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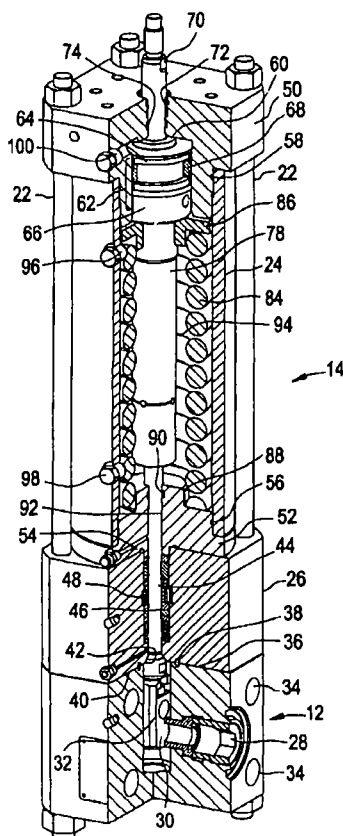
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[US/US]; 1333 West Loop South, Suite 1700, Houston,
TX 77027 (US).(72) Inventors: HADEMENOS, Jim, P.; 11318 Trudeau Dr.,
Houston, TX 77065 (US). HARKINS, Randall, D.; 9614
Rannock Way, Spring, TX 77379 (US). KELLY, Thomas,
P.; 15907 Ivy Bridge Lane, Houston, TX 77095 (US).(74) Agent: HARTMANN, Michael, P.; Manager, Patent Ser-
vices, Cooper Cameron Corp., P.O. Box 1212, Houston, TX
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(54) Title: DISCONNECTED PISTON FOR A VALVE ACTUATOR

(57) Abstract: A valve (12) and valve actuator (14) utilizing a disconnected piston design that separates under conditions of excessive actuator internal pressure to prevent overloading and damaging the threaded connection between the valve stem (44) and actuator piston (62) is disclosed. The hydraulically actuated valve actuator comprises a spring housing (24) including a bonnet (26) for coupling the spring housing to a valve. The spring housing includes an upper head (50) and a packing gland (52) that are sealingly attached to the spring housing to form an interior pressure chamber (94). The interior pressure chamber has a pressure responsive actuator piston disposed therein with a coil spring (84) designed to move the actuator piston from a normally open to a fail closed position. The pressure responsive actuator piston includes a piston (64) and a spring retainer nut (66) that are separable after closing of the valve to prevent ambient pressure acting within the pressure chamber on the pressure responsive actuator piston from overloading the valve stem.



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