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(54) Title: WELL FLOW CONTROL USING DELAYED SECONDARY SAFETY VALVE

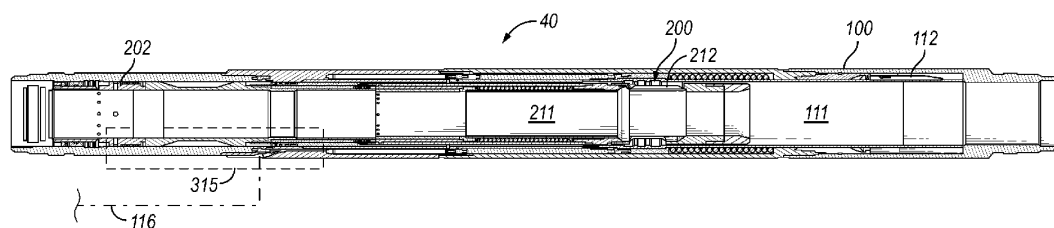


FIG. 6

(57) Abstract: A flow control system for a well includes a primary safety valve and a secondary safety valve for controlling flow from production tubing in the well. The primary safety valve includes a first valve body, a first flapper, a first control line port for receiving control fluid pressure from a control line, and a first actuator operable to open the first flapper in response to the control fluid pressure. The secondary safety valve is disposable within the valve body of the primary safety valve. The secondary safety valve also includes a second valve body, a second flapper, a second control line port for receiving control fluid pressure from the same control line as the primary safety valve when the secondary safety valve is disposed in the first valve body of the primary safety valve, and an actuator operable to open the second flapper in response to the control fluid pressure. A choke in fluid communication with the second control line port delays a closing of the second flapper relative to a closing of the first flapper in response to a decrease in the control fluid pressure.



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