

(21) Application No: 1602037.2

(22) Date of Filing: 25.09.2013

Date Lodged: 04.02.2016

(86) International Application Data:  
PCT/US2013/061546 En 25.09.2013

(87) International Publication Data:  
WO2015/047235 En 02.04.2015

(51) INT CL:  
E21B 34/10 (2006.01) F16K 17/18 (2006.01)

(56) Documents Cited:  
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(58) Field of Search:  
INT CL B23P, E21B  
Other: eKOMPASS(KIPO internal)

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(54) Title of the Invention: Multiple piston pressure intensifier for a safety valve  
Abstract Title: Multiple piston pressure intensifier for a safety valve

(57) Disclosed are subsurface safety valves having multiple pistons used to increase the opening force. One safety valve includes a housing having a piston bore defined therein and configured to receive hydraulic fluid pressure, the piston bore providing an upper bore having a first diameter and a lower bore having a second diameter smaller than the first diameter, a piston assembly movably arranged within the piston bore and comprising an upper piston arranged in and configured to sealingly engage the upper bore and a lower piston arranged in and configured to sealingly engage the lower bore, and a connecting rod coupling the upper and lower pistons, wherein a cavity is defined between the upper and lower pistons within the piston bore and the piston rod extends within the cavity.

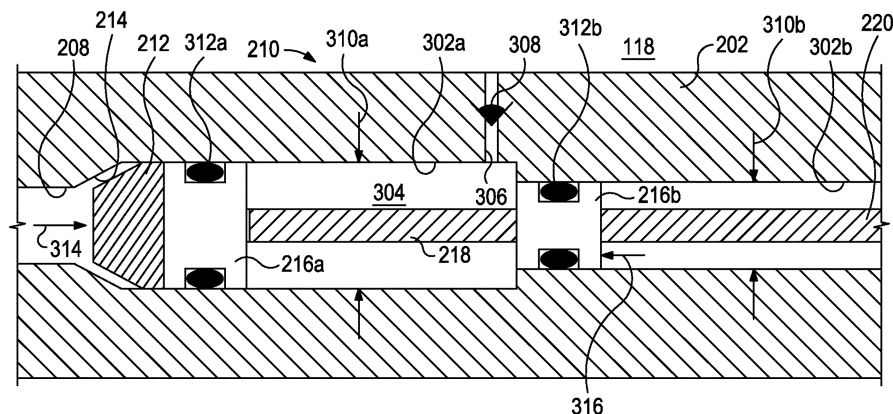


FIG. 3A