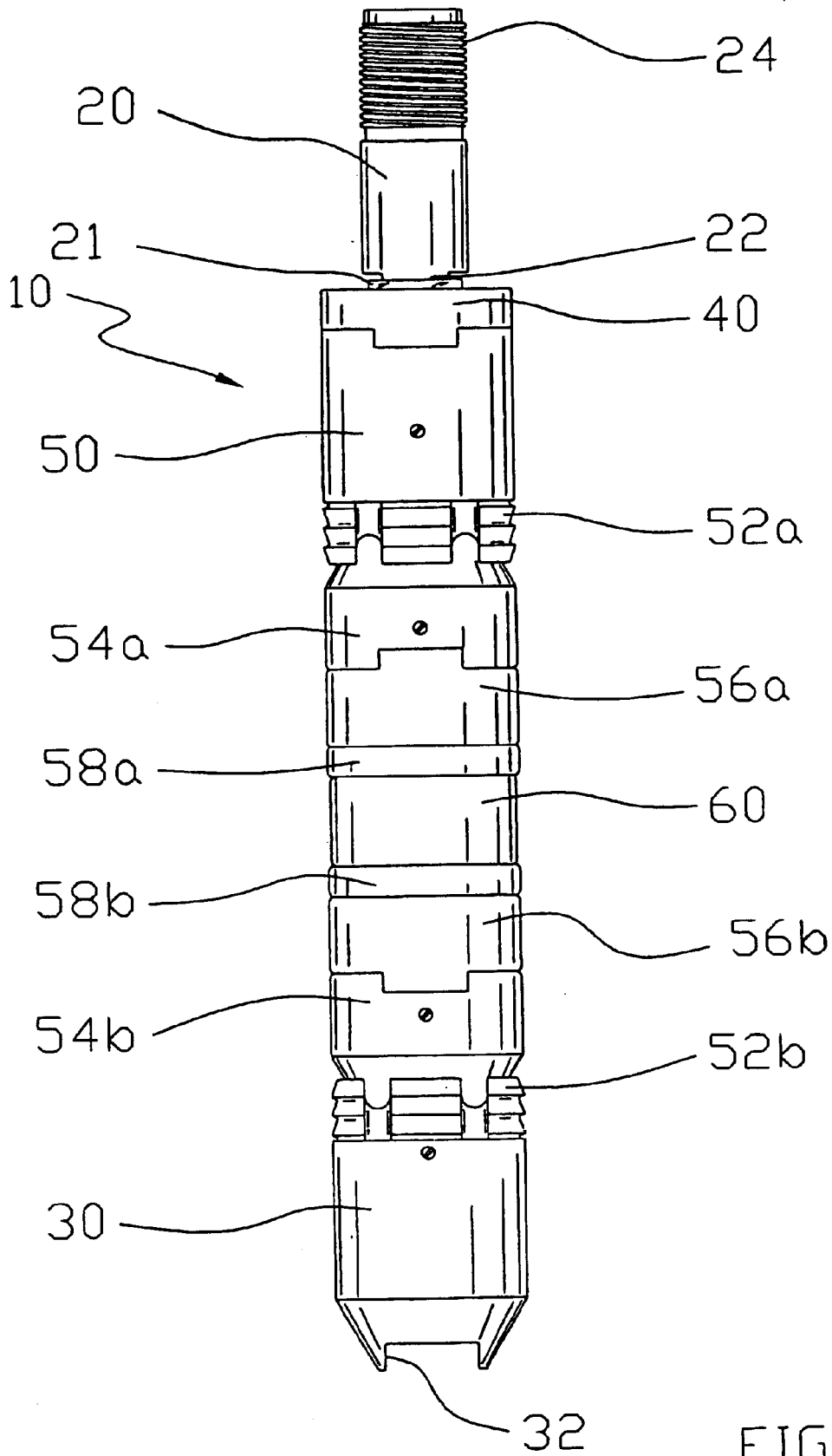


FIG 2

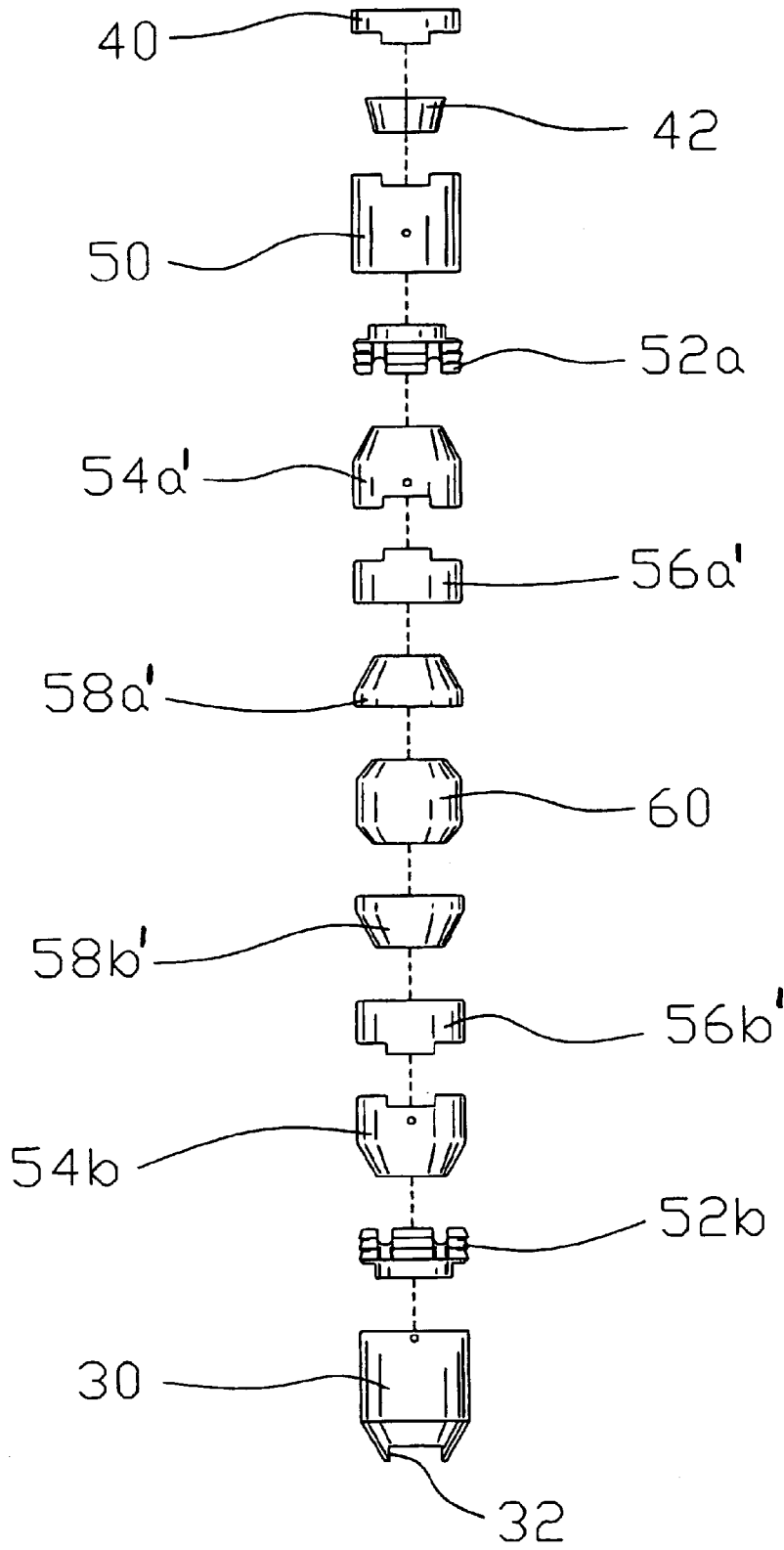


FIG 3

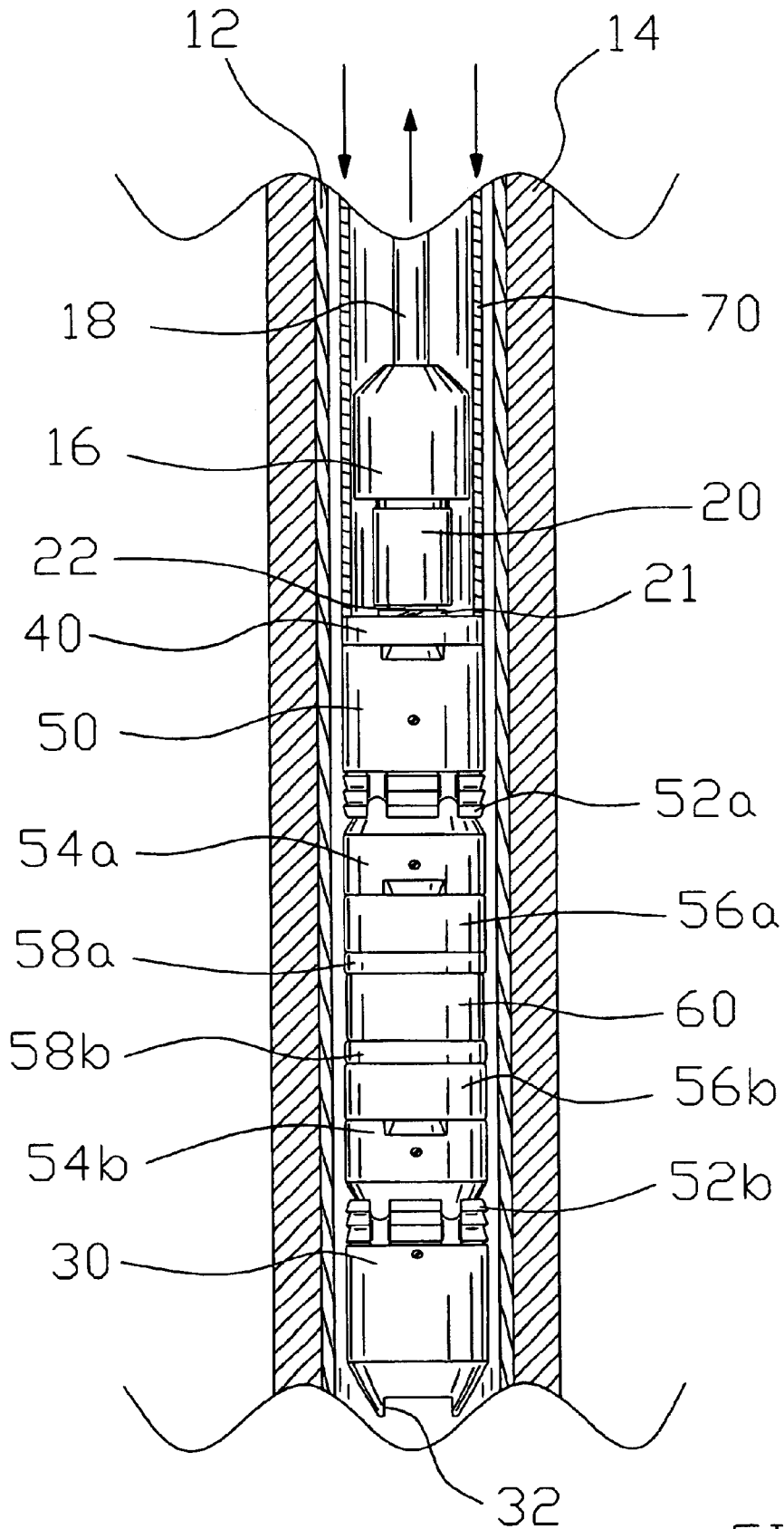


FIG 4

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