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(12) **United States Patent**
Frazier

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(54) **COMPOSITE CEMENT RETAINER**

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Related U.S. Application Data

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E21B 33/12 (2006.01)

(52) **U.S. Cl.** **166/126**; 166/133; 166/138;
166/135; 166/142; 166/332.4

(58) **Field of Classification Search** 166/123,
166/126, 133, 138, 118, 129, 135, 142, 146,
166/185, 194, 216, 332.1, 332.4, 334.1
See application file for complete search history.

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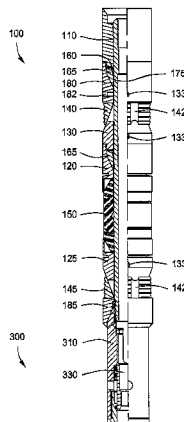
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(57) **ABSTRACT**

A downhole plug that can include a body and an element
system disposed about the body. The plug can further include
a first and second back-up ring member having two or more
tapered wedges. The tapered wedges can be at least partially
separated by two or more converging grooves. First and sec-
ond cones can be disposed adjacent the first and second back-
up ring members.

14 Claims, 7 Drawing Sheets



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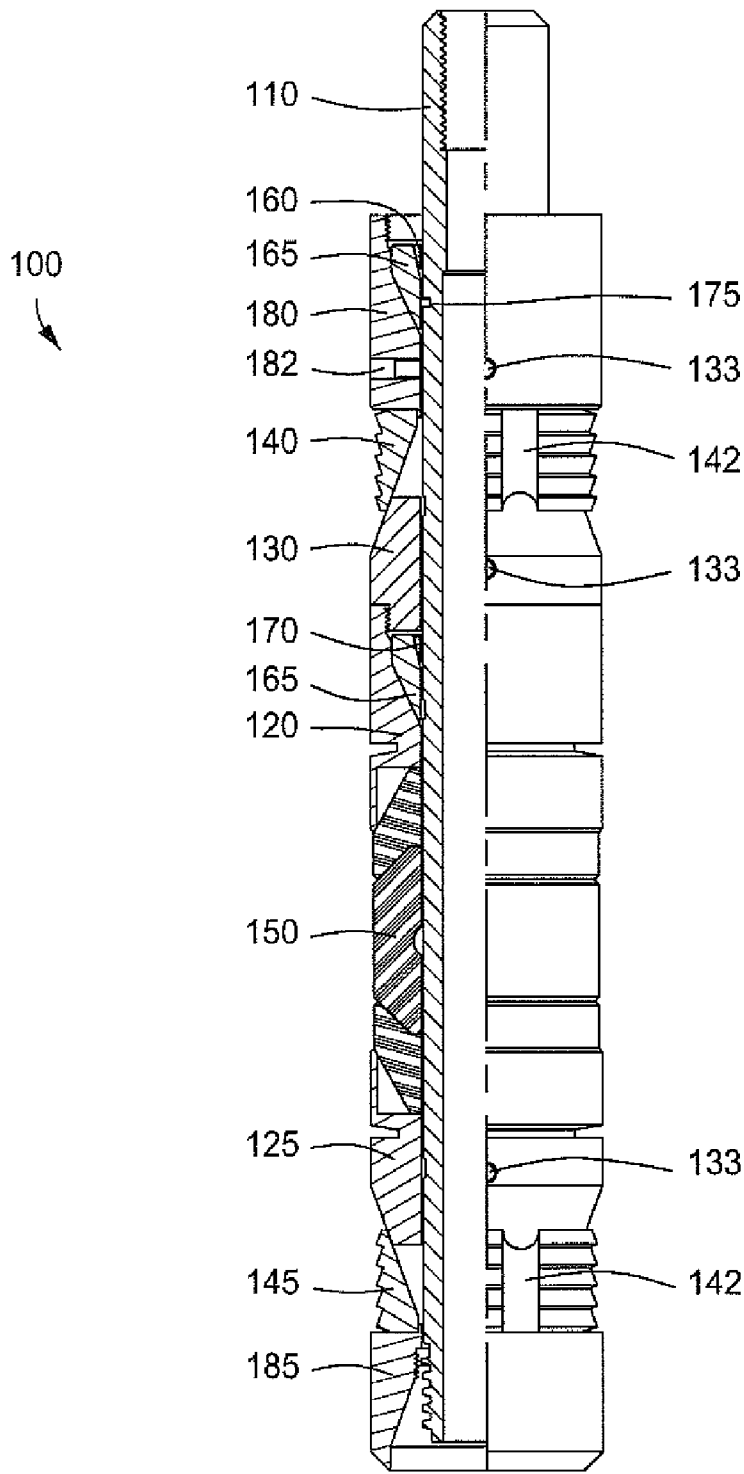


FIG. 1

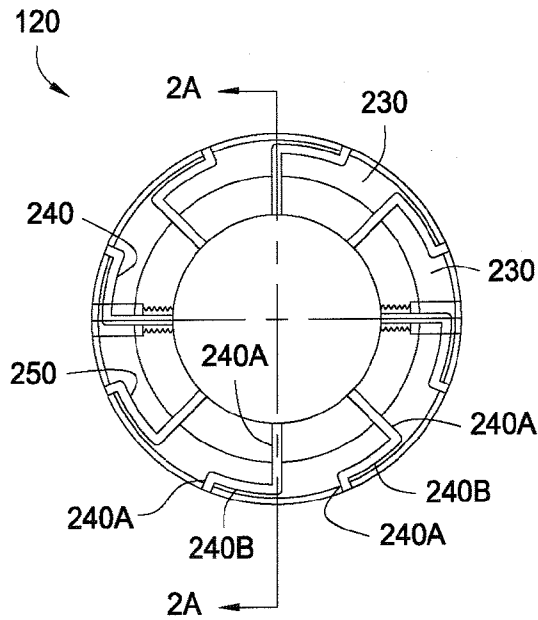


FIG. 2

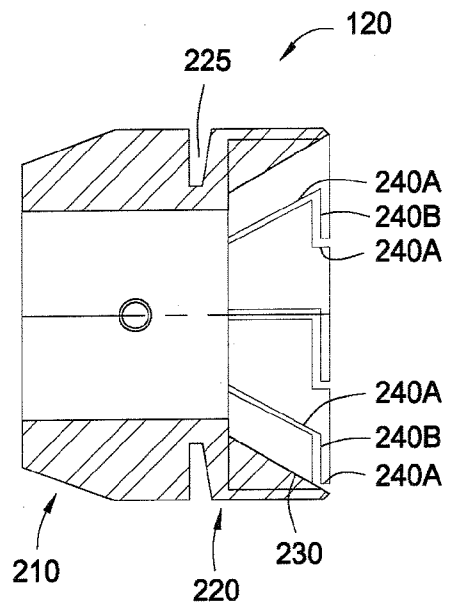


FIG. 2A

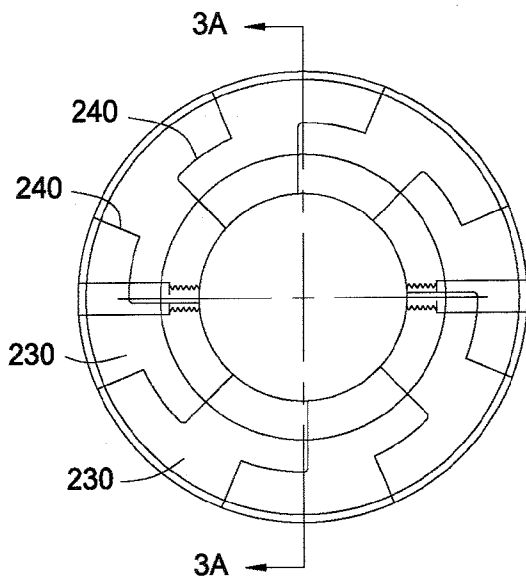


FIG. 3

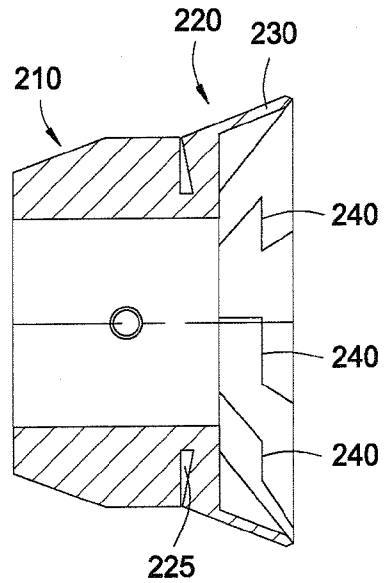


FIG. 3A

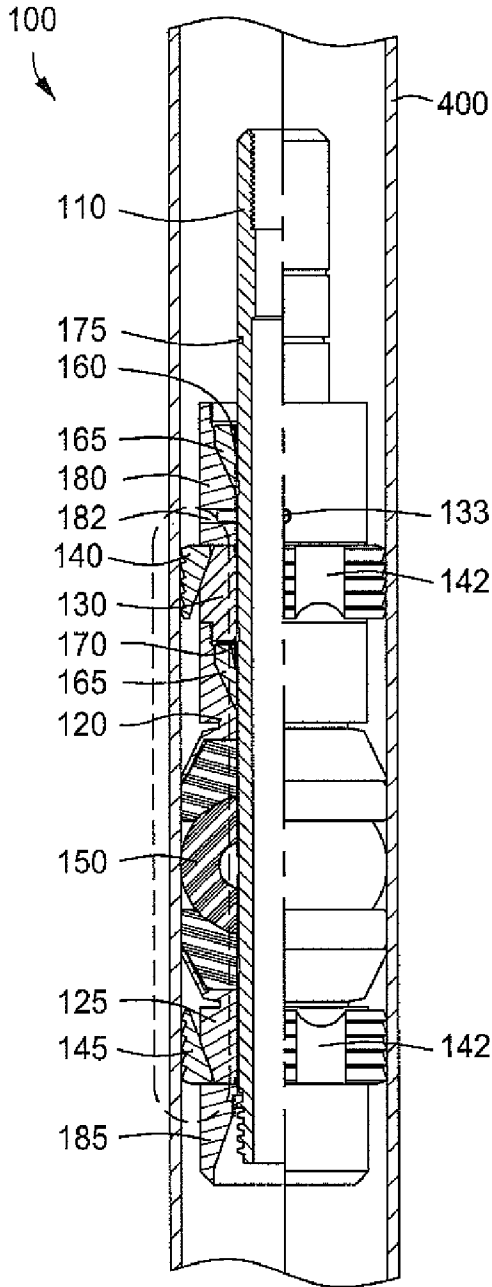


FIG. 4

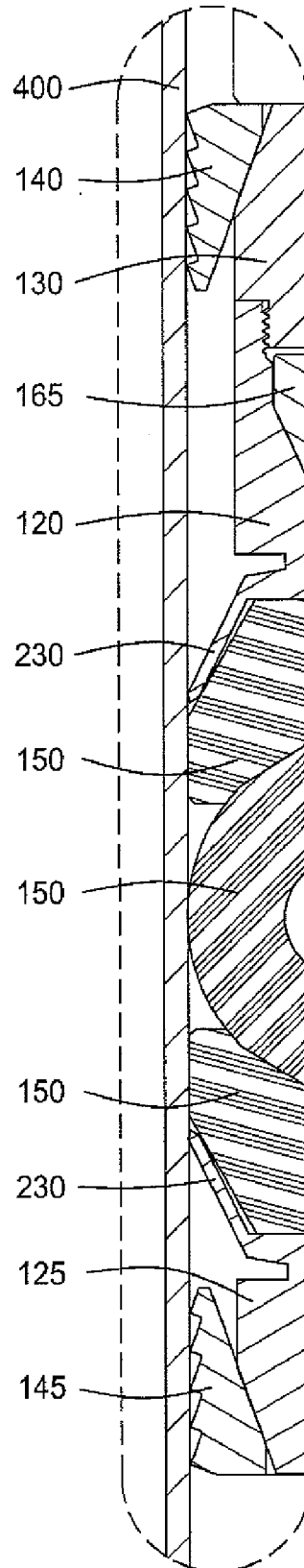


FIG. 5

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