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(54) Title: DOWNHOLE PISTON ACCUMULATOR SYSTEM

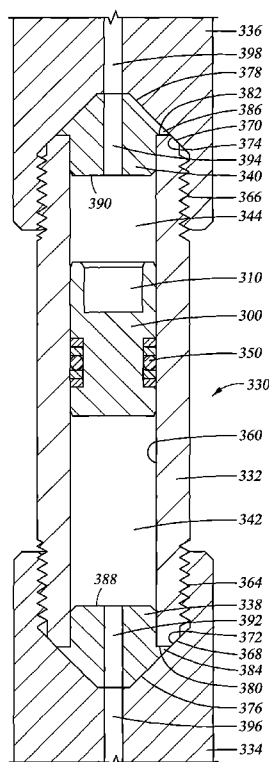


Fig. 9

(57) Abstract: A downhole piston accumulator system is disclosed, such as for a formation tester. The soft piston of the system is designed to withstand high pressure downhole fluids in small volume cylinders, the fluid being collected for optical fluid identification or other analyses. The temperature range of the fluid may vary widely, which can be accommodated by the soft piston. Sealing components on the soft piston include additional materials for sealing the soft piston and otherwise helping to accommodate the wide ranging pressures and temperatures. The piston container or cylinder is designed to properly capture the piston and accommodate piston movement. The piston accumulator system allows an outer or exterior position sensor to detect piston movement, such as by a magnetic sensor.



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