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(54) Title: DOWNHOLE ACTUATOR APPARATUS HAVING A CHEMICALLY ACTIVATED TRIGGER

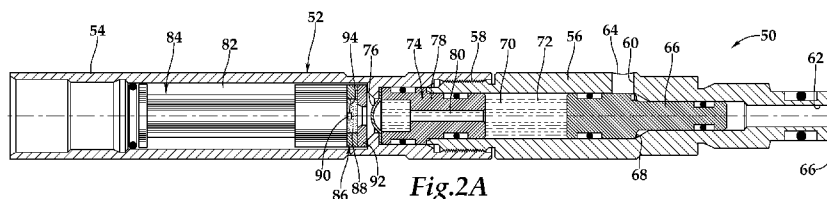


Fig.2A

(57) Abstract: A downhole actuator apparatus that selectively maintains a pressure differential between two pressure regions in a well. The apparatus includes a body defining first and second chambers. A piston is slidably disposed in the body and is selectively moveable between first and second positions. A barrier is disposed in the body to selectively separate the first and second chambers. A fluid is disposed in the first chamber between the barrier and the piston. A control system that is at least partially disposed within the body is operable to generate an output signal responsive to receipt of a predetermined input signal. The output signal is operable to create a failure of the barrier such that at least a portion of the fluid flows from the first chamber to the second chamber and the piston moves from the first position to the second position.

