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(54) Title: DEVICE AND METHOD OF EMPLOYING A MAGNETIC FIELD ANGLE SENSOR TO DETERMINE A HEALTH OF A SAFETY VALVE IN DOWNHOLE APPLICATIONS

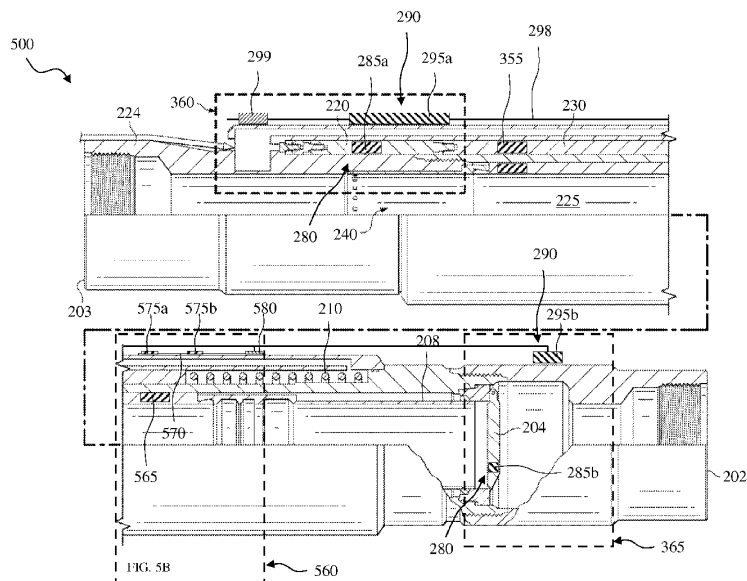


FIG. 5A

(57) Abstract: Provided is a safety valve, a well system, and a method. The safety valve, in one aspect, includes an outer housing, a bore flow management actuator disposed within the outer housing, and a valve closure mechanism disposed within the outer housing. The safety valve, in accordance with this aspect, further includes one or more permanent magnets coupled to one of a movable feature of the safety valve or a fixed feature of the safety valve, and one or more magnetic field angle sensors coupled to an other of the fixed feature of the safety valve or the movable feature of the safety valve and positioned proximate the one or more permanent magnets, the one or more magnetic field angle sensors configured to sense a movement of the movable feature to determine a health of the safety valve.

[Continued on next page]

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