

- [54] WELL PACKER APPARATUS
- [75] Inventors: **Joe R. Brown; William C. Lindsey; Phillip H. Manderscheid**, all of Houston, Tex.
- [73] Assignee: **Brown Oil Tools, Inc.**, Houston, Tex.
- [22] Filed: **Apr. 7, 1975**
- [21] Appl. No.: **565,385**
- [52] U.S. Cl. **166/119; 166/120**
- [51] Int. Cl.² **E21B 33/12**
- [58] Field of Search 166/120, 134, 181, 182

[57] **ABSTRACT**

Disclosed is a retrievable, hydraulically set well packer which is locked in set position without need for tubing rotation and may be released from set position by shearing a retrieving link with either a straight pull on the production tubing or by the application of high pressure through the tubing. Dual, opposed cones are employed for retaining the packer slips anchored irrespective of the direction of the pressure differential acting on the packer and without need for an extra sleeve to transmit pressure induced forces to the cones. Compression seals are employed to hold the slips firmly anchored against longitudinal displacement in both directions without reliance on the presence of a pressure differential across the set packer. The seals are employed as two separate assemblies which are positioned above and below the slips to isolate a portion of the pressure induced forces from the retrieving link. A modified form of the invention employs the dual cone, dual seal design on a packer having multiple flow passages.

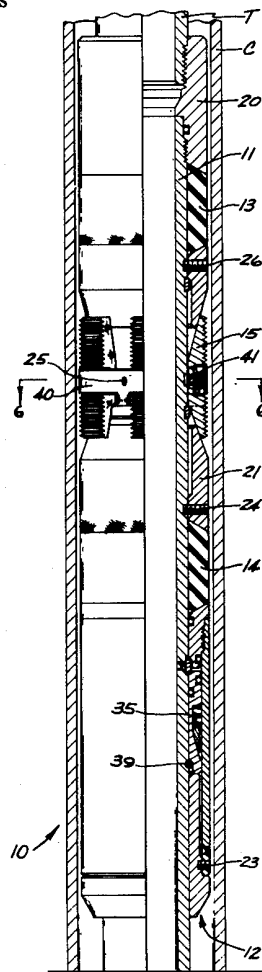
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3,370,651	2/1968	Brown	166/134
3,391,740	7/1968	Edwards, Jr.	166/120
3,658,127	4/1972	Cochran et al.	166/120

Primary Examiner—James A. Leppink
 Attorney, Agent, or Firm—Carlos A. Torres

22 Claims, 11 Drawing Figures



BAKER HUGHES INCORPORATED
 Exhibit 1006

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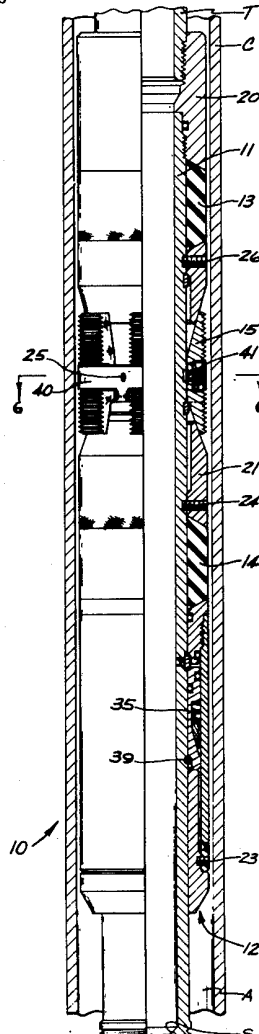
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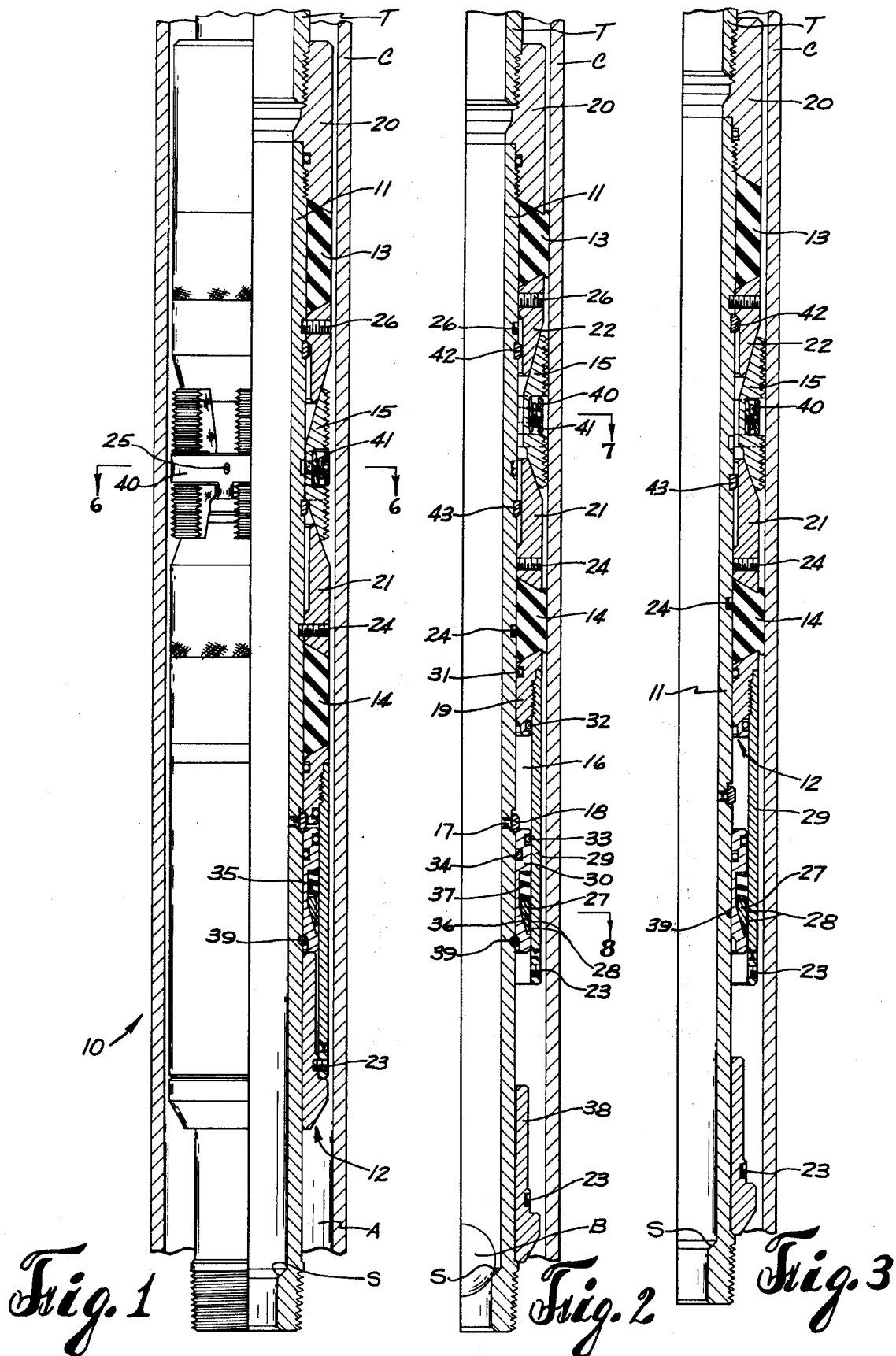
Primary Examiner—James A. Leppink
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[57] **ABSTRACT**

Disclosed is a retrievable, hydraulically set well packer which is locked in set position without need for tubing rotation and may be released from set position by shearing a retrieving link with either a straight pull on the production tubing or by the application of high pressure through the tubing. Dual, opposed cones are employed for retaining the packer slips anchored irrespective of the direction of the pressure differential acting on the packer and without need for an extra sleeve to transmit pressure induced forces to the cones. Compression seals are employed to hold the slips firmly anchored against longitudinal displacement in both directions without reliance on the presence of a pressure differential across the set packer. The seals are employed as two separate assemblies which are positioned above and below the slips to isolate a portion of the pressure induced forces from the retrieving link. A modified form of the invention employs the dual cone, dual seal design on a packer having multiple flow passages.

22 Claims, 11 Drawing Figures





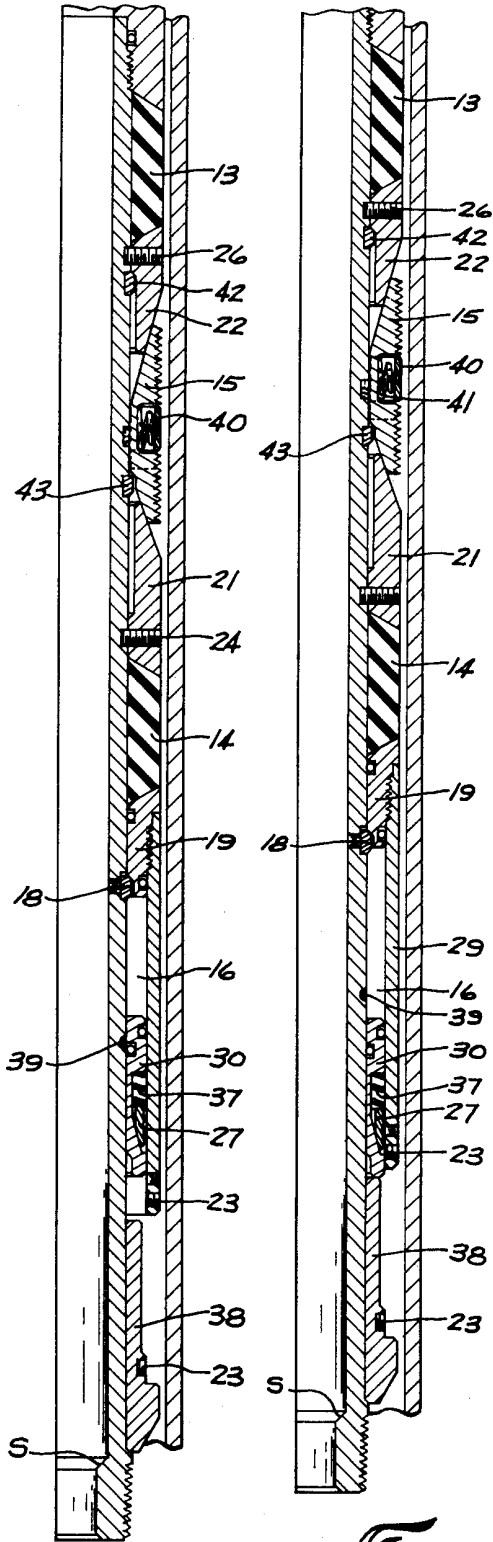


Fig. 4

Fig. 5

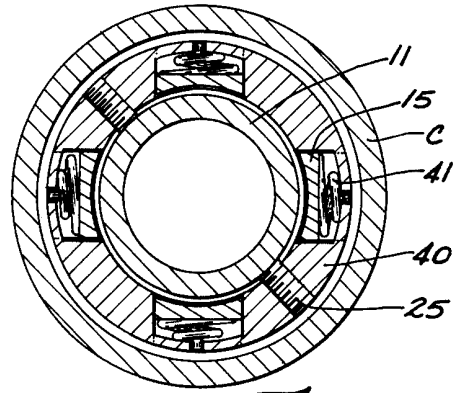


Fig. 6

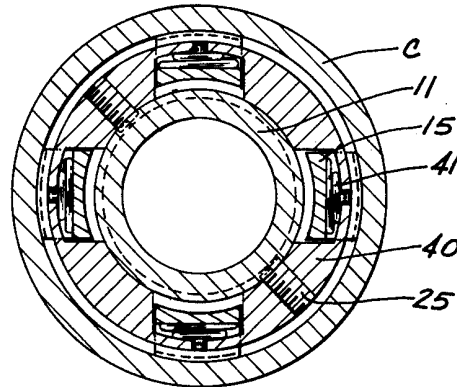


Fig. 7

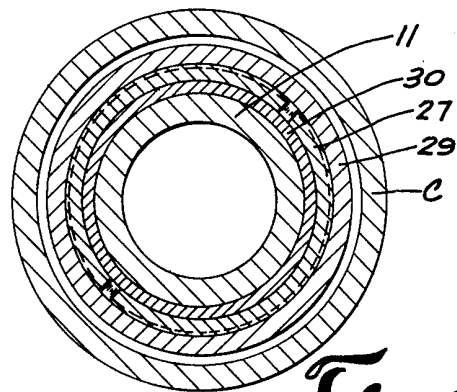
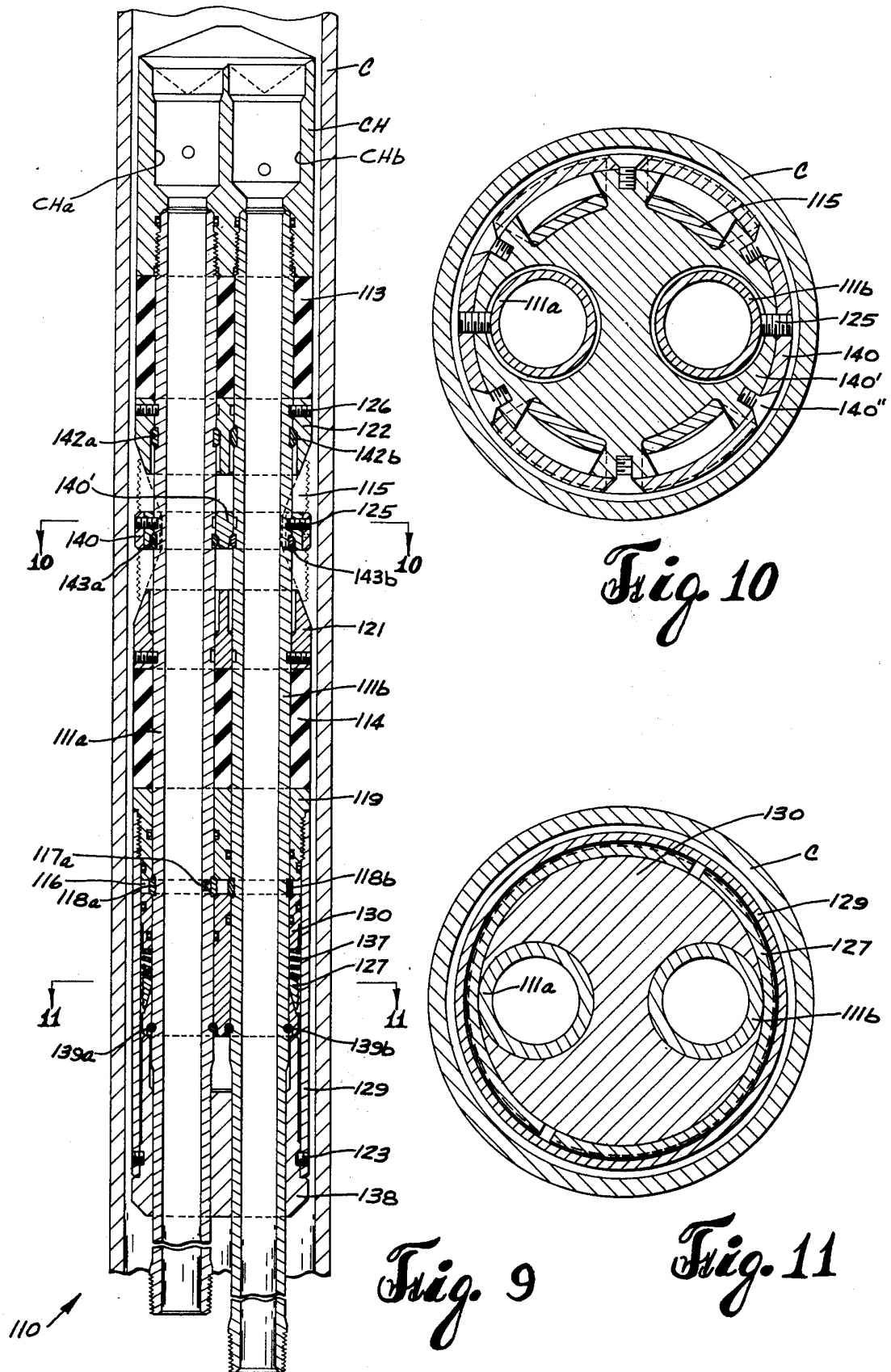


Fig. 8



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